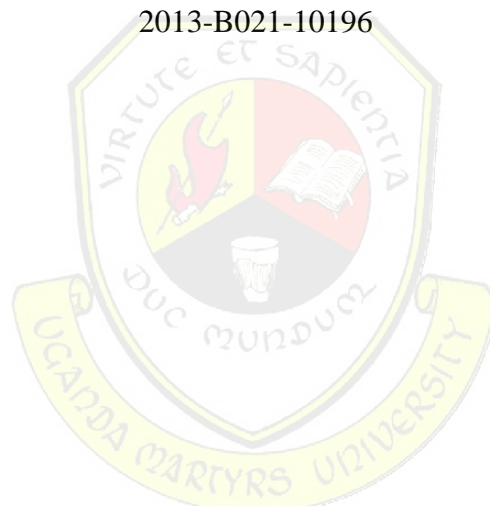


Operations Management and Performance of National Water and Sewerage Corporation.

Case Study: National Water and Sewerage Corporation, Mbarara area.

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2013-B021-10196



Uganda Martyrs University

April 2016

Operations Management and Performance of National Water and Sewerage Corporation

Case Study: Uganda Martyrs University

An undergraduate dissertation presented to faculty of business administration and management in partial fulfillment of the requirements for the award of the bachelors degree of business administration and management.

Uganda Martyrs University

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2013-B021-10196

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DEDICATION

This work is dedicated to my beloved and adorable daughter Asasira Bailey Edelquine Byeija who has been my inspiration throughout the two years. It was because of you that I grow out of my comfort zone and started take life more seriously. Thanks for making me a young adult.

ACKNOWLEDGEMENT

I give Glory to God almighty for having enabled me to complete this work.

I extend my sincere gratitude to my supervisor Mr. Moses Kibrai for guiding me, supporting me, correcting my mistakes where I went wrong, for listening and being available and according me to accomplish this work.

I extend my special thanks to my parents Mr. and Mrs. Byarugaba Fabian, My brothers Karugaba Herman and Agaba Vito, and my friends who supported me and encouraged me towards the accomplishment of this work.

I wish to the members of my case study NWSC, Mbarara area, for first of all responding to my questionnaires and providing me with the necessary information to accomplish my research.

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NWSC: National Water and Sewerage Corporation

ABSTRACT

The study examined operations management and performance National Water and Sewerage Corporation, Mbarara area. The following research questions guided the study: To assess the relationship of operations plan and performance of NWSC, to evaluate the relationship of process analysis and performance of NWSC, to examine the relationship of process analysis and performance of NWSC. During the data collection process, questionnaires were administered by the investigator to a sample of 52 employees of NWSC. There was a relationship between operations management and performance of NWSC, Majority of the respondents agreed that there is teamwork during the preparation of the plan. This encourages willingly participation of all the employees while exercising the activities. The findings illustrated that there was a relationship between process analysis and performance of NWSC, Majority of the respondents agreed that the corporation endeavor's to pump enough water in order to enable continuous supply even in the dry seasons. The research illustrated that there was a relationship between operations design and performance of NWSC, Most respondents agreed that measurements are taken before new connections are made and in addition to that the customers are sensitized. This enables proper work flow of the connections. In conclusion, the research findings illustrated that there is a strong relationship between operations plan and performance of NWSC, the study also indicated a strong relationship between process analysis and performance of NWSC, there was a relationship between operations design and performance of NWSC. I recommend NWSC to enforce operations plan, process analysis, and operations design to achieve high performance.

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CHAPTER ONE: GENERAL INTRODUCTION

1.0 Introduction

Operations plan is necessary to provide solutions in case of different crisis situations, that is essential information should be communicated to all affected parties as soon as the crisis occurs, cooperation among the involved parties is essential, responses should be as swift as feasible, the chain of command should be clear and decision makers given adequate authority. For example how can handling merchandise from different suppliers be coordinated? Corporations should have an operations blue print that systematically lists all the operating functions to be performed, their characteristics, and their timing. Operational decisions should also be taken. Such as, what levels of insurance are required, should any aspects of operations be outsourced? As illustrated by (Mack, 2011).

Process analysis includes monitoring the conversion process to ensure that plans are properly implemented, it is also necessary to initiate corrective measures to improve systems performance. For example, there is controlling inventory, quality. That is monitoring the movement of raw materials from the beginning and up to the end of manufacturing. Such as horizontal flow lines, vertical flow lines, combination of the two as stated by (Arora, 2010).

NWSC (2016) sets objectives every financial year which area aimed at improving our service delivery, measure employee worthiness on job. And finally help in making strategic decisions for the betterment of the corporation in the near future. Goal achievement therefore is set and employees/areas race to achieve the objectives. One of the goals for NWSC in this financial year is to expand business growth to the (people in the village) and as such area across NWSC offices

country wide has those milestones at stake and the achievements will be measured at the end of the planned period. However during the implementation of several activities to achieve the set goal, quality/professional work must prevail.

1.1 Background to the study

Mbarara area is one of the towns operated by National Water and Sewerage Corporation. It was gusseted in 1988 after IDA financial rehabilitation project. It is located along kampala-kabale road approximately 260km from Kampala with offices at plot 3 Galt road in Mbarara municipality. The area of operations stretches from Mbarara Municipality to Rubindi in the North (50km), Kaberebere in the south (14km), Biharwe in the East (12km), and Ruti in the southwest (10km). The population of the service area is about 130,000 people.

The operator has obligations to do everything necessary to improve performance, and achieve the targets stipulated in the SWITCH program, to take continuous pro-active steps Liaise with the Head office in respect to the required operational inputs, to optimize costs in all activities carried out in the SWITCH implementation, to ensure professional operations management to promote the NWSC corporate image.

NWSC endeavor's to increase water sales and water supply reliability, improve customer service, use of resources effectively and efficiently while optimizing costs, effective stakeholder engagement. In addition Mbarara area, allows the operator to discretionally but in a professional manner develop the services efficiently in the best interest of the corporation, they must therefore achieve the agreed upon performance standards and improve customer services.

NWSC is a public utility company 100% owned by the government of Uganda. It enables the corporation to operate and provide water and sewerage services in areas entrusted to it on a

sound commercial and viable basis. The mission is to be a leading customer centered utility in the world. The Vision is to sustainably and equitably provide cost effective quality water and sewerage services to the delight of all stakeholders while conserving the environment. National Water and Sewerage Corporation stands out as a model utility in the African region because of its achievements. The performance improvements have been enabled by long-term strategic policies enshrined in the corporate plan.

According to Stanley (2012), the operations manager has several roles. For example, there is overseeing the production and sales in order to gauge the company's overall performance. This is done in the most efficient way in order to achieve profitability. The operations manager has other tasks including managing human resources, client account and inventory management. Therefore operations management includes coordination of production, marketing and sales functions to improve profitability.

According to CELT(UK) (2007-2013), operations management adds value to people that promote the theory of techniques for the best practices to support and sustain continuous improvement through sharing in a body of knowledge that can be applied to make a positive difference to real business situations.

Malakoti (2013) suggests that operations systems and production can be divided into phrases of empiricism. That is learning from the environment and analysis and scientific management, synthesis which is the development of mathematical problems and problem solving tools isolated systems with single objectives .that is use of integrated and intelligent systems. And also use of integrated complex systems with multiple objectives. It is the development of ecologically sound systems, environmentally sustainable systems considering individual preferences.

Carlotte (2014) states that business simulation focuses on operations management and advanced manufacturing within the context of a fully integrated organization. That is, the students are equipped with fundamentals of modern manufacturing systems, including demand forecasting, production scheduling and quality control. It equips organizations with balanced scorecards that measure profitability, customer satisfaction, market share.

According to John (2011), there is a challenge of integrating issues of sustainability with traditional areas of interest while researching about operations management. It mainly because of the growing pressure of the business to focus on environment and resource consequences of the products and services they offer and the process they deploy.

1.2 Problem statement

Operations management is an area of management concerned with overseeing, designing and controlling the process of production and redesigning business operations in the production of goods and services, it ensures that business operations are efficient in terms of using few resources as needed, meeting customer requirements, and converting inputs to outputs as evidence by Phamnhatkanh (2015), united states department of education. In my own understanding, operations management involves the day to day activities of an organization and the strategic plans.

According to Mark and Daniel (2015), the field of service operations management has been recognized as an intriguing management area with disciplines. Such as, the human resources discipline marketing and operations. Therefore both practioners and academicians are giving it much attention. Personally, operations management is necessary for both service and goods sector in order for all organizations or even individuals to succeed.

Dailey (2011) illustrates that firms depend on the resilience, resourcefulness, commitment and creativity of their workforces to sustain their competitiveness. This enables a firm to enjoy an advantage over its rivals in the market place. Therefore managers must make many day – to – day decisions that operationalize an effective business model over time.

The problem of scarcity is starking and striking, that is the insufficient income, children starving, non- existent medical services, open sewers. Therefore individuals attempt to make life better for future generations as indicated by Lumsden (2012), this is done by building towns and factories. However, there are fewer resources allocated to the wants of the current generation. Therefore organizations must use the available (fewer resources to ensure efficiency and effectiveness in order to meet there goals. For example Unlever employs operations management to try and deliver food to the hungry, sensitizing people about saving water.

According to MC Graw (2010), operations management involves financial management in order to achieve efficiency and effectiveness. In this case, questions are addressed. That is, what capital investments should you make? How will you raise money to pay for the proposed capital investments? How will you handle the day to day activities, for example, collecting your receivables and paying suppliers?

According to McNamara (2014), operations management focuses on carefully managing the process to produce and distribute products and services. The activities include creation, development, production and distribution. This means there is products and services management which is done by managing purchases, inventory control, quality control, storage, logistics and evaluation of processes a great deal is substantial measurement and analysis of internal processes.

According to Kiwanuka (2014), operations management is carried out in the Uganda revenue authority in order to enable efficient and effective collection of revenue, enforce, assess and accounts for various taxes. Their operations process of administering and collection of taxes includes: identification of a tax payer, assessing the tax, collecting tax and educating the tax payer. That is it provides an administration framework in which taxes under various acts are collected. URA enforces proportional contributions from personal and property levied by the state by virtue of its sovereignty for the support of government and for all public needs.

According to Byamugisha (2015), NWSC carries out operations management by managing water resources, maintaining costs, expanding to towns, revenue growth, asset management, water supply and sanitation. Whereas Mukwano group of companies (2016), approaches operations management through visionary diversification, fast moving consumer goods, environmental and health, safety practices through food safety, management systems that drive business growth, meets changing needs of customers, employs suppliers, teamwork.

1.3 Major objectives

1.3.1 Broad objective

The broad objective is to assess the relationship between operations management and performance of NWSC.

1.3.2 Specific objective

- (1) To assess the relationship of operations plan and performance of NWSC.
- (11) To evaluate the relationship of process analysis and performance of NWSC.
- (111) To examine the relationship of process analysis and performance of NWSC.

1.4 Research questions

(1) What is the relationship between operations plan and performance of NWSC?

(11) What is the relationship between process analysis and performance of NWSC?

(111) what is the relationship between operations design and performance of NWSC?

1.5 Scope of the study

1.5.1 Geographical scope

The study will be carried out at NWSC located along kampala-kabale road approximately 260km from Kampala with offices at plot 3 Galt road in Mbarara Municipality.

1.5.2 Content scope

The study has two variables that are going to be the main basis. That is independent and dependent variables. The dimensions of the independent variables which will help the researcher to collect information are operations plan. Process analysis and operations design.

1.5.3 Time scope

The data will be collected ranging from the year 2014-2016. This will help the researcher to get more details leading to justifiable data and good feedback that will be done within three to four months.

1.6 Significance of the study

The study will enable NWSC, Mbarara area establish operations management to improve performance.

The study will examine loopholes left by earlier researchers to be covered by future researchers.

The study will equip me with the skills; knowledge and experience to enable me attain my bachelor's degree at Uganda Martyr's University but also in the future endeavors.

The research will widen the scope of controlling, planning and operations in an organization.

The study will also lead to improved financial performance in an organization.

1.7 Justification of the study

The study is to evaluate the relationship of operations management on performance. That is, can customer satisfaction of organizations be improved through operations plan?

The research will be carried out to ensure that the liquidity is achieved through operations management.

The researcher will carry out the study because; it is required in organizations and the society at large. It improves their knowledge through the information obtained.

1.8 Definition of key words

Operations is harvesting of value from assets owned by a business. The idea is loyalty inform of generating recurring income, increasing the value of business assets and securing the income and value of the business as illustrated by Penton (2016). Operations are the process of a practical production where activities involved in the day to day functions of the business conducted for the purpose of generating profits. It transforms resources into desired goods, services, results and creates and delivers value to customers. It has the following categories: processing, inspection, transport and storage.

Management is a function that coordinates the efforts of people to accomplish goals and objectives by using available resources efficiently and effectively. Management includes planning, organizing, or directing, and controlling an organization to accomplish the goal or target. It is also a social science whose objective is to study social organization. It often includes a factor of production along with machines, materials, and money. It is a function that coordinates the efforts of people to accomplish goals and objectives using available using available resources efficiently and effectively. As illustrated by Jennifer (2013)

Performance as according to Adrian (2012) is an essentially contested concept for undertaking a duty which comprises the actual output of an organization as measured against its intended outputs (goals and objectives). There are three areas of outcome. (a) Financial performance (profits, returns on assets, return on investments, (b) product market performance (sales, market share) (c) shareholder return (total shareholder return, economic value added.

1.9 conceptual frameworks

According to berlin (2016), the conceptual framework is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideals. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply. That is using a single ideal to view the world. It describes the independent and dependent variables and how they affect performance. Customer satisfaction

In a bid to delight customers, there is analysis and measurement of contact center performance against metrics which matter to customers in order to improve business processes and meet customer needs. A 24/7 customer call center help desk with free toll numbers is available to handle customer complaints which must be attended to within 24 hours depending on the

complaint and above all customer satisfaction surveys are done to help rate how far in terms of effective and efficient service delivery and this goes hand in hand with the company's slogan 'the customer is the king' According to NWSC, (2016)

It involves having all connected customers on service 24 hours and the ability to meet it , is by ensuring production of water for sale is not interrupted by pipe bursts, leakages, power outages among others. NWSC has set up time dimensions within which repairs on pipes are done to re-instate supply and also communicating to the customers of the repairs that are being done such that they use the available water sparingly, generators are in place to substitute in once power blackouts and above all responding promptly to customer complaints of no water cases. The corporation through the desk is able to ascertain whether 'the king' is getting clean safe water all the time. According to NWSC (2016)

According to NWSC (2016) Goal achievement is considered by some to be success, for it is true that success is defined by the achievement of a desired objective. Goal setting is a powerful process for thinking about your ideal future, and for motivating yourself to turn your vision of this future into reality. The process of setting goals helps you choose where you want to go in life.

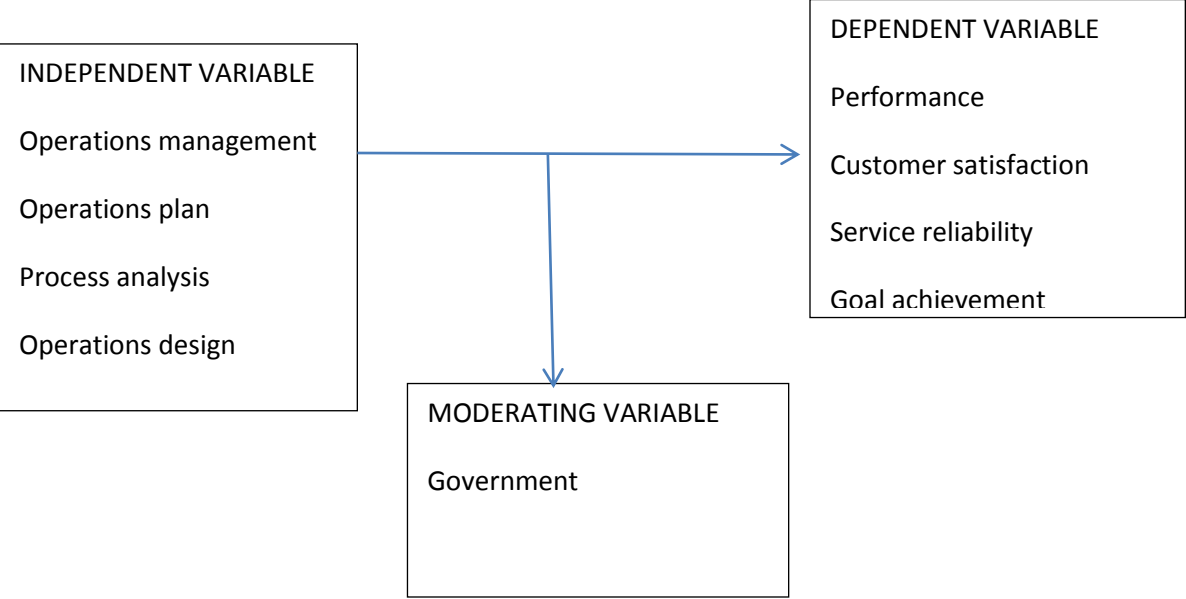
According to UKEssays (2003-2016), the operations plan is the comprehensive way in which each department or division will use its resources to achieve company goals. This allows the company to operate efficiently. It includes establishment of department budgets, determining job duties, resource allocation in order to achieve goals of the organization.

