

**SUPPLIER DEVELOPMENT AND OPERATIONAL EFFICIENCY
A CASE STUDY OF NILE BREWERIES**


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**A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL IN PARTIAL
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DECLARATION

I, Tugume James Joe, hereby declare that, this research report entitled "*Supplier Development and Operational Efficiency; A Case Study of Nile Breweries*" is my original work through my and has never been submitted by any student of any University for any academic award.

Signed  Date: 3/12/2016

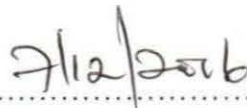
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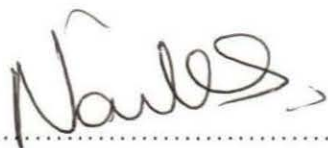
APPROVAL

This is to certify that this research report entitled "*Supplier Development and Operational Efficiency; A Case Study of Nile Breweries Ltd*" by Tugume James Joe has been carried out under my supervision and is ready for submission with my due approval.

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DEDICATION

I dedicate this piece of work to; God- the Almighty, my family and friends for the un-comparable assistance that they offered. May the good Lord bless you generously.

ACKNOWLEDGEMENT

This study would not have been possible without the assistance of many persons to whom I am deeply indebted to. I owe various people in different capacities who contributed in many aspects to the success of this study.

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In the same respect I wish to extend my unreserved gratitude to the respondents at Nile Breweries who granted me permission to conduct the research. I thank all respondents for their co-operation and interest towards my study.

May the Almighty bless you all!


Signed: 

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LIST OF ABBREVIATION

CIPS	:	Chartered Institute of Purchasing and Supply.
FGD	:	Focus Group Discussion
ISO	:	International Organization for Standardization.
JIT	:	Just in Time
NBL	:	Nile Breweries Limited
RDT	:	Resource Dependency Theory
SAB	:	South Africa Breweries Ltd,
SCQI	:	Supplier Continuous Quality Improvement Award
SD	:	Supplier Development
SPC	:	Statistical Process Control
SQM	:	Supplier Quality Management
TQM	:	total quality management
TSAs	:	Transaction specific assets)

ABSTRACT

The study focused on examining the relationship between *Supplier Development and Operational efficiency: a Case Study of Nile Breweries Ltd*". The specific objectives of the study were to: examine the effect of financial support on operational efficiency of Nile Breweries Limited, determine the extent to which training influences operational efficiency of Nile Breweries Limited and to assess the effect of Supplier Performance evaluation on operational efficiency of Nile Breweries Limited.

The researcher used a case study design involving both qualitative and quantitative methods to collect data from respondents. Data was analysed using SPSS version 21 where findings were presented in both descriptive and inferential analysis format. Descriptive analysis was presented using mean and standard deviation while inferential analysis utilized Pearson correlation coefficient to establish the relationships that exist between the independent and dependent variable.

The findings of the study suggest a significant relationship between supplier development and operational efficiency such as without supplier producing desired raw materials as a major locally sourcing developed initiative, operational success of Nile Breweries Ltd would be compromised. The result presented in table 11 show that the standardised beta coefficient for the interaction between financial support and operations efficiency of NBL is positive and significant (beta =.320; $t=4.152$, $p=.000$). The direct effects of training and supplier performance evaluation on operations efficiency of NBL are positive and significant and the beta values are 0.495 ($t=6.836$, $p=.000$) and 0.295 ($t=3.824$, $p=.000$), respectively. Mentioned interaction explained 24.5% of the variance of the operational efficiency score. Developed suppliers were expected to be effective, reliable and dependable in providing inputs to NBL while the benefits of operational efficiency were centred on significant cost saving, increased productivity and improved quality control, strong competitive advantage, and timely services within the production department of NBL. Strategic material sourcing entails developing sourcing strategy and that it involved improving and re-evaluating the farmers' activities through local enterprise development initiative.

The recommendations are that, Nile Breweries should undertake frequent supplier visits for adequate information sharing, evaluation of needs that necessitate performance evaluation for adequate re-investment of finances as well as capital. Buyer firms should develop, implement, review policies implemented by suppliers to attain high and increased supplier performance in the businesses they are operating regardless of their scope of operation or the products and services that they supply to their buyers. With emphasis of on maintaining a good supplier-buyer relationship, the Buyer-supplier collaboration should be used to aid implementation of strategies such as setting key performance indicators, understanding their long term objectives and goals and several others so as to attain their business goals. Further, the study recommended that alternative strategies should be formulated to facilitate attempts by manufacturing companies to promote their buyer supplier relationships with regard to enhanced operational performance.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study was set out to examine the relationship between Supplier Development and Operational Efficiency taking a case study of Nile Breweries Ltd. Hence this chapter presents 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.

1.1 Background to the Study

1.1.1 Historical Perspective

The origin of the term Supplier Development (SD) is evident in previous four decades when it was defined initially in the context of purchasing. Supplier Development (SD) concept was first introduced by Toyota in 1939, emphasizing within the concept on buyer-supplier collaboration, to enhance overall performance, (Suhail, 2014). Toyota of Japan has utilised the SD concept repeatedly since World War II to carry out business. Toyota has developed supplier development programs aimed at helping their suppliers improve their capabilities and business processes (Modi & Mabert, 2007) Then, SD program was implemented by Nissan in 1963, in the year 1973 Honda also participated (Arroyo - Lopez, 2012) SD was coined by Leenders in 1966, as efforts by the buying firm to increase the quantity of potential suppliers and also improve the capabilities or performance of suppliers. It is generally accepted that supplier development is initiated through buying firms with the aim of improving capability of the current suppliers when the suppliers are incapable to meet short and long term buying firm's expectations, (Marije, Ramco & Ellen, 2013).

1.1.2 Theoretical Background

The study adopted the Resource Dependency Theory which takes the view that a business relationship is a social exchange of critical resources with mutual dependency among the exchange partners, (Macher & Richman, 2008). Another relevant theory to the study was the Transaction Cost Analysis (TCA) theory. This theory suggests that every transaction has a cost. These costs are incurred for adaptation, performance evaluation and safeguarding, and are associated with uncertainty, opportunism, and transaction specific assets (TSAs) invested in the

supplier-buyer relationship, (Wever, 2012). Despite these different views, however, both theories recognize the existence of interdependency between exchange partners and the importance of securing valued resources from environmental and behavioural uncertainty, (Williamson,2007).

1.1.3 Conceptual Background

Supplier development is the process of working with certain suppliers on a one-to-one basis to improve their performance capabilities for the benefit of the buying organization, (The Chartered Institute of Procurement & Supply, CIPS, 2013). According to Rajput and Bakar, (2012) and Routray & Pradhan, (2014), implementing effective supplier development programmes such as creation and maintenance of appropriate suppliers, quality, technicality, cost capability and delivery with continued improvement, aid firms realize the importance of the performance of their suppliers to the establishment and sustainability of their competitive advantage.

Krause & Handfield, (2012) noted that Operational efficiency is what occurs when the right combination of people, process, and technology come together to enhance productivity and the value of any business operation, while driving down the cost of routine operations to a desired level. Operational efficiency enhances a competitive advantage and calls for greater strategic and operational collaboration between buyer and supplier, (Wagner, 2010).

1.1.4 Contextual Background

Nile Breweries Limited started as a single brewery in Jinja in 1951, founded by Muljibhai Madhvani, it was nationalised by Idi Amin in 1972. In 1997 South African Breweries bought a 40% share in the brewery and this was raised to full ownership in July 2001. It is chosen because it's the leading multinational brewing and Beverage Company with a production output of 2.4 million hectolitres, intended to diversify its activities to compel Sustainable Development by developing its suppliers' of locally grown sorghum to make lager beers and to reduce reliance on imported raw materials to enhance operational efficiency (Nile Breweries Ltd, 2016). NBL is situated on the banks of the River Nile; Yusuf Lule Road, Njeru-Jinja. NBL is the producer of Nile Special, Club Pilsener, Eagle Lager, Eagle Extra, Eagle Dark, Nile Gold, Castle Milk Stout and Redd's among other products, (Nick Jenkinson, 2015). NBL faces a major challenge in its production processes because of the increasing cost of, Barley, Sorghum and cassava, (Ogunda, 2014). NBL strategy to collaborate with and develop suppliers to maximize the amount of raw materials for the beer sourced locally has not yielded much, and seems as a foregone alternative

to realize operational efficiency. Consequently, if the problem persists, high operational costs in terms of communication and processes costs, excess capacity or slack resources are likely to down size the optimal productivity (Nick, 2015). Thus, it was against this background, that the researcher was intrigued to conduct a study to examine the effect of Supplier development on Operational Efficiency; a case study of Nile Breweries Ltd.

