

Effect of Supply Chain Management Practices on Performance of Water Service Providers in Kenya: A Case of Murang'a Water and Sanitation Company Limited

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Abstract: The need to understand supply chain management practices and how they affect performance of organizations is instrumental in today's dynamic business environment which is marred by stiff competition due globalization. This forms the basis on which this study is anchored to create an understanding on how organizations and companies can integrate such practices in order to bolster their performance. The general objective of this therefore was to assess the effect of supply chain management practices on performance of water service providers in Kenya. The study laid key emphasis on Murang'a water and Sanitation Company limited as an organization of reference for its research. To achieve the objective of this research, the study was supported by the following specific objectives; To assess the effects of supplier selection criteria on performance of Murang'a Water and Sanitation company; To assess the effects of supplier collaboration on performance of Murang'a Water and Sanitation company; To assess the effects of procurement policies on performance of Murang'a Water and sanitation company; and To assess the impact of customer relationship management on performance of Murang'a Water and sanitation company. The study used resource based theory, network theory, stakeholder and institutional theories in order to establish the relationship between the variables. The study adopted a descriptive survey research design. The target population involved all the departmental managers, the middle-level managers, engineers, supervisors and other low level employees deemed to have the required information for the study from the company. The study used census survey approach to determine the sample for the study which constituted all the 81 employees. A Likert type of questionnaire was used to collect the data and which will be administered using a drop and pick method upon receiving consent from the company management. The data gathered from the respondents was analyzed using both descriptive and inferential statistics through the use of SPSS version 23 software. Regression analysis was also carried out to establish the relationship between the variables of the study and data was presented in tables, graphs and charts. The study found a positive and significant relationship between supplier selection, supplier collaboration and performance of water service providers in Kenya. However, there was a negative and significant relationship between procurement policies and customer relations and performance of water service providers in Kenya. The study therefore recommends that supplier selection, supplier collaboration and customer relationship management are key supply chain management practices that organizations both in the public and the private sector should lay emphasis on in order to enhance their service delivery and overall performance. The study further suggests that more studies can be done to unlock the contributions of supply chain sustainability, vendor diversification and supply chain team alignment on performance

Keywords: supplier selection, supplier collaboration, procurement policies, customer relations and performance.

1. INTRODUCTION

1.1 Background of the Study

Globalization, intense competition and stringent quality requirements have posed a great concern to companies and many organizations to improve on their operational performance by re-examining their strategies of ensuring customer needs and satisfaction are met through creating reliable processes in today's dynamic market environment. Hence the need to understand the practices of supply chains management and how these affect their performance (Cook et al, 2011). Supply chain management (SCM) is considered as a multidisciplinary field that has been explored from many different perspectives (Papakiriakopoulos and Pramadari, 2010).

The practices of SCM are proposed to be a multi-dimensional concept, including downstream and upstream sides of the supply chain. The concept of SCM has been considered from two alternative perspectives that include; purchasing and supply management. These perspectives emphasize purchasing and materials management as a basic strategic business processes, rather than a narrow-specialized supporting function (Narasimhan et al., 2004); transportation and logistics management. It mainly focuses on integrated logistics systems (e.g. inventory management, vendor relationships, transportation, distribution, warehousing and delivery services) that lead to inventory reduction both within and across firms in the supply chain (Cook et al., 2011).

Lyson and Farrington (2006) defined supply chain management as the management of all activities, information, knowledge and financial resources associated with the flow and transformation of goods and services up from raw-materials suppliers, components suppliers, and other suppliers in such a way that the expectation of the users and the organizations are met or surpassed. Adebayo (2012) defined supply chain management practices as a set of activities undertaken in an organization to promote effective management of its supply chain.

McAdam et al., 2005 argued that the firms especially in the public sector, are under pressure from both internal and external sources to demonstrate improvements in their performance hence the need to assess the SCMPs. Harrison and New (2002) argued that the successful implementation of SCM practices provides opportunities to improve organizational performance along the supply chain Eduardo et al. (2014) argued that supply chain practices lets companies reduce costs by developing new technologies that mitigate their activities. This is particularly relevant because increasing supply chain practices benefits companies in other ways: improved efficiency, higher product quality, a lead on competitors and legislation, access to new markets, increased employee motivation and satisfaction, improved public relations, financial aid, and better organizational reputation.

Supply chain management has evolved over the years as a discipline that enhances competitiveness of organizations (Spina et al., 2015). The introduction of ICT has enhanced the evolution of SCM operations making it possible for companies to form alliances Procurement practice is an area that needs to be improved to further contribute to organizational performance. It has been observed that organizations tend to choose procurement procedures that are familiar to them instead of choosing the ones that are most suited and most beneficial to their organizations success. Purchasing integration links purchasing practices to organizational performance (Atieno, 2018). The link between operational efficiency and supply chain to organizational performance therefore means that the adoption of supply chain management practices is crucial to organizational success. Consolidation of the entire procurement process leading to the implementation of supply chain practices such as, supplier selection, supplier collaboration, customer relationship management and observation of procurement policies is necessary to boost the overall organizational performance. Streamlined procurement systems can lead to efficiency and increase the confidence of employees, customers and stakeholders of the organization. A shift from traditional purchasing and moving into modern and more efficient procurement practices lead to continuous improvement in the SCM. Procurement is no longer a process but a strategic function in the organization; it reduces cost and achieves maximum savings for the organization. Organizations should always benchmark against the 'best in class' and implement continuous improvement in its processes (Guth, 2010). Some of the SCM practices that organizations can engage in include: commitment to green purchasing, commitment to just in time delivery, commitment to total quality management and e-procurement. Organizations must broaden their view of productivity from the predictable company oriented view to a dual company - customer perspective (Kipkemoi 2017).

1.1.1 Supply Chain Management Practices

Supply chain (SC) is a network of independent organizations that are linked together through products and services that separately or jointly add value in order to deliver them to the end user who is the customer (Lu, 2011). It is defined by Javier (2011) as a chain of activities and distribution alternatives that ensure sourcing of goods and transforming them into final products before they are finally distributed to the customers.

SC is made up of value chain network of organizations with a commitment to provide resources and information that is aimed at achieving efficient operation (Koh et al., 2007). Thoo et al., (2017) SC is made up of partners who are either directly or indirectly involved in production and delivery of products or services to customers through physical distribution. The goals of supply chain management (SCM) involve improving productivity, reducing lead times and inventory costs and sometimes may lead to increased market share and SC integration (Yap & Tan, 2012).

SCM practices comprise activities that organizations undertake in order to improve operational efficiency and cost reduction. It also concerned with establishing such activities and processes that are incorporated in the organization for utilization in order to successfully integrate supply and demand with a focus of improving the firm's performance (Li et al., 2006). Guilherme et al., (2015) affirms that the implementation of SCM practices can involve integrating changes in the structural aspect of the organization through linking functions and integrating them with those of external partner organizations. Supply Chain Performance contributes to the operations of the extended supply chain in order to fulfill end-customer requirements that includes product quality, on-time delivery, and all the inventory and resources needed in the supply chain to deliver the value responsively (Maestrini, Luzzini, Maccarrone & Caniato, 2017).

1.1.2 Murang'a Water and Sanitation Company

Murang'a Water and Sanitation Company (MUWASCO) was established in 2006 as a body corporate with a mandate of providing water and sewerage services to Murang'a town and its environs. The company operates under a Water Services Provision Agreement (SPA) signed with Tana Water Works Development Agency who is the current Asset owner and the ownership will transit to the County Government of Murang'a. The company is licensed by the Water Services Regulatory Authority (WASREB). Under the SPA, MUWASCO is mandated to provide water and sewerage services to all residents within its jurisdiction in an efficient and economic manner and within the confines of the Water Act 2016, water and sanitation guidelines and the Constitution of Kenya. The County Government of Murang'a is represented in the Board of Muwasco. MUWASCO's area of coverage includes Murang'a town and its environs. The total area covered is 145 Kilometers square with an estimated population of about 75,000 people. The area covered includes Mbiri, Township, Kimathi and Mugoiri wards. Water supply in the town has come a long way from the pre-colonial days when supply was via four bore holes. With the increased demand, there has been a need to improve the quantity and quality of water provided to the residents. MUWASCO has over 15,000 registered connections out of which 13,000 are active. The main water source is Kiawambeu with a production capacity of 15000m³ but currently producing 11000m³ and Kayahwe which produces 4000 m³. The Company operates Karii Sewerage treatment facility which services 4000 sewerage connections. The company has realized significant achievements since its incorporation in 2018 in the key areas of water infrastructure, production capacity and efficiency in service delivery as well as the quality of water supplied to its customers. The company came up with a second strategic plan for 2020/2021 to spearhead its performance with reference to management, quality and efficiency and to become a role model in the provision of water services (MUWASCO, 2016)

1.2 Statement of the Problem

Companies today face a myriad of challenges with their operational performance due to diverse factors that have both direct and indirect influence on their operational efficiency and desire to meet their clients' demands while at the same time with the need to stamp the organization's performance within the competitive market. Supply chain management practices consist of two streams, namely downstream, which focus on customers and upstream, which focuses on suppliers. Supply chain practices proposed by Al Al-Shboul et al. (2018) are collaborations built with suppliers, the flexibility built into suppliers, the use of internet technology, customer focus, and lean production on manufacture, integrated internal integration, and quality management. Customer relationship management, supplier relationship management, goal congruence, and information sharing are dimensions of supply chain management practice (Gandhi et al., 2017).

Several studies have been done in the discipline of supply chain management practices and performance. For instance, Joel, (2010) did a study on challenges facing supply chain management in the oil marketing companies in Kenya. Mwale (2014) did a study on supply chain management practices and organizational performance of large manufacturing firms in Nairobi which was limited to private sector. These studies failed to address the effects of supplier collaboration, selection, procurement policies and organization culture on performance and more specifically water and sanitation companies in Kenya.