According to Mack (2016), optimization of internal processes leads to greater profitability and customer satisfaction; for example, a manager might focus on developing efficient

communications within an organization to ensure orders travel quickly from the customer service department syncs with the shipping department to get the order to the customer quickly. Fine-tuning the process to make it maximally efficient keeps operating costs low pleases customers, leading to greater profits.

According to Christer (2011), when service organizations are planning on producing a new product/service design. That is translating customers' wants and needs, refine existing products and services, develop new products and services, formulate quality goals, formulate cost target, construct and test prototypes, document specifications, and translate products and service specification into process specifications. The process of design has certain steps that include motivation, idea or improvement, organizational capabilities, and forecasting.

Figure 1: conceptual framework.



CHAPTER TWO: LITERATURE REVIEW

2.1.0 OPERATIONS MANAGEMENT

According to the Thomas (2014), operations management is the area concerned with efficiency and effectiveness of the operations in support and development of the firm's strategic goals. It includes design and operations of system to provide goods and services. It is planning, scheduling and control of the activities that transform inputs to outputs. In order to effectively compete in the global market, they must have an operations strategy to support the mission of the firm and its overall strategy. In my own words, operations management is about how organizations produce goods and services that provide the reason for their existence. The process of a service is judged by the way it is delivered.

According to the conjecture corporation (2014), operations management refers to running the day-to- day operations of a given business for example ordering, manufacturing, training employees, packing, distribution and delivery. Measures are taken to cost control procedures and hence improve systems efficiency. Total quality management techniques are used at each step of the production process. For two over century's operations and production management has been recognized as an important factor in a country's economic growth. Operations can be classified into systems of input, process, and output. It involves transforming the inputs into outputs. All functions of the organization are involved. Such as, the productions function, human resource.

The guide to operations management profession (2014) suggests that operation manager focuses on optimizing the general corporation infrastructure for a company by changing and monitoring the different budgets, real estates, supply chain management, vendor selection and work

environment. It includes several sections. Such as, capacity planning, product process and control of business at large. Every part of the organization is involved in the operations activity in order to extend quality services to the customers. Stocks and allocation of responsibilities is used to protect operations from the external environment. It leads to improved performance and a competitive advantage once the operations have been well handled. A number of attributes have to be considered. Such as ensuring quality, delivery, cost, long term commitment and a big over view.

According to the university of Chicago booth school of business (2014), a great product and a lot of cash are not enough for success, business ideal needs to be operationised. Operations are approved by examining the impact of management decisions on the day- to- day running of a company and how daily working affects management decisions. Therefore the value creators of time, price and variety are maximized. Resources flowing within a defined system are combined and transformed in a combined and controlled manner to add value in accordance with the policies communicated by management.

According to Sachs (2014), operations management is the core of trade. That is for every trade agreed, new product launched, transaction completed, it is operations management that allows business to flow. It combines and transforms various resources used in the production/operations subsystem of the organization into value added product/services in a controlled manner as per policies of the organization. Therefore it is that part of an organization, which is concerned with transforming of a range of inputs into the required products/services having the requisite level. It aims to achieve the right quality, right quantity, right time, and right manufacturing cost.

According to the revenue administration industry January (2012), operations is according to the clients who are willing to comply, those who are willing but failed by revenue agency archaic procedures, those are not willing but know what to do and those who deliberately refuse to pay tax and logically arranging them to deliver the best services. Such as the set of interrelated management activities, which are involved in manufacturing certain products? If the same concept is extended to service management then the corresponding set of management activities is called operations management.

According to the inspector general report (2010), an OIG is authorized to carry out both investigations and audits to promote economy efficiency and effectiveness in administration of organizations, prevent and detect fraud and abuse in programs and operations. Operations management is an organized activity where by every operations management system has an objective, the system transforms inputs to useful outputs, it does not operate in isolation from other organization system, there exists a feedback about the activities, which is essential to control and improve system performance.

According to Sheena (2010), operations management involves quality control which is a system used to maintain a desired level of quality in a product/service. It is a systematic control of various factors that affect the quality of the product. Quality control aims at prevention of defects at the source, relies on effective feedback system and corrective action procedure. It is carried out to improve companies' income by making production more acceptable to customers, reducing companies' costs through reduction of losses due to defects, producing optimal quality at reduced price, ensuring satisfaction of customers with productions/ services to build customer goodwill, confidence and reputation of manufacturer, to make inspection and ensure quality control, to check variation during manufacturing.

According to Johnston (2013), operations management involves materials management as an aspect primarily concerned with the acquisition, control, and use of materials needed and flow of goods and service's connected with the production process having some predetermined objectives in view. This is in order to: minimize material costs, purchase and store materials efficiently and to reduce the related cost, cut down costs through import substitution, trace new resources of supply and to develop cordial relations with them in order to ensure continuous supply at reasonable rates, reduce investments tied in the inventories for use in other productive purposes and to develop high inventory turnover ratios.

According to Warren (2011), operations management has a component of maintenance management whereby equipment and machinery are a very important part of the total productive effort. Therefore, their idleness or downtime becomes expensive. Hence, it is very important that the plant machinery should be properly maintained. This is in order to achieve: minimal breakdown and to keep the plant in a good working condition at the lowest possible price, to keep the machines and other facilities in such a condition that permits them to be used at their optimal capacity without interruption, to ensure the availability of the machines, buildings and services required by other sections of the factory for the performance of their functions at optimal return on investment.

According to slack (2010), operations management is important not because it is concerned with creating all of the products and services upon which we depend, it is the center of so many of the changes affecting the world of business, the solution that we find need to work globally and responsibly within society and the environment and everywhere, because every service and product are a result of operations management. There is an analysis of the internal and external

environment in order to make a strategic decision. Such decisions are done at three levels: strategic, technical, and operational.

According to Joseph (2016), operations management is the process whereby resources, flowing within a defined system, are combined and transformed by a controlled manner to add value in accordance with policies communicated by management. The operations managers have the prime responsibility for processing inputs into outputs. They must bring together under production that effectively uses the materials, capacity and knowledge available in the production facility. Given demand on the system work must be scheduled and controlled to produce goods and services required. Control must be exercised over such parameter. For example there are costs, quality and inventory levels. In my own words, operations management contains the following words: resources, systems, and transformation and value addition activities.

2.1.1 OPERATIONS PLAN

According to Ward.Com (2014), the operations plan describes the physical necessities of your business operation. For example, there is business' physical location, facilities and equipment. It can also include information about inventory requirements and suppliers, and a description of the manufacturing process. It can also include information about inventory requirements and suppliers, and a description of the manufacturing process. It can also be an outline of the capital expenses requirements for the day to day operations of a business.

According to Wiley (2014), operations are described as processes and resources used to produce the highest quality or services as efficiently as possible. That is planning the production in advance by setting the exact route of each item, fixing the starting and finishing dates for each

item, to give production orders to shops and to follow up the progress of products according to orders. The data for the prior and the fiscal year is included in operations planning; it is modified to reflect on decisions made during the budget development process.

According to the creative common attribution 12th august (2014), operations plan is the process of planning strategic goals and objectives. It addresses challenges before they become problems and is vital to the success of the business. According to Leo (2013), operations plan provides a clear picture of tasks and running activities in line with the goals and objectives of an organization. The operations plan involves the following: the department/agency, the program name and authorization, the program description, the program activities, the program objectives, the program performance indicators. According to Canada business network November 24, (2014), it describes steps taken to increase productivity. Quality, and effectively manage day to day functions of business. Such as, time management. Each objective should be accompanied by a balanced set of meaningful performance indicators. Performance is reported in a tabular format, should be numeric. Data may be augmented with graphs, charts, and other materials.

According to Michael (2014), operations plan is prepared by a component of an organization that clearly defines actions it will take to support the strategic objectives and plans of upper management. It defines organizations strength and weaknesses, organizations positions in the market place, potential growth areas and areas of vulnerability. Operations planning helps organizations to define its values and main objectives, have greater control over its direction, there's being proactive, build teamwork, and improve financial performance. Operations plan includes all of the activities associated with selection of policies and programs through which the desired objective is fulfilled. It includes design and development, facilities, plant location,

layout. An authorized person uses available resources for performing the required tasks and will also be accountable to the management for his/her activities as stated by Karlsson (2011)

2.1.2 PROCESS ANALYSIS

According to NETMBAss. Com (2010), an operation is composed of processes designed to add value by transforming inputs into useful outputs. The processes can have a significant impact on firm's competitiveness. Process analysis is a microscopic decision-making of an overall process route for converting raw materials into finished goods. Therefore there is understanding of activities, their interrelationship, capacity of each step in the process and calculation other measures interest. There is identifying the bottleneck, farther limitation. Use the analysis to make operating decisions to improve the process.

According to leanmanafature.net (2010), process analysis is important in operations and running and managing a business. Knowing a process will give a business a clear and precise ideal of manufacturing costs, inventory costs. It provides an insight into cost saving and efficiency opportunities to reduce overall cost base without any impact on product quality and customer satisfaction. Process analysis encompasses the selection of a process, choice of technology, process flow analysis and layout of the facilities. Hence it is important to analyze the workflow for converting raw materials into finished products and to select the workstation for each included in the workflow.

According to DR Narayana (2011), a process is any part of an organization that takes inputs and transforms them into outputs that are ideally of great value to the customer than the original inputs. Processes can be either single-stage or multiple stages. Firms can be compared to others

in a benchmarking process, but internal measures of productivity are used to assess a firm's performance.

According to George (2012), efficiency and performance of a process adds value which has an impact on business performance. The analysis of the various processes making up an operation is an important step in improving competitiveness of a firm. Most businesses are constantly looking for ways to improve cost, efficiency, quality and flexibility of their operations and this can be achieved through process analysis. For example, there is monitoring resources, reducing work in the process inventory, redesigning the product itself.

2.1.3 OPERATIONS DESIGN

According to Tangent LLC (2014), product/services design is a key factor when planning on producing a new product/service. It translates customers' needs/wants, refines existing products/services, develops new products/services and formulates quality goals, formulates cost targets into process specifications. It includes steps of motivation, ideals for improvement, organization capabilities and forecasting. The design process should be tied in with the organization strategy and take into action some key considerations. Technological changes, competitive market, economic and demographic changes are some market opportunities and threats that all organizations must employ when planning a product and service design.

According to Taylor and Francis, the Rutledge (2014), operations design and management addresses the challenge that companies face and proposes a range of innovation methodological approaches when designing the implementing global manufacturing. That is the conversion of ideals into reality. Every business organization has to design, develop, and introduce new

products as a survival and growth strategy. Developing new products/services and launching them to the market is the biggest challenge of organizations.

The investment in creative and cultural industries is considered a significant component of EU growth in Lisbon strategy and Europe (2020) strategy and designers are increasingly involved in innovative issues. The entire process of need identification to physical manufactures of product involves three functions: marketing, product development, and manufacturing. Operations design translates the needs of customers given by the marketing into technical specifications and designing various features into the product to these specifications. It provides a link between marketing, customer needs and expectations and the activities required to manufacture the product. According to design policy (2010), there are three issues to design policy development. That is increased use of design by companies and grows the design sector, increase exports of design and attract international investment, improve design education and research.

2.2.0 PERFORMANCE

According to Mary (2014), financial performance is described as a subjective measure of how well a firm can use its assets to generate revenue. Financial statement can be used to acquire margin growth rates or debts. Therefore a firm's policies and operations are measured in monetary terms. Through return on investment, return on assets and value added. According to the conversation 1 January (2013), managing cash flows is very important. That is lack of sales; cash flows management and profitability are amongst the top concerns of ownership.

According to the journal of small business and entrepreneurship in (2011), examined that firms with shorter cash conversion cycles would require less invested capital, enjoy superior financial performance and more liquidity than the firms longer cash conversion cycles. Therefore

understanding cash flow management, monitoring creditors, debtors and working capital requirements within the business are critical.

According to Small Business Economics (2012), is concerned with the firm's management of accounts receivables, inventories and trade credit. It suggests that having an optimal level of working capital maximizes their profitability and once a firm moves away from the optimal level, profitability is likely to decrease. According to Kenneth (2010), mergers had no profitability to companies had no effect on the level of capital required adequacy and long term solvency.

According to Juta and company (2010), financial statements are prepared to give an overview of an enterprise's financial performance over a certain time period. They are used to satisfy a wide range of different information needs. They can be used for planning and control to check achievement of predetermined goals. According to Auflage (2010), use of quantitative and qualitative framework to be competitive and to retain customers as well as highly skilled employees is tools used for budgetary control, gap analysis, product and market growth balanced scorecard framework.

According to management studies 30th July (2014), their aim is to become the default choice for active traders that is through partnership with IG group. They make your business more profitable without sharing resources. According to Pamela P Peterson (2012), understanding how to calculate financial ratios and measures, look at trends, use credit models and understand data with which you are working. Financial data can be analyzed through ratios and cash flow analysis. It enables evaluation of operating performance and financial condition of the company.

According to Betts (2015), operations are judged by the way they performance, there are many individuals and groups doing the judging and there are many different aspects of performance on which the assessment is being made. The people doing the judging are called stakeholders and the aspects of performance they are using are called performance objectives. And if we want to understand the strategy contribution of the operations function, it is important to understand how we can measure its performance. Operations performance can have a great impact on the success of the organization as a whole.

2.2.1 Customer satisfaction

Customer satisfaction is a measure of how products and services supplied by a company meet or surpass customer expectation. It is the number of customers, or percentage of total customers, whose reported experience with a firm, its products/services exceed specified satisfaction goals. In a survey of nearly 200 senior marketing managers, 71 percent respond that they found a customer satisfaction metric very useful in managing and monitoring their business. It is seen as a key performance indicator within business and often part of a balanced scorecard. In a competitive market place where businesses compete for customers, customer satisfaction is seen as a key differentiator and increasingly has become a key element of business strategy. This is illustrated by Reibstein (2010).

Ertan (2010) illustrates that within organizations, customer satisfaction ratings can have powerful effects. They focus employees on the importance of fulfilling customer expectations. Furthermore, when these ratings dip, they warn of problems that can affect sales and profitability. These metrics quantify an important dynamic, when a brand name has loyal customers; it gains positive word of mouth marketing, which is both free and highly effective.

Therefore, it is essential for businesses to effectively manage customer satisfaction. Expectations are a key factor behind customer satisfaction.

According to Dikimpe (2015), the importance of customer satisfaction diminishes when a firm has increased bargaining power. For example, a cellphone plan providers, such as AT and T, participate in an industry that is an oligopoly, where only a few suppliers of a certain product/service exist. As such, many cell phone plan contracts have a lot of fine print with provisions that they would never get away with if they were, say 100 cell phone plan providers, because customer satisfaction would easily have the option of leaving for a better contract offer. Customer satisfaction provides a leading indicator of consumer purchase intentions and loyalty.

The American customer satisfaction index (2012) suggests that customer satisfaction data are among the most frequently collected indicators of market perceptions. Their principal use is: within organizations, the collection, analysis and dissemination of these data send a message about the importance of tending to customers and ensuring that they have a positive experience with the company's goods and services. Although sales or market share can indicate how well a firm is performing currently, satisfaction is perhaps the best indicator of how likely it is that the firm's customers will make further purchases in the future. Much research has focused on the relationship between customer satisfaction and retention. Studies indicate that the ramifications of satisfaction are most strongly realized at the extremes.

The Petrescu (2010) suggests on a five-point scale- individuals who rate their satisfaction level as '5' are likely to become return customers and might even evangelize for the firm. A second importance metric related to satisfaction is willingness to recommend. This metric is defined as "the percentage of surveyed customers who indicate that they would recommend it to friends,

relatives and colleagues. This can be a powerful marketing advantage “individuals who rate their satisfaction level as ‘1’ by contrast, is unlikely to return. Further, they can hurt the firm by making negative comment about it to prospective customers. Willingness to recommend is a key metric relating to customer satisfaction

According to Alexandra (2010), organizations need to retain existing customers while targeting non- customers. Measuring customer satisfaction, is at provides an indication of how successful the organization is at providing products/services to the marketplace. Customer satisfaction is measured at the individual level, but it is almost always reported at an aggregate level. It can be, and often is, measured along various dimensions. A hotel, for example, might ask customers to rate their experience with its front desk and check-in service, with the room, with the amenities in the room, with the restaurants, and so on. Additionally, in a holistic sense, the hotel might ask about overall satisfaction ‘with your stay’.