1.2 Statement of the Problem

Although NBL made an accumulative US\$ 25.6 M investment to develop suppliers of Sorghum and Barley in 2011, using a hybrid model to increase the typical yield for 95% Ugandan smallholder barley supplies from 800 kg /acre to 1500 kg an acre per farmer, operational efficiency has remained low, (NBL Sustainable Report, 2012). The Malt Barley programme meant to reach a target of 93% of the locally sourced raw materials by 2016 has not materialized, compelling low production capacity (28%) of local branded beer (Eagle), on the market, (Onapito, 2016). Several agronomic and quality challenges have affected both sorghum and barley production, hence the operational efficiency of NBL. There is no guarantee of quality raw materials to be used for production, no reliable delivery of raw materials from the model farmers and non-compliance to food safety standards by the processing plants, (Mbogo, 2013). NBL has tried to set up and develop Technical centres to offer logistical planning support in all areas—coordination & services—skills, inputs, re-focusing to agronomy & skills development, but the problem has persisted. Consequently, if the problem is not well handled, NBL is mostly likely to lose its leading local beer market share position of 17% attained over the past six years; more than 20,000 smallholder farmers earning income from the production of Eagle lager - with \$15m (£10m) given out to farmers from being directly and indirectly involved in Nile Breweries' value chain could become unemployed, lose the income on top of \$70m (£47.8m) in tax revenue annually for the government, (The Guardian,2016, Ochwo,2016).

1.3 Purpose of the Study

The purpose of the study was to examine the relationship between supplier development and operational efficiency, taking a case study of Nile Breweries [U] Ltd. *

1.4 Objectives of the Study

The study was guided by the following specific objectives

- i) To examine the effect of supplier financial support on operational efficiency of Nile Breweries Limited.
- ii) To determine the effect of supplier training on operational efficiency of Nile Breweries Limited.
- iii) To assess the effect of Supplier Performance evaluation on operational efficiency of Nile Breweries Limited.

1.5 Research Questions

The study was guided by the following specific research questions;

- i) What is the effect of supplier financial support on operational efficiency of Nile Breweries Limited?
- ii) What is the effect of supplier training suppliers on operational efficiency of Nile Breweries Limited?
- iii) What is the effect of Supplier performance evaluation on operational efficiency of Nile Breweries Limited?

1.6 Scope of the Study

1.6.1 Content Scope

The study focused on examining the relationship between supplier development and operational efficiency, taking a case study of Nile Breweries. The dependent variable is operational efficiency while the independent variable is supplier development. Supplier development measured using Knowledge transfer and training, Supplier performance evaluation, and financial support while operational efficiency was measured using Cost reduction across the chain, Availability of output, Timeliness (JIT) and Reliability (Dependency, Quality, Adaptability)

1.6.2 Geographical Scope

The study was conducted from Nile Breweries Ltd, located in Jinja District, Plot M 90 Yusuf Lule Rd, Njeru P. O. Box 762 Jinja. Nile Breweries Limited (NBL) is a leading beverage company in Uganda and a subsidiary of South Africa Breweries Ltd, (SAB Miller), the second largest brewing group in the World. It was chosen because it's the leading multinational brewing and Beverage Company with a production output of 2.4 million hectolitres, intended to diversify its activities to compel Sustainable Development by developing its suppliers' of locally grown

sorghum and barley Malt to make lager beers and to reduce reliance on imported raw materials to enhance operational efficiency, (www.nilebreweries.com/).

1.6.3 Time Scope

The study covered the period between 2013 to 2016, because this a period when Nile Breweries experienced high costs of locally sourced raw materials (Barley, Sorghum and Cassava. This study was conducted within 10 months (January 2016-September 2016).

1.7 Significance of the Study

Beverage Companies: manufacturing firms may use the study findings to make informed decisions on how much information should be shared and at what level in collaborations with their suppliers. This will aid to adopt Supplier development approach for improved performance or capability tailored to the specific needs of the buying organisation, and this alignment ensures that the benefits feed directly through into the organisation's products and services, enabling it to become even more competitive in its own market place

Suppliers: The study results may avail more information to the manufacturing industry regarding how best beverage companies can improve their physical distribution, service quality through collaborations with suppliers. This information can often, in and of itself, provide a strong incentive for suppliers to improve their performance, particularly in areas such as; delivery, reliability and lead times. This approach can be further bolstered by using the expertise in the buying organisation to develop the supplier's capabilities and hence increase the total added value in both products and services. This can aid supplier development to be receptive to the possibility of embracing supplier expertise and aligning it to the buying organisation's business needs.

Supplier-Buyer relationship: The study may provide insight into the development of more efficient supplier-buyer relationship and distribution options that could be applied by the beverage manufacturing firms to improve operations efficiency and increase customer services and satisfaction. This may closely compel improved supplier relationship management and partnering in terms of improving supplier performance, reducing costs, resolving serious quality issues, developing new routes to supply, improving business alignment between the supplier and the buying organisation, developing a product or service not currently available in the

marketplace, generating competition for a high price product or service dominating the marketplace.

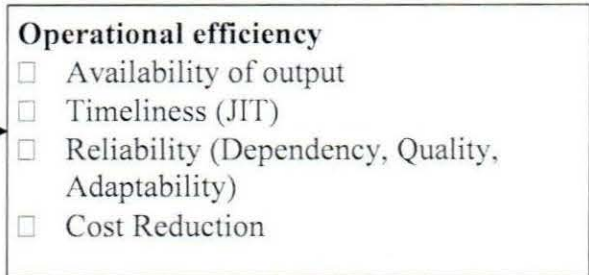
Researchers, Scholars and Academicians: The study results may be used for future reference by upcoming researchers and academicians to put emphasis on special areas for development such as: Cost reduction that helps to maintain the supplier’s profit margin; Quality improvement that both reduce reject costs and/or increase reliability of buyer’s goods or manufacturing processes.

1.8 Conceptual Frame Work

Independent variables



Dependent variables



Extraneous variables



Source: Adapted from: *Developed basing on Social Science Research [Modi and Mabert (2007): Pages 92-9).*

Figure 1: Conceptual Framework Model on Supplier Development and Operational Efficiency

Figure 1 indicates that the Independent Variable which is Supplier Development affects the Dependent Variable Operational efficiency. It illustrates that Supplier Development, measured by amount of financial resources invested in developing suppliers, training services rendered to suppliers, Suppliers performance evaluation in relation to value addition to NBL affects Operational efficiency of the organization by influencing availability of outputs, timeliness of supplies when actually demanded (JIT), reliability of suppliers and Cost reduction across the chain in terms of reduced purchasing costs, effective network management and service

improvement & product development. The framework further indicates that extraneous variables influencing the both the dependent and independent variables are: SD Policies, laws & ethics.

1.9 Definition of Key Terms

Supplier Development: The process of working with certain suppliers on a one-to-one basis to improve their performance (and capabilities) for the benefit of the buying organisation, (CIPS, 2013)

Supplier Development is a strategic asset taken on in order to achieve higher efficiency, Talluri, 2010)

Supplier Development is a bilateral effort by both the buying and supplying organization to jointly improve the supplier's performance or capabilities in one or more of the following areas: cost, quality, delivery, time to market, environmental responsibility, and managerial capability and financial viability (Krause & Handfield , 2011).

Operational Efficiency is the capability of an enterprise to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support (Ki-Young Jeong, Don T. Phillips, (2001).

In a business context, **Operational Efficiency** can be defined as the ratio between the input to run a business operation and the output gained from the business. When improving operational efficiency, the output to input ratio improves.

Operational Efficiency is defined as the ratio of input utilized in carrying out a business operation to the output produced with those inputs. Inputs may be raw materials, labour, capital etc. Whereas output maybe goods, ROI, customer loyalty etc. Operational Efficiency ensures the company's capability to process, produce, and deliver goods to customers with ensured quality and support.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents literature reviewed about the effect of Supplier development and operational efficiency in relation to the specific study objectives. The information is a combination of extracts, paraphrased statements from textbooks, pamphlets, journals, magazines, websites, publications and related online reports in regard to the extent by which manufacturing companies develop suppliers to realize operational Excellency. Literature is classified on the basis of what supplier development is, supplier development process, supplier development programmes, supplier development activities, overview of operations efficiency with starting; financial support, training constructs in supplier development and Supplier performance evaluation process.

2.1 Overview of Supplier Development

2.1.1 Definition/meaning of Supplier Development

CIPS (2013) Supplier development is the process of working with certain suppliers on a one-to-one basis to improve their performance (and capabilities) for the benefit of the buying organisation). Both supplier development and partnering are subsets of relationship management.