Mutai (2015) examined the impact of procurement policies and procedures on supply chain performance of commercial banks in Kenya. The study was conducted to find out whether commercial banks in Kenya had aligned their policies, processes and procedures with their modernization agenda and commitments to enhance supply chain performance. Mayaka (2015) carried a study on the effect of supply chain management practices on performance of Barclays Bank of Kenya. The study examined the bank's integration of SCM practices towards attainment of competitive advantage and how to improve on its customer performance. Ondoro (2018) did a related study on supply chain management practices and competitive advantage in the hospitality industry. This study examined the competitive environment of the hospitality industry and the underlying SCM practices that were being implemented to make hotels remain afloat in the dynamic hotel sector.

Most of the above studies concentrated in the manufacturing, hotel and banking industry. This study wants to examine a different industry of water service providers that has not been researched on. It is against this backdrop, that the study examined the effect of supply chain management practices on performance of Murang'a Water and Sanitation Company Limited.

1.3 Objectives of the study

1.3.1 General Objective of the study

The general objective of the study was to assess the effect of supply chain management practices on performance of Murang'a Water and Sanitation Company.

1.3.2 Specific objectives of the study

- i. To examine the effect of supplier selection criteria on performance of Murang'a Water and Sanitation company.
- ii. To evaluate the effect of supplier collaboration on performance of Murang'a Water and Sanitation company.
- iii. To determine the effect of procurement policies on performance of Murang'a Water and sanitation company.
- iv. To assess the effect of customer relationship management on performance of Murang'a Water and sanitation company.

1.4 Research Questions of the study

- i. How do supplier selection criteria affect performance of Murang'a Water and Sanitation Company?
- ii. What is the effect of supplier collaboration on performance of Murang'a Water and Sanitation Company?
- iii. How do procurement policies affect performance of Murang'a Water and Sanitation Company?
- iv. What is the impact of customer relationship management on performance of Murang'a Water and Sanitation Company?

1.5 Significance of the Study

The study findings was useful to the following; Academicians, Policymaker, Water service provider.

1.6 Scope of the study

The study will be carried out at Murang'a Water and Sanitation Company. It majorly concentrated on the effect of supply chain management practices on performance of the company and only managers, departmental managers, engineers; the middle-level managers, supervisors and other low level employees were targeted by the study. The study looked at specifically four variables i.e. supplier selection, supplier collaboration, procurement policies and customer relations and their effect on performance of MUWASCO

2. LITERATURE REVIEW

2.1 Theoretical Framework

The theories underlying this study include the following;

2.1.1 Resource Based Theory

Resource Based Theory was formulated by Edith Penrose (1959). The RBV of firm states that the unique bundle of resources that a firm owns can be used to explain the changes in the firm's performances and capabilities. These resources include the supply chain management capability. A firm can become more competitive if it can effectively manage its sourcing decisions. This implies the need to pick suppliers who have the ability to create value, implement policies and manage risk. In addition to that, suppliers have to not only meet the customers' demands but also be conversant with the firm's goals. Resource based theory suggests that a firm's resources are the main determinants of its performance and this greatly contributes to service delivery. This theory points on the overall performance of an organization that is brought about by the organization's ability to exploit its resources (Ray, Barney & Muhanna, 2004). The RBV theory examines the impact of organization resources and capabilities on competitive advantage that leads to overall organizational performance.

2.1.2 Network Theory of supply chain

The network theory describes the relationships in which companies, suppliers, customers or buyer are engaged. The theory was first introduced during the 1970s and the 1980s and developed from the focus on relationships between just two entities, or strategic alliances, towards an approach which entails multiple relationships between different counterparts throughout the supply chain. Harland (1996), defines the network as a specific type of relation linking a defined set of persons, objects or events (Harland, 1996). Chang, Chiang & Pai (2012) further state that the supply chain network is a complicated network model, and its specific context depends on the relationships among the network members (Chang, Chiang, & Pai, 2012). Lastly, the network theory contributes to the fourth decision point, namely the negotiation, since companies in networks aim to engage in long-term contracts through which strong partnerships between the counterparts are designed.

2.1.3 Stakeholder Theory

Freeman (1984) defines a stakeholder as any individual, organization or institution that is associated with a firm and is affected by the firm in some way or affects the firm's action and goals. Stakeholder theory posits that an organization is not only responsible for its shareholders' interests, but additionally for the interests of customers, employees and the local community (Piacentini et al, 2000). This includes social, economic and moral responsibilities and goes beyond the purely economic and legal responsibilities once believed to be an organization's only responsibilities. As is obvious from these descriptions, stakeholder theory is a theory that follows the same principles as sustainable development concept and indeed covers the same aspects of business responsibilities – economic, social and environmental. Stakeholder theory describes the purpose and strategic direction of the firm through the concept that managers need to simultaneously incorporate the legitimate interests of all appropriate stakeholders when making business decisions.

2.1.4 Institutional Theory

Institutional theory attends to the deeper and more resilient aspects of social structure. It considers the processes by which structures, including rules, norms, and routines, become established as authoritative guidelines for social behavior. It inquires into how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse

This is a theory elucidates on the need for deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemes, rules, norms, and routines, become established as authoritative guidelines for social behavior. Different components of institutional theory explain how these elements are created, diffused, adopted, and adapted over space and time; and how they fall into decline and disuse. This theory postulates that in an organization, the supplier selection and evaluation team's efforts to achieve procurement performance in the organization will be required to make realistic goals.

2.2 Conceptual Framework

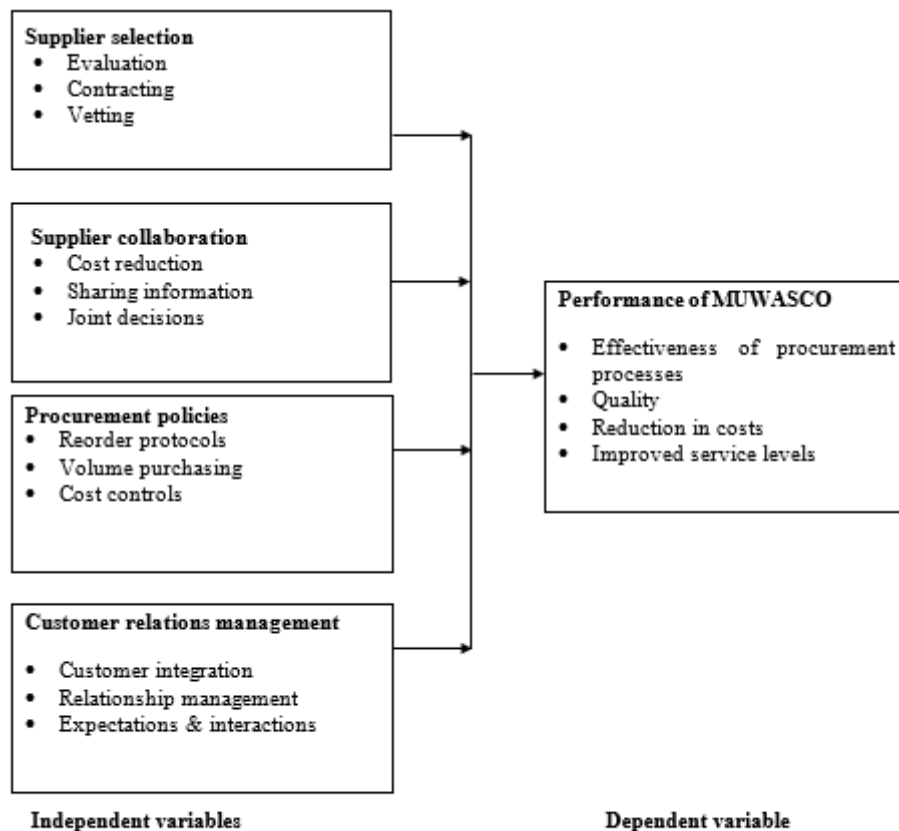


Figure 2.1 Conceptual Framework

Source: Author 2022

2.3 Review of the variables

2.3.1 Supplier Selection

According to Shiati, Kibet and Musiega (2014) supplier selection is the process by which firms identify, evaluate, and contract with suppliers. Supplier selection is a strategic decision that aims at fulfilling the company's goal for long period of time at low risk.

Supply chain management significantly impacts on the quality of products and services, according to (Bal and Demirhan, 2013) increases the importance of the relationship between procurement, external suppliers and quality. In today's modern supply chain, adequate choice of suppliers is an issue of strategic importance for the overall business of the company and according to (Liao and Kao, 2011) is a key strategic factor that supply chain firms need to consider. The importance of an adequate supplier selection has been recognized at the beginning of the last decade of the last century when (Davis, 1993) emphasizes that the failure of suppliers to fulfill the promises and expectations regarding delivery is one of the three main sources of uncertainty plaguing the supply chain. (Kagnicioglu, 2006) considers that the supplier selection is critical procurement activity in the supply chain management because of the crucial role of the characteristics of the suppliers on price, quality, delivery and service in achieving the objectives of the supply chain.

According to (Gencer and Gurpinar, 2007) suppliers selection represents an initial step in the process of creating activities of products and also as a key factor for companies that want to be successful in today's stringent market conditions, while according to (Shen and Yu, 2013), the efficiency of suppliers is one of the most important competencies for supply chain. The success of the entire supply chain according to (Jafarnejad and Salimi, 2013) largely depends of suppliers' selection, while (Singh et. Al., 2012) emphasize that the process of suppliers' selection is one of the most important factors that have a direct impact on performance organizations.

Concerns have been raised on the best means through which evaluation and selection of suppliers can be achieved as it has been realized that it plays a critical role on the ultimate performance and deliverable aspects of such suppliers. Effective supplier evaluation and vetting seems to develop a foundation that fosters long term cooperation and relationship between the company and the suppliers (Stevic 2017). Further this stimulates the creation of long-term partnership between the company and suppliers, as well as to create the possibility of securing sources of supply for a longer period of time. In order to implement such an approach for the suppliers evaluation, the company needs to develop a different strategy for the suppliers performance evaluation (Salimi 2013).