University of Texas (2016) as research on consumption experience grows, evidence suggests that consumers purchase goods and services for a combination of two types of benefits are associated with the sensory and experiential attributes of the product. Utilitarian benefits of a product are associated with the more instrumental and functional attributes of the product. Utilitarian benefits of a product are associated with the more instrumental and functional attributes of the product. Customer satisfaction is an ambiguous and abstract concept and the actual manifestation of the state of satisfaction depends on a number of both psychological and physical variables which correlate with satisfaction behaviors such as return and recommend rate. The level of satisfaction can also vary depending on other options that customers may have and other products which the customer can compare the organization’s products.

According to Lee (2016) provides the basis for the measurement of customer satisfaction with a service by using the gap between the customer's expectation of performance and their perceived experience of performance. This provides the measurer with a satisfaction 'gap' which is objective and quantitative in nature. Work done by Cronin and Taylor propose the "conformational disconfirmation" theory of combining the 'gap' as two different measures (perception and expectation of performance) into a single measurement with a satisfaction "gap" as two different measures (perception and expectation of performance) into a single measurement of performance according to expectation. The usual measures of customer satisfaction involve a survey using a Likert scale. The customer is asked to evaluate each statement in terms of their perceptions and expectations of performance of the organization being measured.

McDaniel (2016), good quality measures need to have high satisfaction loadings, good reliability, and low error variance. In an empirical study comparing commonly used satisfaction measures, it was found that two multi-item semantic differential scales performed best across both hedonic and utilitarian service consumption contexts. The six-item 7-point bipolar scale consistently performed best across both hedonic and utilitarian services. It loaded most highly on satisfaction, had the highest item reliability, and had by far the lowest error variance across both studies. In this study, the six items asked respondents evaluation of their most recent experience with ATM services and ice cream restaurants, along seven points within these 6 items. 'Pleased me to displeased me', 'contented with to disgusted with', 'very satisfied with to very dissatisfied with'. 'I did a good job for me to do a poor job for me', 'wise choice to poor choice' and 'happy with to unhappy'. Affective measures capture a consumer's attitude (liking/disliking) towards a product information or experience.

Beard (2015) suggests customer satisfaction is a marketing term that measures how products/services supplied by a company's meet or surpass customer's expectation. It is important because it provides marketers and businesses. It is a likely indicator of how likely a customer will make a purchase in the future. Customer satisfaction is seen as a key differentiator because businesses that succeed in these cut-throat environments are the ones that make customer experiences create environment where satisfaction is high and customer advocates are plenty. It also reduces customer churn, by measuring and tracking customer satisfaction you can put new processes in place to increase the overall quality of your customer services.

According to Quarterly (2010), customer lifetime value is a beneficiary of high customer satisfaction and good customer retention, customer satisfaction is tightly linked to revenue and repeat purchases. What often gets forgotten is how customer satisfaction negatively impacts your business. It's one thing to lose a customer because they were unhappy. It's another thing completely to lose 20 customers because of some bad word of mouth. To eliminate bad word of mouth, you need to measure customer satisfaction on ongoing basis. Tracking changes in satisfaction on ongoing basis. Tracking changes in satisfaction will help you identify if customers are actually happy with your product or service. Customers cost a lot of money to acquire. You and your marketing team spend thousands of dollars getting the attention of prospects, nurturing them into leads and closing them into sales.

Lee resource Inc. (2014) found that for every customer complaint, there are 26 others unhappy customers who have remained silent. Customer satisfaction plays an important role within your business. Not only is it the leading indicator to measure customer loyalty, identify unhappy customers, reduce churn and increase revenue. It is also a key point of differentiation that helps you to attract new customers in competitive business environments.

Pulido (2013) illustrates that consistency is the secret ingredient to making customers happy. However, it's difficult to get right and requires top leadership attention. It consistently may be one of the least inspirational topics for most managers. But it's exceptionally powerful, especially at a time when retail channels are proliferating and consumer choice and empowerment are increasing. It also requires the attention of top leadership. That's because by using a variety of channels and triggering more and more interactions with companies as they seek to meet discrete needs, customers create clusters of interactions that make their individual interactions less important than their cumulative experience. This customer journey can span all elements of a company and include everything from buying a product to actually using it, having issues with a product that requires resolution or simply making the decision to use a service or product for the first time.

Stone (2013) says it is well understood that companies must continually work to provide customers with superior service, with each area of the business having clear policies, rules, and supporting mechanisms to ensure consistency during each interaction. However, few companies can deliver consistently across customer journeys, even in meeting basic needs. Customer journeys are an important predictor of overall customer experience and loyalty. Banks for example saw an exceptionally strong correlation between consistency on key customer journeys and overall performance in customer experience. Positive customer- experience emotions and trust are the biggest drivers of satisfaction and loyalty in a majority of industries surveyed. Consistency is particularly important to forge a relationship of trust with customers.

Strevel (2011), a company's brand is driven by more than the combination of promises made and promises kept. What's also critical is ensuring customers recognize the delivery of those promises, which requires proactively shaping communications and key messages that

consistently highlight delivery as well as them. South airlines, for example, have built customer trust over a long period by consistently delivering on its promise as a no-frills, low-cost airline. Similarly, progressive insurance created an impression among customers that it offered lower rates than its competitors in the period from 1995 to 2005 and made sure to highlight when it delivered on that promise. Progressive also shaped how customers interpreted cost-reduction actions such as on-site resolution of auto claims by positioning and reinforcing these actions as part of a consistent brand promise that it was a responsive, technology-sawy company. In both cases, the customer perceptions of the brands are re-enforced operational realities. Such brands generate a reservoir of goodwill and remain resilient on the basis of their consistency overtime in fulfilling promises and their strong, ongoing marketing communications to reinforce those experiences.

2.2.2 Service reliability

According to David (2016) Service reliability is accessibility where by service is available when desired (when the customer wants to use it), continuity where by customer has uninterrupted service over a desired duration, and performance by meeting customer's expectations. Value by negotiating a contact with the customer that places a value for a certain level of service requirement, needs customer participation or input from a global perspective, billing operational issues needed to be considered. Service reliability is not network reliability. Instead of listening to ourselves, we need to listen to the customer.

According to Hardiman (2012) service reliability is one of those collective nouns with a meaning that is hard to pin down. It is important to make sure all stakeholders know what reliability is. Otherwise, at the first sign of problems, they will start using the word "reliability" in sentences containing rude words. A database administrator sees reliability as accurate data; a network

engineer sees reliability as guaranteed message delivery. A researcher defines reliability as accurate web site content. If services work as intended but fails to deliver what customers want, reliability engineering is a discipline for complex systems, like the ones found in the car industry, reliability engineering can predict the success of a system, measure it's performance under test conditions.

Estepon (2010) says being reliable is an extremely important quality to have, especially in the customer service realm. Providing to your clients that you are reliable by doing what you say 100 percent of the time is one of the most fundamental aspects of customer retention. Try comparing the way you treat your customers to the way you would expect from others in your customers to the way you would expect from others in your personal life. It is very important that those that are close to you are honest and do what they say. As it is the same in customer service. The more you prove yourself as unreliable, the more customers will be easily persuaded to try one of your competitors. As we have said before, the level of your customer service will make or break your business.

Riera (2014) in today's economy, almost everyone has to fight tooth and nail to retain current accounts, and certainly to sign on new ones. We no longer have an industry in which giving a good presentation and having a nice smile will earn you customers, you have to prove to them why you are the best, through any means possible. Potential customers have more options than ever before, and most companies are going to fight for their businesses. It is vital that you find a way to prove that you are the best possible choice for current and potential clients. First and foremost, you have to strive to always do what you have promised. Make every effort to model your relationship with the customer into an open, continuous, and cordial one. Be sure to prove to the client why you deserve their business by taking advantage of every opportunity to provide

knock- their- socks- off service. Keep in mind that exhibiting great customer service in any arena may just put your foot through the door of a new opportunity. Commitment, communication and delivering results will keep you in for life.

ALD services (2016), explains service reliability in the broad sense as a science aimed at predicting, analyzing, preventing and mitigating failures overtime. Reliability is quality overtime. A reliable, trouble free product continues to satisfy its customers for a long period of time. Reliability in the narrow sense is the probability that a device will operate successfully for a specified period of time and under specific conditions when used in the manner and for the purpose intended. You can't purchase the reliability separately and add to your product for decreasing your expenses in the field. (There's warranty period). The reliability assurance in an integrative process during development, production and field operation phases that must be implemented according to the internal standards for each designed product. You should make appropriate investments during design and production for developing a reliable product that will result in saving more money during product warranty period. Your warranty policy should be based on product reliability analysis.

You can count on Rocky mountain power (2016), to deliver safe, reliable electricity and excellent customer service. We provide 99.97 percent service reliability to customers and we are always working to improve. Our efforts are focused on better, smarter, more efficient ways to bring you the service you expect and keep costs down. We are making prudent investments in our systems to ensure our customers and communities have the reliable electricity they need to prosper our projects includes: the largest phase –shifting power transformer in the US. The second largest in the world- will soon be operating at our pinto substation outside Monticello, Utah. The biggest upgrade will enhance service reliability for all our customers. They

proactively manage trees and other vegetation to keep electric lines clear, helping to ensure the safe and reliable delivery of services to our customers. Trees are the most common cause of power outages when branches fall on lines during high winds and storms. They listen to customers and use feedback to continually find ways to make it easy to do business with them.

2.2.3 Goal achievement

Anthony (2012) says goal setting involves the development of an action plan designed to motivate and guide a person or group toward a goal. Goal achievement can be guided by goal setting criteria (or rules) such as SMART criteria. Goal setting is a major component of personal-development and management literature. More specific and ambitious goals lead to more performance improvement than easy or general goals, there is a positive linear relationship between goal difficulty and task performance. Goals that are deemed difficult to achieve and specific tend to increase performance more than goals that are not. A goal can become more specific through quantification or enumeration, such as by demanding “increase in productivity by 50 percent” or define certain tasks that must be completed. Goals narrow attention and direct efforts to goal-relevant activities, and away from perceived undesirable and goal-irrelevant activities, and away from perceived undesirable and goal-irrelevant actions, goals can lead to more effort, someone becomes more likely to work through setbacks, goals can lead individuals to develop and change their behavior.

Diane (2015) illustrates that goal setting encourages participation to put in substantial effort. Because every member has defined expectations for their role, little room is left for inadequate, marginal effort to go unnoticed. Managers can’t constantly drive motivation, or keep track of an employee’s work on a continuous basis. Goals are therefore an important tool for managers since goals have the ability to function as a self-regulatory mechanism that helps employees prioritize

task. Goals focus attention toward goal relevant activities and away from goal- irrelevant activities and away from goal-irrelevant activities, goals serve as an energizer whereby higher goals induce greater effort, while low goals induce lesser effort, goals affect persistence, constraint with regard to resources affect workplace, goals activate cognitive knowledge and strategies that help employees come with the situation at hand.

According to Wing (2015) people perform better when they are committed to achieving certain goals. Through an understanding of the effect of goal setting on individual performance, organizations are able to use goal setting to benefit organizational performance. The level of commitment is influenced by external factors. Such as there are people assigning the goal, setting the standard for the person to achieve performance? This influences the level of commitment by how compliant the individual is with the one assigning the goal. An external factor can also be the role models of the individual. Say if they strive to be like their favorite athlete, the individual is more likely to put forth more effort to their own work, any goals. Internal factors can derive from their participation level in the work to achieve the goal. What they expect from themselves can either flourish their success, or destroy it. Also the individual may want to appear superior to their peers or competitors. They want to achieve the goal the best and be known for it. The self-reward of accomplishing a goal, is usually one of the main keys that keep individuals committed.

According to Kegan (2013) without prior feedback channels it is impossible for employees to adopt or adjust to the required behavior. Managers should keep track of performance to allow employee to see how effective they have been in attaining their goals. Providing feedback on short-term objectives helps to sustain motivation and commitment to the goal and without it, goal setting is unlikely to be successful. Feedback should be provided on the strategies followed to achieve the goals and the final outcomes achieved, as well. Feedback on strategies used to obtain

goals is very important, especially for complex work, because challenging goals puts focus on outcomes rather than on performance strategies, so they impair performance. Properly delivered feedback is also very essential, and the following hints may help for providing good feedback. Advances in technology can facilitate providing feedback. Systems analysts have designed computer programs that track goals for numerous members of an organization. Such as computer systems may maintain every employee's goals, as well as their deadlines. Separate regular basis and other systems may require perceived slackers to explain how they intend to improve. More difficult goals require more cognitive strategies and well-developed skills. The more difficult the task is, the smaller the group of people who possess the necessary skills and strategies. From an organizational perspective, it is thereby more difficult to successfully attain more difficult goals, since resources become more scarce.

According to Reinhard (2014) goal setting theory has limitations. In an organization, a goal of a manager may not align with the goals of the organization as a whole. In such cases, the goals of an individual may come into direct conflict with the employing organization. Without aligning goals between the organization and the individual, performance may suffer. For complex tasks, goal-setting may actually impair performance. In these situations, an individual may become pre-occupied with meeting the goals, rather than performing tasks. Some evidence suggests that goal-setting can foster unethical behavior when people do not achieve specified goals. Goal setting may have the drawback of inhibiting implicit learning. Goal setting may encourage simple focus on an outcome without openness to exploration, understanding, or growth. A solution to this limitation is to set learning goals as well as performance goals, so that learning is expected as part of the process of reaching goals.

According to Prier (2016) there are times when having specific goals is not a best option. This is the case when the goal requires new skills, or knowledge. Tunnel vision is a consequence of specific goals. If a person is too focused on attaining a specific goal, he/she may ignore the need to learn new skills or acquire new information. In situations like this, the best option is to set a learning goal. A learning goal is a generalized goal to achieve knowledge in a certain topic or field, but it can ultimately lead to better performance in specific goals related to the learning goals. A learning goal facilitates or enhances metacognition-namely, planning, monitoring, and evaluating progress toward goal attainment. This is necessary in environments with little or no guidance and structure. Although jobs typically have set goals, individual goals and achievement can benefit from metacognition. Framing influences performance, the relationship between group goals and individual goals influences group performance.

According to the mind tools editorial team (2016), many people feel as if they are a drift in the world: they work hard but they don't seem to get anywhere worthwhile. A key reason that they feel this way is that they haven't spent enough time thinking about what they want from life, and haven't set themselves formal goals. After all, would you set out on a major journey with no real ideal of your destination? Probably not goal setting is a powerful process for thinking about your ideal future, and for motivating yourself to turn your vision of this future into reality. The process of setting goals helps you choose where you want to go in life. By knowing precisely what you want to achieve, you know where you have to concentrate your efforts, you also quickly spot the distractions that can, easily, lead you astray. Goal setting is an important method of deciding what you want to achieve in your life, separating what's important from what's irrelevant, motivating yourself, building your self-confidence.

Celes (2016) explain that Eiffel tower was not built from just randomly slapping tiles of concrete and slap together. It was through envisioning, strategizing against environmental elements, and precision in planning and execution that enabled it to be built, much to the surprise of everyone back then. Steve jobs did not bring Apple to where it is today because he got lucky. It was through conscious strategizing and planning that allowed Apple to curve its special niche in the previously monopolized market by Microsoft. For goal achievement to succeed in the long-term, you need to have a system in place to sustain it.

According to Christen burg (2012) goals are an extremely powerful technique for accomplishment, but for goal setting to really be effective requires more than just writing down what we want to achieve. This article will present important steps that will help to define and achieve goals with more success. Goals help to determine organization's priorities, get organized, make big decisions, and realize our dreams. Almost all motivated experts incorporate goal setting as an important part of their programs. The goal should be specific enough so that we know exactly what we are striving for, measurable so we can tell exactly when the goal has been reached, action oriented to indicate an activity that will produce results, realistic in that it is practical and can be achieved, and time and resource constrained meaning that it has a definite deadline or competition and realizes limited availability of resources.

2.3.1 The relationship between operations management and performance of NWSC,

Mbarara area.

Operations refer to transforming resources into finished goods. Organizations must continually strive to improve operational efficiency. They must fine-tune their production processes to focus on quality, to hold down the costs of materials, labor and eliminate all costs that add no value to the finished product. Operations management involves making the decision in effort to attain

these goals in the job of the operations manager. It is categorized into production planning, production control, and quality control. As according to Schmitt's (2012)

In the management field, operational practices like total quality management or just in time have been seen as a way to improve operational performance and performance in all. In terms of profitability and then there is growth. Some management practices lead to superior performance. Such as meeting customer expectations, long- term planning, redesigning processes, competitive benchmarking, teamwork, constant results measurement, close relationship with suppliers. TQM create a competitive advantage. Such as there is leadership, organizational skills and culture. Operations management involves coordinating quality, innovation, growth, profitability and firm's market value as according to Armistead (2010)

According to Reuters (2014), operations management institutes operational processes, decision-making, management by individuals and organizations through operations research, management sciences, scientific and related methods. It is concerned with overseeing, designing, and controlling the process of production and redesigning business operations in the production of services. It ensures that business operations are efficient in terms of using as few resources as needed and effective in terms of meeting customer requirements. It also ensures managing the process that converts inputs to outputs.

