SUPPLIER QUALITY MANAGEMENT AND QUALITY OF SUPPLIES IN BEVERAGE COMPANIES IN UGANDA

A CASE STUDY OF UGANDA BREWERIES LIMITED

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NOVEMBER, 2018

DECLARATION

I Kabwama Christopher, declare that this research dissertation is solely my own original work and has never been submitted for any other academic award in any academic institution.

Signature ..... **Date** ...4/7/2019...

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APPROVAL

This is to certify that the research dissertation entitled **"Supplier Quality Management and Quality of Supplies in Beverage Companies in Uganda: A case study of Uganda Breweries Limited"** carried out by Kabwama Christopher was done under my supervision and is now ready for submission to the board of examiners of Kyambogo University with my approval.

Signature ..... Date 4th July 2019

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for **DR. TITUS BITEK WATMON**

(Academic Research Supervisor)

DEDICATION

I dedicate this work to the family of Rev. Kayiza Fenekansi who stood by and gave me encouragement all the times in the course of the study. The success of this report lies in their hands and their sacrifice has been my only hope. May God bless you all.

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I truly thank God for the knowledge and strength He gave me to accomplish this work successfully.

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With much gratitude I salute the staff and administration of Kyambogo University, I appreciate the knowledge, skills and guidance they have given to me up to the time that I have written this research report. Thank you so much!!

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LIST OF ABBREVIATIONS/ACRONYMS

CIPs	–	Chartered Institute of Procurement and Supply
COER	–	Center for Organization Excellence
CVI	-	Content Validity Indices
EABL	-	East African Breweries Limited
EAMU	-	East African Malting Uganda
HIWP	–	High Involvement Work Practices
ISO	-	International Standards Organization
ITT	–	International Telephones and Telegraphy
KACOFA	-	Kapchorwa Commercial Farmers Association
KPIs	–	Key Performance Indicators
NPI	-	New Product Introduction
OEE	-	Overall Equipment Effectiveness
QMS	–	Quality Management System
SCQM	–	Supply Chain Quality Management
SQM	–	Supplier Quality Management
TQM	–	Total Quality Management
U.S	-	United States
UBL	–	Uganda Breweries Limited
USD	-	United States Dollar

ABSTRACT

This study investigated the effect of Supplier Quality Management on quality of supplies at UBL. The research study was guided by three objectives, which included examining the effect of supplier training on the quality of supplies, to determine the effect of supplier auditing on quality of supplies and to examine the effect monitoring performance on quality of supplies. The study utilized a case study research design but cross sectional in nature considering both Qualitative and Quantitative approaches and a total of 97respondents were considered for the study but 74respondnets managed to respond back. The data was collected using research questionnaires and interview guide. These instruments were administered physically or delivered to the selected respondents. Existing literature on study variables was studied to generate more information and theories were studied to form a strong basis of study. The study revealed that there are strong positive correlations existing between the independent variables (supplier training, supplier auditing, monitoring performance) and the dependent variable (quality of supplies) at correlation coefficient of 0.983, 0.982 and 0.975 respectively.. From the regression analysis in table 4.12, the study revealed that supplier quality management is a predictor of quality of supplies in UBL with supplier training and supplier auditing, which had positive values of 0.57 and 0.732 respectively. However, it was also revealed that monitoring performance is not a predicator of quality of supplies in UBL because it had a negative value of -0.304 and it was not significant since it had sig. value of 0.086 which is greater than the threshold of alpha of 0.05 or 5%. It was also revealed that supplier auditing is the most significant predictor of quality of supplies in UBL with the highest Beta value of 0.734. The study recommended that the study recommends that the company should make supplier training sessions more interactive and exchange of ideas not lectures or class lesions to suppliers, the company should also provide quality inputs to their suppliers at relatively low costs, this in turn will help suppliers give back high quality produces (supplies) to the company, the company should also be responsible for harvesting and storing of produces on behalf of the suppliers, the company should also carry out its supplier audits more frequently and some audits should be surprise audits and the company should not only focus its supplier training on the quality of supplies but also should train the suppliers on how they can improve their performance.

CHAPTER ONE

1.1 Introduction

Supplier quality management is a business principle that ensures excellence in a company's products, services and internal processes. The concepts of Supplier Quality Management can be viewed as an integration of strategic practices, and such practices need to stretch across inter-organizational boundaries to satisfy both existing and new customers (Harland et al. 1999). Accordingly, Yeung and Lo (2002) view SQM in terms of the managerial efforts necessary for creating an operating environment in which a manufacturer can integrate its supplier capabilities into its operational processes. These managerial efforts can be clustered into several components, namely management responsibility, supplier selection, supplier development, supplier integration, quality measurement and conducting supplier audits. (Fernandez, 1995) state that supplier selection, supplier development and supplier integration can be regarded as forming an SQM system, with management responsibility seen as the driver of the system. This chapter will address an introduction, background to the study, statement of the problem, purpose of the study, the study objectives, research questions, research hypothesis, conceptual framework, scope of the study, justification, the significance of the study and operation definition.

The study intends to examine the effect of supplier quality management on quality of supplies, a case of Uganda Breweries Limited. This chapter consists of the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, and scope of the study, significance of the study, the conceptual framework and definition of key terms used in the study. Given the above, the researcher will be in position to obtain relevant information regarding the impact of supplier quality management on the quality of supplies a case of Uganda Breweries Limited (UBL).

1.2 Background to the study

1.2.1 Historical Background

The root of quality management goes back to the guild system in medieval times, (Rachael, B., 2017) with master craftsman status representing higher quality goods and services. In fact after industrial revolution, quality evolved to focus on factory inspections and removing defective goods. In 1911, the mechanical engineer Frederick Winslow Taylor published "*The Principles of Scientific Management*". Taylor was one of the first people to systematically study manufacturing efficiency.

In 1924, Western Electric engineer Walter Shewhart proposed a method for statistical quality control. Enter W. Edwards Deming, considered by many the father of quality management. Deming successfully applied Shewhart's methods to war manufacturing during World War II, where statistical process control helped the armed forces speed up inspections without sacrificing safety. Once the war and government contracts were at an end, many American managers put aside statistical quality control processes. This frustrated Deming, who found a receptive audience for his ideas in Japan.

After the devastation of the war, Japan needed a way to rebuild its economy that had been greatly affected. Japanese Leaders decided to focus on quality, bringing in American experts like Deming and engineer Joseph Juran, who had also worked on statistical sampling at Western Electric. Deming was a huge proponent of Shewhart's ideas, developing a methodology he called the Shewhart cycle of plan-do-study-act that's the basis for the modern plan-do-check-act cycle according to The Centre for Organizational Excellence Research (COER), 2002. The work of Deming and Juran ushered in a quality revolution in Japan. In coming decades, manufacturers

continued to refine quality management methods, going beyond inspection to focus on strategies that also incorporated processes and people.

Through the 50s and 60s, Japan's quality focus allowed mainly manufacturers to produce increasingly higher-quality goods at lower prices that are affordable. This is when Toyota Production System developed during this same period, focusing on minimizing inventory as well as waste. So this development represented one of the earliest modern forms of a Quality Management System (QMS) and over this time, the post-war economic boom had given consumers more power than ever before. As the market became increasingly over crowded, it was no longer enough to just make a product. Companies actually had to make consumers happier to win their dollars, shifting the focus towards customer satisfaction.

By the 1970s, Japan was out-competing the U.S. in automobiles and electronics manufacturing. Experts like Juran had predicted this trend, yet it still took many companies by surprise. For the most part, American companies believed increased competition from Japan was related solely to lower prices. As consumers bought up Japanese goods, U.S. companies began losing market share, leading to cost-cutting and import restriction strategies. Not surprisingly, these methods did nothing to improve the quality of goods. With the American economy suffering from its inability to compete on quality, U.S. corporate leaders finally stepped up. Total Quality Management (TQM) was born, setting the stage for a flourishing of quality and operational excellence strategies in the U.S. In 1987, the first official version of ISO 9000 was published, leading to slow but steady adoption by American companies.

Whereas TQM was a major early force in quality management in the U.S., it has largely faded from view in recent decades in favor of newer approaches such as Six Sigma and lean manufacturing.

In Africa supplier quality management started as early as 1980 with many companies adopting it to improve service delivery with quality of raw materials they get from the suppliers. In Africa, South Africa leads with 3565 certificates, Egypt second with 2133 certificates, followed by Tunisia, Morocco, Kenya in that order with 838,689 and 590 certificates respectively. The reason for this growth can be attributed to the perception of ISO 9001 as being the most influential of its kind in the world, (David, 2009).

Supplier quality management looks to be a hard activity for most companies, (Kwai *et al,* 2006) contends that supply quality is the source for imbalance in proportion of the inputs into their organization's products, processes and services. The ability of suppliers to influence customer satisfaction also makes measuring supplier quality essential to longer-term market success. Many practitioners view supplier performance as a contributor to enhance the competitive advantage of a firm. Besides, managing supplier quality is a key to achieving good quality leading to a world-class success. Andrew (1994) explains that purchased inputs typically represent a large percentage of the value-added of a new product often representing 60 to 80 per cent of the cost of goods sold. Purchased inputs thus have the potential to influence directly and substantively not only the cost and quality but also the development time of new products.

1.2.2 Theoretical Background

Agency Theory and Supplier Quality Management: this theory is concerned with agency relationships. Two parties have an agency relationship when they cooperate and engage in an association wherein one party (the principal) delegates decisions and/or work to another (an agent) to act on its behalf (Eisenhardt, 1989; Rungtusanatham *et al.,* 2007). The important assumptions underlying agency theory are that: potential goal conflicts exist between principals and agents; each party acts in its own self-interest; information asymmetry frequently exists

between principals and agents; agents are more risk averse than the principal; and efficiency is the effectiveness criterion (Eisenhardt, 1989; Ekanayake, 2004; Rungtusanatham *et al.*, 2007).

In a supply chain relationship the buying firm acts like a principal that delegates the authority of production and/or services to the supplier, the supplier being the agent, so both parties are engaged in an agency relationship (Starbird, 2001; Zsidisin and Ellram, 2003). Along with the delegation of production and services, the responsibility of maintaining satisfactory quality of the supplied products and services is also delegated to suppliers, so buying firms need to ensure that suppliers provide products and/or services that conform to the quality requirements stipulated in the supply contracts. Moreover, competition these days is becoming supply chain versus supply chain rather than firm versus firm (Ketchen and Hult, 2007), so firms are working to increase customer satisfaction and gain competitive advantage by finding ways to improve the whole supply chain, from suppliers to end consumers. Strategic quality management of supply chains not only ensures the quality of supplies, but also enhances the capabilities of suppliers' quality management. Managing supplier quality involves frequent, continuous interactions between buying firms and their suppliers in tackling such various issues as negotiating contractual provisions related to quality requirements and rewards, penalties and inspection policies, specifying requirements on the supplier's quality qualification and certification, and collaborating on product design and process improvement (Flynnand, 2005; Kaynak and Hartley, 2008; Kuei *et al.*, 2008).

A well-developed agency theory is thus particularly useful in understanding the use of management mechanisms for Supply chain quality management (SCQM) and the attributes of supply chain relationships. The assumptions and prescriptions of agency theory fit naturally with the issues inherent in SCQM. In the process of managing supplier quality, buyers in agency

relations are faced with potential problems. By their nature, buyers expect suppliers to provide good quality and to improve the quality of supplied products and/or services, but suppliers may be reluctant to invest substantially in quality, especially if they perceive that buyers are reaping all the benefits. The difference in interest between buyers and suppliers will result in the two parties concerning themselves only with their self-interests. At this point moral hazard and adverse selection problems are likely to arise (Zsidin, 2006; Robinson and Malhotra, 2005; Starbird, 2001). When buying firms cannot constantly monitor the process at suppliers' sites, which is usually difficult or expensive to do so, suppliers may conceal their difficulties in delivering the quality demanded by buyers i.e. adverse selection, and slight efforts to control and improve the product and process quality as expected. Furthermore, buyers and suppliers may have different attitudes toward risks associated with quality failures, especially those that occur after sales to end consumers, a situation that will result in risk-sharing issues between buyers and suppliers. Thus, when making decisions about how to manage supplier quality performance, buyers need to assess the nature of their buyer-supplier relationships in order to select the appropriate management mechanism.

1.2.3 Conceptual Background

Supplier quality management is a set of activities in most cases initiated by the management to improve organizational performance, Such activities include measuring and tracking the cost of supplier quality, using performance based scorecards to measure supplier performance, conducting supplier audits and establishing effective communication channels with suppliers among many more, with an aim of achieving customer satisfaction (Carr and Pearson, 1999). Forker (1999) argues that the impact of supplier quality on an organization's performance is large and direct, and the general understanding is that a firm's quality performance can only be

as good as the quality performance of its suppliers. An increasing tendency towards supplier development by organizations as supplier quality integration is found to be a critical dimension of quality excellence.