Atieno (2018) posit that selection and maintenance of suppliers is a crucial element in the procurement sector but also affirms that several other factors affect the firm's ability to choose the right suppliers. The study further notes that supplier evaluation is one of the activities that are executed by procurement staff and one whose effective execution determines the success or failure in the procurement performance.

According to Gichuru (2014) on supplier selection criteria and supply chain performance in non-governmental organizations in Kenya, stated that trade-offs among other criteria has to be made to align to the final sourcing decision with competitive priorities and business plans. Sourcing location selection is the first, and thus an important step in the supplier selection process. Critical factors such as infrastructure, market attractiveness and cost levels are typically characteristics of regions or countries rather than of specific suppliers. Thus, suppliers within the same area share all the location specific attributes, which avoids the need to rank these suppliers on those attributes. After determining where to source, supplier strategic and operational factors as well as tangible and intangible factors in the analysis must be put to emphasis. This is why a decision maker may analyze the supplier selection decision in a systematic and scientific approach by means of utilizing the proposed model (Rotich, 2014).

2.3.2 Supplier Collaboration

Supply chain collaboration is very important as it helps most firms to successfully practice supply chain performance which brings sustainability and improves the overall performance of the firm. Supply chain collaboration is two or more separate organizations that form long-term partnerships and work together towards mutual interests in planning and conducting supply chain operations, thereby gaining more benefits than operating independently (Ali et al., 2016).

Shalle, Guyo and Amuhaya (2014) posit that buyer/supplier collaboration enhances procurement performance hence creating a competitive advantage through sharing information making joint decision, and inter-organizational relationship. This indicates that the level of supply chain collaboration has an important interaction effect on the relationship between external resources and buying firm performance, where collaborative forms of buyer-supplier exchange facilitate greater access to external resources. The findings are pointer to the responsiveness, flexibility, commitment and the belief of the trading partners are willing to devote energy to sustaining the relationship.

Wangari (2017) argues that supplier collaboration has a direct effect of improving organizational competitiveness through coordination of operational resources that help in developing the necessary capabilities that are required for implementing successful collaboration. Additionally, desired collaborative benefits may actually hinder supply chain collaboration occurring/taking place. Supply chain collaboration has continued to play a major role in helping most of the business organizations increase the performance of their supply chains which are aimed at attaining the competitive advantage of their businesses. Companies collaborate with their suppliers, distribution partners, customers and even their rivals in partnerships. Supply chain collaboration requires effective team work. Team leaders are supposed to trust each other and support each other. There is a need for a transparent contact and ability to consider other people's feedback. The process of making decisions must therefore be based on a collaborative approach (Onyango, 2020). Further supply chain collaboration is considered to be one of the most effective measures used by firms in improving their level of performance. Collaboration requires two or more companies to pool resources for a common, mutually beneficial project to be carried out. Throughout these cases, there is clear consensus between the parties to exploit joint resources so that each party benefits with emphasis on productivity of the supply chain systems and the areas of competitiveness.

Al-Dori (2019) argues that collaboration offers each party a preserve to its autonomy in collaboration agreements, but succeeds in looking for avenues. For instance, through a strategically established agreement, it is possible to have an organization with clearly established processes which are more efficient. This also helps the entity to enter and exploit newly established markets while remaining competitive as opposed to rivals. Companies enter into collaborative inter-

company agreements so as to share risks and rewards among partners. The collective goal is to achieve a higher efficiency than would be achieved by working as an independent organization. Majority of organizations are nowadays seen to be looking for ways to work with supply chain partners so as to ensure supply chain quality and responsiveness, while at same time utilize their suppliers and customers' expertise and knowledge. For independent companies, cooperation and sharing of expertise with others propel them to reap more benefits beyond what might be accomplished through the sharing at arm's length. According to Grudinschi et al. (2014), SC's primary goals are to increase profit, decrease cost, and improve forecast accuracy while also improving overall firm performance. SC was identified as a best practice by Dotti et al. (2012), who also emphasized its significance for the efficient and effective management of supply chains and their improvement.

2.3.3 Procurement Policies

Davis (2014) on a study of factors influencing service delivery within the procurement sector revealed that some regulatory policies have a negative impact on organizational performance. The negative impact of procurement regulatory policies on organizational performance have been attributed to lack of flexibility within the policy framework that has negatively affected the adoption of new procedures such as e-procurement that could otherwise have brought forth improved organizational performance. Furthermore, research findings by Makabira and Waiganjo (2014) reveal that policy regulatory frameworks within the procurement field enhance organizational performance by instilling professionalism, transparency, ethics and openness among practitioners within the field. Research also shows that when the procurement policy is complied with, significant levels of improvement in organizational performance can be achieved due to the improved willingness by practitioners to adhere to professionalism, openness and transparency in the procurement of goods, services and works.

Koeh and Namusonge (2015) argue that compliance with procurement regulatory policies play a very significant role in bringing forth improved organizational performance. In addition to compliance with procurement regulatory policy, other factors that improve organizational performance include transparency, professionalism and procurement procedures. The study further reveals that compliance with procurement regulatory policy frameworks enhances organizational performance by bringing forth transparency and professionalism within the procurement process. Though Kasisi et al. (2014) posit that government regulations have a negative impact on procurement performance. The research further shows that compliance with government procurement regulation is accompanied with a high level of bureaucracy which leads to adverse effect on procurement performance and the overall organizational performance. Nevertheless, the procurement policies play a very important role in enhancing organizational performance (Owuoth & Mwangangi 2015).

Nyaboke et al. (2013) argue that policy regulatory framework in procurement has a significant impact on integrity, accountability, professionalism and fairness. Additionally, the study shows that policy regulatory framework maximizes the level of service provision within the organization and ultimate customer satisfaction demands. Therefore procurement policies play an important role towards improving organizational performance. Awino and Marendi-Getuno (2014) state that a comprehensive procurement policy regulatory framework governs all stages of the procurement processes including issues related to quality assurance, efficiency, and all methods within the procurement processes.

Makabira and Waiganjo (2014) reveal that procurement policies within the procurement field enhance organizational performance by instilling professionalism, transparency, ethics and openness among practitioners within the field. Further, the research also shows that when the procurement policy is complied with, significant levels of improvement in organizational performance can be achieved because of the renewed willingness of practitioners to adhere to professionalism, openness and transparency in the procurement of goods, services and works. Mutai (2015) also established that most of the commercial banks in Kenya have significantly relied on procurement policies and procedures. These have enabled them to achieve transparency, efficiency and accountability in their operations. Further the research reveals that supply chain performance is significantly related to procurement policies and procedures.

2.3.4 Customer Relations

According to Hargrave (2020) customer relations is a set of principles, practices, and guidelines that an organization follows when interacting with its customers. On the point of view of the organization, this entire relationship encompasses direct interactions with customers, such as sales and service-related processes, forecasting, and the analysis of customer trends and behaviors. According to Srivastava (2012), customer relationship management (CRM) is a management

approach that seeks to create, develop and enhance relationships with carefully targeted customers in order to maximize customer value, corporate profitability and thus shareholders' value. The entire point of CRM is to build positive experiences with customers in order to keep them coming back and forth for products and services so that a company can create a growing base of loyal and trustworthy customers.

The customer relationship (CR) provides an organization with the structure for developing and managing customer relationships. Customer relationship management (CRM) provides a mechanism through which key customers are identified, their needs are determined, and then products and services are developed to meet their needs. Relationships with key organization customers are mostly solidified through the sharing of product and service information, supply chain strategies, product development strategies, the formation of cross-company teams to design and improve products and services, the development of shared goals, and finally, improved performance and profitability for the procuring entities (Mayaka 2015).

According to Srivastava (2012) the aim of CRM is to acquire and retain customers by providing them with optimal value in whatever way they deem important with respect to products or services they need. This involves how businesses communicate with them, how they buy, and the service they receive, of course, getting the best through the marketing mix channels of product, price, promotion and place of distribution. Essentially, CRM is a customer focused business strategy that brings together customer lifecycle management, business process and technology. The trend for companies to shift from a product focused view of the world to a customer focused one is the modern strategy of the business, as products become increasingly hard to differentiate in fiercely competitive markets.

Collaboration elements also include the formation of product and service agreements to meet customer needs, decisions regarding product packaging, transportation, and storage, and the development of guidelines for sharing process improvement costs and benefits (Mentzer et al., 2000). Gitonga (2016) argues that customer relationship management generally is applied by organizations to allow customers to easily interact with the firm. This is aimed at enhancing efficiency in managing responses and service quality to the firm's customers. Gitonga (2016) further notes that CRM contributes to improved efficiency in customer feedback, reduced communication costs, improved customer retention, efficient processes and procedures and reduced customer complaints

2.3.5 Organizational Performance

Organizational performance involves the ability of an organization to fulfill its mission through sound management, strong governance and a persistent rededication to achieving results that contribute to sound financial performance. Effective organizations are mission-driven, adaptable, customer-focused based on the quality attributes being demanded by the customers, results oriented and sustainable performance levels (Mayaka 2015). Procurement practices aim at ensuring that organizations realize value for money when committing their expenditure on products and services. This involves the firm meeting its strategic objectives by purchasing the required goods and services from the right suppliers in an efficient manner. Mayaka (2015) further argue that procurement plans in the long run helps organizations save costs and organizations that purchase items without a procurement plan in the end incur a lot of costs. Money spent to boost service levels in the long run increases market share and business performance. Cost savings are achieved through procurement of quality goods and services, economies of scale and the reduction of products in stock. The use of information technology in procurement quickens order fulfillment and improves purchaser supplier relationship. Procurement practices reduce the amount of resources allocated, increases profitability and improves the quality.