According to Sanders (2014), operations manage the creation of goods and services. Operations management is a business function responsible for managing the process of creation of goods and service. It also involves managing people, equipment, technology, information, and all the other resources needed in the production of goods and services. It is therefore a core function of every company. It performs a transformation role in the process of converting inputs to outputs.

Operations management consists of all activities involved in transforming a product, as well as those involved in planning and controlling the systems that produce goods and services. It includes activities of purchasing, inventory control and work scheduling. It provides efficiency through answering questions. Such as, what are the services/goods to offer? How to forecast demand? It involves operations planning. Such as operations processes, facilities and managing operations, quality management, outsourcing as stated by Collins (2010)

According to Irwin (2010), operations management is defined as the design, operation, improvement of the systems that create and deliver firm's primary products and services. It is a systematic approach that increases competition, through productivity and outsourcing of services. It involves planning and controlling people, plants, parts, processes so as to achieve the operations strategy and corporate strategy. In the manufacturing firms, it involves transforming inputs into products, while in the service firms; it involves providing customers with quality services. That can be known as value adding. The key concepts of operations management are efficiency, effectiveness, and value. The transformations include: physical, locational, exchange, storage, physiological and informational transformations. The core services customers expect are quality, flexibility, speed and price.

According to Bradley (2011), operations management involves evaluating the work of employees, training them, promoting them and paying them, because people are the most important resources of an organization: remarking the organization into a better competitor so as to survive over a long term, learning from failure and proacting, the customer must be treated as the king, continuous improvement of the organizations programs, undermining costs while improving quality. This brings about high levels of performance of an organization.

2.3.2 The relationship between operations plan and performance of NWSC, Mbarara area.

Operations plan involves outlining company objectives and to identify the methods in which the objectives can be reached. It is also a comprehensive way in which each department or division will use its resources to achieve company goals. Strong links between the operations plan and performance of service organizations are needed to allow the company to operate efficiently as illustrated by Root (2011). Therefore operations plan and performance of service organizations are used to make decision processes. The roadmap of operations plan to achieve performance is as follows: strategic planning process + tools (planning the response) - strategic financial planning (sustaining the response) – operational planning (implementing the response). Operations plan more than just a framework; it provides an organization with concrete actions for a specified period.

According to Susan (2015), a human resource expert suggests that a performance improvement plan cites goals and measures of success. That is a manager is given a strong, supportive environment in which his supervisors expectations for his success were a key factor. It facilitates constructive discussions between a staff member and his/her supervisor to clarify the work performance to be improved. The operations plan guides in the day-to-day. It involves evaluating changes in outputs, implementation and process monitoring, selecting interventions, needs funding, directs resources o specific activity areas to achieve results. It also ensures effectiveness. When an organization mobilizes resources and organizes processes. It gives it a competitive edge to do things better, make better products, and deliver services better.

According to Miller (2015), several roadblocks to perform , due to employees personal issues, therefore bad behavior must be identified and managed quickly so that it doesn't negatively impact employee morale. Clear consequences must be set, regular follow ups, coach with

consistency. Performance appraisal must take place in order to ensure performance by employees in an organization. This gives an organization a quality advantage, a speed advantage, a dependability advantage and a flexibility advantage. And there is also a cost advantage. This is achieved through identifying the activity to be carried out, the people to perform the activity, the time and scheduling in which the activity must be performed and accomplished, the materials to be used, the technology to be applied and the outputs to be obtained.

McNamara (2015) illustrates that organizations try to manage the performance of each employee, team, and process and even of the organization itself. The performance management process is very similar regardless of where it is applied. It is classified into employee performance management, group performance management and organizational performance management. It shows the activities to be performed, the operations plan becomes a useful checklist, it assists with annual and progress reports, it illustrates governance and accountability, resource allocation is established, the organization focuses on results, there is coordination of activities and staff.

The US department of state Archive January 20th (2009), illustrates that operational plans provide a comprehensive, interagency picture of how foreign assistance resources received by an operating unit will be used to support the foreign assistance objectives and the transformational diplomacy goal. Operational plans strengthen the link between funding activities and desired results and to collect standardized data will provide a basis for comparing and evaluating country, program and partner progress in helping to achieve the transformational diplomacy goal. Such as comparative performance data will enable leadership and decision- makers in the field and Washington to make appropriate adjustments to promote and incentivize progress towards. There is transformational Diplomacy goal.

According Isaac (2013), the operational plan presents highly detailed information specifically to direct people to perform the day to day tasks required in the running the organization. Therefore organizations management and staff should frequently refer to the operational plan in carrying out their everyday work. The operational plan provides the what, who, when and how much; what strategies/ tasks, when the timelines in which strategies/tasks must be completed, how much amount of financial resources provided to complete each strategies/ task. It provides organization personnel with a clear picture of their tasks and responsibilities in line with the goals and objectives contained within the strategic plan. It implements strategies contained within the strategic plan. It is a management tool that facilitates the coordination of the organizations resources so that the goals and objectives in the strategic plan can be achieved.

According to Bondar and Rauta (2014), the need for increased efficiency of public expenditures has lead the reforms of public administration towards a perspective change regarding the way government institutions are managed. There was a major shift of focus from inputs to outputs. The government and public administration and institutions were considered more as instruments for the implementation of specific measures in different policy areas and less as self-sustainable institutions not subject to change. There was a change from institutions to formal monitoring and evaluation procedures of their activities.

According to annual spending review (2010), the PSA framework will be subject to change, the PSA's will no longer be used in future planning and more focus will be given to government expenditure information. That is, aims and mission statement of the department, policy objectives of the department, performance targets will be responsible for achieving the targets, "floor" targets establishing the objectives of the policy envisaged, standards for evaluating previous PAAS and establishing the targets for future monitoring and evaluation activities.

According to Root the third (2015), an operational plan is the comprehensive way in which each department or division will use its resources to achieve company goals. Operational plans are needed to allow the company to operate efficiently. The operational plan gives a more accurate number that can be used to gauge the success of a strategic plan. If the operational budget is more than the strategic plan provides for, then the company needs to work to bring two more in line. An operational plan is used to determine job duties and proper use of company resources. This brings about determining the most effective allocation of resources for each department. It is also a base for needs on performance management numbers.

Operations plan have been precipitated by community and government calls for improved accountability and the accelerating pace of reform within police services. Obstacles such as poor training, inappropriate planning methods, inadequate communication, lack of information, and resistance to change are limiting the ability of police to develop and implement effective plans. Therefore operations plan solve this issue by implementing a top-down communication of corporate vision, goals, and core values, and the involvement of operational staff in planning and evaluation at the business unit level as illustrated by AIC.government (2010)

According to the operational plan format (2010), an operational plan is annual work plan, it describes short- term business strategies, and it explains how a strategic plan will be put into operation during a given operational period. It is a basis for and justification of an annual operating budget request. It describes agency and program missions, and goals, program objectives, program activities. It addresses questions of where are we now? Where do we want to be? How do we get there? How do we measure our programs? It ensures resource allocation, financial changes.

According to Donovan (2011), operations plan must entail proper measurement of the business process and activities that drive financial results. There has to be an alignment of performance measurement between goals, strategy, processes and get the emphasis and priority it should from management. It assesses performance levels and to analyze what is happening and where it pinpoints problem areas and focuses attention on actions that will have the best impact on overall business performance. It guides management in a direction that will produce meaningful results at the process level, results that tie directly to your company's goals.

According to George and Brown (2015-2010), illustrates that tools used to implement operations plan which are performance management, transparency, accountability, sustainability, and innovation. The operations plan provides a clear direction for meeting statewide objectives, creates and deepens strategic partnership, and provides performance measures that monitor success. Caltrans (2012), early that year undertook the program review to look at our operations plans to ensure that we are well- prepared for the future. It included examining our role in transportation, partnership and processes.

According to Amamukironi and Kasule (2015), illustrates that court pronounced that mobile money businesses operated by the five major telecommunication companies is illegal and operating outside the license issued to them by the (UCC) to operate as telecommunication companies. This shows a failure in the operations plan of these telecommunication companies, not financial institutions. That is, it is not licensed by Bank of Uganda or any other commercial bank. Therefore they needed to plan and obtain a license from either Bank of Uganda or any other commercial bank to carry out financial businesses and operate mobile money.

According to Okwera (2015), the state minister for environment, Flavia Munaaba has advised the business fraternity in Soronko district to utilize the programmed dubbed Operation Wealth Creation (OWC) to grow their businesses. It will help boost businesses of rural communities and ensure they attain better standards of living. Munaaba advised farmers and the entire business community to work collectively in addressing climate change challenges which the region grapples with. According to the business plan template (2013), an operations plan contains items, such as goals, strategy, program activity, timeframe from start to end, teams, partners both internal and external, resources required and actual existing resources, targets, immediate impact, data sources.

According to Dahl (2011), an operations plan is the selection of your business plan where you dig into more of the nuts and bolts of your business areas like: production, inventory, and distribution. It includes how to make of your product, store it, and then ship it out to your customers. The kind of details you will be facing from the day you open doors of your business. Organizations need to come up with specific strategies and actions they planned to take. Organizations must identify, their efficiency, suppliers, how to sell to new customers.

According to Musk (2011), operational planning is the process of planning strategic goals and objectives to tactical goals and objectives. It describes milestones, conditions for success and explains how, or what portion of a strategic plan will be put into operation during a given operational period. It is a basis for an annual operating budget request. A five year strategic plan would typically require five operational plans funded by five operating budgets. It establishes activities for each part of the organization for the next 1-3 years. It links strategic plan with the activities the organization will deliver and the resources required to deliver them. An operations plan describes agency and program activities. It enables resource allocation, and reflects policy

decisions or financial changes made during the budget development process. It is prepared by people involved in implementation. It contains clear objectives, activities to be delivered, quality standards, desired outcomes, staffing and resource requirements, implementation timetables, process for monitoring progress.

According to Fontinelle (2015), an operating plan describes how you will structure your company and how you will actually carry out everything you respect elsewhere in your business plan. It is essential to the success of your business. It is required to financiers, management, employees and to the owners of the organization. It enables one to think through how to run a business and make clear expectations. It provides addresses of where your business will be located, supply and inventory management, and production and distribution organization. That is who is going to carry out the operations plan, their qualifications, and responsibilities.

According to Richard (2011), organizational performance encompasses three specific areas of firm's outcomes. That is performance in terms of profits, return, product market, sales and market share, shareholders return, economic value added. It comprises of the actual output or results of an organization as measured against its intended outputs (goals and objectives), for any organization to be successful it must have a strategic plan, followed by the board decisions and most importantly the operations plans and budgets. The operations plan answers questions of: what are you aiming to achieve?, what you are going to do?, when are you going to do it?, how much it will cost?, how you will know you achieved your objectives.

The Kenya Institute of Management (2014) has a vision to introduce organizational performance index in order to give organizations an innovative excellence model to enable the development of world class processes and innovation capability, which will sharpen their competitive edge and

enable them to compete and win at a global level. The operations plan is important in the following ways: to focus on delivering the organizations' objectives, to manage your workload better, to cope with change, to have confidence, to give you a sense of achievement. Operations plan is also important in co-ordination between functions, allocation of resources to ensure priorities are achieved, hold people accountable for progress, to develop a shared understanding of priorities, promote the organizations to stakeholders, learn in a more systematic way about what works.

The Australian Institute of Company Directors (2015), suggests that the degree to which an organization is delivering on its purpose can be difficult to assess, but this can be aided by the board determining and assessing appropriate performance categories and indicators for the organizations available resources are being utilized in an efficient and effective manner to achieve stated outcomes. Is the organization getting maximum desired impact from avoiding wastage of precious resources? The operations plan can be characterized into the following: specific, measurable, actionable, realistic, time-framed statements of what your team aims to achieve. The operations plan enables organizations to understand the key functions they will undertake, or the things they will do, in pursuit of your team's objectives.

The term organizational performance is used in three time-senses. The past, present, and future. That is something completed, something happening now, or activities that prepare for new needs. For example actual performance occurs when the decision and actions are undertaken and profit can be an indicator according to the (strategic conversation, 2014), the operations plan enables organizations to identify the steps required to complete each activity, each resulting in an identifiable output. The money, people, time, facilities and equipment needed, The dependent relationship between the activities planned by different teams, the direct product of an activity,

often measured in volume terms, the impact your activities have or results they achieve, clearly-defined output or outcome measures used to track the success of the activities, what you aim to have done or achieved by dates.

According to the Department of trade and industry (2012), performance is measured by the improvements seen by the customer as well as by the results delivered to other stakeholders, such as the shareholders. Performance measurement plays an important role in identifying, and tracking process against organizational goals, identifying opportunities for improvement, comparing performance against both internal and external standards. The operations plan aims at changing the future, operations plans vary from organization to organization because there is no right way to plan; they also influence peoples' behavior. These are the common problems in operations planning: no common language, too long and complicated, too ambitious, not owned by the people responsible, not used throughout the year and Budget game playing.

NWSC expresses performance through providing cost effective quality water and sewerage services to the delight of all stakeholders while conserving the environment. It stands out as a model utility in the African region because of its exemplary activities as indicated by the five year strategic direction (2013-2018). NWSC, Mbarara area ensures that the objectives are clear, SMART, ensures teamwork while making the operations plan, challenges current activities, brainstorms new activities, maintains focus on the strategic plan, identifies activities that may cease, establishes staff time and money required, and is realistic about the time frame.

Nile breweries ltd (2013) expresses performance by producing various brands, such as Red's, Vodka, and lemon. And also has investment in Mbarara called New Brewery as an extension of Jinja Brewery to target the western Uganda and Rwandese market. The following steps are taken

when preparing the operations plan: plan each activity without compromise, once all activities are planned, assess overall resource implications, identify interdependencies, change activities to fit budget guidelines, nailing down of interdependencies. Caution is taken not to change the time and financial budgets without changing the activity. There is also revision of the organization's strategic plan in order to implement it into the operations plan, there is preparation the plan submission in the agreed format.

The development of local government systems in Uganda since her independence illustrates performance. That's accountability and service delivery through raising revenue, implement budgets, appoint statutory organs, and balance power between the central government and citizens as illustrated by (ACODE, 2010), the operations plan describes short-term business strategies: it explains how a strategic plan will be put into operation (or what portion of a strategic plan will be addressed) during a given operational period (fiscal year). The operations plan is the basis and justification of an annual operating budget request. The operations plan is prepared and submitted by each department/agency as part of its total budget request document. It describes the agency, problem, mission, goals, objectives and activities.

According to the New vision, September 1 (2015), the commission led by Justice Catherine Bamugemerire ordered for a DNA test to prove whether the three were blood relatives, first cousins, who claim to be landlords of the acquired land in a forest reserve in kajjansi, which they allegedly used to defraud UNRA of shillings 4.16 in compensation as an internal control by UNRA. Kagina (2015) also shames public officials who seek to unduly influence UNRA operations. There is translation of financial resources to tangible outputs, supervision and monitoring of programs. The operations plan addresses questions of: where the organization is. Where the organization wants to be, how to get there, and how to measure the progress.

According to the Australian government (2014), the operations plan includes the production process whereby the products and services are produced. It varies from business to business, how to deliver to customers. It includes a list of suppliers and what they will supply to the business, how to maintain a good relationship with them, it also shows a list of plant and equipment purchases, for example vehicles, computer equipment, phones, expected purchase date and price. These items are required to run the day to day operations of an organization. The operations plan also includes a list of inventory items (a brief description, unit price). The technology required, trading hours, communication channels, payment types accepted, credit policy, warranties and refunds, quality control, membership and affiliations.

According to Michael (2003-2015), an operations plan can be defined as a plan prepared by a component of an organization that clearly defines actions it will take to support the strategic objectives and plans of upper management. It is created by low-level management and is a unit within a single area of the business. For example a department within a division, it specifies plans for low level and day to day operations and processes that will support and enable the tactical plan. It can be divided into two categories. That is, the single-use plans which address only the current period or specific problem and ongoing plans which carry forward to future periods and are changed as necessary. The operations plan improves plant work flow, acquires faster or more efficient machinery and equipment, reduces inventory levels, reduces production wastage, and improves materials handling procedures.

According to Monks (2016), the first objective of operations management is to utilize resources for the satisfaction of customer wants; therefore customer service is a key objective of operations management. The operating system must provide something to a specification which can satisfy the customer in terms of cost and timing. Thus, providing the “right thing at a right price at the

right time” can satisfy primary objective. Generally an organization will aim reliably and consistently to achieve certain standards and operations manager will be influential in attempting to achieve these standards. Hence this objective will influence the operations manager’s decisions to achieve the required customer service. In my own words the primary function of operations management is manufacture, transport, supply and service.