According to Lopez et al., (2012), supplier development refers to “A long-term cooperative effort between a buying firm and its suppliers to upgrade the supplier's technical, quality, delivery and cost capabilities and to foster ongoing improvements”. This definition deals with long term commitment and relation between supplier and buyer and as per increase in relation and commitment. Improvement from supplier side will make supplier more efficient and capable and will give additional competitive advantage to buyer to become more competitive. This definition did not strongly mention that supplier development strategies need to be supported by both buyer and their suppliers. This dual relation was effectively described later by Li, Humphreys, Yeung, Cheng, (2012) to extend the scope and purpose of supplier development.

Mortensen & Arlbjorn (2012) defines supplier development as “Any activity a buyer undertakes to improve a supplier’s performance and/or capabilities to meet the buyer’s short term or long-term supply needs”, (Talluri and Sarkis, 2010). Based on the three definitions provided and

available literature supplier development is “A long-term cooperative strategy initiated by a buying organization to enhance a supplier’s performance and/or capabilities so that a supplier is able to meet the buying organization's supply needs in more effective and reliable way which will give additional competitive advantage to buyer to become more competitive in market”.

According to Gueimonde & Garcia, (2010), Supplier development is defined as any effort of a buying firm on a supplier to increase the performance and capabilities of the supplier to meet the buying firm’s short and /or long-term supply needs. These set of practices encompassing direct involvement indicates a multidimensional nature of supplier development, (Allred, Fawcett, Wallin, Magnan, 2011). Supplier development should lead to improvement in the total added value from the supplier in question in terms of quality of product or service offered, business processes and performance, improvements in lead times and delivery to overall performance of the buying firm (Modi & Mabert, 2007). Supplier development is normally undertaken with existing suppliers that can be, and agree to being, improved.

According to Krause, et al (2000), the supplier development strategies were categorized into two groups as follows; **Externalized supplier development strategies** represent externalized activities or indirect supplier development (Monczka et al, 1993) that buying firms employ external market to encourage supplier performance improvements. These strategies encompass with competitive pressure, supplier evaluation and supplier incentives. Competitive pressure is the strategy to create competition among suppliers in terms of quality, delivery or some area of supplier performance required by buying firms (Modi and Mabert, 2007). Supplier evaluation is the strategy to effectively evaluate and give feedback on supplier improvements, and ensures the perception of suppliers on their current performance compared with the buying firm’s expectations and its competitors as well as motivate suppliers to improve their performance (Modi and Mabert, 2007, Prahinski and Benton, 2004). Supplier incentives is strategy encourages suppliers to improve their performance including increased business volume, priority consideration for future business, and recognition of good supplier performance in the form of awards or certificate (Monczka et al, 1993, Krause and Ellram, 1997b).

Internalized supplier development strategy which is the direct involvement strategy, represents a direct investment of the buying firm’s resources in the supplier or direct supplier development (Monczka et al, 1993). Direct involvement is the strategy to engage buying firms

into the supplier development activities such as providing training and education for the supplier's personnel, allocating the buying firm's personnel to the supplier site, having representatives of suppliers in our product design teams (Vonderembse and Tracey, 1999) including investing in capital and equipment in relation to supplier operations (Monczka, et al., 1993). However, the competitive pressure is not found to be a major factor for improving supplier performance (Krause et al, 2000; Modi and Mabert, 2007). Therefore, this study focuses on the externalized or indirect supplier development strategies, including supplier evaluation and supplier incentives.

2.1.2 Supplier Development Process

Humphreys, Wen-Li & McHugh, (2011) focused on supplier development processes and they found supplier development as a four step process as, assess the supplier's readiness for change, build commitment through collaboration, implement system-wide changes, transition out of the supplier's organization, establish follow-up and recognition procedures.

Handfield et al. (2000) in their article of "Avoid the Pitfalls in Supplier Development" proposed a process map for supplier development. They mentioned 7 steps for supplier development such as identify critical commodities, identify critical suppliers, form a cross-functional team, meet with supplier's top management, identify key projects, define details of agreement, monitor status and modify strategies.

Table 1: Supplier development Elements

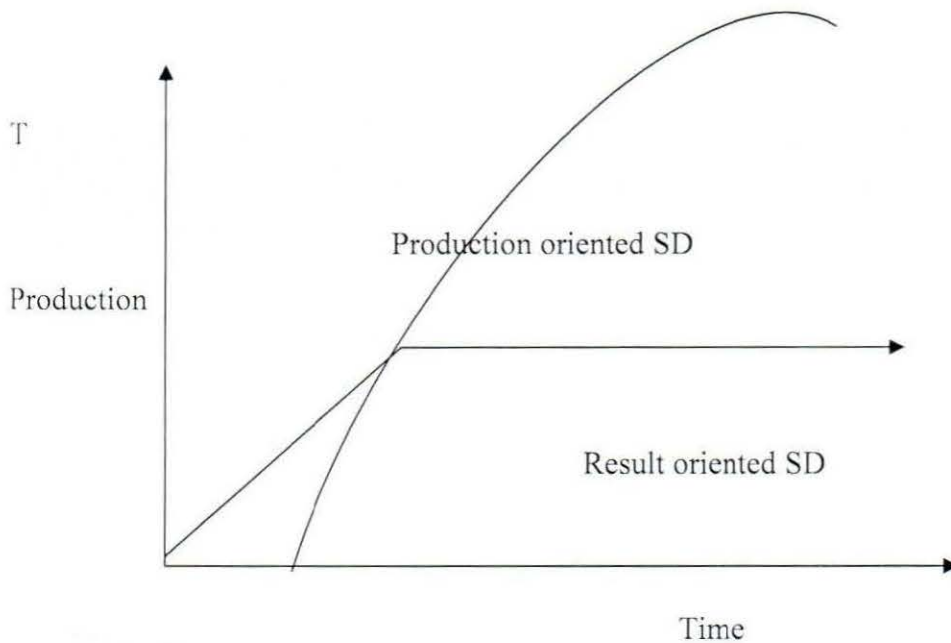
Supplier Development	Identified Literature
Communication	Benton(2004), Abdullah (2003), Ganesan et al (2005), Carr and Kaynak (2007), Obal and Lancioni (2013)
Knowledge Transfer and Training	Grant (1996), Krause et al (2000), Modi and Mabert (2007).
Product development	Handfield (2009), Utterback et al (2006), Wagner (2006).
Supplier 'site visits	Grant (1996), Gupta and Govindarajan (2000), Cousins and Mangué (2005), Justice (2006), Riswadkar (2008).
Supplier certification	Handfield et al (2006), Sollish and Semanik (2012), Danall (2006), Routroy and Pradhan (2011), Gilliland et all (2010)
Quality audits	Krause and Ellram (1997)
Technical and capital support	Dyer and Chu (2000), Mathyssens and Inemek (2012), Modi and Mabert (2007), Li et al (2007), Wagner (2006).
Collaboration and Trust	Allred et al (2011), Cao and Zhang (2011), Neggati and Rebelledo (2013 Yan and Dooley 2014)
Top management commitment	Govidan et al (2010), Humphreys et al (2004)
Procurement from alternative sources	Liu (2006), Wegner and Fried , (2007), Wegner et al (2009).
Long term commitment	Li et al (2007), Sharma et al (2006), Routroy and Pradhan (2011), Abu Saleh et al (2012).

Source: Suhail, Bouassami & Soheila (2014).

2.1.3 Supplier Development Programmes

Supplier development programme is considered as an element of creating sustainable supply management. It is important to realize the detail of critical factors (success factors and barriers) affecting supply chain (Routroy & Pradhan, 2011). Ana Gueimonde-Canto (2011), argue that success factors (SD elements) and barriers can affect the implementation of supplier development. Reviewing supplier development literature, resulted in the description of several critical elements that play crucial role in the buying firms success such as; communication, certification, evaluation, reward, technical support, training, investment in suppliers equipment, new market support, collaboration for improvements, product development improvements, visits at supplier sites, alternatives sources procurement and future business promise (Rajput & Bakar, 2012).

Supplier Development Programmes are adopted by making immediate changes in the supplier's operations and second is try to increase supplier's capability in such a way that suppliers will be able to make their own improvements (Keith, 2013). Suhail, Bouassami & Soheila (2014), found that, supplier development programmes are results-oriented and focus on solving specific problems of suppliers. These results-oriented programs will make improvements in their suppliers' quality and cost. Results oriented supplier development increases the performance of supplier but does not help supplier to increase their capabilities for continuous improvement. From the graph below, it is inferred that process oriented programme is for continuous improvement of supplier result oriented programme. Result oriented programme also have certain advantages like fast implementation of proven process, quick identification of problem and quick solution which will give buyers side team rich experience to solve successive problems of suppliers but this will have disadvantages like less commitment from suppliers' side, limited transfer of continuous process knowledge to suppliers and less improvement in supplier's capability to solve problems on their own Song (Hua & Ranjan, 2010). This is illustrated as follows;



Source: Adapted from Suhail, Bouassami & Soheila (2014).