The concepts of supplier quality management (SQM) are viewed as an integration of strategic practices to stretch across inter-organizational boundaries to satisfy both existing and new customers (Harland et al. 1999). According to Yeung and Lo (2002), SQM can be viewed in terms of the managerial efforts necessary for creating an operating environment in which a manufacturer can integrate its supplier capabilities into its operational processes. These managerial efforts can be clustered into several components, namely management responsibility, supplier selection, supplier development, supplier integration, quality measurement and conducting supplier audits. Fernandez, (1995) posits that supplier selection; supplier development and supplier integration can be regarded as forming a SQM system, with management responsibility seen as the driver of the system. In order to compete effectively in the world market, a company must have a network of competent suppliers. Supplier training and auditing is designed to create and maintain such a network and to improve various supplier capabilities that are necessary for the buying organization to meet its increasing competitive challenges. A firm's ability to produce a quality product at a reasonable cost and in a timely manner is heavily influenced by its suppliers' capabilities, and supplier performance is considered one of the determining factors for the company's success (Krause et al, 2000), Lyman, and Wisner, (2002) Consequently, without a competent supplier network, a firm's ability to compete effectively in the market can be hampered significantly. This therefore, calls for supplier development through trainings, audits and monitoring to make them produce the right materials needed by the company.

According to Joseph. M, 2017, Supplier Quality Management shows a supplier's talent in the delivery of goods or services to satisfy a buyer's needs. It seeks to ensure units 'fit' to buyer's demands with no or little use of minimal inspection and adjustment. And this way he defines 5 Key Metrics Used for Scoring SQM which include Cost of quality, Overall Equipment Effectiveness (OEE), Products in compliance percentage, Complete, on-time shipments and New Products Introduction (NPI)

Paul *et al.* (2008) explains that for purchasing managers, the evaluation and monitoring of supplier performance is also a critical responsibility. Price has been traditionally considered as the single most important factor in evaluating and monitoring suppliers. Changes in competitive priorities have also seen other dimensions of performance, including quality, delivery and flexibility become increasingly important. Consequently, in order to maintain effective partnerships, the buyer must continuously monitor supplier performance across multiple dimensions and provide feedback for improvement. Many studies have been conducted in the area of supplier monitoring and evaluation Ho *et al.*,(2007) for instance investigated the contribution of Supplier Evaluation and Selection Criteria in the Construction Industry in Taiwan and Vietnam and found out that non-quantifiable criteria play a very important role in the selection process and that the construction companies with the common appraisal criteria being product quality, product availability, delivery reliability, product performance, product cost and service after sale.

1.2.4 Contextual Background

Uganda Breweries Limited (UBL) marked 70 years in July 2017 since its establishment. It is in fact among the few oldest companies in Uganda having been registered in 1946 shortly after the Second World War started in 1946; UBL had a capacity of producing 650,000 hectoliters which

have since increased to more than 1.2 million hecto-litres currently. To achieve this, the company has undertaken a number of investments in infrastructure, innovation and brand versatility (Paul, 2016).

Today, Uganda Breweries' product portfolio consists of beers, spirits, soft beverages and ready drinks. Beers include; Bell Lager, Guiness, Tusker (Malt, Lager and Lite), Senator, Pilsner and Ngule while spirits include Uganda Waragi, Johnnie Walker, Ciroc, Bond 7 and other single malt whiskeys. The non-alcoholic beverages are V & A sherry, Baileys and Alvaro.

According to Simon Emwanu (2016) through UBL's training program for farmers towards improving quality, the year 2016 alone the key lead consumer, Uganda Breweries Limited (UBL) increased its demand for high quality cassava flour from the early maturing and high yielding varieties to 6,000 tonnes from the previous 5,000 tonnes. Teso farmers have formed Teso Cassava Cooperators, an association comprised of 594 cassava farmers to tap into this lucrative deal and to beat the supply demand from the production process, and he says the association has zeroed on the cultivation of early maturing varieties such as Nase 14 and Narocas 1. Besides each farmer making proven commitment to cultivate 5 acres of improved cassava variety, Okubal adds that they have about 80 hectares of hired land (Teso) they intend to plant cassava on. James Emuge, a member, says unlike the conventional cassava varieties, the beauty about the latest improved cassava variety is that they mature within seven to nine months.

Joseph Kawuki, agricultural manger-UBL, says their support process starts with grower mobilization that entails recruitment of farmers into growing the local raw material. He adds that during trainings, farmers are taken through social benefits in growing these crops, and once this is done, the next step is determining acreage recruitment. Kawuki says, "We also educate growers on soil and water conservation to enhance crop productivity."

Through the monitoring of farmers Uganda Breweries (UBL) currently requires 700 metric tonnes of high quality cassava flour per month from the 320 metric tonnes before. However, Joseph Kawuki Kigundu, the agriculture manager UBL, says with the increase in market for their products Ngule and Senator the demand for high quality cassava flour is projected to rise to 1,500 metric tonnes in the next six months. However, in order for the farmers to realize the market for their cassava, the breweries has set minimum standards for the farmers have to comply with in order to get a product that meets the agreed standards. Harvesting should be done at the right time. "We recommend that farmers harvest the cassava nine months after planting. It is not recommended to harvest after the roots have been in the ground for too long because it causes high fibre content," Kawuki explains.

According to Joseph Kawuki (2016), Agribusiness Manager, East Africa Maltings, Uganda Breweries Limited launched performance appraisal (Auditing) for large scale sorghum farmers in Kapchorwa. This follows successful appraisals of large scale sorghum growing carried out in Sebei region in 2011 as part of UBL's local Raw material sourcing programme. The programme is implemented by EABL subsidiary company East Africa Maltings Uganda (EAMU). The programme drive coincided with the commissioning of the Kapchorwa Commercial Farmers (KACOFA), storage and processing plant in Kapchorwa on 7th February 2012.

According to Joseph Kawuki, Agribusiness Manager, East Africa Maltings Uganda, the programme will initially target over 5,000 acres. So far 2,000 have been identified. UBL has embarked on an aggressive campaign to promote sorghum growing in Kapchorwa for use as raw materials for its products. Availability of quality local raw materials is a key driver to Uganda Breweries performance. The grain that includes barley and sorghum is sourced by East African

Maltings Uganda (EAMU) from small scale farmers who are organized in Producer groups. Other regions targeted include Kitugum, Lira, Ibanda and Kasese among others.

The brewery has a capacity to malt 30,000 tonnes of Barley, but processes 20,000 tonnes in a year, which translates to Ug 28.0 billion which goes back to the farmers. It requires 12,000 tonnes of Sorghum with Ugx 13.2 billion ploughed back to the farmers. According to Bamulanze last year, the plant had to import Barley from Australia and Sorghum from Zambia after local farmers could not meet the demand.

According to Robert. W, (2017), Uganda Breweries Limited (UBL), one of the big players in the beer industry, has increased their purchase of the four main ingredients for their beer (sorghum, burley, corn-starch and cassava) by 151 per cent from 6,610 tones in 2012 to 16,585 tonnes in 2017. In 2017 alone, according to an article by Ms Charity Kiyemba, the corporate relations director, the company paid out Shs64 billion to secure local raw materials used in beer production of bell lager, senator and ngule among others

The Local Raw Material Program, UBL provides farmers with the necessary seeds to grow the grain they need for their processes. UBL has educated and trained suppliers on how to achieve the right quality of supplies and subsequently provide the market once the crops are harvested. In 2011, the company invested approximately USD $4 million in supplier trainings, auditing and monitoring while in 2014, the company invested in approximately USD $7 million. Over a three year period (2014-2017), approximately USD $18 million have been invested in suppliers. This has led to a 50% increment in production and sales from 27.7% sales in 2010 before investing in supplies to 48.9% in 2017 after a huge investment of USD $29 million have been invested in supplier training, supplier auditing and monitoring of performance of suppliers according to the East African Breweries annual report 2017.

As of now Uganda Breweries Limited has a total of about 17,000 farmers around the country that supply them with raw materials including sorghum, cassava, and barley among others some of which include landmark millers, farm Uganda, wind-star investment, water-Walt Uganda, Italian company limited, Lumu among others. It's expected that this year 2018, the company has invested approximately USD 20billion in suppliers in form of training, auditing, logistics, inputs and monitoring to see that the farmers are able to have good and quality produces. Through these programs of supplier training, auditing and monitoring, UBL beer brands like Genius that was being produced in Kenya, is now tested in Uganda due to high quality supplies that meets the required quality standards of Genius production (Kiggundu. J, 2018).

It has gone ahead to impact farmers through the Local Raw Material scheme through supply of quality seeds, modern farming implements and farmer training which has cost them almost Shs.20billion Uganda shillings. According to the Agriculture Manager Joseph Kawuki 2015, 200 Water tanks were constructed under the 'water for life' program to benefit 1,000 farmer households. 15 boreholes were built in the sorghum and barley growing communities of northern Uganda in 2014, there have been several E- green tree planting activities in LRM growing communities.

Supplier visits have been done in the different area by the Managing Director so as to check on the performance of farmers and encourage them to participate in quality the tour was done in the Eastern and northern districts of Mukono, Bukedea, Soroti, Apac, Lira, Gulu, Nyaka and Kiryandongo. The aim of the visits was to engage and interact with these stakeholders in the brewery's supply chain in a bid to ensure sustainability of supply of locally-grown raw materials (Lyatuu. J, 2017). In 2007 UBL embarked on the project to train barley farmers in Kapchorwa (Rosebell 2007), it signed a memorandum of understanding between UBL and Enterprise

Uganda to upgrade and strengthen the Kapchorwa Commercial Farmers' Association (KACOFA) leadership and to help the farmers improve productivity through the provision of business skills to the association management.

In 2015, UBL reached a total of approximately 17,000 farmers under company's LRM agenda and in turn benefitted over 25,000 households countrywide. The annual target is to purchase over 2,000 metric tons of barley, 4,500 of sorghum, 3,000 of cornstarch and 3,208 of high quality cassava flour. The company infuses an annual average of about Ushs 20 billion into farming communities and value chains through modern agricultural training, soft loans through corporative to obtain locally grown raw materials for brewing operations. The company also invested over USD $10 million into the local grain sector promotion including large sorghum trials in Ngenge/Kapchorwa and Nwoya in the last seven years (UBL Report, 2007).

According to Lyatuu (2017), the Uganda Breweries Limited (UBL) Managing Director Mark Ocitti, advised farmers and suppliers of locally-grown raw materials to aim for top quality of products. He said this after completing a countrywide tour around areas that grow cassava, sorghum, maize and barley, key raw materials for UBL products. The tour was done in the Eastern and Northern districts of Mukono, Bukedea, Soroti, Apac, Lira, Gulu and Kiryandongo. The aim of the visit was to engage and interact with these stakeholders in the brewery's supply chain in a bid to ensure sustainability of supply of locally-grown raw materials.

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1.3 Statement of the Problem

Many companies would obviously want to increase their performance levels by improving the service delivery but the means to do that is always a challenge. Kwai et al. (2006) contend that supply quality management is the source for imbalance in proportion of the inputs into their organization's products, processes and services. The ability of suppliers to influence service delivery also makes measuring supplier quality essential to longer-term market success. Many practitioners view supplier quality management as a contributor to enhance the competitive advantage of a company. In UBL, managing supplier quality is a key and strong tool used in achieving good quality service delivery. However, the company's efforts and operations in carrying out supplier audits, supplier training, supplier development, monitoring and supplier collaboration among others have yielded little or nothing as the company still registering more customer complaints and product recalls which have made the company's market share drop from 54% in the past two years to 40% currently (Kaketo. M, 2017). There is no detailed study that has been undertaken to evaluate how supplier quality management has influenced the quality of supplies in UBL. It was therefore against this background that the researcher initiated the study to investigate the effect of Supplier Quality Management on quality of supplies in UBL.

1.4 Purpose of the study

To find out the effect of Supplier Quality Management on quality of supplies

1.5 Objectives of the study

(i) To examine the effect of supplier training on the quality of supplies.

(ii) To determine the effect of supplier auditing on quality of supplies.

(iii)To examine the effect monitoring performance on quality of supplies.

1.6 Research Hypothesis

H_0: There is a positive relationship between supplier training and quality of supplies in Uganda Breweries Limited

H_0: There is a positive relationship between supplier auditing and quality of supplies in Uganda Breweries Limited

H_0: There is a positive relationship between monitoring performance and quality of supplies Uganda Breweries Limited

1.7 Scope of the Study

1.7.1 Area Scope

The study was undertaken in Kampala, and it examined the impact of Supplier Quality Management on quality of supplies with specific reference from Uganda Breweries Limited Plot 3 – 17 Port Bell .P. O Box 7130 Kampala – Uganda.

1.8 Content Scope

The study covered the effects of supplier quality management on quality of supplies a case study of Uganda Breweries Limited. The dependent variable was quality of supplies while the independent variable was supplier quality management. Supplier Defect Rate, Scrap Rate and Supplier Chargebacks were a basis for measuring quality of supplies.