2.3.3The relationship between process analysis and performance of NWSC

According to Tagues, quality illustrates how to understand a work process or some parts of a process through using these various tools, flow charts, which is a picture of the separate steps of a process in sequential order, including materials or services entering or leaving the process, decisions that must be made, people involved, time involved at each step/ process measurement, Failure Mode Effects Analysis which is a step by step approach for identifying all possible failures in a design, assembly process, product/service. This is achieved by studying the consequences, effects, failures. Mistake proofing which is the use of any automatic device which makes it possible for either an error to occur or makes the error immediately obvious once it has occurred. Several tools can be used to improve process analysis: the statistical process control, control charts, bar charts, brainstorming, process mapping, cause and effect diagrams, Pareto analysis, and matrix analysis.

According to Wilson (2015), process analysis ensures better success through the following steps. Defining the problem, gathering data to describe the problem, determine possible causes, selecting the root cause, developing solution strategies, testing and evaluating solutions. A systematic process analysis methodology helps to identify bottlenecks and helps in eliminating any waste. It is carried out on a regular basis to help in increasing the capacity, take full advantage of the processes, and reduce cycle time. This is achieved through defining the scope of

the problem and the criteria by which success will be measured and agree the deliverables and success factors. There is identification of solutions to the problem and required changes to enable and sustain improvements.

According to Dodd's (2013), process analysis is intended for use by business end users looking for document, analyze and streamline complex processes, thereby improving productivity, increasing quality, becoming more agile and effective. Process analysis supports the roles of business process architect and business process analysis. By enabling those to better understand business processes, events, work flows and data using proven modeling techniques. It enables users to diagram their processes, rules or specifications to promote understanding, integration and automation, performance and solubility. There is implementation of solutions and improvements through understanding the current situation, understanding the background, identifying and collecting information, and identifying problem areas.

According to Ellis (2015), process analysis involves capturing knowledge, defining processes, identifying best practices and opportunities for business process improvement and increased efficiencies and profitability. It includes minimizing costs in projects while maximizing your business value. It helps managers to understand process complexities and identify the changes that maximize performance, align processes with internal and external customer requirements, and build competitive advantage. It is an excellent way to socialize change within your organization and ensure input from employees. In conclusion, it facilitates business process improvement, identifying business opportunities, facilitates successful mapping sessions, identify business processes and build your system map. This includes gathering information which can construct a dynamic model. It provides a communication framework, discipline and

language, allowing a systematic way of working. Complex interactions can be represented in a logical or highly visible and objective way.

BAL (2003-2015), illustrates a role diagram which shows tasks, section activities and their communications, jointly with the logic and external events which conclude the succession of the activities. It includes functional, behavioral, organizational, informational, and divisional and resource based content. It indicates flow analysis, logic integrations. Process analysis is more appropriate for operational processes than strategic processes. It enables organizational process supervision and resource planning. This is helpful to achieve change or improvements, it also maps inputs that effect quality, and it also opens up thinking in problem solving. A number of ideals are generated and quickly used in variety situations. In my own words. It enables identifying problems, identifying areas for improvement, designing solutions to problems, and developing action plans.

According to the department of trade and industry (2015), process analysis includes understanding processes so that they can be improved by means of a systematic approach. It requires application of people who actually work on the processes, their commitment is only possible if they are assured that management cares about improving quality. Managers show they are committed by providing training and implementation support necessary. Drive is an approach to problem solving and analysis that can be used as part of process improvement. (Define, review, identify, verify, execute). This is a strategy for reducing the variability in products, deliveries, materials, equipment, attitudes and processes, which are the cause of most quality problems, it enables identification when performance is deteriorating, and can assist with long-term defect reduction, there is also elimination of causes of variation and achievement of a level of performance as close to target as possible.

According to Jers (2011), process analysis is a form of technical writing and expository writing “designed to convey to the reader how a change takes place through a series of stages. It starts from identifying the problem, foreseeing the final outcome, and gathering data, conducting action, making improvements. This drives continuous improvement within the organization. It includes tools such as Auditing, Brainstorming, benchmarking, capability study, check sheets, process mapping, process standardization. It is a basis of decision making and action taking. There is existence of a set of tools to analyze and interpret the data, the facts are collected in the most efficient manner and is checked against predetermined categories of items or measurements. The data collected is compared and analyzed to come up with the best conclusion.

According to Folger (2015), process analysis is a step- by- step breakdown of the phases of a process, used to convey the inputs, outputs, and operations that take place during each phase. A process analysis can be used to improve understanding of how the process operates and to determine potential targets for process improvement through removing waste and increasing efficiency. Process analysis is implemented at each phase of a project to ensure everything was running smoothly and efficiently. It enables an organization to predict where problems may come from and also know what it is you will need to do and how to make sure you do it right.

Sara (2015), process analysis answers questions of how? Explains how the sequential steps of a procedure lead to its accomplishment, how a certain series of events occurred. It can be directional or informational. It enables people in an organizations identify how to do their work and discuss the value of their work. It enables management to write a proposal for upgrading employees, and to determine the seasonal growth rates. It involves collection of data, preparing a

codebook, setting up the structure of data through surveys and use of existing data, entering data through data view and use of excel, and screening data for errors. Process

According to Enfocus solutions (2015), process analysis is how an organization conducts its functions and activities in order to reduce overall costs, provide more efficient use of scarce resources, and better support customers. It introduces the notion of process orientation, concentrating, rethinking end – to – end activities that create value for customers, while removing unnecessary, non-value-added work. Technology is implemented to automate business processes. Process analysis is a set of steps of business performance to create value. It has components of input, activities, and outputs.

According to Agnew (2014), process analysis is a systematic approach to improve our understanding of the business processes of an organization to assist in the realization of tangible benefits. Such as reduction, process efficiency, leading to organizations to strive for continuous process improvement to create value and optimization in a complex and uncertain environment. Well planned process analysis delivers sustainable process improvement in key areas such as human resource, finance, payroll, or administrative operations.

According to Page (2015), operational analysis is the process of reviewing the development, work environment, personnel and operation of a business or another type of association. It is normally carried out in times of crisis, but may also be carried out as a demonstration project. Details emerge about the functions and capacity of the organization; what is efficient and inefficient. Additional internal factors are accounted for in assessing how to improve efficiency. It assesses an organization's current well-being and capacity, decides on a course of action to improve the organization's long term sustainability. Theoretical organizational models can help

sort out the information, make it easier to draw conclusions. A SWOT analysis is structured for a product, place, industry or person. It involves specifying the objective of business venture or project and identifying the internal and external factors that are favorable to achieve that objective.

Ngole (2012) suggests that as Uganda prepares for oil pipeline construction, there is need for comprehensive process analysis for benefits and risks of the pipeline to the host communities. That is because; the community expects environmental social impact assessment. Like full engagement and participation in the property valuation process. It requires employees accomplishing day to day activities to acquire results in the achieving some organizational goal. It is a picture of workflow with a beginning, middle, and end. It crosses between departments in a large organization to accomplish its mission, acquire information from people responsible for process implementation to identify inefficiencies.

Kulwants (2010) suggests that organizational issues present the main barriers to the implementation of concurrent engineering to new products development, processes in organizations, companies that invest in improving organizational development issues through process analysis are better than those that rely on tools and technology alone. It involves improving cross-functional integration and developing social mechanisms. That facilitates a collaborative environment. It leads to improvement and its effectiveness.

According to the quality control officer of NWSC (2014), it engages in process analysis through developing, monitoring, evaluating and controlling the execution of laid plant treatment processes to enable discharge of effluent meeting standards. Training and developing staff to ensure good skills in monitoring and evaluation of projects; Data is generated, analyzed and

financial reports to advise management about progress and current situations. There is also reception of general public.

According to Mogamu (2010), corruption, political interference, patronage, and taxpayers non-compliance have limited the operations and objectives of the authority. However through process analysis organizations have been enabled to increase capital development, increase standards of living and increase the ratio of revenue to GDP. The organizational structure has developed systems and procedures for investor support, has increased tax compliance and levels of awareness, has introduced a number of modern systems to curb tax evasion, introduced the customer care and tax payers service functions, simplification of tax administration, procedures and regional sharing of modern tax revenue management experiences.

According to Brandenburg(2015), process analysis is used to capture how a business process works and is used to capture how a business works and how individuals from different groups work together to achieve a business goal. Process analysis is a step- by- step description of what one or more business users does to accomplish a specific goal. It can be carried out manually, paper- based, or software-based. It enables an organization to state a scope, generates activity descriptions, exceptions, business rules, entry of inputs and exit of outputs, workflow diagram. It covers what needs to be accomplished and how activities from different departments integrate together. It involves discovering the primary business objectives, formulating a business analysis plan, defining detailed requirements, supporting technical implementation, helping the business Implementation, helping the business implementation, helping the business implement the solution, assessing value created by the solution.

2.3.4 The relationship between operations design and performance of NWSC.

According to the University of Warwick (2014), operations design must be carried out in order to enable organization's that are effective, efficient, customer focused in order to compete successfully in the global market place. Systems approach is established which helps companies to redesign their operations, can be employed in effective business design and processes. It explores how systems theory can be applied to the holistic redesign of a business to create an integrated and competitive organization. Operations design can be defined as the design of products and environments to be usable by the people, to the greatest extent possible, without need for adaption and specialized design strives to be a broad-spectrum solution that helps everyone.

Ann (2015) suggests that operations design can be carried out in a number of ways depending on the objectives of the organization. Maximizing your process design and achieving goals. Some operations occur one after the other while some others occur simultaneously. Serial processes can be long because it goes through a system one after the other. It minimizes additional costs; seek input from the community users so as to find solutions to problems. It avoid deficient work, the quality should comply with the standards. It reduces physical barriers, this in turn creates a competitive edge.

Operations design is the process of designing and operating the right business model, processes, organizational structure and job functions is an undertaking that will only be improved by experienced insights and methodologies. It involves transforming performance through operations strategy, operating model design, process design, and team role definition. This is carried out by; creating a customer – focused design, through centering transformation on

customer requirements, empowering frontline managers, defining roles and responsibilities to drive business performance as illustrated by (Wheeler, 2014)

According to Ruffini (2015), operations design of an organization of production systems is thought to be one of the key determinants of their performance. This enables effective and successful creation of products and services. Organizations need up-to-date, comprehensive and sufficiently detailed operations design. Operations design includes fields of supply chain and distribution management, product design, innovation, technology, management, information systems, business strategy, organizational behavior, marketing which have a strong operations focus, clear relevance, potential impact on the management of operations.

Buffet (2015) suggests that operations design involves translating customers wants and needs, refining existing products and services, developing new products and services, formulating quality goals, formulating cost targets, constructing and testing prototypes, documenting specifications, translating products and service specifications into process specifications. Product process innovation, research and development play a significant role. The operations design must be tied in with the organization's strategy and take into account some key considerations due to the impact it can have on organizations. Computer- aided design and computer aided manufacturing are important tools in the operations design process because they can anticipate what the design will look like, as well as allow better production. The organization must also take into account environment and legal concerns when designing a new product. It must also ensure products safety. Particularly in service organizations, it includes planning people, communication and material components in order to improve service quality.

Operations design addresses the challenges that companies face and proposes a range of innovative methodology approaches when designing and implementing global production and logistics networks. It provides guidelines based on the key activities and decisions of operations management for companies. It includes design of plants, warehouses, supplier networks, identifying sources of competitiveness. It brings about analyzing, assessing, defining and deploying operation strategies in companies as according to (Errasti, 2013)

Operations design is a key consideration used as a framework in the course of planning for a campaign or major operation. It helps organizations to better deal with complex operational situations they routinely face today by preceding current planning procedures with an iterative, conversational design process based on systems thinking. It involves locating and identifying and formulating the problem, underlying the causes, structuring and operative dynamics in such a way that an approach to solving the problem emerges as according to (Schmitt, 2016).

Operations design involves operations management and decisions in an organization which add value to customers and allows business to successfully produce well and deliver services. They determine how well these goods and services meet the needs of organization's target market, and consequently, whether the organization will be able to survive over the long term. For example in an airlines company, operations design includes scheduling airlines, deciding the appropriate place to site new facilities, such as ware house, fire station, managing the flow of water from reservoir's according to (Bondless ,2015).

Operations design refers to the process of originating and developing a plan for a product, service or process in an organization which will takes a set of input resources which are then used to transform something into outputs of products and services. It involves supply network

design, layout and flow, process technology and job design. Products and services should be designed in such a way that they can be created effectively while processes should be designed so they can create all products and services which the operation is likely to introduce. In a service sector it is impossible to separate services design and process design as according to (So simple, 2012).

Operations design involves developing the area of industrial production to maintain competitiveness in a global market. It reduces product costs by controlling costs and utilizing production as a competitive means in the business strategy. It involves improving existing production systems and developing new ones. A working procedure of how to design and realize the production system is presented, together with a number of related production development aspects. It is illustrated with a number of figures and industrial examples. As stated by (Kristina, 2015)

According to Aaron (2015), operations design considers location as an important factor in the business depending to some other aspects of localization, may be important for cost, tax, capital, talent reasons. For example, location is relative. It can be national, international, with in a state, city, or country. It involves receiving and shipping inventory and finished goods. If the operations are located are located where improved shipping infrastrure is in a close proximity, shipping and handling costs can be reduced. If the operations are located where improved shipping infrastructure is in close proximity, shipping and handling costs can be reduced. If operations are located close to your suppliers, distributors, customers, that can reduce costs and be a form of competitive advantage.

According to Wild (2010), operations managers are responsible of operations design of systems of production, supply, transport and service. They are primarily concerned with physical resources and their deployment, the nature of operating systems, the development and use of appropriate strategies for tackling the problems associated with that system. Operations managers make decisions to inevitably influence the nature of the organization, the nature of the job in it, their interrelationships, and the manner in which the whole organization is managed.

According Boer (2014), operations design of production systems is thought to be one of the key determinants of their performance. Therefore in order to enable them to contribute effectively to the successful creation of products and services. Practitioners need up-to-date, comprehensive and sufficiently detailed organization design.

Operations design involves the use of tools. These tools include the total quality management. Just in time to improve performance in terms of profitability and growth. Using operational design as a recipe for superior performance has been a frequent concern in management literature since the early days of the scientific management. However culture aspects of quality management are the ones that can affect performance and not simply the adoption of practices. Capabilities behind the practice are what drive performance and consistency with the resource-based theory.

Operations design is the idea of creating maximum value for the client and a minimum of waste using the fewest resources possible. It encourages bringing a change in the organizational culture which results into true and lasting improvement. Through cultivation of leadership, teams and culture, diverse strategy and supplier relationships, conveying efforts toward a common goal,

limiting contracts while increasing team effectiveness, incentives are used to direct workers behalf by (Luis 2010)

Operations design refers to achieving high performance via existing modes of operations ensuring that work is done as it ought to be to reduce errors, costs, delays and also changing how that work gets accomplished. That is new ways of filling orders, developing products, providing customer service, or doing any other activity that an enterprise performs. In order to reduce inventory levels and operating costs. It focuses on processing lower costs and boosting customer satisfaction and retention. It involves technology investments, acquisitions, major marketing campaigns. Most organizations today are struggling with low- growth, stagnant markets, overcapacity, and fierce competition. There only to grow is to take market share from competitors by running rings around them. By operating at lower costs but providing high levels of quality. The game must be played on the field of operations as according to (Hammer, 2015).

What constitutes a good/bad operations design depends on what your objectives are? It involves the placement of activities in the process, what predeceases the other, parallel processes that can occur simultaneously, unlike process that perform different processes on the same flow unit at the same time. Some general rules of thumb can help you maximize your process design and achieve your goal as according to (Anderson, 2016)

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 INTRODUCTIONS

The introduction presents a detail description of research methodology. It includes a description of the research design, study population, area of study, sample size, sampling techniques, data sources, methods of data collection, data analysis and presentation, quality control, measurement of variables, ethical consideration and study limitations. Methodology means undertaking the entire research process including its social organizational context, philosophical assumptions, ethical principles and political impact of the new knowledge from the research enterprise.

3.1 RESERCH DESIGN

The study adopted a case study as a design of the analysis of a single entity. That is an intensive analysis. The case study is chosen which involves investigation of a particular contemporary phenomenon with in real life context using multiple sources of evidence. It is in order to gain insight into larger cases thus better understanding of organizational performance. The study design was cross sectional. That is the researcher gave out questionnaires to respondents once and will not repetitively visit them. This enabled coverage of big number of respondents within a short period of time. The study approach was qualitative approach involved use of a case study design which enable the researcher meet his objectives. According to Webster (2015), a case study is a published report a person, group, situation that has been studied overtime: also a situation in real life that can be looked or studied to learn about something. It is an intensive analysis of an individual unit (as person or community) stressing developmental factors in relation to environment.

Research design refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection measurement, and analysis of data as according to (Craswell, 2011)

3.2 AREA OF THE STUDY

The study was being conducted at NWSC, Mbarara area located Kampala- Kabale road approximately 260km from Kampala with offices at plot 3 Galt road in Mbarara municipality. This area of study was chosen because it is located around my home of residence. Hence its convenience while carrying out research and also due to the fact that it is a production plant which employs operations management.

3.3 STUDY POPULATION

This population examined in the study consisted of employees of national water and Sewerage Corporation (Mbarara area). According to the Human Resource Department, draft report (2014/2015) financial year, there are 60 staff members.