Figure 2: Graph of Process and Result Oriented Supplier Development

Wagner (2010), divided supplier development programme into direct and indirect supplier development programme. He found that indirect supplier development improves suppliers' product and delivery performance and that direct supplier development improves supplier capabilities. In indirect supplier development, the buying firm makes use of communication and external market forces to achieve performance improvements on the supplier's side where as in direct supplier development programme the buying firm plays an active role and dedicates its human and capital resources to a specific supplier to solve respective problem. Direct supplier development consists of activities that transfer knowledge and qualifications into the supplier's organization.

2.1.4 Supplier Development Activities

Li, Wei & Liu, (2010) classified supplier development activities into 3 parts on the basis of buyer's resource involvement parameters like personal, capital and time. Basic supplier development basically deals with supplier's evaluation and giving feedback to him.

Table 2: Supplier Development Categorization.

Basic Supplier Development	Moderate Supplier development	Advance Supplier development
Evaluation of supplier's Performance and feedback to suppliers Sourcing from a limited number of suppliers Parts standardization Supplier qualification	Visiting suppliers' plants Awards and approval of supplier's performance improvements. Collaboration with suppliers in materials improvement. Supplier certification	Training to suppliers Collaboration with supplier Involvement of suppliers in the buyer's new product development process Intensive information exchange with suppliers

Source: Adapted from Chavhan et al., (2012, pp. 40)

Further Krause et al. (2000) classified supplier development activities mainly into 4 parts as competitive pressure, supplier assessment, supplier incentive and direct involvement (Chen, Deng, 2013). As per the organization level supplier development activities vary widely. Mainly supplier development activities include; supplier evaluation, feedback of supplier performance, raising performance expectations, education and training for supplier personnel, supplier recognition, placement of engineering, buyer personnel at the supplier's premises, and direct capital investment by the buying firm in the supplier. For example, training of a supplier in statistical process control not only helps buyer to achieve desired quality levels but also makes him more competitive. The buyer has competitive priorities that can be met only through drastic improvements in supplier's capabilities, (Chavhan, Mahajan and Sarang, 2012).

Wagner & Krause, (2009) state that using respective supplier development practices by buying firms improves supplier's operations leading to efficiency of supply chain as well as a reducing cost for buying firms. Wagner argued that supplier development help suppliers to improve their capabilities and performances. Supplier development is considered as buying firms activities to create and maintain a network of competitive and efficient suppliers in order to improving firm's productivity and competitiveness, (Chavhan et al., 2012).

2.1.6 Operational Efficiency

Operational efficiency is the capability of an organization to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support. It is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner.

In order to attain operational efficiency an organization needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes. The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets.

Operational efficiency looks at an organization's capabilities and performance. Operational efficiency denotes the organization's ability to minimize waste of inputs and maximize resource utilization so as to deliver quality, cheaper products and services to their customers. It is a useful measure utilized in managing the available resources (Timothy, Rao, Christopher J. O'Donnell and George E. Batte, 2005). Though operational efficiency is driven by operational aspects of human resource management, supply chain management, quality control management, technology deployed etc, it is also a function of both customer satisfaction and public perception, (Rao,et.al., 2005).

Operational efficiency is therefore the capability of an enterprise to deliver products or services to its customers in the most cost-effective manner possible while still ensuring the high quality of its products, service and support. In order to attain operational efficiency a company needs to minimize redundancy and waste while leveraging the resources that contribute most to its success and utilizing the best of its workforce, technology and business processes (Muhittin & Reha, 1990). The reduced internal costs that result from operational efficiency enable a company to achieve higher profit margins or be more successful in highly competitive markets.

Operational efficiency is often achieved by streamlining a company's core processes in order to more effectively respond to continually changing market forces in a cost-effective manner. To achieve operational efficiency, Scheraga (2004) noted that all data of an organization must be

collected, recorded, and analysed to determine the extent of profitability. Secondly, many organizations do not fully assess all areas of their business; and because success might only be measured by one or two elements/criterion, many early signs of a crisis are missed. Thirdly, both broad and very specific measures of success should be developed and continually monitored over time. Finally, keep in mind, the effect of arbitrary support-department allocations on the measured cost of products and services can be profound.

2.2 Theoretical Review

The study was guided by Resource Dependency Theory postulated by Medcof (2001), who asserts that Resource dependence theory (RDT) is concerned with how organisational behaviour affected by external resources the organisation utilises, such as raw materials. Organizational success in resource dependency theory (RDT) is defined as organizations maximizing their power (Pfeffer 1981). The theory originated in the 1970s with the publication of *The External Control of Organizations: A Resource Dependence Perspective* by Jeffrey Pfeffer and Gerald R. Salancik, (1996). Organisations typically build redundancy into resource acquisition in order to reduce their reliance on single sources e.g. by liaising with multiple suppliers.

The theory is important because an organisation's ability to gather, alter and exploit raw materials faster than competitors can be fundamental to success. Some commentators encourage organisations to view customers as a resource predisposed to scarcity. RDT is underpinned by the idea that resources are key to organisational success and that access and control over resources is a basis of power. Resources are often controlled by organisations not in the control of the organisation needing them, meaning that strategies must be carefully considered in order to maintain open access to resources, (Medcof, 2001).

RDT proposes that actors lacking in essential resources will seek to establish relationships with (i.e., be dependent upon) others in order to obtain needed resources. Also, organizations attempt to alter their dependence relationships by minimizing their own dependence or by increasing the dependence of other organizations on them. Within this perspective, organizations are viewed as coalitions alerting their structure and patterns of behaviour to acquire and maintain needed external resources. Acquiring the external resources needed by an organization comes by decreasing the organization's dependence on others and/or by increasing other's dependency on it, that is, modifying an organization's power with other organizations.

RDT rest on some assumptions: Organizations are assumed to be comprised of internal and external coalitions which emerge from social exchanges that are formed to influence and control behaviour; The environment is assumed to contain scarce and valued resources essential to organizational survival. As such, the environment poses the problem of organizations facing uncertainty in resource acquisition; and Organizations are assumed to work toward two related objectives: acquiring control over resources that minimize their dependence on other organizations and control over resources that maximize the dependence of other organizations on themselves. Attaining either objective is thought to affect the exchange between organizations, thereby affecting an organization's power, (Tillquist, King, et al. 2002).

Transaction Cost Analysis (TCA) theory

According to Williamson (2007), a transaction cost is a cost incurred in making an economic exchange (restated: the cost of participating in a market). Transaction costs are the costs of activities beyond the cost of a product or service that are required to exchange a product or service between two entities. Transaction cost economics focuses on how much effort and cost is required for the buyer and seller to complete an economic exchange or transaction (Williamson, 2007) and the factors influencing whether the organization chooses to conduct a transaction in the open market or within a hierarchy such as vertical integration, for example, or a supply chain. Transactions may include dimensions of asset specificity, uncertainty, transaction, and market and hierarchies' governance mechanisms for coordination, (B Barak D. Richman & Macher., 2008).

While a number of constructs have been developed to evaluate transaction cost economics theory, three of the most important ones that reflect the fundamental aspects of the theory are asset specificity, uncertainty, and governance mechanisms or structures (Grover & Malhotra, 2003).

Transaction costs can be divided into three broad categories: Search and information costs are costs such as in determining that the required good is available on the market, which has the lowest price, etc. Bargaining costs are the costs required to come to an acceptable agreement with the other party to the transaction, drawing up an appropriate contract and so on

Macher & Richman (2008), using transaction cost economics, for instance as a make or buy decision help, or verification of the right contract mode. Transaction Cost economics (TCE)

inspects how business partners who collaborate with each other shield one another from harmful subsidiary with differing relationships. It has been the most important new institutional theory which puts the accentuation on the decision on the sourcing predicament, if to outsource or not. The sourcing situation of a firm is likewise described as the make-or-buy decision of a firm (Christopher, Mena, Omera & Ozgur, 2009).

The two primary drivers of Transaction Cost Economics are uncertainty caused by the external environment and costs, which consist of Coordination costs and Transaction costs (Fink, 2006) Williamson (2008) claims that much of the explanatory power of transactions cost economics theory turns on asset specificity. Asset specificity refers to the transferability of assets that support a given transaction. Asset -specific investments typically represent costs that have little if any value outside the exchange relationship. These costs can be in terms of human or physical specificity (Zsidisin & Siferd, 2001). The greater the levels of asset specificity in the relationship, e.g., between buyer and supplier, the more likely it is that firms will collaborate. Firms engaged in transactions involving highly asset-specific investments, and therefore greater dependency on their current customers than firms with lower asset specificity, are more likely to adopt environmental management practices such as ISO 14001, (Delmas & Montiel, 2009).