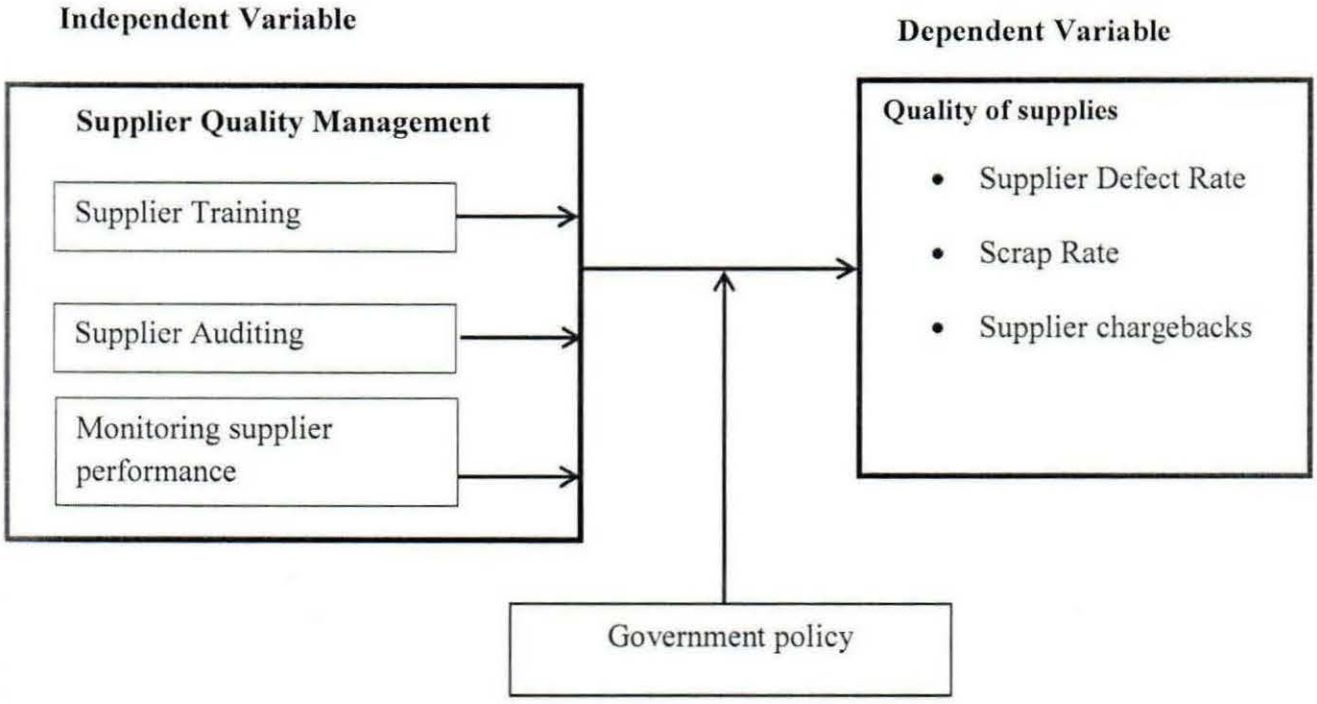
1.8.1 Time Scope

The data analysis, collection and analysis and presentation covered the period between Feb to November 2018.

The study considered literature of 2008 to 2017 because this is the period when beverage companies UBL inclusive are having high rates of product recalls and customer complaints.

1.9 Conceptual Framework

Figure 1.1: Conceptual framework illustrating the supplier quality tool and quality of supplies



Source: Adopted with modification from Educational Researcher Smyth 2014

Source: Adopted from Educational Researcher Smyth 2014.

Figure 1 illustrates how supplier Quality Management the independent variable affects the Quality of supplies which was the dependent variable. It implies that supplier quality management was measured through auditing the major suppliers so that they have a clear understanding of what was needed by the company and supplier training to equip supplier with the best skills to supply quality and measuring and monitoring performance of suppliers (appraisal). The framework also illustrates how the intervening variable influences both the dependent variable and independent variable and such variable include government policy

1.10 Significance of the study

i. The information gathered and the results or findings of the study may be critical and important for manufacturers, suppliers and buyers to ensure quality supply and buying among organizations.

ii. The information gathered may be paramount in designing strategies on how to improve and strengthen the buyers' effectiveness in order to minimize losses and increase profits among firms and organization as well as meeting their targets and expectations.

iii. The research findings may be used as future references for other people who will be doing research in the same field.

1.11 Operational definition

Supplier quality management is a set of activities in most cases initiated by the management to improve organizational performance. Such activities include measuring and tracking the cost of supplier quality, using performance based score cards to measure supplier performance, conducting supplier audits and establishing effective communication channels with suppliers among many more, with an aim of achieving customer satisfaction (Carr and Pearson, 1999).

Supplier audit, Process of following the procedures and processes that are agreed on during a selection audit process. It identifies non conformances in the manufacturing process, engineering change process, invoicing process, quality process, and also the supplier/shipment process. Supplier audits are analyses that are done to document the relationship between different companies in order to verify compliance of a supplier's products and processes (QSE ISO 9001)

Supplier training is a strategic process adopted by buyers to improve their main suppliers in a bid to improve supplier performance through reduced lead time, improved quality supply and reduced total cost of production (Khuram, Ilkka, & Elina, 2016).

Supplier training is viewed as a long-term cooperative effort between a buying firm and its suppliers to improve the supplier's technical abilities, Quality, delivery and cost capabilities (Watts & Hahn, 1993).

According to Jonathan, W (2017) Supplier training is about generating a new capability or competency in suppliers. It is often linked to, although distinct from, performance improvement. By developing suppliers, organizations can generate competitive advantage. This can manifest itself in a new product for sale, a new streamlined process or the implementation of a new standard.

Supplier Defect Rate is the percentage of materials from suppliers that don't meet quality specifications. The quality of materials from suppliers can have a huge impact on quality costs. It's also important to track the incoming supplier quality, or the percentage of materials received that meet quality requirements. Also, supplier chargebacks, or the total cost charged to suppliers for materials that don't meet quality standards.

Supplier defect rate = % defective materials

Incoming supplier quality = % materials that meet quality requirements

Supplier chargebacks = total cost charged to suppliers for materials that don't meet quality standards

Scrap rate: Is "the percentage of materials sent to production that never become part of finished products."

In general, scrap rate can be calculated as follows:

Scrap rate = total scrap/total product run

Supplier chargebacks occur when brands do not meet scorecard parameters Out-of-compliance shipments cause costly inefficiencies and result in the potential loss of sales (out-of-stocks).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter outlines both the theoretical and empirical works and researches done regarding the role of Supplier quality management on quality of supplies. It consists of a review of several studies that have been carried out by other scholars about the study topic.

2.2 Theoretical Review

This research will be built on the Crosby theory since the idea of supplier quality management is related to this theory of quality.

Crosby was a corporative vice president for quality at International Telephone and Telegraph (ITT) for 14 years, where he was responsible for worldwide quality operations, after working his 32 way up from line inspector. After leaving ITT, he established his own corporate consulting firm, Philip Crosby Associates in 1979 to develop and offer training programs (Mitra 1998:65).

As an integral part of his consulting service, he and his associates run a quality college in Winter Park, Florida, for seminars on various quality topics (Smith 1991:18). He has also authored several books (Crosby 1979, 1984, 1989) notably "Quality is free", which sold about 1 million copies and was largely responsible for bringing quality to the attention of top corporate managers in the USA (Evans & Lindsay 2008:109).

In most real world situations suppliers stay on the market for considerably longer than one "period". They then have the possibility to build up reputations or goodwill with the consumers. This is due to the following mechanism. While the consumers cannot directly observe a product's quality at the time of purchase, they may try to draw inferences about this quality from the past experience they (or others) have had with this supplier's products.

The Crosby management theory begins with an evaluation of the existing quality system. His quality management grid identifies and pinpoints operations that have potential to improvement. According to Smith (1991:29) the essence of Crosby's theory is embodied in what he calls the "absolutes of quality management and the basic elements of improvement". Crosby's absolutes of quality management (Evans & Lindsay 2008:109; Fox 1993:223; Kolarik 1995:29; Mitra 1998:67; Oschman 2004:55; Smith 1991:223) include the following:

- Quality means conformance to requirements, not elegance: Requirements must be clearly stated so that they cannot be misunderstood. Setting requirements is the responsibility of management. Once requirements are established, then one can take measurements to determine conformance to those requirements. The non-conformance detected is the absence of quality. Quality problems become non-conformance problems, that is, variation in output. Crosby maintains that once requirements are specified, quality is judged solely on whether they have been met.

  The system for causing quality is prevention, not appraisal: Problems must be identified by those individuals or departments that cause them. In other words, quality originates in functional departments, not in the quality departments, and therefore the burden of responsibility for such problems falls on these functional departments. The quality department should measure conformance, report results, and lead the drive to develop a prevention attitude toward quality improvement.

  The performance standard must be zero defects: The zero defects principle must be a performance standard. It is a standard that hold the craftsperson to do the right thing the first time. That means concentrating on preventing defects rather than just finding and fixing them.

- The measurement is the price of non-conformance: Crosby calls for measuring and publishing the cost of poor quality. Quality cost data are useful to call problems to management attention, to select opportunities for correction, and to track quality improvement over time. Such data provides visible proof of improvement and recognition of achievement.

2.3 Overview of supplier quality management

The concepts of SQM can be viewed as an integration of strategic practices, and such practices need to stretch across inter-organizational boundaries to satisfy both existing and new customers (Harland et al. 1999). Accordingly, Yeung and Lo (2002) view SQM in terms of the managerial efforts necessary for creating an operating environment in which a manufacturer can integrate its supplier capabilities into its operational processes. These managerial efforts can be clustered into several components, namely management responsibility, supplier selection, supplier development, supplier integration, quality measurement and conducting supplier audits. (Fernandez, 1995) state that supplier selection, supplier development and supplier integration can be regarded as forming an SQM system, with management responsibility seen as the driver of the system.

One reason for the increased importance of supplier management is that many manufacturers are concentrating on their core competences, moving away from vertical integration, and therefore need to gain a competitive edge from the supply side of their operations Leenders, (Nollet & Ellram 1994). Good suppliers can help manufacturers during the development of new products and processes, with long-term quality improvements and cost reductions and can provide enhanced delivery performance .Therefore, for manufacturers "the challenge is to maximize [supplier] performance better than competitors (Monczka, Trent, & Callahan, 1993) For

companies spending a high percentage of their revenue on parts and materials, savings are particularly important. In these cases, a saving of 1 per cent on purchasing costs can have the same effect on profit as an 8-10 percent increase in sales (Sandelands 1994) Close co-operation with suppliers quickly brings lower unit costs (Davis 1994) and, longer-term, even greater quality at lower cost (Larson 1994).

Larson, (1994) states that quality and cost are the main two concerns for professional buyers. Kannan and Choon Tan (2006) says that firms are increasingly exploring ways to leverage their supply chains, and in particular, to systematically evaluate the role of suppliers in their activities. In today's competitive and uncertain environment, effective supplier management practices are crucial in satisfying customers" changing needs. Owing to the impact of globalization, the supply chain has to be responsive in providing prompt and reliable delivery of high-quality products and services at the least cost. This is an essential cornerstone for the organizations to develop a sustainable competitive advantage and to remain at the forefront of excellence in a level playing market field. Responsiveness of the supply chain does not depend solely on the single organization's performance but on the suppliers" performance as well (Wong and Wong, 2008). Hence, it is important to consider the issue of supplier's management practices. According to Scanell, Vickery and Dröge (2000) this has for some companies resulted in a reduction and streamlining of the supplier base and developing closer relationships with suppliers. As Handfield and Nichols (1999) stress that without a foundation of effective supply chain organizational relationships, any effort to manage the flow of information or materials across the supply chain is likely to be unsuccessful.

Supplier management – also called supplier base management in some of the literature – is an essential issue for manufacturing companies. One author says, it is futile for big businesses to

reform their manufacturing operations without the strong support of suppliers (Burt, D.N., 1989) another, "we are beginning to witness the positive and strategic contribution the purchasing and sourcing process can make to a firm's total performance (Monczka, Trent, & Callahan, 1993). Ikram (2002) examined the relationship between power asymmetry and suppliers" performance without considering supplier management practices, while Ellitan (2003) only studied how competition intensity is linked with performance. Hoyt and Huq (2000) reviewed on how buyer-supplier relationships have evolved from transaction processes based on arms-length agreements to collaborative processes based on trust and information sharing. Their findings include the importance of considering factors such as organizational context and management practices on how they affect the buyer-supplier relations.

PohLean, Wai Peng Wong, Ramayah & Jantan (2010) examines the mediation role of supplier management practices on the influence of power asymmetry and competition intensity on supplier performances. The framework pieced together idea from the marketing literature and organization theory. Based on the study, High Involvement Work Practices (HIWP) in an organization are indeed important as it mediates the influence of competition intensity on supplier quality and flexibility. The study also showed that there is no single formula that can fit all situations. Managers need to understand its supplier management practices in order to better leverage organizational context of competition and power in managing performance.