Performance is measured by how an organization realizes its objectives, including increasing productivity and reduction of inventory costs in the short-run and increasing market share in the longer duration. Performance in procurement is linked to resources having naturally different levels of efficiency to enable firms deliver in a better way to their customers at a given cost or have the same benefit at a lower cost, Barney (2003). Organizational performance can be measured using return on investment and increase in market share. Specifications and procurement highly depend on each other. Poor specifications lead to many pitfalls and obstacles for the purchasing department. Quality specifications should encompass the minimum basic requirements for the consumer, transparent procurement process, assessment of goods to ensure they meet the minimum standards and fair award at the lowest possible cost (Sigala 2018). Identifying the minimum basic requirements of the end user, allows for a transparent process of procuring products or services and assessment to ensure specifications are met are the least possible total cost. Savings in procurement are achieved through better supply chain management and professionalization of the procurement function within organizations. Procurement

activities anticipate requirements, source and monitor supplies and this in turn contributes to better organizational performance. Successful procurement practices are those that meet the end user's requirement and value with the available resources. Manpower with effective management skills who follow ethical purchasing procedures and guidelines will ensure successful quality and service delivery to all the stakeholders; for this to be achieved, objectives have to be clear and highest quality standards maintained. Proper qualifications of staff in the procurement department assists in the drafting of correct specifications, this in turn will ensure the organization receives the better quality products, Lysons and Gillingham, (2003)

2.4 Empirical review

Several studies have been conducted in the field of supply chain management practices in different industries stemming from service industry, manufacturing, banking sector etc. for instance;

Singh, Sandhu, Metri and Kaur (2010) carried out a study on the relationship between organized retail supply chain management practices, competitive advantage and organisational performance. The results showed that competitive advantage had high impact on supply chain management practices but the study failed in matching supply chain practices, competitive advantage and, organizational performance.

Li et al., (2011) on the impact of supply chain management practices on competitive advantage and organizational performance. The results showed that higher levels of SCM practice may lead to enhanced competitive advantage and improved organizational performance and that competitive advantage has a direct, positive impact on organizational performance.

Bratc (2011) on achieving a competitive advantage by SCM found that price, quality and time to market were stronger indicators of competitive advantage than the delivery dependability and product innovation. Hamid and Ibrahim (2013) conducted a study on investigation into the relationship between supply chain management practices and supply chain performance efficiency. The findings indicated that three of the five dimensions of SCMP had a significant positive effect on supply chain performance efficiency.

Yap and Tan (2012) on their study of the effect of service supply chain management practices on the public healthcare organizational performance found that a total of 5 dimensions of service supply chain management practices i.e. information and technology management, demand management, strategic supplier partnership, supplier relationship management, capacity and resource management had significant and positive direct relationship with organizational performance.

Mensah, Diyoun and Oppong (2014) carried a study on an assessment of supply chain management practices and its effect on the performance of Kasapreko Company limited (KCL) in Ghana. The result of the study indicated that supply chain management practice had significantly influenced the company's business performance and was evidenced in the sales performance of KCL over the years (2004-2010).

A study by Mudimba and Ishmael (2017) on the role of supply chain management practices on organizational performance in manufacturing firms found that Supplier relationship management affects organization performance in Bata Shoe Company. According to the study findings, supplier relationship management factors notably; mutual trust, cooperation, long term commitment, supplier selection strategies, supplier performance management and supplier performance evaluation methods, supplier relationship management, payment of suppliers and strategic partnerships to a large extent greatly affected organization performance.

Mayaka (2015) did a study on the effect of supply chain management practices on performance of Barclays bank of Kenya limited. Findings indicated that supply chain management practices affect performance of the organization and that most heads of departments were aware of supply chain management practices and satisfied to a great extent with the banks performance.

Karimi and Rafiee (2014) did a study on analyzing the impact of supply chain management practices on organizational performance through competitive priorities The findings showed that SCM practices have a direct, positive influence on organizational performance as well as an indirect one through competitive advantage.

2.5 Critique of Existing Literature

Atieno (2018) conducted a study on the role of supplier evaluation criteria on supply chain performance in Kenya. The study dealt on the impact of supplier evaluation as an element of supply chain management practices and established a positive relationship between supplier evaluation and organizational performance. Mayaka (2015) carried a study on supply chain management practices on performance of Barclays bank of Kenya. The study investigated on their effects and how they influence performance of banking sector.

Ochieng (2018) examined the relationship between supply chain management practices and competitive advantage in the hospitality industry in Kenya. The study concentrated on classified hotels around Nairobi and the results showed that lean supply chain practices adopted within hotel industry varied. Strategic supplier partnership and supplier development were found to be mostly preferred and adopted signifying that leadership structures established within hotel set ups and service differentiation as a business strategy greatly contributes to increased competitive advantage.

A study conducted by Njoku and Kalu (2015) that sought to examine the effect of strategic supply chain management on the profitability of Flour Mills in the Sub-Saharan Africa (2005 – 2013). The study argued that for a company to be able to compete successfully, they ought to focus on supply chain management aspects that facilitate profitability. The study looked at the effect of strategic supply chain management on the profitability of Flour Mills in the Sub-Saharan Africa (2005-2013). The findings indicated that customer relationship management and information sharing were related with performance of Flour Mills. The study was however based on an analysis of several countries, the current study was in the context of Kenya, thereby providing a country level results. Additionally, the study was however based on profitability unlike this study which was based on performance.

Yan and Tap (2012) on their study of the effect of service supply chain management practices on the public healthcare organizational performance. The study focused on five dimensions of service supply chain management practices (information and technology management, demand management, customer relationship management, supplier relationship and capacity and resource management) and the results determined to have a significant positive direct relationship with organizational performance.

Mutua and Kirui (2020) carried a study on SCM practices and performance of flour milling companies in Kenya. The study focused on assessing three aspects of SCM practices that comprised information sharing, outsourcing and customer relationship management and examined their effect on performance flour milling companies.

2.6 Research Gap

From the reviewed literature, it is evident that much research has been carried out on supply chain management practices but no attention has been given regarding water service providers in particular. Additionally, the studies available do not clearly indicate how supply chain management practices affect the performance of water service providers in Murang'a County. For instance, Mensah and Opong (2014) did an assessment of supply chain management practices on performance of manufacturing companies in Ghana; Mayaka (2015) also looked at effect of supply chain management practices on performance of Barclays bank of Kenya. From the above, it is evident that little has been done to address the effect of supply chain management practices on performance of Murang'a Water and Sanitation Company limited and therefore the current study seeks to fill that gap

3. RESEARCH METHODOLOGY

3.1 Research Design

The study adopted cross-sectional research design. The design was considered suitable for this study because it allows a methodical and well organized description that is valid, accurate and reliable. Mugenda and Mugenda (2003) asserts that a survey exploration has its attempts geared towards the collection of data from elements/items of a population, and that it describes obtainable phenomenon by enquiring from individuals regarding their attitudes, perception, values and behaviors. Therefore, the design was considered appropriate since it facilitated gathering of reliable data that gave a true picture of effect supply chain management practices on performance of Murang'a Water and Sanitation Company.

3.2 Population of the study

The population of the study comprised all the employees of Murang'a Water and Sanitation Company. The target population involved all the departmental managers, the middle-level managers, engineers, supervisors and other low level employees deemed to have the required information for the study from the company.

Table 3.1 Population distribution

Category of Employees	Number of Respondents	Total Population
Departmental heads	10	10
Procurement managers	8	18
Engineers	9	27
Technical Supervisors	36	63
Procurement officers	18	81
Total	81	

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3.3 Sampling Techniques and Sample Size

A census survey approach was used in this study to select the sample for the study. Census approach is a study of every unit, everyone or everything, in a population. A census survey approach was picked for this study because the targeted population was small, and therefore the participants were reached with ease in the selected organization. The advantages of a census survey are that it provides a true measure of the population (no sampling error) and the benchmark data may be obtained for future studies. Also, it provides true information regarding the elements of study because it targets those people with the coherent knowledge regarding the area of study. The sample size of the study therefore was 81 respondents.

3.4 Data Collection Tools

The study employed the use structured and unstructured sets of questionnaires as a means of through which data were collected from the respondents. Questionnaires were preferred for purposes of collecting data for this study due to the fact that they were incredibly economical in terms of financing, time and energy and they are capable of facilitating an easier analysis because they are usually in their immediate serviceable form. The questionnaires were self-administered to the respondents by the researcher through hand delivery and given sufficient time to respond to the questions before being collected.

3.5 Pilot Study

A pilot study is a small-scale preliminary study which aims to investigate whether crucial components of a main study will be feasible (Cadete, 2017). Pilot testing helps to classify questions that might lead to prejudiced answers and help to amend challenging questions. It is always desirable to pre-test the data collection instruments before they are finally used for the study purposes (Kothari 2017). A pilot test was carried out to test whether the instruments met the reliability and validity thresholds before the actual study was conducted. Lastly, a pilot test aids in revealing various concerns associated to the sample size (variability) and non-response rate. Thirteen employees representing 10% of the sample size were selected for the pilot study in order to determine the reliability of the instrument.

3.6 Data Analysis and Presentation

Data analysis is a practice in which raw data is ordered and organized so that useful information can be extracted from it (Gratton, & Jones, 2010). Upon collection and receipt of the filled questionnaires, the researcher proceeded with the analysis phase of the data in order to draw inferences. Data collected through the sets of questionnaires were assessed for completeness first then edited. The data gathered were analyzed using descriptive and inferential statistics. The quantitative information gathered was analyzed using descriptive statistics with the help of Statistical Package for Social Sciences (SPSS) version 23. Additionally, inferential analysis involving multiple linear regressions was used. Multiple regression models were used to establish the influence of the independent variables on the dependent variable. This model was used to establish and measure the strength of the relationship between the dependent variable and each of the independent variables. The model was deemed relevant because it had the ability to show the extent to which one or more predictor variables influence the dependent variable. The final results of the study were thereafter be presented using tables, charts and frequencies.