2.3 Effect of Financial Support on Operational Efficiency

Effie (2015), financial support refers to the buying firm's effort to develop their supplier by engaging in human and capital resources which includes direct investment in equipment and tools (Li, 2007 and technical support at the supplier site (Li et al, 2007). When the supplier gets evaluation feedback from the buying firm for improvements, the firm needs to provide suggestions or personnel to supplier site (Krause et al, 2000; Prahinski and Benton, 2004). Such action of the buying firm motivates the direct involvement of their potential suppliers including financial resources, (Wagner, 2006b).

Effie,(2015), A supplier who is properly and adequately financially supported augments the buyers' ability to deliver high-quality and innovative products to its customers and thus reduces buyers operational risks. Supplier's financial support is critical in determining the supplier's ability to remain financially solvent (Wangner, 2006). Financial support enhances suppliers' capability and capacity to cope with the buyers' requirement and therefore strengthens the suppliers' capacity to meet resource requirements by the buyer.

Silveira & Arkade (2007), among others, explored the contributions of relationship-specific investments toward supply chain coordination and found out that technical capabilities are necessary when input from the supplier is given to certain specification. This is more important to engineering personnel and they must be a part of this type of supplier development so that they can jointly undertake the functional and technical requirements necessary for producing innovative products. This is consistent with research by Carr and Pearson (1999) who reported the existence of a positive impact of supplier reward and recognition on the overall performance of supplier technical capability (Kosgei, Kipkoech; Lagat, Charles; Yegon, 2015).

According to Choi (1999), cited in Kosgei, et.al., (2015) supplier financial support is the buyers' effort towards its suppliers to continuously spot financial weaknesses within its supply base and taking the necessary financial support to avoid supply disruptions and increase supplier financial health so as to meet his short term and long-term financial obligations. Financial support is a critical success factor in supplier development and supplier performance.

According to Heide and John (1990), cited in Kosgei, et.al., (2015) proven financial support provides the buying firm with increased supplier competition in the global market and potentially reduces transportation and other logistical costs of suppliers. Today's successful buyers can attribute their achievement to their valuable buyer-supplier relationship obtainable through buyers' initiative to support supplier via technical support, financial support and through supplier training in order to achieve superior performance and mutual gain for both parties.

Buyer performance relies on the effectiveness and efficiency of the supplier in order to achieve its set goals and objectives. This therefore suggests that there is a strong direct link between supplier development and the overall buying firm performance. The study predicted a positive relationship between financial support and buyer performance. This is because as the supplier put into use the acquired capability, it translates into product innovation and product quality (Carr & Pearson, 1999). This has led to supply of superior products by the suppliers which in turn enhances the effectiveness and efficiency of performance on the part of the buyer.

Buyer assistance towards suppliers can take several forms, where the assistance is the efforts done by buying companies in order to help suppliers to overcome problems, also for the goal to

improve its performance and capabilities (Dyer and Nobeoka, 2000). Technical assistance from the buyer towards supplier according to Matthyssens and Inemek (2013) can increase knowledge transfer between two involved parties. Example of technical support could be by sending engineers from buying companies to suppliers with the goal to increase its efficiency (Modi and Mabert, 2007).

According to Tungjitjarurn et al (2012) technical support is one category of investment that can be done by buying firms because according to Li et al (2007) buyer's investments could be by investing directly in a supplier capital or by investing in supplier technical support or training.

According to Krause et al (2000) supplier development can take several aspects including providing equipment or capital. (Wu, Lin, Chen, and Wang, (2011) added that supplier development by equipping supplier by technological support, equipment, or even by direct investments. Based on Wagner (2006) findings, transfer of capital resources is much less compared to transfer of human resources from a buyer company towards suppliers. He also found that transfer capital from a buyer to a supplier is quite rare.

2.5 Influences of Training on Operational Efficiency

This discusses training in terms of Knowledge transfer, workshops and seminars.

According to Grant (1996) instability in the business environment has made the companies to focus on organizational capabilities and resources to compete. Dynamic-competitive environment has made the knowledge as one of the important resource. Grant (1996) categorized the knowledge as explicit and tacit; explicit knowledge has the characteristic of written down while tacit knowledge cannot as it is mainly based on known how and practices. The processes demands wide range of specialized knowledge, however tacit knowledge resides in the minds of individuals.

Supplier training Programs for supplier developments 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, (Effie & Lukhoba, 2015). 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).

Modi & Mabert (2007) argued that the knowledge is transferred through the routines in companies. Operational knowledge transfer activities are arranged to transfer the knowledge that resides in the minds of specialized individuals. The knowledge also transferred across the boundaries of the organization between buyer and their supplier for the improvement of manufacturing processes.

According to Nagati & Rebolledo (2013) training and education will be an investment made by the customers, so strategic suppliers are suitable for training and education. Krause et al (2000) argued that direct influence of customers through training of suppliers have significant effect on suppliers' performance level.

According to Modi & Mabert (2007) supplier's-employees expertise could be improved by providing them trainings and problem solving skills, it will also impact on the supplier's productivity. The training will provide the opportunity to transfer tacit knowledge which in terms improves supplier's competences and influence the future business.

According to Krause, D.R., Ragatz, G.L. and Hughley, S. (1999). trainings and education strengthen the relationship and improves the performance level of both buyer and supplier. He categorized the training into periodic and ad hoc trainings. Periodic trainings enable suppliers to have deeper understanding of customer's processes and the improvement areas. Ad hoc trainings are more new product development specific and with building long term relationships, (Krause, Ragatz, and Hughley, (1999).

Linking future business incentives to operational knowledge transfer activities: Procuring firms initiate knowledge transfer to suppliers and assist them in improving operations when the firms intend to have an ongoing supplier relationship. When organizations expect/desire to continue their relationship with the supplier, they can use it to motivate supplier through future business incentives prior to instituting direct involvement activities. Often, buying firms experience resistance from the supplier to open their facilities. Incentives motivate the supplier to open its facilities to the buying firm's staff and implement the operational improvements suggested by the procuring firm.

Mollahosseini, Bahonar, Barkhordar, Bahonar (2010), states that, Linking operational knowledge transfer activities to performance improvements: As firms increase OKTA such as training of supplier personnel and "on-site" problem solving assistance, it helps the supplier's employees improve their skills and productivity. This increase in skill of the supplier will reflect in supplier's improved performance. OKTA like on site visits and problem solving assistance allow direct interaction between supplier and buyer personnel. Direct interaction at the individual level facilitates the demonstration and transfer of tacit knowledge. Interaction between the procuring firm's staff will empower the supplier personnel with the knowledge to tackle production problems and streamline their process for better performance and therefore operational knowledge transfer activities (OKTA) are expected to lead to performance improvements of the supplier's operation.

According to Mollahosseini, et.al., (2010), linking operational knowledge transfer activities to collaborative communication: A review of the past literature suggests that the link between collaborative communication and operational knowledge transfer activities, such as site visits and supplier training/education, has not been empirically tested. Ineffective communication can result from the use of unknown symbols, concepts and ideas, desire for secrecy, and a lack of motivation for information sharing.

In addition Zonooz, Farzam, Satarifar, & Bakhshi, (2011), states that, direct contact and knowledge transfer between the buying and supplying firm staffs allow for a development of a common language. The initiation of knowledge transfer activities indicates a long-term relationship orientation on the part of the customer. Long-term relationship orientation increases communication between the firms. Such orientation leads to the establishment of trust between

trading partners. Increased trust leads to a reduced desire for secrecy, motivating data sharing and facilitating greater collaborative communication.

Involvement in OKTA indicates joint action on part of the involved firms requiring higher levels of co-ordination. As the level of joint activity increases, firms will share more information to effectively co-ordinate their operations and plans. Based on these arguments it is expected that OKTA will be positively associated with collaborative communication.

Linking collaborative communication to supplier performance improvements: The value of information exchange in supply chain relationships is well documented in the supply chain literature. Collaborative Review of Business Information Systems – Fourth Quarter 2010 Volume 14, Number 4 23 communication with suppliers benefits the buying firm in the long run, fostering an environment of mutual support and improving the responsiveness among supply chain partners. Greater information sharing between a firm and its suppliers can increase cost savings due to better operational efficiencies, (Sachin. B. Modi, 2016).

Sichinsambwe (2011), provides that, while communication is necessary, increased communication can also lead to information overload, having detrimental consequences. However, a lower level of communication can lead to conflicts that is detrimental to efficient co-ordination. Higher levels of collaborative communication in organizations leads to better co-ordination and effective completion of tasks, which positively affects the performance of alliance relationships. Supplier development activities represent a move towards an alliance relationship and similar effects can be expected on supplier performance improvements from collaborative communication.