2.4 Supplier Training and Quality of Supplies

Programs for supplier development that receive assistance from buyers can be regarded as buyer supported training. The literature suggests that buyers have various ways of supporting their suppliers with some buyers giving more support than others. Some buyers focus on short-term benefits while others look at supplier development as a long-term investment. Thus, suppliers

have access to different types of supplier development programs depending on their buyers. This implies that the types of training that would most benefit suppliers could be best assessed through studies focusing on the supplier perspective. By identifying, the relevant types of training buyer-supported training programs could increase. This would be because buyers could select the type of training suitable for specific groups of suppliers. The right type of training could then lead to an increase in performance for the supplier, which would in turn encourage an increase in buyer-supported training. Buyer may send his employees or group of team to train supplier or he may invite group of suppliers facing same problem for training in his own firm Ambrose et al (2008).

Kadir et al. (2011) made a case study in Malaysian automotive industry on Patterns of Supplier Learning. Here they found that supplier development programs support the development of a supplier's capabilities usually with the assistance of a buyer. Supplier development also depends on supplier's interest and how they explore them self to increase their capabilities. Although local suppliers do receive assistance from their buyers but this type of assistance is still not adequate to improve supplier capabilities. Therefore analyzing environment that provides buyer-support training could help to identify factors that suppliers themselves seem important for development of their capabilities. It is claimed that support from buyers for supplier training has been deficient. Thus, there is a need to identify the types of training that suppliers themselves prefer. Buyers themselves have significant knowledge of the training that a supplier might need but as technology development happens the buyer no longer has a hold on all of the technology that is involved or coming. Thus, it is important that suppliers looking to develop their capabilities have access to the type of training that they require, which may or may not be

provided by their buyers. For suppliers that have access to buyer-supported training their training needs might often change as they develop their own capabilities, (Nadial et al 2011).

According to Benton & Prahinski (2004), supplier training increases cooperation, shared problem solving, commitment actions, loyalty and relationship continuity. If there is no commitment for the longer term (as indicated by frequent turnover in customers and suppliers), then firms will tend to adopt a purely transactional approach and not value investment in training. Parties will not invest in relationship-specific assets because there will be no foreseeable return (Williamson, 1993). Part of that investment is the time and effort to engage in joint planning in order to be flexible enough to accommodate the other partner. Hence beliefs about the continuation of the relationship should be reflected in the co-operative behaviors for both parties.

It is also argued, that within an industry only few suppliers exist which offer valuable resources, being a preferred customer of them can have a contribution to a competitive advantage of the firm in that the supplies are trained new advanced methods of farming and shortage that will maintain quality of their produces, which supports the focus of the resource-based view Steinl & Schiele (2008). Therefore, the resource based contributes to the decision about the supplier portfolio by considering the relationship between buyer and supplier through supplier training as the mean to achieve a competitive advantage. Suppliers are seen as valuable resources themselves or as the source to access them, and by becoming their preferred customer, firms do not only gain preferential treatment but also the ability to distance competitors which do not have the same status, that eventually can lead to a superior competitive position which he is supplied with quality suppliers that are of advantageous edge in producing high quality products and may attract more buyers.

Education and training suppliers is the most common approach to supplier development and improvement. A purchaser may provide training in statistical process control, quality improvement techniques, just-in-time delivery or any other crucial performance area. In order for purchasing to adequately assess and aid suppliers in improving quality of supplies, purchasers need to become familiar with the important components of quality management. In many organizations, purchasing may request the assistance of quality and engineering departments in assisting with the supplier quality training. Purchasing companies emphasize four areas of quality training with their suppliers: Total quality management and quality improvement training, statistical quality control techniques training, training focusing on integrating quality into the design of products and processes to reduce variability, and training in problem solving techniques and all these are aimed at making sure that supplies are of high quality to facilitate the manufacturing of high quality products, (Dobler, D.W, et al, 1996, and Monczka, R., et al, 1998, Effie Josephine Lukhoba, 2015)

Still according to Effie Josephine Lukhoba, (2015) surprisingly, the vast majority of organizations do not provide enough training for their suppliers on their quality management system. Of those that do provide training, it is often limited to tier long time suppliers. This means most organizations are missing out on opportunities to ensure quality inputs in the organizations create a common language and set expectations with suppliers on quality needs.

2.5 Supplier auditing and quality of supplies

Another supplier quality activity is conducting supplier audits. This is a very time consuming exercise but it is important since it adds value to a business. In modern organizations, the role of a quality auditor is that of an adviser who identifies areas of improvement for mutual benefit. Many firms are also adopting the non-conformance audit where the auditor lists all the cases he

has observed where things are not being done in accordance with procedures and whether they make sense or not. It should however be noted that supplier audits should not be regarded as an exercise to give the suppliers "homework" to do, but should be aimed at improving the relationship between the customer and supplier. This is because after the audits, the payback should come in the improved understanding of each company's requirements that develops from the audit process (Andrew, 1994).

According to ISO 9001 (2015), Supplier Audit Process follows the procedures and processes that are agreed on during a selection audit process. It identifies non-conformances in the manufacturing process, engineering change process, invoicing process, quality process, and also the supplier/shipment process. Supplier audits are analyses that are done to document the relationship between different companies in order to verify compliance of a supplier's products and processes and these audits are beneficial in that the Information and product improvements can be shared for common gain among suppliers and companies and accomplishments of supplier measurement that can take place, risk mitigation exercises both proactive and reactive can be evaluated during supplier audits.

The aforementioned buying firms have responded to the scandals by increased auditing (Disney 2011, Duhigg and Windfield 2012, Genasci 2012, Inditex 2012). Other buying firms have recently increased auditing in order to avert such scandals (Carbone 2012, Biraj 2013). However, based on data from Nike's audits of its suppliers, Locke et al. (2007) find that auditing alone is ineffective in improving factory conditions. This paper provides an explanation for how increased auditing can reduce suppliers' efforts to prevent harm to workers and the environment.

An audit typically consists of touring the reviewing documents, and interviewing suppliers to deceive auditors in each of these elements (Wong 2007). Some suppliers build walls or block

entrances to hide portions of facilities with possible safety problems (Roberts and Engardio 2006). Suppliers commonly maintain a false set of work and training logs to show to auditors, in order to hide any evidence of abusive or unsafe working conditions (Roberts and Engardio 2006). Some create false records of inspection and maintenance of buildings and equipment for safety and pollution prevention, and create false records of safety training that did not actually occur (Walsh and Greenhouse 2012, Patel 2014). Training workers and managers to mislead auditors also is a widespread practice (Foster and Harney 2005, Roberts and Engardio 2006). Employees are motivated to deceive auditors by the threat of financial or physical punishment for whistle blowing, and because their jobs would be at risk if their employer failed the audit and lost the buyer as a customer (Esbenshade 2004, Egels-Zandén 2007).

Guo et al. (2014) examines a buyer's choice to pay a high price to a "responsible" supplier or pay a low price and risk a scandal. In (Chen and Lee 2014), a buyer screens for an ethical supplier by offering a menu of contracts in which a high price is coupled with withholding payment in the event of a responsibility violation. In (Aral et al. 2014), a buyer audits prospective suppliers, and then runs an auction in which suppliers with favorable audit reports receive higher prices due to will audited supplies. In (Xu et al. 2015), a buyer may audit or pay a premium to motivate supplier responsibility; a government mandate to disclose auditing effort enables pre-commitment, which can reduce auditing and supplier responsibility

According to Achilles, (2017), Supplier Audit Programs aim to help you build long-term relations with suppliers and achieve continuous improvement. The audit process with the help of supplier workshops, held before and during the audit, as well as on an annual basis, helps to identify and hedge against quality, to verify that supplier's quality management system is suitable for supply chain, getting a full picture of your supplier's sourcing and operational

policies. Supplier audits provide companies with a detailed analysis of the condition, strengths and weaknesses of the supplier. This service can also help the company to understand areas requiring improvement to better meet the buyer's needs (Achilles, 2017).

2.6 Measuring and monitoring performance and quality of supplies

For the purposes of this study - the term 'suppliers' includes contractors for works and services as well as supplies; the term 'performance monitoring' means measuring a supplier's ability to comply with, and preferably exceed, their contractual obligations i.e. monitoring post contract. CIPS recognizes this is sometimes referred to as 'vendor rating' especially where specific measures are used. It can also be argued that monitoring the performance of suppliers can be; a) an aspect of supplier appraisal (i.e. the process of evaluating potential suppliers) and can be extended to supplier selection criteria during tendering; and b) an aspect of the management of approved supplier lists (CIPS, 2017).

Measuring supplier performance is an important means of modifying managerial behavior, and aligning the relationship with the strategic and operational goals of the buyer firm (Paul et al. 2008). Performance measures provide the information necessary for decision makers to plan, control and direct the activities of the organization. They also allow managers to measure performance, to signal and educate/train suppliers on the important dimensions of performance, and to direct improvement activities by identifying deviations from standards.

According CIPS (2017), it is believed that performance monitoring is a fundamental element within contract management and supplier development (the broader subject is covered in a separate CIPS practice document). Contract management includes activities of a buyer during a contract period to ensure that the seller fulfils all his obligations under the contract.

Paul et al. (2008) explains that for purchasing managers, the evaluation and monitoring of supplier performance is also a critical responsibility. Price has been traditionally considered as the single most important factor in evaluating and monitoring suppliers. Changes in competitive priorities have also seen other dimensions of performance, including quality, delivery and flexibility become increasingly important. Consequently, in order to maintain effective partnerships, the buyer must continuously monitor supplier performance across multiple dimensions and provide feedback for improvement. These dimensions may be both tangible (e.g. operational performance) and intangible (e.g. relationship status), and should provide timely information to suppliers which both communicate buyer expectations and, where necessary, enables corrective action to be undertaken. Chris and Adam (2007) on the other had argued that convenient performance measurement structure for suppliers is encompassed in the concept of the "perfect order". The perfect order has three elements: delivery of the complete order; on time; and, an error-free invoice. Many companies extend this concept to include: delivery to correct address; the product being undamaged; and, conformance to quality standards. To achieve these six customer focused targets the supplier will need to measure a wide range of other related internal aspects.

According to Chris and Adam (2007) and CIPS, (2017), at the start of a contract there is inevitably a degree of risk and uncertainty for the parties involved. As the contract proceeds both parties learn from experience and the risk begins to diminish as the original contract assumptions come to be tested. For these reasons too it is important to hold regular review meetings where both parties ask how they can make the contract perform better. Hence the need for monitoring and measurement of performance against that agreed in the contract, its supporting service level descriptions and other documentation such as partnering agreements. These meetings should be

two-way, with both parties learning from each other. Thus, the buying organization needs to seek the supplier's comments as to how well they are carrying out their side of the contract; for example, to check whether all information is being provided on a timely basis.

It is vital that the buyer keeps managing the supplier and deals with problems as and when they arise. If a supplier begins to suffer financial strain in discharging his obligations then, commercial nature being what it is, the supplier will begin making behind-the-scenes cutbacks, irrespective of what may or may not be specified in the actual contract. The key is to address problems when they are still minor and therefore easier to resolve (Genasci 2012)

According to Duhigg and Windfield (2012), there are many contractual relationships with suppliers where it is more important to agree joint goals and jointly measure performance against these goals - rather than the buyer simply monitoring the supplier's performance. This requires transparency and a sharing, as appropriate, of business goals. This type of relationship allows the supplier to monitor performance provided a suitable process of validation is in place.

CIPS (2017), the relationship management is part of the performance monitoring process. It is a key skill for the buyer and can be summarized as the proactive development of particular relationships with suppliers. A managed relationship is one in which both parties are sufficiently intimate that they each know how the other will react; the relationship is predictable. The purpose of investing in a relationship with a supplier is to improve the supplier's performance in fulfilling the needs of the buying organization Duhigg and Windfield (2012).

2.7 Literature Gap

Generally, from literature, it is clear that supplier quality management is very important. It specifically improves quality of supplies, which leads to manufacturing of high quality products that attracts more customers hence increase in performance of company. However, there has

been no specific study of on supplier quality management in beverage companies in Uganda. Still there are fewer studies carried out relation to supplier quality management worldwide and this led to limited literature review for this study. This study will therefore will cover this gap by analyzing not only in Uganda but also adding more literature on the effect of supplier quality management on the quality of supplies while using Uganda Breweries Limited as a case study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology that was employed in conducting the study. It presents the research design, study population, determining sample size, sampling techniques, sources of data, data collection methods, data quality control, procedures of data collection, data processing, analyzing and presentation and lastly anticipated limitations to the study.

3.2 Research Design

The study used a cross sectional survey design considering both quantitative and qualitative research approaches. Quantitative research approach refers to the systematic empirical investigation of social phenomena via statistical, mathematical or numerical data or computational techniques. The researcher used the qualitative approach to yield unbiased result that can be generalized to some larger population. Qualitative research approach was also used to collect non–numerical data. This method involved direct interaction with individuals on a one-to-one basis through individual interviews. A quantitative method was used because the method provides empirical support for such research hypotheses.

3.3 Area of Study

The study was conducted at Uganda Breweries Limited Plot 3 – 17 Port Bell .P. O Box 7130 Kampala – Uganda.