3.7 Multiple Regression Analysis

Performance of water service providers was regressed against four independent variables namely; supplier selection, supplier collaboration, procurement policies and customer relations

The multiple regressions were expressed in the equation below.

3.8 Regression Model

$$Y_s = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \dots \dots \dots$$

Where:

Y_s = Performance of water service providers

β_0 = Constant (Coefficient of intercept)

x_1 = Supplier Selection

x_2 = Supplier Collaboration

x_3 = Procurement Policies

x_4 = Customer relations

β_1, \dots, β_4 = Regression coefficient of four variables.

4. RESULTS AND DISCUSSION

4.1 Response Rate

The researcher administered a total of 81 questionnaires to the respondents (employees of Murang'a Water and Sanitation Company). Out of this 81 questionnaires, 65 questionnaires were returned fully filled. This represented approximately 80% whereas 16 questionnaires were not returned by the respondents in the study, representing 20%. The response rates were deemed acceptable in light of Mugenda and Mugenda (2012) suggestions that a response rate of 50% is appropriate for analysis and reporting, a rate of 60% is generally good, and a rate of above 70% is excellent. The same view is held by Kothari (2011), who adds that a response rate of more than 70% is considered to be extremely good. Therefore, a response rate of 80% achieved was deemed excellent for gathering sufficient data for analysis and reporting in this study.

4.2 General Information of the Respondents

4.2.1 Gender of the Respondents

Table 4.1: Gender of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	38	58	58	58
	Female	27	42	42	100.0
	Total	65	100.0	100.0	

4.2.2 Designation of the Respondents

The researcher sought to know the position the respondents held at the company and therefore asked the respondents to indicate their designations at the company. Results in Figure 4.1 below showed that majority of the respondents were technical supervisors at 40%, followed by procurement officers at 26%. Departmental heads and procurement managers tied at 12% whereas engineers comprised 10% of the total respondents of the study. This shows that majority of the respondents were able to understand the requirements of the study in form of the knowledge and information that would facilitate the study.

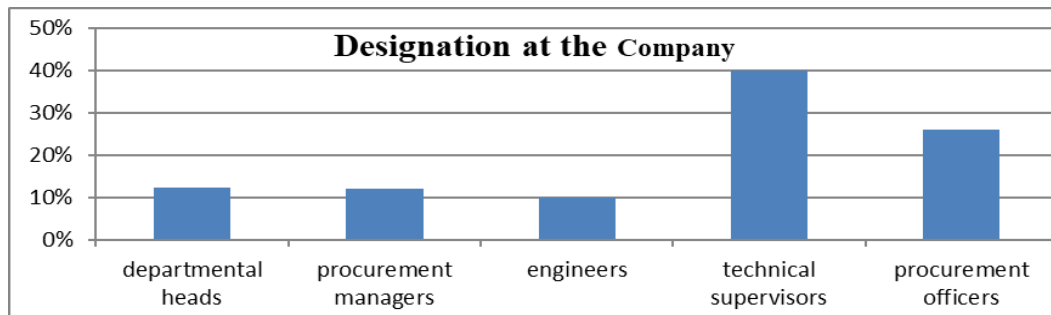


Figure 4.1 Designation at the company

4.2.3 Duration Worked at MUWASCO

When the respondents were asked about how long they have worked at MUWASCO, majority (40%) opined that they have been at the company for period between 6-10 years as showed in Figure 4.2 below. An indication that they were well versed with the company operations and had acquired a great wealth of experience to steer the company towards achieving its objective of connecting everybody with fresh drinking and affordable water in Murang'a region. 26% of the respondents had worked for the company for 3-5 years, 20% had worked for 11-15 years and the remaining 6% had been in the company for an average of 15 years and above. Comparison of the results, reveal that the employees of MUWASCO had acquired sufficient experience that enabled the company to maintain a high level of performance in realizing its goals in the region.

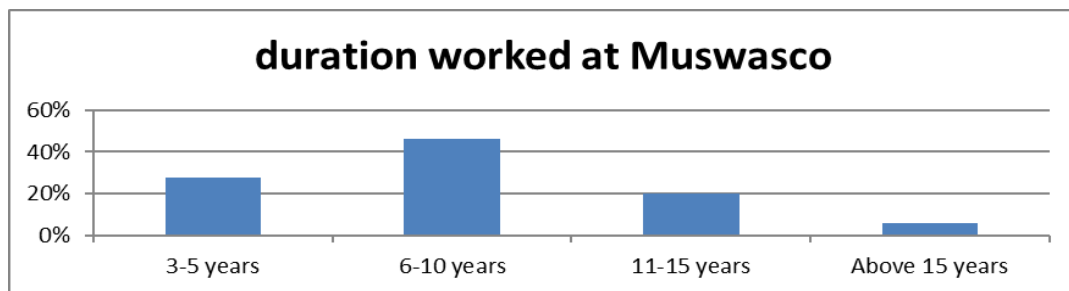


Figure 4.2: Duration worked at Muwasco

4.2.4 Education Level

The researcher sought to know the level of education of the respondents. The results showed that 31% of the respondents had a diploma certificate, 43% of the respondents had an undergraduate degree as their highest level of education. Similarly, 17% of the respondents indicated they had a master's degree certificate whereas the remaining 9% indicated that they had other qualifications which ranged from certificate to other short courses. It is imperative to conclude that majority of the respondents had the desired qualifications to perform their responsibilities at the company while at the same time had the understanding of the objective of the study and therefore could give relevant information to achieve the objectives of this study.

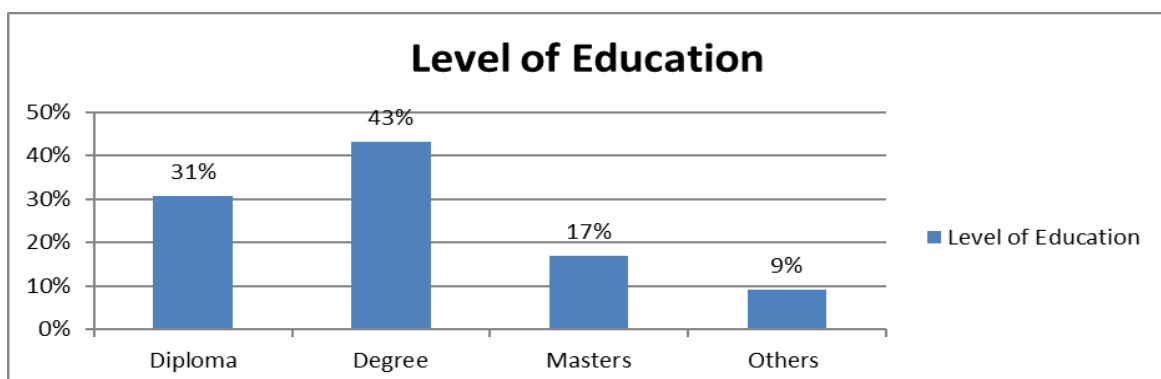


Figure 4.3 Level of education

4.3 Descriptive Statistics of Study Variables

4.3.1. Effect of Supplier Selection on Performance of MUWASCO

The respondents were asked to rate their opinion on the statements provided regarding supplier selection as one of the SCM practices that affect performance of water service providers in Kenya. The respondents were required to use a Likert scale of 1- 5 where; 1=strongly agree, 2= agree, 3=neutral, 4=disagree and 5=strongly disagree to rate their opinion. The results of the study are represented below in Table 4.2:

Table 4.2: Opinion on effect of supplier selection on performance of MUWASCO

Statement	1 %	2 %	3 %	4 %	5 %	mean
Supplier evaluation is a fundamental step in evaluating supplier's adaptability towards the organization and helps in maximizing the overall value of the organization	35.4	50.8	12.3	1.5	0	1.80
Contracting provides a vital tool for measuring a supplier's performance and aids in deriving the best value of supplier relationship.	41.5	41.5	12.3	3.1	1.5	1.82
Supplier vetting helps an organization in evaluating and selecting suppliers of reputable performance.	35.4	46.2	16.9	1.5	0	1.85
Operational performance of the organization is dependent on the selection criteria used by the organization in determining their suppliers.	30.8	53.8	12.3	3.1	0	1.88

The researcher sought to establish from the respondents whether supplier evaluation was a fundamental step in evaluating supplier's adaptability towards the organization and how it helped in maximizing the overall value of the organization. Results in Table 4.2 shows that 35.4% of the respondents strongly agreed and 50.8% agreed to the statement. This is an indication that that supplier evaluation was a key step in determining the supplier's ability towards delivering value to the organization performance as reflected with a mean of 1.80. Whereas 12.3% of the respondents held a neutral position on the statement, a paltry 1.5% disagreed. None of the respondents strongly disagreed with the statement. On overall the study found that supplier evaluation was instrumental procedure during supplier selection process and would influence the ultimate performance of the suppliers in terms of achieving value for the organization. These findings conform to Shen and Yu (2013), who opined that the efficiency of suppliers was one of the most important competencies for supply chain.

The study further sought to know whether contracting provides a vital tool for measuring a supplier's performance and aids in deriving the best value of supplier relationship. Results of the study indicated that 41.5% of the respondents strongly agreed and agreed with the statement whereas 12.3% held a neutral opinion, 3.1 % disagreed and another 1.5% strongly disagreed with the statement. On overall, the study found that contracting was an important tool that would aid in determining the suppliers' performance while at the same time assist in creating a formidable relationship between the supplier and the contracting organization as represented with a mean of 1.82.

On whether supplier vetting helps an organization in evaluating and selecting suppliers of reputable performance, 35.4% of the respondents strongly agreed while another 46.2% agreed to the statement, citing that vetting of suppliers helped in evaluating risks associated with suppliers while at the same time assist in assessing supplier strengths and weaknesses. 16.9% of the respondents held a neutral opinion and 1.5% disagreed with the statement. None of the respondents strongly disagreed with the statement. On overall, the study found out that supplier vetting was an important element in determining the supplier's performance and that it also helps in reducing costs and risk of supply chain disruptions as opined by majority (mean =1.85). While Singh et. Al., (2012) argue that evaluating suppliers determines the end result of the organizational achievement in its supply chain targets, the findings of this study also confirms the same.