Tseng (2008), notes that due to the rapid development of knowledge and information technology (IT), business environments have become much more complicated. In order to cope with ensuing complications, enterprises ought to incessantly innovate; otherwise, it will be very difficult for them to survive in the marketplace. Hence, many enterprises have applied IT in order to cut production costs, introduce innovations in products and services, promote growth, develop alliances, lock in customers and suppliers, and create switching costs and raise barriers to entry. In other words, IT can help a firm aiming to gain a competitive advantage. In addition, many studies have argued that business value comes mainly from intangible assets, such as knowledge.

Thus, knowledge workers will be able to replace clerical workers as the new mainstream of manpower resources, a field in which the development of IT is the major force for change in Knowledge Management System (KMS).

Esmati & Moradi, (2009), note that, when information is analyzed and processed it becomes knowledge. Knowledge is identifying unrecognized patterns, latent procedures, and data exceptions. Knowledge is creating a mental model or pattern of a protocol that can be used in a specific field with high reliability. Also knowledge can be defined as a complicated process that for making valuable judgments according to experiences needs human. Due to these experiences and past perceptions, a person may have defined and formulated rules, which can be used for the same situations with high reliability. Knowledge in organization means whatever people know about customers, products, processes, mistakes and successes. Knowledge of organization could be placed in minds of people, groups and its departments, and is considered as the main part of executive processes and regulations and rules, (HajiAzizi, Dokht, Esmati & Moradi, 2009).

Knowledge is understood primarily as a resource, either as an input resource for some activity or as an output resource resulting from some activity. Knowledge is traditionally categorized to tacit and explicit knowledge. Unlike explicit knowledge, tacit knowledge is hard to codify and it is tied to individuals. Knowledge is also tied to how individuals operate as a whole. In an innovative organization people work together to create something new: from a managerial perspective, the question is how to manage that individual knowledge efficiently in projects in order to satisfy customer needs, (Lehtimaki, Simula & Salo, 2009).

Tseng (2009) notes that due to knowledge being a more nebulous resource than data and information, tacit knowledge cannot be converted into explicit knowledge. As a result, people cannot articulate what they know. The implication is that knowledge can never be effectively shared through IT that involves a static repository-such as an intranet-because as static information, such knowledge can never convey the richness of the context in which it was applied. Similar distinctions between explicit and largely tacit knowledge in organizations have been made. Explicit knowledge is the knowledge that can be easily captured artificially through manuals and standard operations, and then shared with others either through though courses or through books for self-reading. In an organization, tangible knowledge takes the form of job procedures as well as the company's philosophy and strategy (Lee & Yang, 2010).

Wang & Noe (2010), recognize KM as explicit control and management of knowledge within an Organization aimed at achieving the company's objectives. Though every organization holds knowledge, its benefits are only consistently realized if it is explicitly managed. A common challenge faced by most organizations is improving upon relative low productivity through explicitly managing existing knowledge. It Extracts the essence of Plato's original definition of knowledge and Treats it as "Justified true belief", the debates surrounding this definition have been the driving force of many researchers' work. However, it is widely agreed that "knowledge" can be split along different dimensions. Existing knowledge classifications schemas within organization studies more or less build on the premise that distinguishes between tacit and explicit knowledge. Tacit knowledge is more subjective and experience based, consequently cannot be expressed easily.

It always includes cognitive skills and technical skills. Explicit knowledge, on the other hand, is more rational knowledge that can be easily captured and communicated. For a number of years now companies have focused on their knowledge resources as a primary means of gaining a strategic advantage. This focus has taken the form of an increased emphasis on knowledge management. The benefits of a well-functioning knowledge management system have been widely documented. Some of the more commonly noted benefits are: improved loyalty; speedier decision making; quicker "gearing-up" of staff; greater staff retention; development of more innovative ideas; greater flexibility in dealing with change and responding to crisis; increased capability to control the coordination of complex activities; and superior strategic decision making, (Goh, 2002).

Based on the above literature, knowledge transfer and training supports manufacturing firms to find, choose and keep reasonable supplier network in the best manner so that the firm can maintain its competitive advantages. Today, organizations not only consider financial resources as their capital, but also consider knowledge transfer and training resources as assets. Hence there is need to examine if NBL pays more and more attention to knowledge transfer and training through conducting further research in this area with an attention to the methods of quantifying the value of knowledge transfer and training in relation to its operations efficiency

2.5 The effect of Supplier Performance Evaluation on Operational Efficiency

Modi & Mabert, (2007) and Prahinski & Benton, (2004), assert that, Supplier evaluation is the strategy to effectively evaluate and give feedback on supplier improvements, and ensures the perception of suppliers on their current performance compared with the buying firm's expectations and its competitors as well as motivate suppliers to improve their performance.

Purchases from suppliers account for more than half of total costs for most companies and in some industries, Suppliers are important to buying firms not only in financial terms. To an increasing extent they provide customers with new technology. Supplier performance thus considerably impacts on the efficiency and effectiveness of the customer firm and is of vital importance.

The supplier performance evaluation is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses and stores so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time in order to minimize system wide costs while satisfying service level requirements, (Kumar & Ganesh, 2009).

Numerous studies have addressed how a supplier effectively improves the performance of its purchasing units in a dynamic environment as far as consumer expectations are concerned. These studies have discussed how Supplier Quality Management (SQM) can enhance organizational performance across the supply chain by minimizing operational costs, shortening process cycle, refining quality performance and enhancing customer satisfaction, (Sichinsambwe, 2011).

Prevot, (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.

Zonooz, Farzam, Satarifar & Bakhshi, (2011) 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 supermarkets 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.

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 (buyer) and supplier. This is because after the audits, the payback should come in the improved understanding of each company's requirements which develops from the audit process, (Allameh, Harooni, & Borandegi, 2012).

Alipour, Idris, & Karimi, (2011), state that before selecting suppliers, various methods can be used to evaluate their performance, the most common being the compilation of supplier profiles. This involves the identification of Key Performance Indicators (KPIs) e.g. service level, quality of products, delivery reliability and price competitiveness. These are then weighted or prioritized to signify their overall importance to the firm. This evaluation is done for all the firm's suppliers and the supplier with the highest weighted score has the best performance hence and can be chosen over the others for future transactions. This method is very useful in comparing several suppliers for different deliveries or products.

Performance measures provide the information necessary for decision makers to plan, control and direct the activities of the organisation. They also allow managers to measure performance, to signal and educate suppliers on the important dimensions of performance, and to direct improvement activities by identifying deviations from standards. Many well-known frameworks have been developed to aid in these goals, including the balanced scorecard (Giannakis, 2008).

Assessing the performance of key suppliers of high value and high risk goods and services (outsourced service providers, for instance) require close performance and relationship

monitoring and this is where most resources should be employed. This may well involve monthly meetings where performance is discussed, issues resolved and new targets set as appropriate. Key supplier failure can bring significant losses to a business, and therefore it is important to ensure that the contract contains suitably robust exit clauses and contingency plans. CIPS encourages P&SM professionals to hold feedback meetings with suppliers at the suppliers' premises, where appropriate, as this enables them to assess efficiency levels on the suppliers' 'home ground'. The situation may, however, be somewhat different for outsourced services, such as cleaning or catering where the meeting should be held where it facilitates inspection of the problem areas. This approach also ensures that the outsourcing contractor's senior management is present at the site of delivery.

Performance monitoring is not suitable for all suppliers; however, it is good practice to include supplier measurement and monitoring in all contracts so that quality, price, delivery and service levels can be monitored to ensure contract performance and compliance. Mollahosseini, (2010), A sound supplier performance monitoring and management strategy contributes to effective risk management, strengthens the development of strategic supplier relationships, improves supplier capability, boosts overall performance, and is welcomed by suppliers

According to Wang & Noe (2010), due to greater complexity, higher specialization, and new technological capabilities, outside suppliers can perform many activities at lower cost and with higher value added than a fully integrated company can. Supplier can have a significant impact on a manufacturer's performance, through their contributions towards cost reduction, eliminate inconsistency in the designer's manufacturing processes, minimize high-cost material items, share technical expertise and processes within each other, enabling the constant improvement of quality, share technology capabilities, and increase responsiveness of buying companies.

It is prudent to follow supplier performance as the supplier performance affects the production process, quality of the product and delivery to customers. Company has the experience as they are aware of what type of problems can arise from supplier's side (Mollahosseini and Barkhordar, 2010). The company has yearly meeting for supplier performance evaluation. Meeting includes personnel from different departments such as production, purchasing and concerned departments.

According to Mollahosseini and Barkhordar, (2010), a company approximately evaluates suppliers in terms of their valuable contribution to the buying firm, that is; 20 percent of the suppliers include 80 percent of the value while 80 percent of the suppliers add 20 percent of the value. Meeting mainly includes the evaluation of the suppliers which are important and add more value to company's products.