3.4 SAMPLE SIZE

Sample size covered 52 staff of national water and Sewerage Corporation, Mbarara area. Sample size is a subject of the population. The Krejice and Morgan table (1970) was adopted because the research involves inductive and deductive approaches to data collection and judgment. It is based on a reasonably good decision model to determine sample size.

3.5 SAMPLING TECHNIQUES

Sampling techniques are the strategies the researcher will use to select respondents from the target population. The researcher adopted the probability sampling techniques in which the

purposive sampling techniques are used. It was used because it allows the selection of a sample with experience and knowledge about the study variables.

3.6 DATA SOURCES

The study employed one main source of data. That is primary source and, whereby it is data obtained for the first time from respondents. Primary data was obtained through questionnaires.

3.7 TIME DIMENSION

The research was cross-sectional based since it was for a short period of time (2014-2016). Cross sectional studies were carried out at a one point time point or even a short period of time. They are usually conducted to estimate the outcome of interest for the population

3.8 METHODS OF DATA COLLECTION

Questionnaire is a collection of items to which a respondents in expected to react in writing. The researcher was able to collect a lot of information over a short period of time. The questions were self-prepared, administered and structured for a chosen group of people. Here excel was used as computerized tools.

3.9 DATA ANALYSIS AND PRESENTATION

Data analysis is the process of bringing order structure and meaning to the mass of collected data. It yields qualitative data. Data was analyzed using computer statistical packages for social scientists. It enables summarized data which is written including conclusions and recommendations. There will be use of tables, figures, mean and standards.

3.10 QUALITY CONTROL

This deals with validity and reliability of instruments. That is. Are questionnaires used were reliable? A test and re-test method were used to ensure that the instruments such as questionnaires are reliable. For example using ten employees in NWSC, after two weeks, you use the same ten employees. The results are the compared. If the results are close to each other, then the tool is reliable, but if the results are not close then the tool is unreliable.

Validity was checked to ensure that the researcher collects the data he/she is interested in, that is using expert review, those that understood the subject matter.

3.11 MEASUREMENTS OF VARIABLES

The researcher adopted use of symbols to classify observation into categories that must be both mutually exclusive and exhaustive. Operations management is the independent variable which is based on National Water and Sewerage Corporation.

To measure the operations management, the dimensions of operations plans, process analysis and operations design were employed. The dimensions will state operations management that NWSC is taking on. The dependent variable is performance. Which is measured by dimensions of customer satisfaction, service reliability and target achievement? These were used to measure how the university is performing in the market.

3.12 ETHICAL CONSIDERATIONS

All references and works of others used were clearly cited and acknowledged. The voluntary participation of the participants of the research is a must. There was issuing of questionnaires to only willingly correspondents. Before commencing the research, a formal introduction from the university that authorizes data collection will be sought and the purpose of the study explained to

the authorities to avoid any inconveniences and misunderstandings. The information collected was kept highly confidential. Protocol is observed.

3.13 STUDY LIMITATIONS

There was a limitation for the time dimensions, whereby it is a cross-sectional study. The data was collected once and report made. This limitation was minimized by use of qualitative approaches in order to minimize the time dimension. Thus it allows collection of a lot of data in short period of time.

The design was another limitation whereby use of a case studies that limits you to that particular organization. That is NWSC, Mbarara area. This was limited by comparing information with other available organizations. For example there was use of internet sources.

The sample size was also a limitation whereby a small sample size is also a limitation whereby a small sample size is acquired from a given population may not give the best conclusions. You are likely to experience error. Therefore a researcher should use a relatively big sample size and collect enough data to minimize the problem.

CHAPTER FOUR: PRESENTATION OF RESULTS AND DISCUSSION OF FINDINGS

4.0 Introduction

Chapter four illustrates the presentation and analysis of findings that were summarized from primary sources. The study was the effect of operations management and performance of national water and Sewerage Corporation, Mbarara area. The research questions and hypothesis presented in earlier chapters are also analyzed, interpreted and presented in the consecutive subsections. They were presented in form of graphs, charts, frequencies, percentages, tables.

SECTION A.

4.1 The age bracket of respondents

Table 4.1: showing the age bracket of the respondents

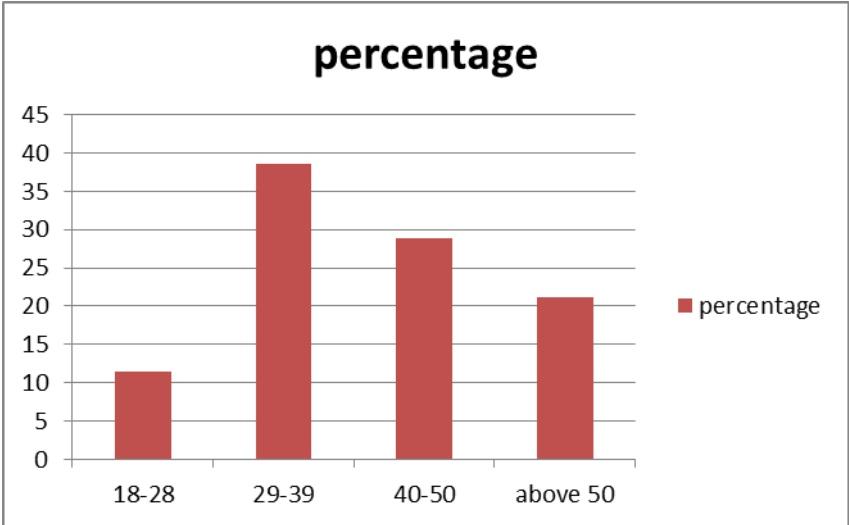
Age (years)	frequency	percentage (%)
18-28	6	11.5
29-39	20	38.5
40-50	15	28.8
Above 50	11	21.2
Total	52	100

Source: primary source

According to the data obtained, the researcher found that the age of the staff of national water and sewerage corporation ranges from 29-39 years as indicated by table 1 and the graph below.

In table 1 below, the age of respondents is illustrated showing the majority of respondents ranging from 29-39 of 38.5% respondents, 40-45 years were 28.8% respondents, above 50 years were 21.2% respondents, while the least ranged from 18-28years of 11.5% respondents.

Figure 4.1: A column graph showing the age bracket of respondents.



Source: primary source 2016

4.2 The level of education of the respondents

The education level of respondents was examined using questionnaires basing on the sample size Of 52 respondents and the findings are illustrated in the table and graph below.

Table 4.2 Showing the education level of respondents

Education	Frequency	Percentage (%)
A-level	0	0
Diploma	10	19.2
Degree	27	51.9
Masters	15	28.9
Total	52	100

Source: primary data, 2016

In table 2 above, the education level of the respondents is presented and shows the majority staff being degree holders 51.9% respondents, master's degree holders are 28.9 % respondents, diploma holders are 19.2 % respondents, while a-level holders are 0% respondents. The questionnaires were properly answered therefore provided accurate information. Hence coming up with a true and fair view of the results

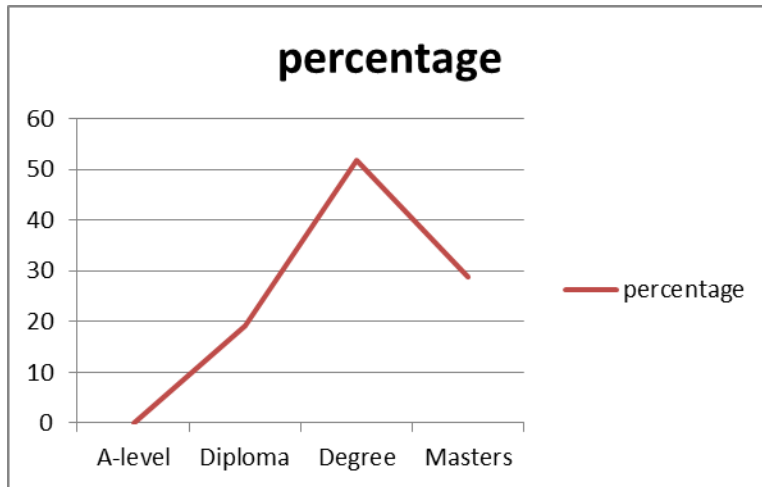


Table 4.3: operations plan and performance of NWSC

Number	Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
1	There is a proper monitoring and evaluation of the plan.	26.9	19.2	38.5	3.8	12
2	The plan clearly indicates the officials responsible for each activity.	17.3	30.8	9.6	25	17.3
3	The plan clearly illustrates the activities to be implemented in a given period.	46.2	19.2	7.7	15.4	11.5
4	The minimum and maximum time to accomplish the activities is illustrated.	34.6	23	13.5	13.5	15.4
5	The outputs are clearly defined.	32.7	28.9	19.2	13.5	5.8
6	Teamwork is a key policy to prepare the operations plan.	46.2	36.5	0	11.5	5.8

Source: primary data 2016

4.3.1 There is a proper monitoring and evaluation of the plan

In table 4.3 above 26.9% respondents strongly agreed that there is proper monitoring and evaluation of the plan, 19.2% respondents agreed, 38.5% respondents were not sure, 3.8% respondents disagreed to the statement, while 12% respondents strongly disagreed. Majority of the staff of 46.1% respondents were in agreement with the statement. The operations plan is aligned to the NWSC corporate plan 2012 to ensure optimal operating costs. There is proper planning and monitoring framework for the next three years. There is a delegation to a private operator for monitoring and review. According to Ahabwe (2015), there is monitoring operations against set targets, reviewing the plans and establishing the need for subsidies to water. The operations plan is enforced in the following steps: plan, implement, monitor and measure impact.

The five year strategic direction (2013-2018) is incorporated into the operations plan, it summarizes the predicament of increasing expectations and the demands that the corporation is currently faced.

4.3.2 The plan clearly indicates the officials responsible for each activity.

In table 4.3 above 17.3% respondents staff strongly agreed that the operations plan clearly indicates the officials responsible for each activity, 30.8% respondents agree, this indicates that majority of the staff being 48.1% respondents agreed to the statement, these staff members pointed that roles and duties are well illustrated in their appointment letter and their supervisors can assign them more tasks when it is deemed necessary. 9.6% respondents were not sure while 25% respondents disagreed, 17.3% respondents strongly disagreed to this fact. According to Asio (2013), the corporation ensures service obligation is employed by each staff member.

4.3.3 The plan clearly illustrates the activities to be implemented in a given period.

In table 4.3 above 46.2% respondents of the staff strongly agreed that the operations plan clearly illustrates the activities to be implemented in a given period, 19.2% agreed respondents, 7.7% respondents were not sure, and 15.4% respondents disagreed, while 11.5 respondents strongly disagreed. Majority of the staff of 65.4% respondents agreed to the statement in question. The corporation ensures clear identification and awareness of the activities to be carried out in a specified period. Such as activities of expanding the service coverage inform of connecting more customers. This brings about efficiency in service delivery and increasing labor is well illustrated. According to Byamukama (2013), there is a long list of essential things to be covered by the end of a specified period. The implementation schedule for Mbarara area clearly indicates the activities to be carried out.

4.3.4 The minimum and maximum time to accomplish the activities is illustrated.

In table 4.3 above 34.6% respondents strongly agreed that the minimum and maximum time to accomplish the activities is illustrated, 23% respondents agreed, 13.5% respondents were not sure, 13.5% respondents disagreed while 15.4% respondents strongly disagreed. This clearly indicated that majority of the staff of 57.6% respondents agree to the statement. According Buyi (2013) when extensions are being made, the maximum and minimum time is employed to ensure completion of the project on time. According to the Infrastructure Service Delivery Plan (2016), the project name and description, project milestone/deliverable and the project due date are clearly stated.

4.3.5 The outputs are clearly defined.

In table 4.3 above 32.7% respondents strongly agreed that the outputs are clearly defined, 28.9% respondents agreed, 19.2% respondents are not sure, 13.5% respondents disagreed while 5.8% respondents strongly disagreed. Majority of the staff of 61.6% respondents agreed with the statement. There is creation of targets in according to what the corporation wants to achieve within a specified period, the activities are result oriented, and the outputs must be met. For example environmental protection such as planting trees, setting of dates, balancing input and output orientation to performance. There is an output-based aid. According to the mission of NWSC (2016), one of the defined outputs is to sustainably and equitably provide cost effective quality water and sewerage services to the delight of stakeholders while conserving the environment.

4.3.6 Teamwork is a key policy to prepare the operations plan.

In table 4.3 above 46.2% of the respondents strongly agreed that teamwork is a key policy to prepare the operations plan, 36.5% respondents agreed, 0% respondents were not sure, 11.5%

respondents disagreed to the statement, 5.8% respondents strongly disagreed. Majority of the staff of 82.7% respondents were in agreement. There is use of teamwork in financial tracking in order to gain value-for-money. There is monitoring and control of the employees; there is supervision of projects to ensure quality. Problems are followed up in order to acquire solutions to those problems,

Table 4.4 the relationship of process analysis and performance of National Water and Sewerage Corporation, Mbarara area

Number	Statement	1(%)	2(%)	3(%)	4(%)	5(%)
1	Enough water is pumped even in the dry season when river Rwizi is almost dry.	61.5	19.2	5.8	13.5	0
2	The chemicals used to clean the water are not harmful to the health of customers.	34.6	28.9	15.4	13.5	7.7
3	The water is cleaned to the extent that it doesn't need further purification before consumption.	27	15.4	19.2	24	15.3
4	The distribution to the reservoir tanks is timely.	28.9	17.3	24	11.5	19.2
5	The reservoir tanks are big enough to supply to customers.	50	38.5	5.8	1.9	3.9
6	The pressure of water at the customers' tap is optimal.	26.9	30.8	15.4	19.2	7.7
7	There is a follow up mechanism to check that water received is through a right process.	38.5	32.7	17.3	11.5	0

Source: primary data 2016

4.4.1 Enough water is pumped even in the dry season when river Rwizi is almost dry.

In table 4.4 above 61.5% respondents strongly agreed that enough water is pumped even in the dry season when river Rwizi is almost dry, 19.2% respondents agreed, 5.8% respondents were not sure, 13.5% disagreed, 7.7% respondents strongly disagreed. Majority staff of 80.7% respondents agreed to the statement. This is evidenced where by water at river Rwizi is channeled to the direction where it can be accumulated and accessed by organization, in order to pump enough water especially for the dry season. During such dry seasons, the river Rwizi dries up making it almost impossible to access enough water pumping. But the above solution has been employed to mitigate the above problem. Mugisha (2016) , listed reducing water losses and staff turnover among other priorities. He emphasized that he will immediately work to end ‘dry zones’ (places under NWSC coverage but without water) and clean up the corporation’s image, tainted by staff who seek bribes from consumers. “I will not tolerate extortion on either reconnections or new connections and dry zones because they affect our customers and dent our image as a corporation,” Mugisha stated. However some respondents disagreed to the statement in question reason being that according to Ssengendo (201), a water shortage hit residents of Kakoba, Nyamitanga and Kamukuzi divisions in Mbarara municipality. Many of the residents used to fetch water at night when water points were perceived less congested. Opoka (2011), said that it was due to the damage on the main water lines on Kabale road, and due to continuous loss of water at River Rwizi.

4.4.2 The chemicals used to clean the water are not harmful to the health of customers.

In table 4.4 above 34.6% of the respondents strongly agreed that the chemicals used to clean the water are not harmful to the health of customers, 28.9% respondents agreed, 15.4% respondents were not sure, 13.5% respondents disagreed, while 7.7% respondents strongly disagreed. Majority of the staff of 63.5% were in agreement to the statement. There is an examination of all chemicals used to treat the water in order not to cause any harm to customers. The chemicals must be the right product, right quantity, and right quality. According to NWSC (2016), One of the chemicals used to treat the water at NWSC Mbarara area plant are chlorine tablets, another is calcium hypochlorite.

4.4.3 The water is cleaned to the extent that it doesn't need further purification before consumption.

In table 4.4 above 27% of the respondents strongly agreed to the fact that the water is cleaned to the extent that it doesn't need further purification before consumption. 15.4% respondents agreed, 19.2% respondents were not sure, 24% respondents disagreed, and 15.3% respondents strongly disagreed. Majority of the staff of 42.4% respondents agreed to the statement. The corporation first of all tries as much as possible to use natural processes to keep the water clean in order to reduce the amount of chemicals used. These processes include: planting trees around the water body (River Rwizi), these trees in addition to the grass trap the rubbish and most of the unwanted material from accelerating into the water body like polythene bags. There is also aeration of the water using the aerator before the chemicals are inserted into the water. There are people employed to monitor the amount of chemicals inserted into the water in order to put a favorable amount.