3.4 Study Population

Uganda Breweries Limited has many departments but the departments considered for this study included Production Department which has Fifteen (15) staff members, Quality Control Department which have Ten (10) staff members, Marketing Department which has Twenty seven (27) staff members, Procurement Department which has Ten (10) staff members and also Directors which are Seven (7) in total.

3.5 Sample Size.

According to Roscoe (1975), sample sizes of less than 10 are not recommended. In research with tight controls, successful research can be conducted with samples as small as between 10 and above. However, for most studies sample size between 30 and 500 has been most appropriate. Therefore, in this study 79 respondents were used as sample size as shown in the table below selected using Krejcie, Robert V., Morgan (1970).

Table 3.1: The Sample Size

Category	**Total Population**	**Sample Size**
Production Department	15	14
Quality control department	10	10
Marketing department	27	24
Procurement Department	10	10
Directors	07	07
Supplier groups	15	14
Total	**84**	**79**

Source: UBL Management Report 2016/17

3.6 Sampling Technique

The respondents were chosen using a combination of disproportionate stratified sampling method where the population was divided into non-overlapping departments called stratum and from each stratum a sample was selected using a random sampling technique where respondents were issued with questionnaires to answer questions. This method was used because no single employee can belong to more than one department or stratum.

3.7 Sources of Data

Data was gathered from two sources; the primary source and secondary source.

3.7.1 Primary Source

Primary sources are original materials on which research is based. They are first hand testimony or direct evidence concerning a topic under consideration. Primary data sources present information in its original form, neither interpreted nor condensed nor evaluated by other writers (Amin, 2005). Respondents were given questionnaires that they fill and also the researcher had interview guides, which was also used in data collection, at the end, the researcher aggregate the responses as data, which hence provided the results of the study.

3.7.2 Secondary Source

Secondary sources offer interpretation or analysis based on primary sources. They may explain primary sources and often uses them to support a specific thesis or argument or to persuade the reader to accept a certain point of view (Amin, 2005). Other publications from secondary sources like dissertations, publications, journals, financial reports, contracts and the internet were accessed to obtain relevant information on Supplier Quality Management and Quality of Supplies.

3.8 Data Collection Instruments

The researcher used various instruments such as questionnaires and interview guide.

3.8.1 Questionnaires

The questionnaire is a tool for data collection; it refers to a compilation of questions, which helped the researcher gather the necessary research data for the study (Oso & Onen, 2009). They were close-ended questions to which the respondent answered by Ticking in the questionnaires. It consisted of Likert order questions arranged from 1-strongly disagreed to 5-strongly agree. Likert five scale provided an opportunity for the respondents to give an elaborative choice citing the position of agreeing to the assertion options. This method of data collection was also preferred because it gives a great degree of assurance to the anonymity and confidence of the research respondent.

3.8.2 Interview Guide

An interview is a face to face interaction between the interviewer and interviewee for the purpose of gathering data about respondents (Mbabazi, 2008). It was designed in line with the objectives of the study. The researcher conducted oral interviews with the Directors of Uganda Breweries Limited. The interviews provided an opportunity for the researcher to interact directly with the respondents.

3.9 Data Processing and Analysis

Data collection led to data processing and analysis. The data collected from the field for the purpose of the study was edited and coded for completeness and accuracy of information at the end of every field data collection day.

3.9.1 Quantitative Data

The quantitative data was analyzed by the use of Statistical Package for Social Scientists (SPSS) and results were reported in the tables showing percentages, frequency distributions, and average means but also correlation analysis show the relationship between the variables and regression analysis that shows the effect of the independent variable on dependent variable were also used (Kombo & Trump, 2009) . The model took a form of:

$Y = \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3$

Where

Y = Quality of Supplies (Dependent Variable)

β_0 = Constant

β_1X_1 = Supplier Training

β_2X_2 = Supplier Auditing

β_3X_3 = Monitoring performance

3.9.2 Qualitative Data

The researcher used content analysis for systematic description of situations and scenarios asking who, what, where, and how questions formulated with in formulated systematic rules to limit the effects of analyst bias. The content analysis method was used to analyse data collected using questionnaires. Narrative summary was used to gain valuable insights by putting the data back together, not in their raw form, but in re-ordered form to tell stories from the points of view of different participants (Kombo & Trump, 2009)

3.10 Data Quality Control

The quality of a study was very important for every research. This is through ensuring validity and reliability of a study of instruments (Yin, 1994).

3.10.1 Validity

Validity of a data collection instrument refers to the appropriateness of an instrument to measure a variable or construct and come up with the intended results (Amin, 2005). It can be tested using construct, surface or content validity tests. For this study, content validity index was used to test the instruments. According to Sekaran (2003), this test was carried out using item assessment. This was carried out in a pilot study that involved ten respondents' knowledgeable (experts) about the themes of the study but not to be included in the sample of the study. The respondents were asked to assess the ability of each item of each instrument to measure the variables of the study. The respondents were asked to judge the items by rating them as Relevant (R) or Irrelevant (IR). From their judgments, Content Validity Indices (CVI) was computed using the following formula: $CVI = R/(R+IR)$

Table 3.2: Validity Analysis

Variable (Category)	**CVI – Values**
Supplier Training	0.71
Supplier Audit	0.86
Monitoring performance of suppliers	0.86
Quality of supplies	0.80

All the CVIs were greater than 0.5 which made the instruments to be regarded as valid. However, necessary adjustments were made to improve the validity of the instruments on items that were ranked Irrelevant (IR).

3.10.2 Reliability

Reliability refers to the degree to which a set of variables are consistent with what they are intended to measure (Amin, 2005). A number of questions were used to measure Supplier Quality Management and Quality of Supplies. Cronbach's alpha value which measures how well a set of items measures a single dimensional latent construct were used to measure the reliability of the questions used. The higher the coefficient the better the measuring instrument. But according to Najmul Hoda (2014), alpha of 0.5 and above for all categories indicates that the set of questions used to measure these variables are reliable and all alpha value were above 0.54

Table 3.3: Reliability Analysis

Category	**Alpha Value**
Quality of supplies	0.976
Supplier Training	0.988
Supplier Auditing	0.987
Monitoring performance	0.986

Source: Primary Data, 2018

3.11 Measurement of Variables

For this study, four key variables were measured. These include Monitoring performance, Supplier Training, Supplier Auditing, which are independent variables, and Quality of Supplies, which is the dependent variable. A 5-point Likert scale with respondents answering (Ticking) by (1-Strongly disagree, 2-Disagree, 3 - Uncertain, 4 – Agree and 5-Strongly agree) were used to collect information, which was used to measure the variables and results were interpreted basing on mean value and standard deviation.

3.12 Ethical Consideration

The researcher obtained an introductory letter from the Kyambogo University which was presented to the Managing Director of Uganda Breweries Limited requesting to carry out research from their organization and after getting the permission, the researcher informed the respondents about the purpose of the study in respect for their right either to choose whether to participate or not to participate in the study. In addition, the researcher made it clear that the information given by the respondent was to be held with utmost discretion upholding the confidentiality principle and also only used for academic purposes.

3.13 Limitations and Delimitations of the Study

The respondents at first deliberately refused to give the necessary information to the researcher regarding the study while questioning the confidentiality and purpose. But, the researcher tried to explain to them that the information was only to be used for academic purpose and be handled with utmost care.

Some respondents at first lacked related information that is so important to fulfill the objectives of the study. But the researcher gave them enough time to find the information at the convenient time.

Some respondents seemed not to have time to attend to the researcher. But the researcher tried and made appointments with them in their free time.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents the data findings according to the research objectives, it is systematically organized according to variables that guided the study and it's divided into two sections. The first section presents and analyses the results regarding the background information. The second section presents and interprets the results to examine the effect of supplier training on the quality of supplies, to determine the effect of supplier auditing on quality of supplies and to examine the effect monitoring performance on quality of supplies.

4.1 Response Rate

Table 4.1: Showing Response rate of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Responded	74	93.7	93.7	93.7
	Not Responded	5	6.3	6.3	100.0
	Total	**79**	**100.0**	**100.0**	

Source: Primary day 2018

A total of 79 respondents were sampled for the study but on 74 (93.7%) managed to respondent back to the researcher, which means 05(6.3%) respondents did not respondent back and were excluded from the study. This was a satisfactory rate to enable this research study be analyzed well and arriving at right conclusions by the researcher.

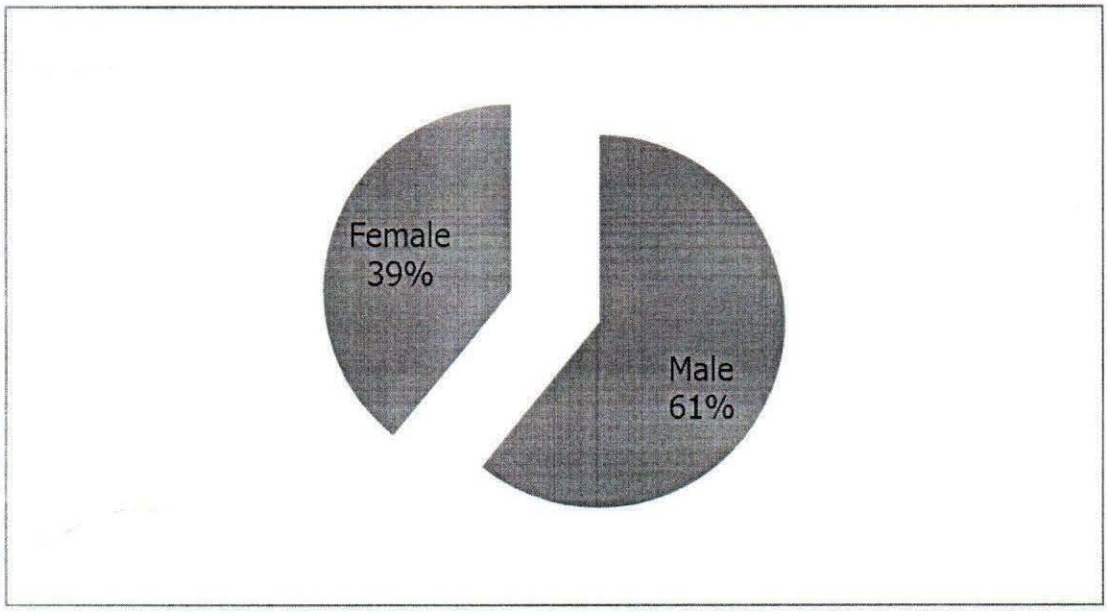
4.2 Biographic Characteristics of Respondents

The characteristic of the sample that were considered important in this study include age of respondents, sex of respondents, education background of respondents, the period spent at the organization and the departments or areas of operation they belong to.

4.2.1 Gender of Respondents

The question was set asking the respondents about their gender and response was as shown in the figure below:

Figure 4.1: Showing Gender of Respondents



Source: Primary day 2018

From Figure 4.1 above, 61% respondents were Male while 39% respondents were female. The study revealed that majority of respondents were male therefore, this shows that the views of male respondents dominated the study findings, this is because UBL deals in operations and activities that require a lot of energy and longer working hours hence end up employing more men since they are more energetic then women. However, since the type of responses solicited

demanded objectivity, the gender orientations of the respondents did not affect the validity and reliability of the responses.

4.2.2 Age of Respondents

The question was set asking the respondents about their age profile and response was as shown in the table below.