Mollahosseini and Barkhordar, (2010), agitates for having continuous discussion with the suppliers. Open communication with suppliers help to solve the problem at initial stages else it can affect continuously due to repeat supplies from suppliers. Site visits could also be conducted to solve the problem. Whenever suppliers have certain problems, they also ask supplier firms to provide input for solution of the problem. Supplier's performance evaluation is a continuous process during the year and in yearly performance evaluation, suppliers summarize the results and prepare the action list.

Yeung (2008), identified that firms commonly based their supplier evaluation on variables like supplier certification, quality, distribution factors, relationship factors, facilities and continuous improvements. According to Fowler and Graves (2011) there are different variables which can be considered for assessing the supplier performance such as; price, responsiveness, flexibility, quality, reliability, lead time, specification and other depending on the requirements.

Simpson et al (2002), classified the supplier evaluation process based on nineteen categories or variables. The variables are listed here according to their importance in their study results; quality and process control, continuous improvement, facility/environment, customer relationship, delivery, inventory and warehousing, ordering, financial condition, certification, price, staff/customer service, leadership/management, technology, education/training, invoicing, packaging, employees, warranty and location. Each of these variables is measured through different evaluation items or criteria's (Simpson et al., 2002).

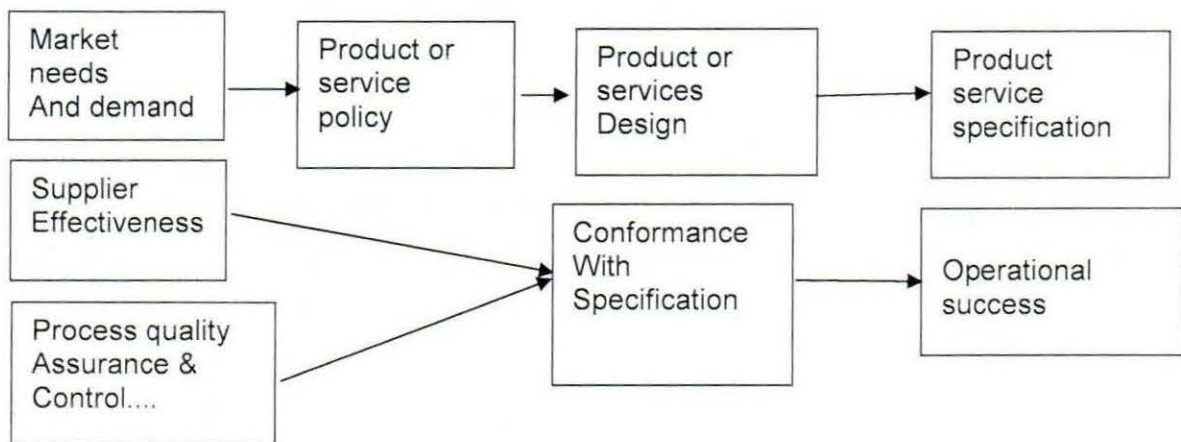
According to Sichinsambwe, C. M. (2011), companies need to decide about type of monitoring technique and schedule of reporting. Supplier review is conducted by the companies through different ways like product testing, supplier site visit and meeting with supplier to identify the causes of performance decline or the improvement areas for achieving the desired objective of the companies from their suppliers (Sollish & Semanik, 2012). According to Simpson et al

(2002) the results of their study showed that 45.5 percent of the respondent firms do not have formal method for supplier evaluation.

Monitoring the performance of suppliers is a key aspect of P&SM and one that requires a range of skills, in particular relationship management. It is the responsibility of the P&SM professional to negotiate and agree appropriate performance criteria at the time the contract is let and these measures, together with a commitment to continual improvement should be clear to all concerned. The level and frequency of performance monitoring is dependent on the value and criticality of the contract to the buying organisation; it need not be the P&SM professionals that carry out this function or indeed the wider role of contract management, however the function should always be supported by the P&SM team.

Focusing on operational success helped NBL work smarter: increase efficiency, reduce costs, and streamline processes”; as illustrated below:

Figure 3: Quality Process of NBL that leads to operational success



Source: Adopted from (Khrurram, in Effective Quality Control Mechanism, 2003)

Essentially the market needs are translated into product strategic which in turn through to the research and development and other key functions involved in design- in order to provide a suitable product and associated specification. It is against this that quality can be measured in terms on conformance to that specification.

On the other side, quality will be affected by two things the overall capability of the process (to hold tolerances) and the way in which quality is controlled within the process. It was further stated that few companies continue to emphasize only the inspection aspect of quality, whereas

inspection is actually one useful element in an overall quality system as (Dodd, in Introduction to Supply Chain Management, 2000). The early stages are useful in themselves; operating quality control or Crafts man ship in still of utmost importance in the creation and production of works at art, including items that are made in considerable quantities such as hand woven and tufted carpets. But even these qualities control (for example such as yarns and colour control and improvements). Quality control circles, quality teams and other participatory and employee involvement programs for operators are helping to return some quality control to the operation level. The processes demand wide range of specialized knowledge however tacit knowledge reside in the minds of individuals. Modi and Mabert (2007) argued that the knowledge is transferred through the routines in companies. Operational knowledge transfer activities are arranged to transfer the knowledge that resides in the minds of specialized individuals. The knowledge also transferred across the boundaries of the organization between buyer and their supplier for the improvement of manufacturing processes.

2.5 Literature Summary and Gaps

According to a number of studies, supplier performance is measured by various criteria. Several key competitive factors were broadly used to assess the supplier performance. For examples, product quality, delivery performance, price, physical distribution, services, flexibility, relationships are considered to be important factors for measuring the supplier performance. Based on the review of literature, various scholars focused on buyer's perception on the supplier's improvement in the aspects of cost, quality, and delivery which are the critical supplier improvement areas from other industries such as electrical industries rather than beverage manufacturing companies. There is need to conduct a study to examine the extent to which NBL's SD strategy encourages suppliers to improve their performance in terms of increased business volume, priority consideration for future business and recognition of good supplier performance in the form of financial support, knowledge transfer and training and performance evaluations to enable famers more likely to continue business operations and open their facilities, extend their resources investment, including provide greater commitment towards fulfilling NBLs resource inputs(raw materials) used to produce locally made Beer.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methods that used during the study. It involved the research design, study population, Sample size and selection, sampling techniques, methods of data collection, instruments for data collection, data collection procedures, reliability and validity of instruments, data presentation and analysis of results.

3.1 Research Design

The study used a case study design. A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Bryman & Bell, 2011). A case study method was employed because of its strength in allowing the researcher to concentrate on a specific situation and to identify, the various interactive issues affecting the research problem. A case study was more appropriate because of being more holistic and specific; it enables suggestion of possible links between phenomena, a very important requirement for this particular study. According to Bryman and Bell (2011) quantitative research emphasize on deductive approach and testing of theories, whereas qualitative research has the focus on inductive approach and generation of theories. In this study, both qualitative and quantitative approaches were used. Quantitative research methods were used because they enabled a structured statistical measurement of variables (Creswell, 2014). Qualitative methods were used so as to collect in-depth information on the research variables and this enabled triangulation of the data collected so as to increase its validity, (Flick, 2014).

3.2 Study Population

A target population of 116 respondents comprising of; 10 members of management team of Nile Breweries, 10 employees working in different departments and 96 suppliers (farmers) was selected to participate in the study.

3.3 Sample Selection and Techniques

The Krejcie and Morgan (1970) sampling table will be used to determine sample size. For a population of 116 Krejcie and Morgan (1970) suggest sample of 96 respondents. Therefore,

sample of 96 respondents was targeted. The table below gives a summary of respondents and the nature of information they provided.

Table 3: Summary of Category of Respondents

Category	N	Actual Sample	Sampling Strategy
Management of NBL	10	10	Purposive
Productions & Operations staff of NBL	10	10	Stratified random
Farmers	96	76	Stratified random
Total	116	96	

Source: Primary Data, (2016)

As indicated in the table 3 above, from the population of 116 respondents, 10 respondents were purposively selected from management and 10 were selected from employees (were categorized in accordance to their departments of work) while 76 suppliers were selected from 4 farmers associations taking 19 farmers from each, bringing the total sample to 96 respondents. However, among key informants, only 20 were available for interviews. With regard to employees, 20 questionnaires were fully completed and therefore usable. This brought the actual sample to 96 respondents. Simple random sampling was used to select the main respondents. Simple random sampling was used to select employees. This method was used in order to give more respondents in the population of being part of the sample. This technique increases representatives that enable collection of a cross section of data. Purposive sampling was used to select key informants. This sampling method was preferred for this sub sample because the researcher wanted to collect in-depth responses from respondents who are well informed about the research problem.

3.4 Data Collection Instruments

Data was collected using a questionnaire and a key informant interview guide. According to Yin (2012) it could be suitably employed at three settings; first, the type of research question (especially descriptive and explanatory), second in real context and third for evaluation.