4.4.4 The distribution to the reservoir tanks is timely.

In table 4.4 above 28.9% respondents of the staff strongly agreed that the distribution to the reservoir tanks is timely, 17.3% respondents agreed, 24% respondents were not sure, 11.5% respondents disagreed, 19.2% respondents strongly disagreed. Majority of the staff of 46.2% respondents agreed to the statement. People are employed to ensure that there is continuous supply of enough water to all the reservoir tanks So that at the end of the day all customers access there's quality water. As the saying goes* Water is life*

4.4.5 The reservoir tanks are big enough to supply to customers.

In table 4.4 above 50% respondents of the staff strongly agreed that the reservoir tanks are big enough to supply to customers, 38.5% respondents agreed, 5.8% respondents were not sure, 1.9% respondents disagreed, and 3.9% respondents strongly disagreed. Majority of the staff of 88.5% respondents were in agreement with the statement. The reservoir tanks are big enough to supply to all the customers in each area. This is evidenced with the continuous water supply to all customers. According to NWSC (2016), Mbarara area has several reservoir tanks that are big enough to supply adequately to its customers inclusive: the Boma tank that supplies Mbarara town, the Nsiky tank- Kaberebere booster.

4.4.6 The pressure of water at the customers' taps is optimal.

In table 4.4 above 26.9% respondents of the staff strongly agrees that the pressure of water at the customers' taps is optimal, 30.8% respondents agreed, 15.4% respondents were not sure, 19.2% respondents disagreed, 7.7% respondents strongly disagreed. Majority of the staff of 57.7% respondents were In agreement with the statement. The pressure is not so low to disgust the customers when consuming the water, nor is the pressure so high to overflow while it is being consumed by the customers. This is also according to the type of customers. Such as industrial

who use a lot of water such as in the breweries, domestic that use the water for home purposes such as washing utensil.

4.4.7 There is a follow up mechanism to check that the water received is through a right process.

In table 4.4 above 38.5% respondents of the staff strongly agreed that there is a follow up mechanism to check that water received is through a right process, 32.7% respondents agree, 17.3% respondents were not sure, 11.5% respondents disagreed, while 0% respondents strongly disagreed. 71.2% respondents of the staff agreed to the statement in question. That is starting from the water consumed by the customers, is it of good quality, is the flow of the water from the reservoir tanks to the taps at the right pressure and right quantities, are there any broken pipes, is the pumping of the water to the reservoir tanks timely, is the purification process in order, is the water pumped from the river enough.

Table 4.5 the relationship operations design and performance of National Water and Sewerage Corporation, Mbarara area

Number	Statement	1(%)	2(%)	3(%)	4(%)	5(%)
1	There are provisions to finance projects.	25	32.7	13.5	15.4	13.5
2	Budgets are revised before approval.	65.4	21.2	0	11.5	1.9
3	There is sensitization of people before new connections.	53.8	28.8	0	13.5	3.8
4	Cost implications are considered before financing projects.	73	13.5	0	13.5	3.8
5	Measurements are taken before new connections.	61.6	19.2	0	15.4	3.8
6	Project plan are drafted to support projects.	28.9	34.7	7.7	15.4	13.5

Source: primary data 2016

4.5.1 There are provisions to finance projects.

In table 4.5 above 25% respondents of the staff strongly agreed that there are provisions to finance projects, 32.7% respondents agreed, 13.5% respondents were not sure, 15.4% respondents disagreed, 13.5% respondents strongly disagreed. Majority of the staff of 57.7% respondents were in agreement with the statement. Provisions are made at the beginning of each financial year in order to provide quality. Corporations attract private capital to fund major infrastructure projects. Projects have a project strategic direction. That is the (Optimized Service Provision Scenario) to meet all financial goals and other targets.

4.5.2 Budgets are revised before approval.

In table 4.5 above 65.4% of the respondents strongly agreed to the fact that budgets are revised before approval, 21.2% respondents agreed, 0% respondents were not sure, 11.5% respondents disagreed, 1.9% respondents strongly disagreed. Majority of the staff of 86.6% respondents were

in agreement. That is budgets of every department and each individual are presented to the responsible parties, reviewed and analyzed with caution, before being approved.

4.5.3 There is sensitization of people before new connections.

In table 4.5 above 53.8% of respondents the staff strongly agreed that there is sensitization of people before new connections are made, 28.8% respondents agreed, 0% respondents were not sure, 13.5% respondents disagreed, and 3.8% respondents strongly disagreed. Majority of the staff of 82.6% respondents were in agreement with the statement. That is before connection of new customers, the people in that area are sensitized so that they support the process and are aware of what is happening. This limits the problems that arise due to tampering with people private land. The support of the village leaders is also obtained to ensure proper progress. According to NWSC (2016), there was sensitization of customers by Mbarara team after mass at Katete catholic parish.

4.5.4 Cost implications are considered before financing projects.

In table 4.5 above 73% of the respondents strongly agreed that cost implications are considered before financing projects, 13.5% respondents agreed, 0% respondents were not sure, 13.5% respondents disagreed, 0% respondents strongly disagreed. Majority of the staff of 86.5% respondents were in agreement with the statement. There are developments funds provided towards the cost implementation; there are also provisions to bidders. Management is also responsible for the financial statements. According to Timbarara (2016) there was the gazetting of the Rubindi scheme to NWSC as an alternative source to supplement the River Rwizi at lower treatment cost. The incentive fee encourages the utilities to reduce operating costs, maximize revenue collection, reduce unaccounted for water, reduce accounts receivables, reduce number of disconnected accounts and maximize billed income.

4.5.5 Measurements are taken before new connections.

In table 4.5 above 61.6% of the respondents strongly agreed that measurements are taken before new connections, 19.2% respondents agreed, 0% respondents were not sure, 15.4% respondents disagreed, 3.8% respondents strongly disagreed. Majority of the respondents of 80.8% respondents were in agreement with the statement. That's proper measurements are taken. Such as five feet in the ground to ensure that the pipes are at an average ground level to minimize accidents of leakages, water theft. This also minimizes wastage of resources.

4.5.6 Project plans are drafted to support projects.

In table 4.5 above 28.9% of the respondents strongly agreed to the fact that project plans are drafted to support projects, 34.7% respondents agreed, 7.7% respondents were not sure, 15.4% respondents disagreed, 13.5% respondents strongly disagreed. Majority of the staff of 63.6% respondents were in agreement with the statement. When people come up with projects, they must draft project plans that clearly illustrate the activities to be carried out, the amount needed, the sources of finance, the officials responsible, the time length.

Section C: Performance of National Water and Sewerage Corporation

Table 4.6 Customer satisfaction of National Water and Sewerage Corporation

Number	Statement	1(%)	2(%)	3(%)	4(%)	5(%)
1	The water received by customers is of good quality.	55.8	19.2	1.9	11.5	11.5
2	Customers can receive water at any time.	63.5	28.8	0	5.8	1.9
3	There are prompt responses to customer inquiries.	36.5	26.9	5.8	19.2	11.5
4	Customers' complaints are addressed on time.	34.6	23	21.1	13.5	7.7
5	There are online services for effective communication between customers and the company.	53.8	25	11.5	0	9.6
6	Customers' needs and wants are the key in decision making.	38.5	13.5	19.2	7.7	9.6
7	The calling tolls are available 24 hours and are call free.	32.7	24	11.5	19.2	13.5

Source: primary data 2016

4.6.1 The water received by customers is of good quality.

In table 4.6 above 55.8% of the staff strongly agreed that the water received is of good quality, 19.2% respondents agreed, 1.9% respondents were not sure, 11.5% respondents disagreed, and 11.5% respondents strongly disagreed. Majority of the staff of 75% respondents were in agreement with the statement. The staff based their response on the customer's feedback. That is most of the customers appreciate the quality of water they receive. The water is clean and safe for consumption. Some customers also complain about the quality of the water sometimes, but the staff explained that this only happens due to a few complications such as, leakages, broken pipes, and failure of the purification process at the plant. For example the staff employed to clean the water are human and may sometimes commit some errors. The employees forget to insert the

right amount of chemicals in the water being purified. The right quantity of chemicals must be inserted to avoid complications suffered by the customers. According to the Water Quality Management Department, there is an obligation to monitor all NWSC water production processes up to the final consumer to ensure that the quality of water supplied to customers conforms to the National standards for drinking water quality.

4.6.2 Customers can receive water at any time.

In table 4.6 above 63.5% of the staff strongly agreed that customers can receive water at any time, 28.8% respondents agreed, 0% respondents were not sure, 5.8% respondents disagreed, 1.9% respondents strongly disagreed. Majority of the staff of 75% respondents were in agreement with the statement. That's customers can receive water 24 hours weather it is in the morning or evening. This enables them carry out their activities at any time. Especially for industries that may need to manufacture at all times. There is constant water flow. According to MWE (2016), it was indicated that piped water is available for 24 hours per day.

4.6.3 There are prompt responses to customers inquires.

In table above 36.5% of the staff strongly agreed that there are prompt responses to customer inquiries. 26.9% respondents agreed, 5.8% respondents were not sure, 19.2% respondents disagreed, and 11.5% respondents strongly disagreed. Majority of the staff of 63.4% respondents agreed with the statement. When customers have worries, they are addressed, there questions are answered. This is illustrated in the company's slogan * the customer is the king*. According to NWSC (2016), their aspiration is to satisfy all esteemed customers which basically include responding to every comment with an answer or an appropriate referral as quickly as possible.

4.6.4 Customers' complaints are addressed on time.

In table above 34.6% of the staff strongly agreed that customers complaints are addressed on time, 23% respondents agreed, 21.1% respondent were not sure, 13.5% respondents disagreed, 7.7% respondents strongly disagreed. Majority of the staff of 57.6% agreed with the statement. Customers sometimes get emotional and may express their opinions in different manners, but the corporation tries its best to counsel such customers and make them feel better. Such complaints are taken into consideration when making decisions, the customers are not left hanging, their issues are addressed within the minimum time. NWSC (2016) welcomes complaints and comments especially on how to improve services.

4.6.5 There are online services for effective communication between customers and the company.

In table 4.6 above 53.8% of the staff strongly agreed that there are online services for effective communication between customers and the company, 25% respondents agreed, 11.5% respondents were not sure, 0% respondents disagreed, 9.6% respondents strongly disagreed. Majority of the staff of 78.8% were in agreement with the statement. The corporation has a web portal on which customers and staff can communicate. All information about the corporation is well illustrated on this portal. NWSC (2016), has an email address, Facebook page, twitter account, contact us page in order to enable online communication and service. For example new customers can get connected online without having to walk miles to the branch offices.

4.6.6 Customers' needs and wants are key in decision making.

In table 4.6 above 38.5% of the staff strongly agreed that customers' needs and wants are key in decision making, 13.5% respondents agreed, 19.2% respondents were not sure, 7.7% respondents disagreed, 9.6% respondents strongly disagreed. Majority of the staff of 52% were in agreement

with the statement. When making decisions the customers' needs and wants are first analyzed and considered to make sure that they receive quality. It is the customers that are the end users of the products and services provided by the organization. Quality is achieved if the customer is happy. According to the five year strategic direction (2013-2018), customer perspective and people perspective are a key factor among the strategic focus areas.

4.6.7 The calling tolls are available 24 hours and are call free.

In table 4.7 above 32.7% of the staff agreed that the calling tolls are available 24 hours and are call free, 24% respondents agreed, 11.5% respondents were not sure, 19.2% respondents disagreed, 13.5% respondents strongly disagreed. Majority of the staff of 55.7% agreed with the statement. There calling tolls are free to enable the customers call into the corporation and address their communication. In case of leakages or complaints that can be worked upon. This saves the customer the burden of having to travel miles to the corporation. Just to communicate. This is the dot com error and so the corporation must keep in touch with the customers. According to NWSC (2016), the toll free numbers are 0-800-200-977/0-800-300-977. This enables customers to call to the organization and make their inquiries, raise comments.

4.7 Table Service reliability of National Water and Sewerage Corporation.

number	Statement	1(%)	2(%)	3(%)	4(%)	5(%)
1	Customers are assured of continuous supply of water once a customer is concerned.	46.2	15.4	19.2	11.5	7.7
2	Extensions are made to new customers.	28.9	32.7	7.7	19.2	11.5
3	There is use of qualified workers.	38.5	32.7	15.4	5.8	7.7
4	Solutions are provided to customers' needs and wants.	30.8	21.2	13.5	19.2	15.4
5	The repairs and maintenance of pipes are timely.	25	19.2	17.3	15.4	23

Source: primary data 2016

4.7.1. Customers are assured of continuous supply of water once a customer is connected.

In table 4.7 above 46.2% of the staff strongly agreed to the fact that customers are assured of continuous supply of water once a customer is connected, 15.4% respondents agreed, 19.2% respondents were not sure, 11.5% respondents disagreed, 7.7% respondents strongly disagreed. Majority of the staff of 61.6% agreed with the statement. The customers are supplied with water at all times. Even in the dry seasons . That is simply because water is life and people need such water in order to go on with their day to day activities. The corporation therefore employs timely repairs and maintenance of any damages; it also ensures enough supply of water to the reservoir tanks, supply of water to the respective customer tanks. The customers therefore enjoy the water as much as they can.

4.7.2. Extensions are made to new customers.

In table 4.7 above 28.9% of the staff strongly agreed to the fact that extensions are made to new customers, 32.7% respondents agreed, 7.7% respondents were not sure, 19.2% respondents

disagreed, 11.5% respondents strongly disagreed. Majority of the staff of 61.6% were in agreement with the statement. When several people around a given area request for water supply by the corporation, planning is carried out immediately so as to be able to connect these people and be able to supply them with water. New connections are done at least every year as the customer base keeps on increasing. According to NWSC (2016), getting water and sewerage connections at the right time is paramount for all households and non-household establishments, something that NWSC understands. That is why, whether one is constructing a new development or replacing an existing water supply, the engineering team is available and ready to guide one through and help one set up the connections, for their aspiration is to ensure excellent service in terms of water and sewerage management. For a person to get connected, they need to visit a branch to get entered into the system, two passport photos, and proof of ownership. According to NWSC (2016), extensions were made to Buremba village, Mile 4 to Bubale, Kakiiro health Centre.

4.7.3. There is use of qualified workers.

In table 4.7 above 38.5% of the staff strongly agreed to the fact that there is use of qualified workers, 32.7% respondents agreed, 7.7% respondents were not sure, 19.2% respondents disagreed, 11.5% respondents strongly disagreed. Majority of the staff of 71.2% were in agreement with the statement. Most of the employees are qualified as evidenced in table 4.2 where most of the employees have a bachelors' degree. Some have master, some have diplomas, and others completed A-level. In addition to the above, the corporation offers training to all employees especially the new employees So that they are able to provide quality labor. According to NWSC (2016), each and every individual in the staff family of NWSC is skilled, willful and has purpose; the corporation however invests in fostering this talented force to

become enablers in the transformation of the business. *The empirical evidence that links success of our projects in NWSC is depicted in the impeccable improvement in the experience of our staff and in increment in the effectiveness of our services.

4.7.4 Solutions are provided to customers' needs and wants

In table 4.7 above 30.8% of the staff strongly agreed to the fact that solutions are provided to customers' needs and wants, 21.2% respondents agreed, 13.5% respondents were not sure, 19.2% respondents disagreed, and 15.4% respondents strongly disagreed. Majority of the staff of 52% were in agreement with the statement. Customers from time to time have issues that they want the corporation to address. Such issues include billing of the wrong amount especially when the amount is overstated. The corporation provides immediate solutions. The solution in this case could be sending personnel to cross check with the meter is functioning well, weather the right meter readings are being taken. In case of any malfunctioning, personnel are sent to correct the errors. According to the annual customer survey (2016), 90% of the corporations customers are satisfied with the services provided to them. In a bid to delight the customers, they analyze and measure their contact and center performance against metrics which matter to customers in order to improve the business processes and meet customers' need. Listening to customers' concerns is key in shaping the corporations strategic direction. Since *customers are the reason we exist*

4.7.5 The repairs and maintenance of pipes are timely.

In table 4.7 above 25% of the staff strongly agreed to the fact that repairs and maintenance of pipes are timely, 19.2% respondents agreed, 17.3% respondents were not sure, 15.4% respondents disagreed, 23% respondents strongly disagreed. Majority of the staff of 44.5% were

in agreement with the statement. Sometimes pipes break and this hinders the continuous water flow to the customers taps, they get spoilt due to many reasons, such as weather changes, people sometimes dig so much into the ground and damage the pipes, road constructions also may damage the pipes. When this occurs customers may be unable to receive the water or receive dirty water at that. This is where the organization comes in to send the responsible personnel immediately to correct such occurrences. According to Mugenyi J Mbarara — Residents of Mbarara town and Kaberebere in Isingiro district have been short of water since Saturday following a technical fault on the water pump at Ruharo main water station. He said they purchased spares in Nairobi, Kenya and engineers were working around the clock to rectify the problem on Wednesday. NWSC in the area is also working around a silting problem that blocked and covered foot valves taking water to the water pump at Kabale road water station. The team hired divers to clear the silt.