Finally, on whether operational performance of the organization is dependent on the selection criteria used by the organization in determining their suppliers. The results showed that 30.8% of the respondents strongly agreed and a further 53.8% agreed simultaneously on the statement. While 12.3% held a neutral opinion, 3.1% disagreed with the statement. On overall, majority of the respondents accepted that operational performance of the company was dependent on the criteria used by the organization to select their suppliers as represented by a mean of 1.88. The success of the entire supply chain according to Jafarnejad and Salimi (2013) largely depends of suppliers' selection, and emphasize that the process of suppliers' selection is one of the most important factors that have a direct impact on performance organizations.

4.3.2 Effect of supplier collaboration on performance of MUWASCO

The respondents were asked whether supplier collaboration had an effect on performance of water service providers in Kenya. The respondents were required by the researcher to rate their opinion on a Likert scale of 1-5 where 1=strongly agreed, 2=agree, 3=neutral, 4=disagree and 5=strongly disagree. The results are shown in table 4.3 below:

Table 4.3: Opinion whether supplier collaboration affects performance of water service providers

Statement	1 %	2 %	3 %	4 %	5 %	Mean
Supplier collaboration helps an organization to reduce costs for its operation	27.7	58.5	7.7	6.2	0	1.92
Information on suppliers, their products and their historical performance help firms' identify gaps, strengths and assess supply chain risks more effectively	36.9	58.5	4.6	0	0	1.68
collaboration between supplier and buyer enhances procurement performance hence creating a competitive advantage through sharing information making joint decision, and inter-organizational relationship	33.8	50.8	12.3	3.1	0	1.85
Supplier collaboration improves organizational competitiveness through coordination of operational resources that help in developing the necessary capabilities.	38.5	44.6	10.8	6.2	0	1.85
Collaboration partnerships empower relationship that improves operational efficiency through economic empowerment to bolster their capabilities	40	44.6	10.8	4.6	0	1.80

The study sought to know from the respondents whether supplier collaboration helps an organization reduce costs for its operation. Results in Table 4.5 in the previous page show that 27.7% of the respondents strongly agreed with the statement, 58.5% agreed whereas 7.7% held a neutral opinion and 6.2% disagreed with the statement. None of the respondents strongly disagreed with the statement. On overall, the study found that supplier collaboration was an integral feature that ensured organizations build a strong network of relationship between them and their suppliers. This study also found that supplier collaboration was a gold standard for attracting top supply performance leading to reduced cost of operations to an organization as shown with a mean of 1.92.

On whether information on suppliers, their products and their historical performance help firms' identify gaps, strengths and assess supply chain risks more effectively, the results indicated that 36.9% of the respondents strongly agreed, 58.5% agreed with the statement whereas, 4.6% held a neutral opinion and none of the respondents neither disagreed nor strongly disagreed with the statement. On overall, the results indicate that information about suppliers is important to clients who want to engage the suppliers because it assist them in analyzing the suppliers' products/services and past performance records. This is critical in identifying the supply chain gaps, strengths, and assess the supply chain risks associated with such suppliers in order to make informed decisions on whether to award tenders to such suppliers as represented with a mean of 1.68. This also confirms the revelations of Shalle, Guyo and Amuhaya (2014) who posit that buyer/supplier collaboration enhances procurement performance hence creating a competitive advantage through sharing information making joint decision, and inter-organizational relationship.

On whether collaboration between supplier and buyer enhances procurement performance and creation of a competitive advantage through sharing information, making joint decision, and inter-organizational relationship. The results indicate that 33.8% of the respondents strongly agreed while another 50.8% agreed with the statement whereas 12.3% held a neutral stand and another 3.1% of the respondents disagreed with the statement. The result indicates that a good collaboration between the suppliers and their procuring entities boosts operational performance of the water service providers in delivering their products and services to their clients. This boosts also their competitive advantage through shared joint decisions and inter-organizational relationship to improve on their services (mean =1.85). The result corroborates with the findings of Onyango (2020) who argued that the process of making decisions must be based on a collaborative approach and that supply chain collaboration is one of the most effective measures firms should use in improving their level of performance.

The study further sought to establish from the respondents whether supplier collaboration improves organizational competitiveness through coordination of operational resources that help in developing the necessary capabilities, results showed that 38.5% of the respondents strongly agreed, 44.6% agreed whereas 10.8% of the respondents held a neutral

opinion on the statement while the remaining 6.2% of the respondents disagreed with the statement. On average, the study found that majority of the respondents believed that supplier collaboration significantly contributed to the organization's competitiveness through a well-coordinated efficient use of operational resources to develop the organization capabilities in delivering products and services to their customers (Murang'a residents).

Finally, the study found out that collaboration partnerships empower relationship that improves operational efficiency through increased economic empowerment to bolster their capabilities as reflected by 40% of the respondents who strongly agreed and 44.6% who agreed on the statement. This represented the majority's view that partnerships developed through collaborative approaches between the organizations lead to improvement of the organizations' strategies that aim at improving procurement of goods and services (mean of 1.80). Whereas, 10.8% and 4.6% held a neutral opinion and disagreed respectively with the statement. The study found that these results reflected the suggestions of Ali et al., (2016), that collaboration creates mutual interests in planning and conducting supply chain operations, thereby gaining more benefits than operating independently.

4.3.3. Effect of customer relations on performance of water service providers

The study sought to establish from the respondents whether customer relationship management as an SCM practice affect the performance of water service providers in Kenya. The respondents were required to rate their opinion on a Likert scale of 1-5, where 1=strongly agreed, 2=agree, 3=neutral, 4=disagreed, and 5=strongly disagreed. The results were presented in Table 4.4 below:

Table 4.4: Effect of customer relations on performance of water service providers

Statement	1 %	2 %	3 %	4 %	5 %	Mean
Customer relationship management (CRM) enhances collaborative approach to procurement processes thus promoting stakeholder bond	20	71	9	0	0	1.89
CRM builds customer loyalty and maximises stakeholder value based on product quality and performance	27.7	58.5	13.8	0	0	1.86
Communication among supply chain partners contributes to integration of views in product improvement	49.2	41.5	7.7	1.5	0	1.62
Interaction between supplier and buyer leads to a shift from product focused view to a customer focused	24.6	58.5	13.8	3.1	0	1.92

The study sought to establish whether customer relationship management (CRM) enhances collaborative approach to procurement processes aimed at promoting stakeholder bond. Findings reveal that 20% of the respondents strongly agreed to the statement, whereas 71% also agreed to the statement. The remaining 9% of the respondents held a neutral opinion while none of the respondents neither disagreed nor strongly disagreed with the statement. On average, the results show that CRM enhanced procurement processes of the water service providers through the promotion of stakeholder bond as indicated with a mean of 1.89. The findings are also supported by Srivastava (2012), who argues that customer relationship management (CRM) creates, develops and enhances relationships with targeted customers in order to maximize customer value, corporate profitability and thus shareholders' value through the developed bond among them.

On whether CRM builds customer loyalty and maximises stakeholder value based on product quality and performance, 27.7% of the respondents strongly agreed while another 58.5% agreed with the statement citing that customer loyalty and stakeholder value were maximised with coherent product quality and product performance. This is represented with a mean of 1.86. However, 13.8% held a neutral opinion whereas none of the respondents neither disagreed nor strongly disagreed with the statement. This is an indication that there was a positive effect of CRM in the realization of stakeholder value and performance. Mayaka (2015) also confirms that relationships with key organization customers are solidified through the sharing of product and service information, supply chain strategies, product development strategies, the formation of cross-company teams to design and improve products and services, the development of shared goals, and finally, improved performance and profitability for the procuring entities.

Consequently, when the respondents were asked whether communication among supply chain partners contributes to integration of views in product improvement, the results showed that 49.2% of the respondents strongly agreed and another 41.5% agreed to the statement. Whereas 7.7% and 1.5 % held a neutral stand and disagreed respectively with the statement. On overall, the findings showed that communication played a significant role in obtaining stakeholder views

and integrating them to improve on the product and service features to meet customer expectations and needs as shown with a mean of 1.62.

Finally, on whether interaction between supplier and buyer leads to a shift from product focused view to a customer focused, the results showed that 24.6% of the respondents strongly agreed and 58.5% agreed with the statement. However, 13.8% of the respondents held a neutral view and another 3.1% disagreed. On overall, the respondents felt that interaction between suppliers and the buyers would lead to a customer focused orientation in delivering the best for their clients and to sway away competitive interests from other players in the supply chain cycle as reflected with a mean of 1.92. The result conforms to Gitonga (2016) views that CRM contributes to improved efficiency in customer feedback, reduced communication costs, improved customer retention, efficient processes and procedures and reduced customer complaints.

4.3.4. Opinion on whether procurement policies affect performance of water service providers

The respondents were asked to give their opinion on different statements provided on procurement policies. The respondents were to rate their opinion on a likert scale of 1-5; where 1=strongly agreed, 2=agreed, 3=neutral, 4=disagreed and 5=strongly disagreed. The findings were presented in table 4.5 below:

Table 4.5: Effect of procurement policies on performance of water service providers

Statement	1 %	2 %	3 %	4 %	5 %	Mean
Regulatory policies enhance flexibility of supply chain processes that an organization may use to adjust its reorder protocols	18.5	72.3	7.7	1.5	0	1.92
Cost controls improve on procurement performance among parties by creating mechanisms of accountability, transparency and fairness.	35.4	52.3	9.2	3.1	0	1.80
The regulatory frameworks anchors purchasing authority that creates flexible buying plans for supply chain firms	24.6	58.5	16.9	0	0	1.92
Diversification helps in reduction of risks associated to extreme concentration on a supplier hence increasing the number of vendors for supply needs.	40	43	11	5	1	1.85
Policies provide consistent framework for procurement decision making and action	23	63	9	5	0	1.95

Findings showed that regulatory policies enhance flexibility of supply chain processes that an organization may use to adjust its reorder protocols as reflected by 18.5% and 72.3% of the respondents who strongly agreed and agreed respectively. Whereas, 7.7% of respondents held a neutral position, 1.5% disagreed with the statement. On overall, the results showed that regulatory policies had an impact on supply chain processes and could be used by the organization to adjust on its reorder protocols (mean =1.92). The results contradict Davis (2014) opinion that some regulatory policies have a negative impact on organizational performance.