Table 4.2: Showing age of Respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	7	8.9	9.5	9.5
	31-40	31	39.2	41.9	51.4
	41-50	26	32.9	35.1	86.5
	Over 50	10	12.7	13.5	100.0
	Total	**74**	**93.7**	**100.0**	
Missing	System	5	6.3		
Total		79	100.0		

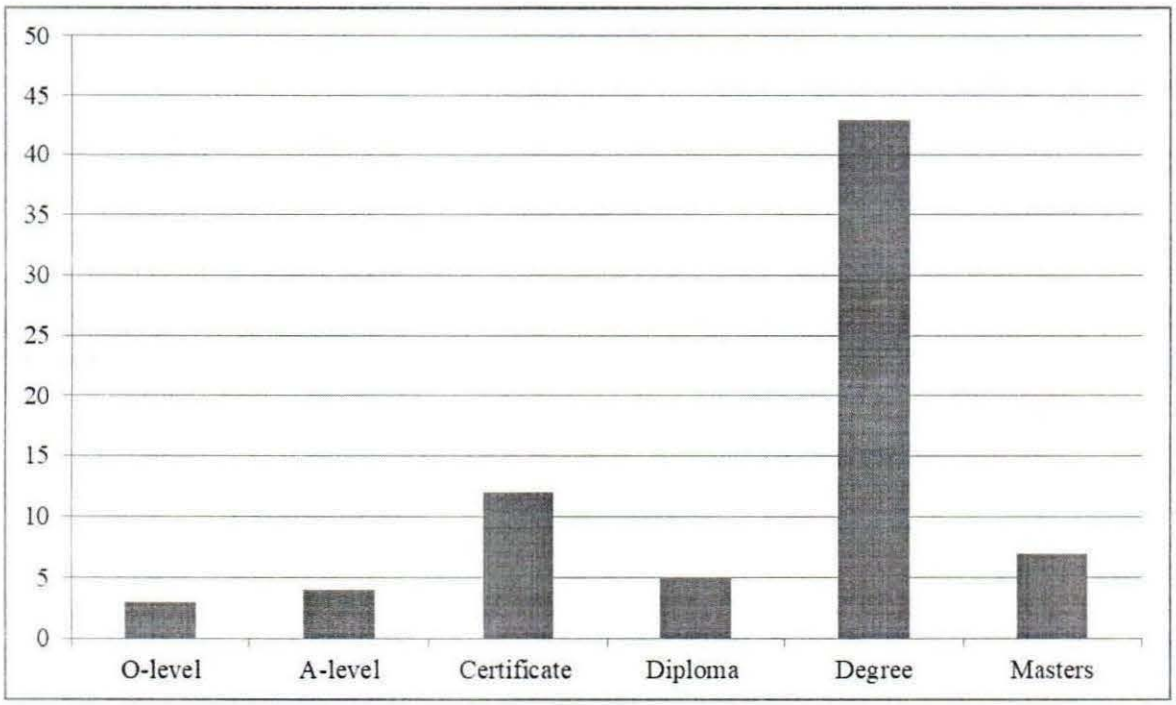
Source: Primary day 2018

From table 4.2 above, 9.5% respondents were in age group of 18-30 years, 41.9% were in age group 31-40 years, 35.1% were in 41-50 years and lastly 13.5% were over 50 years. The study revealed that majority of the respondents were between 31-40 years and this was because, this age group is taken to be more productive than any other age group and therefore, respondents would increase on the productivity level of the company and it shows that majority of the respondents were mature enough to understand and could give reliable information.

4.2.3 Education Level

A question regarding level of education of respondents was asked and the results from the respondents are as shown in the figure below.

Figure 4.2: Showing education level of respondents



Source: Primary day 2018

From Figure above, 3 (4.1%) respondents were of O- level, 4 (5.4%) respondents were of A-level, 12 (16.2%) were of certificate level, 5 (6.8%) were of a Diploma level, 43 (54.4%) respondents were of Degree level while masters were 7 (9.5%). The study revealed that majority of the respondents were of a Degree level, and therefore respondents were more educated and knowledgeable enough to understand and interpret the operations and could give reliable information on supplier quality management and quality of supplies.

4.2.4 Period Spent working with the company (Length of Service)

The question was set asking the respondents about the period they had spent working with UBL and response was as shown in the table follow.

Table 4.3: Showing Period spent working with UBL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 Year	7	8.9	9.5	9.5
	1-3 Years	31	39.2	41.9	51.4
	4 Years and above	36	45.6	48.6	100.0
	Total	**74**	**93.7**	**100.0**	
Missing	System	5	6.3		
Total		79	100.0		

Source: Primary day 2018

Basing on information in table 4.3 above, 7 (9.5%) respondents had spent Less than 1 years, 31 (41.9%) had spent 1-3 years, while 4 years and above was represented by 36(48.6%). The study revealed that majority of the respondents had worked for 4 years and above, therefore this showed that the respondents had worked for a reasonable period hence were able to interrelate facts on supplier quality management and quality of supplies.

4.2.5 Area of Operation by Respondents

Also a question was set asking the respondents their departments/areas of operation in UBL and response was as shown in the table follow.

Table 4.4: Area of operation by respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Production	14	17.7	18.9	18.9
	Quality Control	10	12.7	13.5	32.4
	Marketing	22	27.8	29.7	62.2
	Procurement	10	12.7	13.5	75.7
	Director	7	8.9	9.5	85.1
	Suppliers	11	13.9	14.9	100.0
	Total	**74**	**93.7**	**100.0**	
Missing	System	5	6.3		
Total		79	100.0		

Source: Primary day 2018

Results in table 4.4 above showed that 18.9% respondents were in production, 13.5% were from quality control, 29.7% were from marketing, 12.7% were from procurement, 14.9% were suppliers and lastly 14.9% respondents were Board of Directors. This showed that the researcher tried to getting views from all the departments that makeup the company.

4.3 Effect of Supplier Training on the Quality of Supplies

The first objective of this study was to establish the effect of supplier training on the quality of supplies and the results are summarized in the below. Under this objective a mean value close to 1 represents strongly disagreed, mean value close to 2 represents disagree , mean close to 3 indicates a state of uncertainty about the question asked, for a mean close to 4 represents agree and those close to 5 represent strongly agree with the provided statement.

Table 4.5: Effect of supplier training on the quality of supplies

Statement	N	Min	Max	Mean	Std. Deviation
The Supplier trainings have taught supplier advanced methods of farming which makes suppliers have high quality produce	74	1	5	3.22	1.407
Supplier training has taught new advanced storage methods of which have made suppliers keep their produces with high quality	74	1	5	3.14	1.317
Farmers' capabilities have increased through the supplier trainings and this has reduced the defect rate among raw material.	74	1	4	2.53	1.173
Supplier training has increased cooperation and loyalty hence continuity in supply of raw materials to the company	74	1	5	2.53	1.137
Suppliers are able to deliver raw materials just in time hence increasing on the productivity of the company.	74	1	5	3.41	1.204
There are less variability in the supplies of raw materials in that what is required is what is supplied according to product specifications	74	1	5	2.49	1.219
Suppliers are able to use quality inputs so as to supply quality supplies which reduces the scrap rate among during the production.	74	1	5	3.34	1.208
Valid N (listwise)	74				

Source: Primary day 2018

Table 4.5, examines the effect of supplier training on the quality of supplies. Finding showed the extent to which supplier training affects the quality of supplies at Uganda breweries limited was high with an average mean of (2.951) and standard deviation of (1.238) and this was because supplier trainings have taught supplier advanced methods of farming which makes suppliers have

high quality produce a mean value of (3.22) and a standard deviation of (1.407), supplier training has taught new advanced storage methods of which have made suppliers keep their produces with high quality with mean value of (3.14) and a standard deviation of (1.317), Farmers' capabilities have increased through the supplier trainings and this has reduced the defect rate among raw material. with a mean value of (2.53) and a standard deviation of (1.173), supplier training has increased cooperation and loyalty hence continuity in supply of raw materials to the company with a mean value response of (2.53) and standard deviation of (1.137), Suppliers are able to deliver raw materials just in time with a mean value of (3.41) and a standard deviation of (1.204), There are less variability in the supplies of raw materials in that what is required is what is supplied according to product specifications with a mean value of (2.49) and standard deviation of (1.219) and Suppliers are able to use quality inputs so as to supply quality supplies which reduces the scrap rate among during the production mean value of (3.34) and standard deviation of (1.208).

Interview results

> *It was revealed that most of the training is about code of business conduct of DIAGEO which mostly focuses on corruption and bribery, personal integrity, conflict of interest, personal interest, competition, human rights, charity contribution, records management, advanced storage and farming methods. This helps suppliers follow the right procedures when dealing with the company so the compliancy is guaranteed.*

4.4 Effect of Supplier Auditing on Quality of Supplies

The second objective of this study was to examine the effect of supplier auditing on quality of supplies and the results are summarized in the below. Also under this objective means were used

and a mean value close to 1 represents strongly disagreed, mean value close to 2 represents disagree , mean close to 3 indicates a state of uncertainty about the question asked, for a mean close to 4 represents agree and those close to 5 represent strongly agree with the provided statement.

Table 4.6: Effect of supplier auditing on quality of supplies

Statement	N	Min	Max	Mean	Std. Deviation
Through supplier auditing the company is able to have a scrap rate database.	74	1	5	2.50	1.219
Supplier auditing makes sure that suppliers follow procedures and processes agreed upon to supply high quality supplies to the company	74	1	5	3.38	1.290
It has revealed the abusive and unsafe conditions followed by suppliers when supplying raw-materials to the company	74	1	5	3.55	1.273
The company can identify prospective suppliers of high quality supplies	74	1	5	2.55	1.207
Supplier auditing has made suppliers be responsible for the supplies they offer to the company	74	1	5	2.81	1.352
Supplier auditing has helped in verifying supplier's quality management system which are suitable for the company's supply chain	74	1	5	2.57	1.240
A supplier audit has also helped reduce on the scarp rate meaning most of the raw materials are part of the finished products.	74	1	5	2.68	1.325
Valid N (list wise)	74				

Source: Primary day 2018

Table 4.6, examines the effect of auditing on quality of supplies and therefore the findings revealed the extent to which supplier auditing affects quality of supplies at Uganda Breweries

Limited which was high with an average mean of (2.862) and standard deviation of (1.272), this is because Through supplier auditing the company is able to have a scrap rate database with a mean (2.50) and a standard deviation of (1.219), supplier auditing makes sure that suppliers follow procedures and processes agreed upon to supply high quality supplies to the company with a mean value of (3.38) and standard deviation of (1.290), supplier-auditing revealing the abusive and unsafe conditions followed by suppliers when supplying raw-materials to the company with a a mean of (3.55) and standard deviation of (1.273), supplier auditing helps to identify prospective suppliers of high quality supplies with a mean of (2.55) and standard deviation of (1.207), supplier auditing has made suppliers be responsible for the supplies they offer to the company a mean value of (2.81) and standard deviation of (1.352), supplier auditing has helped in verifying supplier's quality management system which are suitable for the company's supply chain showing a mean value of (2.57) and standard deviation of (1.240), supplier audit has also helped reduce on the scarp rate meaning most of the raw materials are part of the finished products a mean value of (2.68) and standard deviation score of (1.325).

Interview results

> *On supplier auditing, it was revealed that sometimes it's done quarterly, and sometimes annually using score sheets to audit consistency in the supply of agreed quality of supplies, quantity supplies and the time of delivery of supplies. This after a meeting between the suppliers and UBL team after which the performance appraisal is done, this way those suppliers that score-less are always advised to improve or delisted from the company activities. There are also rewards for the best performers who have tried to maintain the standard so that the others can also be motivated to do the same.*

4.5 Effect Monitoring Performance

The third objective of this study to establish the effect monitoring performance on quality of supplies and the results are summarized in the below. Also under this objective means were used and a mean value close to 1 represents strongly disagreed, mean value close to 2 represents disagree , mean close to 3 indicates a state of uncertainty about the question asked, for a mean close to 4 represents agree and those close to 5 represent strongly agree with the provided statement.

Table 4.7: Effect monitoring performance on quality of supplies

Statement	N	Min	Max	Mean	Std. Deviation
Through monitoring performance of supplier it has helped in evaluating the potential of the supplier to supply quality supplies to the company	74	1	5	3.59	1.169
Monitoring performance has been a basis for measuring the level of education/training to be offered to the suppliers	74	1	5	2.93	1.398
Monitoring performance helps in reducing on the supplier chargebacks	74	1	5	2.61	1.393
There is timely information to suppliers which both communicate buyer expectations and enables corrective action to be undertaken	74	1	5	2.78	1.274
Suppliers are able to deliver perfect order to the company that conform to the quality standards	74	1	5	2.66	1.197
It has helped both parties to hold regular review meetings on to ask questions on how they can make the contract perform better	74	1	5	3.36	1.041
Performance monitoring maintains the relationship between the company and suppliers in that the is limited scrap rate in production	74	1	5	2.45	1.262
Valid N (listwise)	74				

Source: Primary day 2018

Table 4.7 examines the effect of monitoring performance on the quality of supplies and the findings revealed the extent to which monitoring supplier performance at Uganda Breweries Limited was high with an average mean of (2.91) and standard deviation of (1.248), so this was as a result of through monitoring performance of supplier has helped in evaluating the potential of the supplier to supply quality supplies had a mean value of (3.59) and standard deviation of (1.169), monitoring performance has been a basis for measuring the level of education/training to be offered to the suppliers with a mean value of (2.93) and standard deviation of (1.398), Monitoring performance helps in reducing on the supplier chargebacks with a mean value of (2.61) and standard deviation of (1.393), there is timely information to suppliers, which both communicate buyer expectations, and enables corrective action to be undertaken with mean value of (2.781) and standard deviation of 1.274, of suppliers are able to deliver perfect order to the company that conform to the quality standards with mean value of (2.66) and standard deviation of (1.197), monitoring performance has helped both parties to hold regular review meetings on to ask questions on how they can make the contract perform better had a mean value of (3.36) and standard deviation of (1.041), lastly through Performance monitoring maintains the relationship between the company and suppliers in that the is limited scrap rate in production a mean value of (2.45) and standard deviation of (1.262).

Interview results

> *On monitoring performance, it was revealed that suppliers are segment in three categories i.e. strategic, key and challenger suppliers. The company monitors the strategic suppliers because it cannot do without them like sorghum suppliers since almost every drink the company produces contains sorghum so these are given special priority. Then also much monitoring is put on key suppliers like*

burley and corn starch suppliers but little monitoring is put on challengers because these are suppliers that are trying to come on board to compete with the already existing one and their performance may have no much impact on the performance of UBL. Monitoring is done by the people in different department like production, quality, logistics and procurement so that they can have a wide view of the findings. It's always two way session in that the suppliers always express their challenges and also some UBL staff brief them on some of the Key Performance Indicators.