4.8 Table Goal achievement of National Water and Sewerage Corporation, Mbarara area

Number	Goal achievement	1(%)	2(%)	3(%)	4(%)	5(%)
1	The set targets for revenue collection are met at the end of the specified period.	34.6	38.5	0	9.7	17.3
2	The set targets are in proportion with the output.	42.3	13.5	1.9	9.7	32.7
3	There is full utilization of resources.	19.2	17.3	11.5	13.5	38.5
4	There is involvement of employees in setting targets.	48	21.2	15.4	9.6	5.8
5	Output is of good quality.	44.2	36.6	0	11.5	7.7
6	There is delegation.	27	30.8	13.5	15.4	13.5

Source: primary data 2016

4.8.1. The set targets for revenue collection are met at the end of the specified period.

In table 4.8 above 34.6% of the staff strongly agreed to the fact that the set targets for revenue collection are met at the end of the specified period, 38.5% respondents agreed, 0% respondents were not sure, 9.7% respondents disagreed, 32.7% respondents strongly disagreed. Majority of the staff of 73.1 were in agreement with the statement. The set targets are in line with the number of customers, there water usage and therefore the amount they have to pay at the end of a specified period. The past records are considered, the meters are read to ascertain these assumptions. Most of the staff was certain that the targets set are set are met at the end of a specified period. Some staff disagreed though because actual revenue collection sometimes is more or less than expected. This is because the targets sometimes are over or under stated. According to NWSC (2015), in regard to financial performance, the corporations' turnover has improved overtime and stands at UGX 220 billion per annum with an overall collection ratio of 103%

4.8.2. The set targets are in proportion with the output.

In table 4.8 above 42.3% of the staff strongly agreed that the set targets are in proportion to output, 13.5% respondents agreed, 1.9% respondents were not sure, 9.7% respondents disagreed, 17.3% respondents strongly disagreed. Majority of the staff of 55.8% agreed to the statement. The corporation engages in setting of targets that must be achieved at the end of a certain period. These targets include new connections, revenue collection. All staff members are involved to ensure that these targets are met. The most hardworking staff members towards achieving these goals are rewarded. The participation of each and every staff member brings about achieving these set targets. Hence output is in proportion with the set targets. Sometimes such targets are not met because some staff members may be demotivated, or the set targets may be beyond the

capacity of the corporation, thus explains why some staff members disagreed to this statement. The NWSC (2015) stands out as a model utility in the African region because of its exemplary achievements. The water service coverage is estimated at 78% . The Corporation produces about 100 million cubic meters of water per annum from 51 water treatment facilities and is distributed through 9,300 Kms of water mains. In addition, NWSC operates 3 conventional sewerage treatment plants and 27 waste stabilization ponds with a total sewer network length of 550Km. Non-Revenue Water has reduced overtime from over 60% to the current level of 27.4%. The NWSC work force by end of December 2015 stood at 2,816 staff with a staff productivity ratio of 6 staff per 1000 connections. The number of new water connections averages 30,000 per annum and our customer base is over 450,000 accounts of which 99.9% are metered.

4.8.3. There is full utilization of resources.

In table 4.8 above 19.2% of the respondents agreed that there is full utilization of resources, 17.3% agreed respondents, 11.5% respondents were not sure, 13.5% respondents disagreed, and 38.5% respondents strongly disagreed. Majority of respondents of 52% disagreed. One of the resources of the corporation is the River Rwizi where water supplied to customers is obtained, there is a plant at the River in order to easily access the water, the water is purposefully directed where it can be pumped by the corporation, the other resource is the employees, the employees are exploited to their full capacity by providing training in order for them to perform better, motivating, encouraging, and closely supervising them. According to NWSC (2014) the Corporation has been able sustain a corporate surplus after depreciation over the last ten years and this has enabled the replacement and expansion of the production facilities, network extensions and intensifications, installation of new connections, and fund minor capital investments and meet all the co-funding obligations for major capital investments using

internally generated funds. In order to ensure billing accuracy, all new accounts are effectively metered, and currently, the Corporation is rolling out pre-paid meters as a means of enhancing efficiency of billing at Government Institutions.

4.8.4. There is involvement of employees while setting targets.

In table 4.8 above 48% of the respondents strongly agreed that there is involvement of employees in setting targets, 21.2% respondents agreed, 15.4% respondents were not sure, 9.6% respondents disagreed, 5.8% respondents strongly disagreed. Majority of the respondents of 69.2% were in agreement with the statement in question. All employees are consulted for their opinions; all heads of departments are summoned to meetings to state their views. Set targets are communicated to all employees so that they are well informed of what is going on. This makes it easy for them to participate in achieving such targets, they feel as if they are part of the company.

4.8.5. Output is of good quality.

In table 4.8 above 44.2% of the respondents strongly agreed to the statement in question, 36.6% respondents agreed, 0% respondents were not sure, 11.5% respondents disagreed, and 7.7% respondents strongly disagreed. Majority respondents of 80.8% agreed to the statement in question. The corporation invests in purification of the water ensuring that the reservoir tanks are clean and the pipes for water transfer are in shape so that the end users receive quality water. The corporation carries out market research to find out customers responses about the quality of the water they consume. The customers find the water clean and safe.

4.8.6. There is delegation.

In table 4.8 above 27% of the respondents strongly agreed to the statement in question, 30.8% respondents agree, 13.5% respondents were not sure, 15.4% respondents disagreed, and 13.5%

respondents strongly disagreed. Majority respondents of 57.8% respondents agreed to the statement in question. The officers ensure to delegate duties to subordinates in order to concentrate on more complex tasks so as to ensure efficiency and involve each and every employee in the activities of the corporation.

4.9 Conclusion

From the findings it was found that there is a relationship between operations management and performance of national water and sewerage corporation Mbarara area. If the operations are not well managed, it leads to poor performance of service organizations. From the findings, it indicated that NWSC invested in proper managing of its operations hence this led to high performance of the corporation. The corporation acquired high performance through providing its customers with quality products and services, hence achieving customer satisfaction, the corporation also endeavored to provide customers with service reliability by ensuring continuous water supply, the corporation also endeavored to meet its set targets.

4.9.1 Operation plan and performance of NWSC

It was also established that there is a relationship between the operations plan and performance of NWSC, Mbarara area. Most of the respondents agreed that the plan clearly indicates the officials responsible for each activity; this enables the indicated person to prepare well for the activity yet to be achieved and to be held fully responsible at the end of the project. Such a person is responsible for all the used resources: the funds, the materials and provides accountability at the end of the project. The planned activities must correspond with the actual activities. In addition to the above most of the respondents agreed that maximum and minimum time must be indicated for each activity. That means each activity has a time schedule: when to

start the activity, inclusive of the earliest start time and latest start time, and when to stop the project inclusive of the earliest finish and latest finish time. This enables activities to be performed at the right time and be accomplished as desired. It encourages effectiveness and efficiency in the organization hence increased performance. Hence there is a relationship between operations plan and performance of NWSC, Mbarara area.

4.9.2 Process analysis and performance of NWSC.

The findings illustrate that there was a relationship between the process analysis and performance of NWSC, Mbarara area. Most of the respondents agreed that enough water is pumped even in the dry seasons when River Rwizi is almost dry, the corporations used to suffer water shortages in the dry seasons in the years before but today it has set up measures to minimize that occurrence. The organization has set up measures at the plant to direct the water towards where it can be accessed and pumped by the organization so as to acquire enough water to supply to its customers. The corporation desires to supply enough water to customers at all times so as not to inconvenience them. Most of the respondents agreed that there is a follow-up mechanism to ensure that water is supplied through the right process. That is customers are consulted about the services they receive, the pipes are crosschecked to ensure that they are in the right order, the tanks are crosschecked to ensure that the water is received at the right pressure and supplied to customer taps at the right pressure, they must also be well cleaned so as not supply to customers with dirty water, the purification process is also crosschecked to ensure that the water is well cleaned. The pumps at the water should be at the right pressure at the right levels.

4.9.3 The findings show that there is a relationship between the operations design and performance of NWSC.

Most respondents agreed that there is sensitization of the people before new connections are made. This encourages people to cooperate and support the connection of water. And it also limits people from trying to hinder progress, where by some people may become bitter when there land is tampered with during the connection. In addition, most respondents agreed that measurements are taken before new connections are made. This is to ensure that enough equipment is brought and the pipes are connected accordingly. For example all pipes should be 5feet below the ground to minimize breakages due to accidents. Such as there can be digging into the ground.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

This chapter contains summary of what has been presented in chapter four. It includes: summary of findings, conclusions, recommendations of the broad objectives and areas for further study.

5.1 SUMMARY OF FINDINGS

The summary was based on the main study themes in relation with the study objectives.

5.1.1 Operations plan and performance of NWSC.

The findings revealed the relationship of the operations plan and performance of NWSC, Mbarara area, majority of the respondents of agreed that teamwork is a key policy to prepare the operations plan; this meant that employees collectively participate in preparing the operations plan, so that everyone willingly participates in these activities, the staff also provide help to one another where by supervisors provide direction and proper supervision to its supervisees. 61.6% agreed that outputs are clearly defined when preparing the operations plan; this meant that plan is prepared with clear objectives, and each and every staff is concerned and works hard in order to obtain these outputs. In conclusion operations plan was a key factor to the high performance of the corporation.

5.1.2 Process analysis and performance of NWSC.

The findings illustrated the relationship of process analysis and performance of NWSC. From the finding according to chapter four, factors like age bracket, education level can be used to explain the performance of the corporation but are not exclusive by themselves. majority respondents agreed that enough water is pumped even in the dry season when river Rwizi is almost dry, this meant that there is continuous water supply to customers once they are connected, this was a

confirmation of service reliability provided by NWSC , Mbarara area to its customers. Majority of the respondents agreed that the reservoir tanks are big enough to supply to customers. That meant that each and every customer receives an optimal quantity of water at all times. For example the Boma tank is big enough to supply Mbarara town, the Nsinkywe town supplies water to Nyamitanga division.

5.1.3 Operations design and performance of NWSC.

The findings confirmed the relationship of operations design and performance of NWSC. It was agreed that budgets are revised before approval. That meant that money and any other resources are only issued for a rightful purpose, it also illustrated that there is reduced corruption and bribery by employees who may wish to divert company resources for their own selfish purposes. Respondents also agreed that measurements are taken before new connections. This meant that there is limited wastage of resources. It also illustrated that the pipes are properly connected to ensure continuous flow of water from the plant to the customers. When pipes are well connected there is limited damage occurred to them, hence this brings about continuous supply of clean and user friendly water.

5.2 CONCLUSIONS

5.2.1 Operations plan and performance of NWSC

From the findings obtained in chapter four, it illustrates that there is a strong relationship between operations plan and performance of NWSC, majority respondents agreed that the plan is monitored and evaluated to ensure that it is in correspondence with the strategic plan of the corporation. Majority respondents also agreed that the outputs are clearly defined which acts as a roadmap for every employee in the corporation.

5.2.2 Process analysis and performance of NWSC.

The findings illustrate that there is a strong relationship between process analysis and performance of NWSC. Majority respondents agreed that the reservoir tanks are big enough to store and supply water to the designated areas. This indicated continuous flow of water to customers. Majority respondents also agreed that enough water is pumped even in the dry season when River Rwizi is almost dry. This ensures reliability in terms of customers being assured to receive water.

5.2.3 Operations design and performance of NWSC.

The findings show that there is a strong relationship between operations design and performance of NWSC. Majority respondents agreed that the set targets for revenue collection are met at the end of the specified period. This indicated that every employee works hard in order to achieve the target.

5.3 RECOMMENDATIONS

5.3.1 Operations plan and performance of NWSC

The findings illustrated that there is a relationship between operations plan and performance of NWSC, in this accord I would like to recommend the corporation to put into consideration setting up other means of water sources other than depending on only River Rwizi, because the same river supplies to Nile breweries, some residents take their animals for grazing at this river, some residents fetch water from the river for home purposes directly, indicating that the water is exploited, during the dry seasons, the water is very dirty and requires a lot to purify to the required standards. With the continuous global warming and deforestation, the water source

might become drier in future and might not be reliable. The corporation can create other water sources. Such as digging into the ground for water, creating man made swamps.

5.3.2 Process analysis and performance of NWSC

Considering that there is a relationship between process analysis and performance of NWSC, I would like to recommend NWSC, Mbarara area to consider employing more advanced technology in order to be more effective and efficient. From the findings, some respondents disagreed to the fact that there is purification to the extent that water doesn't need further purification; this was because some of the purification still totally depends on people. Such as quantifying the right amount of chemicals to insert into the water and yet these people are only human and sometimes error. For example such employees sometimes dose off as they await the right time to insert the chemicals, such employees also sometimes apply the wrong pressure during the transfer of water. This leads to inefficiencies and hinders the quality of water the corporation may wish to provide to its customers.

5.3.3 Operations design and performance of NWSC

There is a relationship between operations design and performance of NWSC, Mbarara area as illustrates by the findings, in this accord I would like to recommend the corporation to make more sensitizations to customers about certain items: the corporation should make more sensitizations to customers about saving water in order to reduce water shortages especially in the dry seasons, for example, customers could build tanks in their homes to store water in preparation for the dry season, customers can also be more sensitized about other means of saving water, such as washing utensils by placing them in a container instead of direct flow from the tap, washing clothes after they have piled up instead of daily, reducing water flow at the

shower while taking a bath instead of letting water flow unnecessary, reporting any damaged pipes immediately.

5.4 AREAS FOR FURTHER STUDY

Due to limitations such as limited time and scarcity of resources, the researcher may not have been able to exhaust all the contents in this topic and feels further research should be made in the following areas;

The effect of advanced technology on performance of NWSC, Mbarara area.

The use of artificial water bodies and performance of NWSC, Mbarara area

APPENDIES

**Appendix 1: questionnaire for staff at National Water and Sewerage Corporation,
Mbarara area.**

Dear respondent'

I am Niwagaba Anita, a student of UMU doing business administration and management. I am conducting research in partial fulfillment of a bachelor's degree in business administration and management. My topic is operations management and performance of national water and Sewerage Corporation, Mbarara area. I humbly request that you answer these questions for me so that am able to analyze data gathered. All information gathered is for academic purposes and will be treated with confidentiality. Thank you for your support.

Section a: demographic characteristics

Tick/fill in the most appropriate answer

1. Name of respondent (optional).....

2. Sex

male female

3. Age

18-28 29-39 40-50 50 years
years years years And above

4. Educational level

A level

Diploma

Degree

Masters

5. Occupation

Unemployed

Employed

6. How long have you been in this organization?

1-3 years

--

4-6 years

--

7 and above

years

--

Use the following statements to rate your perspective ranging from 1-5 as abbreviated below.

Strongly, agree, Agree, Not sure, disagree, Strongly disagree

5	4	3	2	1
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Section b: operations management of national water and Sewerage Corporation.

Number	Statement	1	2	3	4	5
1	There is proper monitoring and evaluation of the plan.					
2	The plan clearly indicates the officials responsible for each activity.					
3	The plan clearly illustrates the activities to be implemented in a given period.					
4	The minimum and maximum time to accomplish the activities is illustrated.					
5	The outputs are clearly defined.					
6	Teamwork is a key policy to prepare the operations plan.					

Process analysis and performance of NWSC.

Number	Statement	1	2	3	4	5
1	Enough water is pumped even in the dry season when river Rwizi is almost dry.					
2	The chemicals used to clean the water are not harmful to the health of customers.					
3	The water is cleaned to the extent that it doesn't need further purification before consumption.					
4	The distribution to the reservoir tanks is timely.					
5	The reservoir tanks are big enough to supply to customers.					
6	The pressure of water at the customers' taps is optimal.					
7	There is a follow up mechanism to check that water received is through a right process.					

Operations design and performance of NWSC.

Number	Statement	1	2	3	4	5
1	There are provisions to finance projects.					
2	Budgets are revised before approval.					
3	There is sensitization of people before new connections.					
4	Cost implications are considered before financing projects.					
5	Measurements are taken before new connections.					
6	Project plans are drafted to support projects.					

Section c: performance of national water and Sewerage Corporation.

Customer satisfaction

Number	Statement	1	2	3	4	5
1.	The water received by customers is of good Quality.					
2.	Customers receive water at any time.					
3.	There are prompt responses to customer inquiries.					
4	Customers complaints are addresses on time					
5	There are online services for effective communication between customers and the company					
6	Customers' needs and wants are key in decision making.					
7	The calling tolls are available 24hours and are call free.					

Service reliability

number	Statement		2	3		
1	Customers are assured of continuous supply of water once a customer is connected.					
2	Extensions are made to new customers.					
3	There is use of qualified workers.					
4	Solutions are provided to customers' needs and wants.					
5	The repairs and maintenance of pipes are timely.					

Goal achievement.

Number	Statement	1	2	3	4	5
1	The set targets for revenue collection care met at the end of the specified period.					
2	The set targets are in proportion with output.					
3	There is full utilization of resources.					
4	There is involvement of employees while setting targets.					
5	Output is of good quality					
6	There is delegation.					

Thanks for your time and support

Appendix 11: BUDGET

Number	Activity	Cost
1	Data collection	30,000
2	Printing	50,000
3	Miscellaneous	20,000
Total		100,000

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