Findings also revealed that cost controls improve procurement performance among parties by creating mechanisms of accountability, transparency and fairness, as represented by 35.4% and 52.3% of the respondents who strongly agreed and agreed respectively. This is an indication that cost control policies adopted by a procuring entity greatly translates to improved procurement performance among the parties in the supply chain agreement and would lead to greater levels of transparency, fairness and accountability (mean=1.80). However, 9.2% of the respondents held a neutral opinion and a further 3.1% did not agree with the statement. the results also conform to Makabira and Waiganjo (2014) who found that when the procurement policy is complied with, significant levels of improvement in organizational performance can be achieved.

The regulatory frameworks anchors purchasing authority that creates flexible buying plans for supply chain firms as reflected by 24.6% of the respondents that strongly agreed and another 58.5% who agreed with the statement. though, a minority representing 16.9% held a neutral opinion. None of the respondents neither disagreed nor strongly disagreed with the statement. On overall, the study found that regulatory policies laid the foundation for flexibility in purchasing plans for supply chain firms (mean=1.92). These results confirm the suggestions by Mutai (2015) that procurement policies are the foundation of achieving transparency and accountability in organizations.

On whether diversification helps in reducing risks associated to extreme concentration on a supplier hence increasing the number of vendors for supply needs, the results showed that 40% of the respondents strongly agreed with the statement whereas another 43% also agreed with the same. Only a minority represented by 11% held a neutral opinion and another 5% disagreed. A paltry 1% of the remaining respondents strongly disagreed with the statement. On overall, the study observed that organization should embrace supplier diversification to spread the risks associated with supply chain performance by bringing on board a number of vendors for its supply chain needs (mean = 1.85).

Consequently, on whether policies provide consistent framework for procurement decision making and action, the findings reveal that 23% of the respondents strongly agreed and another 63% agreed to the statement. However, 9% held a neutral opinion and another 5% disagreed with the statement. On conclusion, the study observed that procurement policies were important in providing a consistent framework upon which procurement decisions and execution plans were based thereby reducing inconsistencies that may arise due to unanticipated uncertainties that may lead to prolonged lead times and procurement cost overruns (mean=1.95). Makabira and Waiganjo (2014) study results also revealed that policy regulatory frameworks within the procurement field enhance organizational performance by instilling professionalism, transparency, ethics and openness among practitioners within the field.

4.3.5. Statement on performance of water service providers

The respondents were asked to rate their opinion based on their level of agreement on the statements provided regarding performance of water service providers. The response was to be on a Likert scale of 1-5, where 1=strongly agreed, 2=agreed, 3=neutral, 4=disagreed and 5=strongly disagreed. The responses were presented in Table 4.6 below:

Table 4.6: statement on performance of water service providers

Statement	1 %	2 %	3 %	4 %	5 %	Mean
High efficiency and effectiveness has been realised in procurement processes	18.5	76.9	3.1	1.5	0	1.88
The quality of products and services has tremendously improved	43.1	50.8	3.1	3.1	0	1.66
Supply chain management practices are important creating customer satisfaction in relation to organization supply chain procedures and processes	47.7	44.6	6.2	1.5	0	1.63
Engaging suppliers throughout the procurement value chain maximises value for procuring firms and leads to improved services	32.3	56.9	9.2	1.5	0	1.80

Findings indicate that high efficiency and effectiveness has been realised in procurement processes among water service providers as reflected by 19% and 77% of the respondents who strongly agreed and agreed respectively with the statement. Whereas only 3% of the respondents held a neutral opinion while 1% disagreed with the statement. On overall, the study found that MUWASCO achieved high efficiency and effectiveness in the delivery of their services to their clients as was observed from their performance charter and records. These results conform with the findings of Mayaka (2015) who argued that procurement plans in the long run helps organizations save costs and organizations that purchase items without a procurement plan in the end incur a lot of costs.

On whether the quality of products and services has tremendously improved at MUWASCO, 43% of the respondents strongly agreed with the statement, and another 51% agreed with the same statement. however, an equal number of respondents represented by 3% held a neutral opinion and disagreed respectively. The study revealed that MUWASCO had improved on the quality of their products and services due to the adoption and implementation of their strategic plan of 2020-2025 that highlighted the virtue of providing secure, safe, quality and affordable drinking water to every household in the region.

The study also sought to know whether supply chain management practices were important in creating customer satisfaction in relation to organization supply chain procedures and processes. Majority of the respondents represented by 48% and 45% strongly agreed and agreed respectively to the statement. Only 6% and 1% of the respondents held a neutral opinion and disagreed respectively with the statement. The study observed that SCM practices were significant in the realization of customer satisfaction along the supply chain processes and should be aimed at creating customer value and loyalty towards the organization. In return this will lead to improvement of performance of these companies and the

realization to achieve their mandate of providing clean domestic water for their customers. According to Sigala (2018), quality specifications should encompass the minimum basic requirements for the consumer, transparent procurement process, assessment of goods to ensure they meet the minimum standards and fair award at the lowest possible cost.

When the respondents were asked whether engaging suppliers throughout the procurement value chain maximises value for procuring firms and leads to improved services, 32% of the respondents strongly agreed while another 57% agreed with the statement. However, 9% of the respondents representing a minority held a neutral opinion and another 2% disagreed with the statement. The researcher observed that for firms to maximize their value and improve on their products and services, supplier engagement was critical since it would reveal deficiencies that may hinder their performance and hence develop strategic partnerships for empowerment to support one another (mean=1.80).

4.4 Inferential Statistics

Making inferences about system performance through inferential statistical analysis entails summarizing the data objectively and quantitatively, identifying which data patterns are important, and so on. The ability to identify important variables and gauge the degree to which certain test results can be extrapolated to the entire system is made possible by inferential statistics. Regression statistics was used in this study's inferential statistics.

4.5 Multiple Regressions Analysis

The performance of water service providers was examined empirically using the multiple regression analysis to show the effect of SCM practices on performance of MUWASCO. By calculating composite variables from the information gathered from the indicators for each variable under study, it was possible to assess the effect of each independent variable on the dependent variable. The effect of supplier selection, supplier collaboration, procurement policies and customer relationship management were regressed to determine their significance on the performance of water service providers in Kenya using the multiple regression model. The model summary is shown in Table 4.8 below;

4.5.1 Model Summary

The adjusted R square was 0.461, the implication of this was that 46.1 percent could be explained by supplier selection, supplier collaboration, procurement policies and customer relationship management as presented in Table 4.7 below. The remaining 53.9 percent could be accounted for by other factors not considered by the study.

Table 4.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.548 ^a	.461	.489	1.544
a. Predictors: (Constant), SS, SC, PP, CR				

4.5.2 Analysis of variance (ANOVA)

The study performed an ANOVA test to determine the overall significance of the model and the results presented in Table 4.8 below:

Table 4.8: ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.773	4	.193	.979	.426 ^b
	Residual	11.842	60	.197		
	Total	12.615	64			
a. Dependent Variable: P (performance)						
b. Predictors: (Constant), SS, SC, PP, CR						

The results yielded an F statistics of $F = .979$ ($p = 0.05$); as a result, the model is statistically significant in predicting this relationship. The ANOVA results in Table 4.8 shows that supplier selection, supplier collaboration, procurement policies and customer relationship management all jointly have a significant effect on performance of MUWASCO, and at least one of the slope coefficient is none zero.

4.5.3 Regression coefficients

Table 4.9: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.107	.497		4.237	.000
	SS	.157	.116	.172	1.351	.182
	SC	.104	.117	.114	.894	.375
	CR	-.050	.136	-.048	-.369	.713
	PP	-.137	.100	-.174	-1.363	.178
a. Dependent Variable: P						
b. Independent Variables: SS, SC, PP, CR						

$$P = 2.107 + 0.157X_1 + 0.104X_2 - 0.050X_3 - 0.137X_4 + \varepsilon$$

The results in Table 4.9 above shows that there was a strong positive and statistical significance effect of supplier selection on performance of Murang'a Water and Sanitation Company with a beta of ($\beta = 0.157$, p-value <0.05). This implies that a unit change in supplier selection increases performance of Murang'a Water and Sanitation Company by 0.157 units.

Secondly, the research found a strong positive and significant effect of supplier collaboration on performance of Murang'a Water and Sanitation Company with a beta of ($\beta = 0.104$, p-value <0.05). This implies that a unit change in supplier collaboration increases performance of Murang'a Water and Sanitation Company by 0.104 units.

Consequently, the research also found a strong negative and significant effect of procurement policies on performance of Murang'a Water and Sanitation Company with a beta ($\beta = -0.050$, p-value <0.05). This implies that a unit change in procurement policies increases performance of Murang'a Water and Sanitation Company by -0.050 units.

Finally, on customer relationship management, the results showed a strong negative and significant effect on performance of Murang'a Water and Sanitation Company with a beta of ($\beta = -0.137$, p-value <0.05). This implies that a unit change in customer relationship management increases performance of Murang'a Water and Sanitation Company by -0.137 units.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

5.1.1 Supplier Selection

The first objective of the study sought to assess the effect of supplier selection criteria on performance of Murang'a Water and Sanitation Company. The researcher's aim was to establish whether supplier evaluation was a fundamental step in evaluating supplier's adaptability towards the organization and how it helped in maximizing the overall value of the organization. Findings revealed that supplier evaluation was a key step in determining the supplier's ability towards delivering value to the organization performance and therefore supplier evaluation was found to be an instrumental procedure during supplier selection process and would influence the ultimate performance of the suppliers in terms of achieving value for the organization.