4.6 Quality of Supplies

Respondents were asked to rate the quality of supplies in UBL and the results are summarized in the below. Also under this section means were used and a mean value close to 1 represents strongly disagreed, mean value close to 2 represents disagree, mean close to 3 indicates a state of uncertainty about the question asked, for a mean close to 4 represents agree and those close to 5 represent strongly agree with the provided statement.

Table 4.8: Quality of supplies in UBL (Raw Materials)

Statement	N	Min	Max	Mean	Std. Deviation
The company has been reduced scarp rate for raw materials to maintain the quality of raw materials supplies.	74	1	5	2.61	1.322
There is reduction in supplier chargebacks which has led to high quality supplies.	74	1	5	3.54	1.357
Supplier defect rate has been reduced and this has given rise to good quality supplies	74	1	5	3.45	1.336
Supplies are delivered on time to reduce on delays that may affect the quality of supplies or raw materials	74	1	5	2.42	1.182
Suppliers are well established and have the capacity to provide the right quality of raw materials as required by the company.	74	1	5	3.61	1.203
Valid N (listwise)	74				

Source: Primary day 2018

Table 4.8 shows result on the effect of quality supplies to Uganda Breweries Limited it showed an average mean of (3.126) and average standard deviation of (1.28) which was a result of the following views the company has reduced scarp rate for raw materials to maintain the quality of raw materials supplies with mean value of (2.61) and standard deviation of (1.322), There is reduction in supplier chargebacks which has led to high quality supplies (3.54) and standard deviation of (1.357), Supplier defect rate has been reduced and this has given rise to good quality supplies with mean of (3.45) and standard deviation of (1.336), Supplies are delivered on time to reduce on delays that may affect the quality of supplies or raw materials with mean value of (2.42) and standard deviation of (1.182), Suppliers are well established and have the capacity to

provide the right quality of raw materials as required by the company with mean value of (3.61) and standard deviation score of (1.208).

Interview results

On the importance of quality supplies this was emphasized that quality is an end to end process right from the suppliers to the final consumers. This enables the company to have a big market share compared to the competitors, because of quality the company is able to come up with innovative brand like Ngule, it also reduces on the variation in tastes from the customers which can affect the image of the company hence giving opportunity to competition, they also said that there is a saying with the company that never allow a customer to taste a competitor's brand because sometimes they may not come back, also because of quality supplies there is loyalty among the customers to some brands like a customer who takes Guinness will never taste any other brand because they feel it's a quality brand.

4.7 Inferential Statistics

Under this section, the inferential statistics results are obtained from data analysis. The analysis involved running Pearson Correlation coefficients and the multiple linear regression model to test the hypothesis.

4.7.1 Testing the Hypothesis

The correlations were conducted to analyze the relationship between dimensions of supplier quality management (supplier training, supplier monitoring, and monitoring performance) and quality of supplies in UBL.

H_0: There is a positive relationship between supplier training and quality of supplies in Uganda Breweries Limited.

H_0: There is a positive relationship between supplier auditing and quality of supplies in Uganda Breweries Limited.

H_0: There is a positive relationship between monitoring performance and quality of supplies Uganda Breweries Limited.

Table 4.9: Showing Pearson Correlation Coefficient between supplier training and quality of supplies

		Supplier Training	Quality of supplies
Supplier Training	Pearson Correlation	1	.983**
	Sig. (2-tailed)		.000
	N	74	74
Quality of supplies	Pearson Correlation	.983**	1
	Sig. (2-tailed)	.000	
	N	74	74
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary day 2018

From the correlation analysis in table 4.9 above, it is shown that there is a strong positive relationship with coefficient 0.983 and the correlation is statistically significant at 0.01 level of

significance. This implies that supplier training affects quality of supplies by 98.3% and if supplier training of the UBL is strengthened, then the quality of supplies will improve, leading better product quality from the company. *Therefore, there is a positive relationship between supplier training and quality of supplies in Uganda Breweries Limited.*

Table 4.10: Showing Pearson Correlation Coefficient between supplier auditing and quality of supplies

		Supplier Auditing	**Quality of supplies**
Supplier Auditing	Pearson Correlation	1	.982**
	Sig. (2-tailed)		.000
	N	74	74
Quality of supplies	Pearson Correlation	.982**	1
	Sig. (2-tailed)	.000	
	N	74	74
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary day 2018

From the correlation analysis in table 4.10 above, it is shown that there is a strong positive relationship between supplier auditing and quality of supplies with coefficient 0.982 and the correlation is statistically significant at 0.01 level of significance. This implies that supplier auditing affects quality of suppliers by 98.2% and if UBL strengthens its supplier auditing, then the quality of supplies will improve. *Therefore, there is a positive relationship between supplier auditing and quality of supplies in Uganda Breweries Limited.*

Table 4.11: Showing Pearson Correlation Coefficient between Monitoring performance and quality of supplies

		Monitoring performance	Quality of supplies
Monitoring performance	Pearson Correlation	1	.975**
	Sig. (2-tailed)		.000
	N	74	74
Quality of supplies	Pearson Correlation	.975**	1
	Sig. (2-tailed)	.000	
	N	74	74
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Primary day 2018

From the correlation analysis in table 4.11 above, it is shown that there is a strong positive relationship between monitoring performance and quality of supplies with coefficient 0.975 and the correlation is statistically significant at 0.01 level of significance. This implies that monitoring performance affects quality of suppliers by 97.5% and if UBL strengthens its methods of monitoring the performance of suppliers, then the quality of supplies will improve. *Therefore, there is a positive relationship between monitoring performance and quality of supplies Uganda Breweries Limited.*

4.7.2 Multiple Regression Model

The multiple regression analysis was used to determine how the independent variables (supplier training, supplier monitoring, and monitoring performance) predict the dependent variable (quality of supplies) and which ones among them are the most significant predictors.

Table 4.12: Showing Multiple Regression Model

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.975	.19471
a. Predictors: (Constant), Monitoring performance, Supplier Training, Supplier Auditing				

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	106.762	3	35.587	938.705	.000[a]
	Residual	2.654	70	.038		
	Total	109.416	73			
a. Predictors: (Constant), Monitoring performance, Supplier Training, Supplier Auditing						
b. Dependent Variable: Quality of supplies						

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.244	.064		3.836	.000
	Supplier Training	.567	.103	.556	5.494	.000
	Supplier Auditing	.732	.180	.734	4.062	.000
	Monitoring Performance	-.304	.175	-.299	-1.743	.086
a. Dependent Variable: Quality of supplies						

Source: Primary day 2018

In order to explain the percentage of variation in the dependent variable (quality of supplies) as explained by the independent variables (supplier training, supplier auditing and monitoring performance). The researcher used coefficient of determination that was obtained from the model defined in Table 4.12 above. From the results of the analysis, findings show that the independent variables (supplier training, supplier auditing and monitoring performance)

contributed to 97.5% of the variation in quality of supplies as explained by Adjusted R Square of 0.975, which means that the remaining 2.5% is due to other factors, which are not considered in this study.

In addition, the model with a goodness of fit of 97.5%, below is the equation showing the results of the model:

$\mathbf{Y = 0.244}\ \beta_0 + \mathbf{0.567}\ \beta_1X_1 + \mathbf{0.732}\ \beta_2X_2 - \mathbf{0.304}\ \beta_3X_3$

Where

Y = Quality of Supplies (Dependent Variable)

β_0 = Constant

β_1X_1 = Supplier Training

β_2X_2 = Supplier Auditing

β_3X_3 = Monitoring performance

The regression table above shows that variable like supplier training, and supplier auditing are predictors of quality supplies in UBL since they showed positive results of Coefficients B-values of 0.567 and 0.732 respectively and these are statistically significant with *p*-value of 0.000. However, Supplier auditing is the most significant predictor of quality of supplies since it had the highest Beta value of 0.734. While the regression revealed that monitoring performance is not a predictor of quality of supplies since it had a negative Coefficient B-value of -0.304 and it's not statistically significant since its *p*-value of 0.086 which is greater than the alpha threshold of 0.05 or 5%. This signifies the higher the performance of the suppliers the lower the quality of supplies, since its difficult to maintain the quality supplies when the produces are many.

Basing on **ANOVA**, F-value = 938.705with statistical *p*-Value = .000[a] which is (typically P<.05) signifies that the model using the predictors did a good job of predicting the outcome variable.

CHAPTER FIVE

SUMMARY, DISCUSSION OF THE FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section covers the summary of findings, conclusions, policy recommendation and suggestion of further study. The study was sought to determine the effect of Supplier Quality Management on Quality of Supplies.

5.1 Summary of the Findings

The study revealed that 93.7% of the selected respondents managed to respond back to the researcher, 61% of the total respondents were male, 41.9% were aged between 31-40 years, 54.4% were degree holders and 48.6% holder worked in UBL for 4 years and above.

The study revealed that there are strong positive correlations existing between the independent variables (supplier training, supplier auditing, monitoring performance) and the dependent variable (quality of supplies) at correlation coefficient of 0.983, 0.982 and 0.975 respectively. From the regression analysis in table 4.12, the study revealed that supplier quality management is a predictor of quality of supplies in UBL with supplier training and supplier auditing, which had positive values of 0.57 and 0.732 respectively. However, it was also revealed that monitoring performance is not a predicator of quality of supplies in UBL because it had a negative value of -0.304 and it was not significant since it had sig. value of 0.086 which is greater than the threshold of alpha of 0.05 or 5%. Lastly, was revealed that supplier auditing is the most significant predictor of quality of supplies in UBL with the highest Beta value of 0.734.

5.2 Discussion of the Findings

5.2.1 The Effect of Supplier Training

From the findings presented in chapter four, the study revealed that there is a positive relationship between supplier training and the quality of supplies at a Pearson correlation coefficient of r=0.983 and also from the regression model it was clearly seen that supplier training is a predictor of quality of supplies in UBL since it had a positive value of 0.567 and being statistically significant at p-value of (0.000). This means that the higher the training, the higher the quality of supplies since it will teach suppliers advanced methods of farming, new advanced storage methods and will increase cooperation and loyalty of the suppliers to company These findings are in line with findings of Steinle and Schiele (2008) who stated that within an industry only few suppliers exist which offer valuable resources, being a preferred customer of them can have a contribution to a competitive advantage of the firm in that the supplies are trained new advanced methods of farming and storage that will maintain quality of their produces, which supports the focus of the resource-based view. Benton and Prahinski (2004), who also stated supplier training increases cooperation, shared problem solving, commitment actions, loyalty and relationship continuity.

5.2.2 The Effect of Supplier Auditing

The study also, revealed that there is a positive relationship between supplier auditing and the quality of supplies in UBL at a Pearson correlation coefficient of r=0.982 and also from the regression model it was clearly seen that supplier auditing is a predictor of quality of supplies in UBL since it had a positive value of 0.732 and being statistically significant at p-value of (0.000). This means that the higher the auditing, the higher the quality of supplies since it will expose abusive deeds of suppliers, hence making them flow the right procedures, the

inconsistence in supply by suppliers and provides the company with a detailed analysis of the conditions and strength of the suppliers. These findings are in line with findings of Roberts and Engardio (2006) who stated that suppliers commonly maintain a false set of work and training logs to show to auditors, in order to hide any evidence of abusive or unsafe working conditions Some create false records of inspection and maintenance of buildings and equipment for safety and pollution prevention, and create false records of safety training that did not actually occur (Walsh and Greenhouse 2012, Patel 2014). Andrew, (1994) who found out that many firms are also adopting the non-conformance audit where the auditor lists all the cases he has observed where things are not being done in accordance with procedures and whether they make sense or not.

5.3.1 The Effect Monitoring Performance

The study also, revealed that there is a positive relationship between monitoring performance and the quality of supplies in UBL at a Pearson correlation coefficient of r=0.975. However, from the regression model it was clearly seen that monitoring performance is not a predictor of quality of supplies in UBL since it had a negative value of -0.304 and also being not statistically significant at p-value of (0.086). This means that the higher performance monitoring of suppliers, it does not specifically mean that the quality of supplies will be high because the mode of storage, farming methods, transportation and many other things can affect the quality of supplies. These findings disagreed with findings of Paul et al. (2008) explains that for purchasing managers, the evaluation and monitoring of supplier performance is also a critical responsibility and CIPS, (2017) argued that monitoring the performance of suppliers can be; a) an aspect of supplier appraisal (i.e. the process of evaluating potential suppliers) and can be extended to supplier selection criteria during tendering; and b) an aspect of the management of approved supplier lists

5.3 Conclusion

The study concluded that strong positive correlations existing between the independent variables (supplier training, supplier auditing, monitoring performance) and the dependent variable (quality of supplies) at correlation coefficient of 0.983, 0.982 and 0.975 respectively, implies that for UBL to increase the quality of supplies from the suppliers, these elements should be continuously strengthened as it was clearly seen that they were all positive. From the regression analysis in table 4.12, the study showed that supplier quality management is a predictor of quality of supplies in UBL with supplier training and supplier auditing, this had positive values of 0.57 and 0.732 respectively. Therefore, it is concluded UBL puts more efforts on strengthening the level of supplier training and supplier auditing and this process should be continuous. However, it was also concluded that monitoring performance is not a predicator of quality of supplies in UBL because it had a negative value of -0.304 and it was not significant since it had sig. value of 0.086, which means higher the performance monitoring of the suppliers the lower the quality of supplies, since it's difficult to maintain the quality supplies when the produces are many. Therefore UBL should reduce on the money invested in monitoring suppliers' performance, that money should be added in supplier training and supplier auditing which has a significant impact on the quality of supplies.