The results of the study also indicated that majority of the respondents strongly agreed that contracting was an important tool that would aid in determining the suppliers' performance while at the same time assist in creating a formidable relationship between the supplier and the contracting organization. On whether supplier vetting helps an organization in evaluating and selecting suppliers of reputable performance, majority of the respondents agreed citing that vetting of suppliers was important in evaluating risks associated with suppliers while at the same time assist in assessing supplier strengths and weaknesses. Finally, on whether operational performance of the organization is dependent on the selection criteria used by the organization in determining their suppliers. The results showed that majority of the respondents unanimously accepted that operational performance of the company was dependent on the criteria used by the organization to select their suppliers and therefore the researcher confirmed that organizations should look for ways to work with supply chain partners to ensure supply chain quality and responsiveness, while at same time utilize their suppliers and customers' expertise and knowledge to achieve their performance targets.

5.1.2 Supplier Collaboration

The second objective of the study was to examine the effect supplier collaboration on performance of MUWASCO. The researcher's aim was to examine whether supplier collaboration helps organizations reduce costs for its operation. Findings of the study found that supplier collaboration was an integral feature that ensured organizations build a strong network of relationship between them and their suppliers. This study also found that supplier collaboration was a gold standard for attracting top supply performance leading to reduced cost of operations to an organization. On whether information on suppliers, their products and their historical performance help firms' identify gaps, strengths and assess supply chain risks more effectively, the results indicated that information about suppliers is important to clients who want to engage the suppliers because it assist them in analyzing the suppliers' products/services and past performance records.

On whether collaboration between supplier and buyer enhances procurement performance and creation of a competitive advantage through sharing information, making joint decision, and inter-organizational relationship. The result indicated that a good collaboration between the suppliers and their clients boosts operational performance of the water service providers in delivering their products and services to their clients. The study further sought to establish from the respondents whether supplier collaboration improves organizational competitiveness through coordination of operational resources that help in developing the necessary capabilities, results showed that majority of the respondents believed that supplier collaboration significantly contributed to the organization's competitiveness through a well-coordinated efficient use of operational resources to develop the organization capabilities in delivering products and services to their customers (Murang'a residents).

5.1.3 Procurement Policies

The third objective of the study sought to assess the effect of procurement policies on performance of Murang'a Water and sanitation company. Results revealed that majority of the respondents agreed that in deed procurement policies affected performance of water service providers unlike a minority of the respondents who disagreed. The findings showed that regulatory policies enhance flexibility of supply chain processes that an organization may use to adjust its reorder protocols as reflected by majority's opinion. Further the study revealed that cost controls led to improvement of procurement performance among companies by creating mechanisms of accountability, transparency and fairness. This was reflected by majority of the respondents as opposed to a small percentage of the respondents who gave a contrary opinion. The result indicated that cost control policies adopted by a procuring entity greatly translated to improved procurement performance among the parties in the supply chain agreement and would lead to greater levels of transparency, fairness and accountability.

Consequently, the results revealed a significant relationship between regulatory frameworks and performance. It was found that purchasing authority created flexible buying plans for supply chain firms due to procurement regulatory policies of the industry. Diversification of suppliers was found to be instrumental in reducing risks associated with extreme concentration on a supplier and therefore the research concluded that increasing the number of vendors for supply chain needs would offer an organization more opportunities to reduce supply chain uncertainties and risks

Finally, the study found that policies provided consistent framework for procurement decision making and action, as reflected by majority of the respondents, though a small number disagreed with the statement. Moreover, most organizations relied on procurement policies to overcome inconsistencies that arise due to unanticipated uncertainties that would befall them hence prolonged lead times and procurement cost overruns.

5.1.4 Customer Relations

The study sought to establish from the respondents whether customer relationship management had some effect on the performance of water service providers in Kenya. Findings reveal that that CRM enhanced procurement processes of the water service providers through the promotion of stakeholder bond as indicated by majority response. This also revealed that CRM builds customer loyalty and maximises stakeholder value based on product quality and performance, an indication that there was a positive effect of CRM in the realization of stakeholder value and performance.

Consequently, the study found that communication among supply chain partners was critical as it contributed to integration of views all stakeholders in product development and improvement to meet customer expectations and needs. Finally, on whether interaction between supplier and buyer leads to a shift from product focused view to a customer focused, the results showed that the respondents felt that interaction between suppliers and the buyers would lead to a customer focused orientation in delivering the best value for their clients and to shun away competitive interests from other players in the supply chain cycle.

5.1.5 Performance of MUWASCO

The dependent variable of the study was to assess whether performance of Murang'a Water and Sanitation Company was affected by SCM practices. The findings showed that majority of the respondents were of the opinion that SCM practices had effect on performance of MUWASCO and therefore, it is imperative that management of these organization should focus on integrating SCM practices that would enhance performance of their organization. Findings also indicated that high efficiency and effectiveness had been achieved by MUWASCO in its procurement processes as opined by majority of the respondents.

The study further revealed that MUWASCO had improved on the quality of their products and services due to the adoption and implementation of their new strategic plan of 2020-2025 that highlighted the need to revamp their performance standards due to dynamics of the markets players in the region.

The study also found a strong influence of supply chain management practices in creating customer satisfaction in relation to organization supply chain procedures and processes. Majority of the respondents strongly agreed and agreed respectively to the statement. The study therefore observed that organizations involved in water service provision should aim at creating customer value and loyalty towards their organization products and services. This will translate to improving the performance of these companies and the realization to unlock their potential of providing clean domestic water for their customers.

5.2 Conclusion of the study

5.2.1 Supplier Selection

In conclusion, the performance of water service providers is affected positively by supplier selection. The choice of suppliers is crucial since organizations are increasingly dependent on them and can use their capabilities as a major resource to achieve their goals. Suppliers must be carefully chosen because they can have a significant positive or negative impact on the organization's performance as a whole. Implementing a successful supplier selection process requires strong support from senior management, vendors, and internal and external stakeholders. Supplier selection not only strengthens collaborations between stakeholders and increases consumer satisfaction, it also improves on the performance of water service providers.

5.2.2 Supplier Collaboration

Supplier collaboration as a supply chain management practice, is an integral element in ensuring the company achieves sustainable standards of performance. Findings showed that supplier collaboration was an integral feature that ensured organizations build a strong network of relationship between them and their suppliers. This study also found that supplier collaboration was a gold standard for attracting top supply chain performance leading to reduced cost of operations to an organization. The results also indicated that information about suppliers was important to clients who wanted to engage the suppliers because it assisted them in analyzing the suppliers' products/services and past performance records. In addition, it is critical in identifying the supply chain gaps, strengths, and assess the supply chain risks associated with such suppliers in order to make informed decisions on whether to award tenders to such suppliers

5.2.3 Procurement Policies

Findings indicated a negative significant relationship between procurement policies and performance of water service providers in Kenya. Though most organization have procurement policies and procedures in place, it was notable that these policies seem to offer less impact on the performance of water service providers as reflected by the regression results. A good number of respondents felt that regulatory policies did not offer a good baseline that anchors purchasing authority of organizations hence creating rigid buying plans for supply chain firms. This explicitly could be the reason that for its less impact on performance of water service providers in Kenya.

5.2.4 Customer Relations

Findings showed that efficient customer relations management contribute to enhanced procurement processes of the water service providers through the promotion of stakeholder bond thereby helping the organizations to save costs and shorten the procurement process in general. It's important to cultivate a good customer relation so as nurture a customer focused orientation in delivering the best value for organization clients' and to sway away competitive interests from other players

in the supply chain cycle. An efficient strategy to improve customer relationship management is to comprehend the company suppliers and take advantage of the mutual competitiveness between the suppliers. The foundation for building a partnership with suppliers is to comprehend their contributions in developing a collaborative approach to product/service quality improvements in order to enhance overall organizational performance.

5.2.5 Performance of MUWASCO

Findings indicated that high efficiency and effectiveness has been realised in procurement processes among water service providers as observed from their performance charter and records. The quality of products and services has tremendously improved due to the adoption and implementation of their strategic plan that highlighted the virtue of providing secure, safe, quality and affordable drinking water to every household in the region. It is also worth noting SCM practices are significant in creating customer satisfaction in relation to company supply chain procedures and processes that are aimed at enhancing their general performance levels. Performance of water service providers can only be enhanced when the organization emphasizes on customer satisfaction through quality, efficient delivery mechanisms and creating customer value.

5.3 Recommendations

The study recommends that supplier selection, supplier collaboration and customer relationship management are key supply chain management practices that organizations both in the public and the private sector should lay emphasis on in order to enhance their service delivery and overall performance. Secondly, the study found that supplier selection had received mixed response which indicated lack of clarity on how supplier selection was determined. Further, the issues of supplier collaboration appeared to be a controversial area for discussion as there are no clear guidelines on how the key aspects of supplier collaboration were implemented and therefore the study recommends that organizations need to identify and invest in mechanisms of supplier collaboration in order to empower them while remaining ethics in the practice.

5.4 Suggestions for Further Studies

This study examined the effect of supply chain management practices on the performance of water service providers in Kenya. Specifically, the study examined the effect of supplier selection, supplier collaboration, procurement policies and customer relationship management on performance of water service providers. These variables according to the results achieved, accounted only for 46.1%, an indication that there were other variables that affect performance that were not captured or looked at by the study. Therefore, the researcher recommends further studies to be performed on these factors that were covered by the study especially the study notes on the effect of supply chain sustainability, vendor diversification and supply chain team alignment on performance. The study further notes that more studies should be done on other state organizations other water service providers in Kenya.

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