5.4 Recommendations

Basing on the empirical findings of the study, the following recommendations are offered;

The study recommends that the company should make supplier training sessions more interactive and exchange of ideas not lectures or class lesions to suppliers. This will improve on the cooperation between suppliers and the company, supplier feel they are part of the company since it considers them in the plans hence leading to supplying of high quality supplies.

The company should also provide quality inputs to their suppliers at relatively low costs this is because some farmers do not manage the cost of the input, this in turn will help suppliers give back high quality produces (supplies) to the company.

The company should also be responsible for harvesting and storing of produces on behalf of the suppliers because some supplier cannot afford the cost of meeting these expenses since different Local Raw Material are stored differently. This will help the company maintain the quality of the supplies they want at all times.

The company should also carry out its supplier audits more frequently and some audits should be surprise audits this is because sometimes suppliers get used to the time (period) when the audits are done such that they can easily stage mange some of the information that may affect the final result. This will expose the abusive and unsafe conditions followed by the suppliers.

5.5 Suggestions for Further Study

In the interest of other researches, the researcher suggested the following areas to be put under study in future:

Since the study emphasizes of supplier quality management other studies should be carried out on the impact of total quality management on performance of an organization in beverage companies which is aimed at establish and delivering high quality products and services that cover all customers' demands and achieve a high level of customer satisfaction.

Also the same topic about the impact of supplier quality management on quality of supplies should be carried out but on some other company at the same level with Uganda breweries limited so the result and finding can be compared

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APPENDICES

APPENDIX I: QUESTIONNAIRE FOR RESPONDENTS AT UGANDA BREWERIES LIMITED

Dear respondent I am Kabwama Christopher Reg.No: 16/U/13320/GMBA/PE a student at Kyambogo University and this questionnaire is intended to facilitate the study on "Supplier Quality Management on quality of supplies in Uganda Breweries Limited". The study is for academic purposes and is carried out as partial requirement of the award of Master's Degree in Business Administration of Kyambogo University. As a key stakeholder, you have been selected to provide vital information that will facilitate the study. Your response will be treated with utmost confidentiality. Thank you very much for your valuable time.

SECTION A –BACKGROUND INFORMATION ABOUT THE RESPONDENT

1. Gender of the respondent

   Male ☐ Female ☐

2. Age bracket of respondent in years

   18 –30 ☐ 31-40 ☐ 41-50 ☐ Over 50 ☐

3. Highest level of education attained by respondent

   "O" Level ☐ "A" Level ☐ Certificate ☐

   Diploma ☐ Degree ☐ Masters ☐

   Others.....

4. For how long have you been working with this company?

   Less than 1 Year ☐ 1-3 Years ☐ 4 Years and above ☐

5. Which department do you belong to?

   Production ☐ Quality Control ☐ Marketing ☐

   Procurement ☐ Director ☐

SECTION B: EFFECT OF SUPPLIER TRAINING ON QUALITY OF SUPPLIES

1. Please indicate the extent to which you agree or disagree with the following statements on the Trainings Suppliers received as a requirement for the contract.

Statement	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
	1	2	3	4	5
The Supplier trainings have taught supplier advanced methods of farming which makes suppliers have high quality produce					
Supplier training has taught new advanced storage methods of which have made suppliers keep their produces with high quality					
Farmers' capabilities have increased through the supplier trainings and this has reduced the defect rate among raw material.					
Supplier training has increased cooperation and loyalty hence continuity in supply of raw materials to the company					
Suppliers are able to deliver raw materials just in time hence increasing on the productivity of the company.					
There are less variability in the supplies of raw materials in that what is required is what is supplied according to product specifications					
Suppliers are able to use quality inputs so as to supply quality supplies					

Others (specify).....

.....

.....

SECTION C: EFFECT OF SUPPLIER AUDITING ON QUALITY OF SUPPLIES

1. Please indicate the extent to which you agree or disagree with the following statements on Auditing of Suppliers:

Statement	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
Through supplier auditing the company is able to have a scrap rate database.					
Supplier auditing makes sure that suppliers follow procedures and processes agreed upon to supply high quality supplies to the company					
It has revealed the abusive and unsafe conditions followed by suppliers when supplying raw-materials to the company					
The company can identify prospective suppliers of high quality supplies					
Supplier auditing has made suppliers be responsible for the supplies they offer to the company					
Supplier auditing has helped in verifying supplier's quality management system which are suitable for the company's supply chain					
A supplier audit has also helped reduce on the scarp rate meaning most of the raw materials are part of the finished products.					

Others (specify).....

.....

.....

SECTION D: EFFECT OF MONITORING PERFORMANCE OF SUPPLIERS ON QUALITY OF SUPPLIES

1. Please indicate the extent to which you agree or disagree with the following statements on monitoring the performance of suppliers of UBL:

Statement	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
	1	2	3	4	5
Through monitoring performance of supplier it has helped in evaluating the potential of the supplier to supply quality supplies to the company					
Monitoring performance has been a basis for measuring the level of education/training to be offered to the suppliers					
Monitoring performance helps in reducing on the supplier chargebacks					
There is timely information to suppliers which both communicate buyer expectations and enables corrective action to be undertaken					
Suppliers are able to deliver perfect order to the company that conform to the quality standards					
It has helped both parties to hold regular review meetings on to ask questions on how they can make the contract perform better					
Performance monitoring maintains the relationship between the company and suppliers in that the is limited scrap rate in production					

Others (specify).....

.....

.....

SECTION E: QUALITY OF SUPPLIES

1. Please indicate the extent to which you agree or disagree with the following statements on Quality of Materials/ supplies from contract suppliers

Statement	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	1	**2**	**3**	**4**	**5**
The company has been reduced scarp rate for raw materials to maintain the quality of raw materials supplies.					
There is reduction in supplier chargebacks which has led to high quality supplies.					
Supplier defect rate has been reduced and this has given rise to good quality supplies					
Supplies are delivered on time to reduce on delays that may affect the quality of supplies or raw materials					
Suppliers are well established and have the capacity to provide the right quality of raw materials as required by the company.					

Others (specify).....

.....

.....

END

THANK VERY MUCH

APPENDIX II: INTERVIEW GUIDE FOR SUPPLIER GROUPS

I am Kabwama Christopher Reg. No: 16/U/13320/GMBA/PE a student at Kyambogo University carrying out study on "Supplier Quality Management on quality of supplies in Uganda Breweries Limited". The study is for academic purposes and is carried out as partial requirement of the award of Master's Degree in Business Administration of Kyambogo University. As a key stakeholder, you have been selected to provide vital information that will facilitate the study. Your response will be treated with utmost confidentiality. Thank you very much for your valuable time.

1. What is your age bracket?
2. What is your highest level of education?
3. For how long have you been working with this company?
4. Which department do you belong to?
5. Do you receive supplier training programs from the companies you supply raw materials?
6. If yes, which kind of supplier trainings do you get?
7. How often do you get these supplier trainings?
8. How has these supplier trainings helped you in supplying high quality raw materials to companies?
9. Do the companies you supply raw materials carry out supply audits to you?
10. If yes, how often do they carry out these supplier audits?
11. Which areas do they mostly audit?
12. How has these supplier audits helped to in supplying high quality raw material to these companies?
13. Do companies you supply raw materials carry out monitoring of your performance?
14. If yes, how often?
15. How has measuring and monitoring of your performance by these companies helped in supplying high quality supplies?

APPENDIX III: TABLE FOR DETERMINING SAMPLE SIZE FROM A GIVEN POPULATION

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Note: "N" is population size
"S" is sample size.

Krejcie, Robert V., Morgan, Daryle W., "Determining Sample Size for Research Activities", Educational and Psychological Measurement, 1970.

Name: **KABWAMA CHRISTOPHER (16/U/13320/GMBA/PE)**

Dissertation Title: SUPPLIER QUALITY MANAGEMENT AND QUALITY OF SUPPLIES IN BEVERAGE COMPANIES IN UGANDA. A CASE STUDY OF UGANDA BREWERIES LIMITED

Matrix to show Dissertation Issues Addressed

	Issue raised	Page number in dissertation	Action / Comment / Correction	Page Number
1.	Taylor, (2017) not included in the references	1	Replaced with Harland et al. 1999, Yeung and Lo (2002) and (Fernandez, 1995). This is because it more relevant than the earlier author	69
2.	Taylor, (2017) is not in line with the topic according to what was quoted.	7	Harland et al. 1999, Yeung and Lo (2002) and (Fernandez, 1995) replaced taylor to make it more relevant.	7
3.	How is the UBL biography connect to the topic which may tannish the company image	13	It was made clear in that it shows how UBL has been performing for the last many years that at least it has been doing something.	13
4.	The allegations in the problem statement	14	This section was modified to remove such allegations and made it more meaningful and not attacking the company.	14
5.	The source of problem statement (The Ugandan, 2018) it doesn't	14	Correction made (source: Kwai et al. (2006 and Kaketo. M, 2017) was	14

	clearly bring out the problem		made the reference in the problem statement as it clearly brings out the problem.	
6.	Problem statement edited	14	Also the literature review was improved with more content	18
7.	Kaketo. M, 2017 not included in the references and yet it was used in the problem statement.	14	The author was included among the references	69
8.	What are the ingredients of bell lager as a product of UBL	14	Ingredients for bell lager include malt, barley, corn starch and hops among others	14
9.	Include others that use local materials	14	Other brands included in the write up like Pilsner, ngule and senator these were also included	11
10.	References in the conceptual framework (Smyth 2015)	16	Sources referenced	69
11.	UBL management report not in reference	33	The report was referenced	69
12.	What i meant by quality of supplies in ubl	53	This mean that how does quality supplies help the company achieve the desired targets	53
13.	Harland et al. 1999 missing in references	1	The reference was added among the references	69
14.	Rungtusanatham *et al.*, 2007	5	The reference was added among the references	69
15.	Fernandez, 1995 missing out in references	7	The reference was added among the references	69

16.	Kadir et al. (2011) missing out among the references	23	The reference was added among the references	67
17.	Include others that use local materials	14	Other brands included in the write up like Pilsner and senator	14
18.	Sub variable under quality of supplies which is increased performance not so relevant	16	Sub variable was replaced with supplier defect rate because it can be used to measure quality of supplies	16
19.	Sub variable under quality of supplies which is customer satisfaction not so relevant	16	Sub variable was replaced with Scrap rate because it can be used to measure quality of supplies	16
20.	Sub variable under quality of supplies which is product quality not so relevant	16	Sub variable was replaced with Supplier Chargebacks because it can be used to measure quality of supplies	16
21.	Sub variable under quality of supplies which is increased performance not so relevant	16	Sub variable was replaced with supplier Defect Rate because it clearly measures the quality of supplies	15
22.	Sub variable under quality of supplies which is customer satisfaction not so relevant	16	Sub variable was replaced with Scrap Rate because it clearly measures the quality of supplies it clearly measures the quality of supplies.	15
23.	Sub variable under quality of supplies which is product quality not so relevant	16	Sub variable was replaced with Supplier Chargebacks because it clearly measures the quality of supplies	15

24.	Sub variable under quality of supplies which is customer satisfaction not so relevant	16	Sub variable was replaced with Scrap Rate because it more relevant	75
25.	Aligning questionnaires in that they are more relevant	75	Questionnaires were aligned to bring out a clear meaning	75
26.	Aligning questionnaires in that they are more relevant	53	Questionnaires were aligned to bring out a clear meaning	53
27.	Aligning questionnaires in that they are more relevant	54	Questionnaires were aligned to bring out a clear meaning	54
28.	Aligning questionnaires in that they are more relevant	56	Questionnaires were aligned to bring out a clear meaning	56
29.	Aligning questionnaires in that they are more relevant	57	Questionnaires were aligned to bring out a clear meaning	57
30.	Aligning questionnaires in that they are more relevant	47	Findings were aligned to bring out a clear meaning	47
31.	Aligning questionnaires in that they are more relevant	69	Findings were aligned to bring out a clear meaning	69
32.	Aligning questionnaires in that they are more relevant	49	Findings were aligned to bring out a clear meaning	49
33.	Aligning questionnaires in that they are more relevant	50	Findings were aligned to bring out a clear meaning	50
34.	Aligning questionnaires in that they are more relevant	52	Findings were aligned to bring out a clear meaning	52
35.	Aligning questionnaires in that they are more relevant	73	Questionnaires were aligned to bring out a clear meaning	73