3.4.1 Questionnaire

The researcher used close ended questionnaires (appendix 1), for both operations and management of NBL. The use of questionnaires enabled the researcher to collect data from many respondents and the respondents were able to give sensitive information without fear as their personal identity was not required. This is supported by Creswell, (2013b), he argues that questionnaires offer greater assurance of anonymity thus enabling respondents to give sensitive

information without fear. Likert scale statement having five category response continuums of 5-1 were used, strongly disagree (1), Disagree (2), Not sure (3), Agree (4), Strongly agree(5) with assertion. In using this each respondent who were select a response most suitable to him/her in describing each statement and the response categories were weighed from 5-1 and average for all items were computed accordingly. Goh et al. 2006). Furthermore, the researcher employed questionnaires because they are straight forward and information obtained from them was easier to computed.

3.4.2 Key informant Interviews

In-depth key informant Interviews were used to collect data from management of NBL that covers (local sourcing manager –NBL, the head corporate affairs of NBL and production and operations managers) and the Farmers Associations and Union Executives gathered in Lira hotel conference organized by NBL. Using these key informants in the study was relevant because there was an Opportunity to establish rapport and get an insider's view of the study, provided in-depth information about causes of the problem and allowed the researcher to clarify ideas and information on continual basis without own impressions and biases. Using the interview guide, key informants selected were asked questions derived from the study objectives by the researcher. The real opinions of respondents on the research problem were sought. Using appropriate probing, the researcher collected detailed and relevant information to the research questions (Amin, 2005).

3.4.3 Observation Method

Still photography and video coverage of Barley farms and supplier development programmes for FY 2015/16 was studied carefully to examine the supplier development progress. Independent assessment by observing farm output (number of turns required in relation to actual output), production out turns, frequency of production stoppage in absence of raw materials were observed to measure the operations efficiency. These were useful to cross validate primary data and provide basis for explaining certain concepts.

3.4.4 Focus Group Discussion

A Focus Group Discussion (FGD) was a good way to gather together people from similar backgrounds or experiences to discuss the researcher's topic of interest. FGD was used to collect perceptions, opinions, beliefs, and attitudes towards barley and sorghum farming, trainings, challenges and opportunities with individual farmers. During this discussion, the researcher took

notes of the vital points he was getting from the group. Care was noted to select farmers of the group carefully for effective and authoritative responses.

3.5 Procedure of data Collection

Using an introductory letter from the graduate school, authorizing the researcher to go to the field, the researcher was able to introduce himself to the relevant authorities at Nile Breweries Ltd. He explained the purpose of the research and its benefits. The researcher assured the respondents of utmost confidentiality in relation to the information they provided. He then distributed questionnaires to the selected respondents and collect them after one week. Key informants were interviewed during lunch hours across two days within the week questionnaires are distributed.

3.6 Validity and Reliability of Instruments

3.6.1 Validity

Before the instruments were used, the researcher measured their validity to ensure that the instruments measured the study variables. Both face and content validity of the instruments were measured. Cooper & Schindler (2006) say that respondents are more likely to honestly complete and return instruments they perceive as having relevant content. The researcher ensured that all items in the questionnaire had face validity. With regard to content validity, the two supervisors evaluated the questionnaire for its content validity.

The researcher first constructed the instruments and gave them to the supervisor for approval. The supervisor ascertained the face validity and clarity of the instrument. Changes made as recommended by the supervisor. The changes recommended by the supervisor were mainly on the wording of items. The wording of 10 items were changed to make it simpler and relevant to the research questions. After the approval, the researcher went to the field.

As recommended by Amin (2005), items that were found ambiguous and those judged inappropriate were either eliminated or adjusted. The validity of the instruments was tested using the Content Validity Index (CVI). The CVI was measured using the formula:

$$\text{Content Validity Index (CVI)} = \frac{\text{Number of items declared valid}}{\text{Total number of items}}$$

The findings are shown in the table below;

Table 4: Content Validity Index

Expert	Content Validity Index	
	Questionnaire	Interview guide
Supplier development	0.81	0.79
Operations efficiency	0.82	0.81
Average	0.815	0.80

Source: Pilot data

As indicated in Table 4, all CVIs for the two instruments are 0.80 and above indicating that the items in the instruments actually measured the study variables. On average, the content validity index for the questionnaire were 0.82, while that of the interview guide were 0.80. These values were in agreement with Amin (2005), who recommended that for an instrument to be valid for research purposes, its content validity index had to be 0.8 and above.

3.6.2 Reliability of the Questionnaire

Pilot data was collected from 20 respondents and was used to measure and enhance the reliability of the questionnaire. Data from respondents was entered in the Statistical Package for Social Sciences (SPSS). A Cronbach alpha coefficient test of reliability was calculated.

Table 5: Reliability of the Questionnaire

Variable	Alpha coefficient
Financial support	0.734
Training	0.816
Supplier performance evaluation	0.721
Operational efficiency	0.752
Average	0.756

Source: Pilot data

Findings in table 5 above revealed that the alpha coefficients of the sub variables making the independent variable of monitoring were; financial support = 0.734, training = 0.816 and examining Supplier performance evaluation = 0.721. The alpha coefficient for the dependent variable, Operational efficiency was 0.752. All Cronbach alpha coefficients were above 0.70 which indicated that the questionnaire was reliable enough as a research instrument Sekaran, (2008). In order to improve the accuracy of the instrument, statements were kept simple in order

to avoid any response biases by leading the respondents to agree or disagree with the statement. Respondents were also encouraged to express their true feelings against the statements and no names were asked to be noted down.

3.6.3 Measurement of Variables

The study used a 5-point likert scale to measure the variables which are supplier development and operations efficiency to come up, with findings. These range from strongly agree to strongly disagree [strongly agree (1), agree (2), not sure (3), disagree (4), and strongly disagree (5)].

3.7 Data Presentation and Analysis

3.7.1 Quantitative Data Analysis

After data collection, it was edited, cleaned and coded. Descriptive statistics, means, standard deviation, frequency tables were used to present and analyse descriptive data, inferential analysis, correlation and linear regression was done to establish the effect of the independent variables on the dependent. In order to examine the overall effect of the independent variables on the dependent variable, multivariate dependence analysis technique for predicting the dependent variable on the basis of two or more independent variables was done using Linear multiple regression.

Regression method was used due to its ability to test the nature of influence of independent variables on a dependent variable. Regression is able to estimate the coefficients of the linear equation, involving one or more independent variables, which best predicts the value of the dependent variable (Cohen, West & Aike, 2002). This is what a correlation analysis cannot provide as compared to a regression analysis. Consequently, based on these considerations, the multiple regression analysis was chosen as the approach to analyse the data.

The model specification is as follows; $Y = \beta_0 + \beta_1 X_1 + \varepsilon$ Where;

Y	=	Operational Efficiency
X_1	=	Supplier Development
E	=	error term
B	=	coefficient of determination
β_0	=	constant

This statistic indicated the specific contribution (deterministic relationship) of the independent variable to the dependent variable. Before running descriptive and inferential statistics as

recommended by Cooper & Schindler (2006) the responses given by each respondents in section B up to C will be summed up to convert ordinal measurement into a continuous scale to enable multivariate analysis possible. Higher scores on each of the two scales indicate higher occurrence of the variable in the study sample.

3.7.2 Qualitative Data Analysis

Data was categorized under different themes and sub-themes using content analysis approach. This kind of data was interpreted by explanations and substantiated using open responses from the field, (Matthew B. Miles, A. Michael Huberman & Johnny Saldana, 2014). While analysing qualitative data, conclusions were made under different themes and inter-related to ascertain the relationship between supplier development and operational efficiency at Nile Breweries Ltd.

3.8 Ethical Considerations

The entire research process was conducted with due respect to ethical considerations in research. The researcher also obtained consent of the respondents to participate in the study. The researcher also made sure he treated respondents' views with utmost confidentiality. In general, a high degree of openness regarding the purpose and the nature of the research was observed by the researcher.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter focused on data presentation, analysis and interpretation of the study from both primary and secondary data in a bid to answer the research's specific objectives in chapter one. For each research question, data was descriptively, qualitatively and quantitatively presented; finally, interpretation and results analysed as follow;

4.1 Response Rate

The researcher conducted interviews among 10 members of management of Nile Breweries Ltd and 30 executive members for the farmers, taking 10 from West Nile, 10 from northern Uganda and 10 from Eastern Uganda, 8 small scale farmers and 8 large scale farmers also participated in the study. Structured questionnaires were successfully administered among 60 respondents. This implies that a sample size of 96 respondents, overall response rate 100% was attained. According to Mugenda & Mugenda (2003), a response rate above 70% is good enough for the study results to be valid.

4.2 Demographic Characteristics of the Respondents

In order to find out about the demographic data of the respondents questions A-E were asked from the questionnaire and the following responses were revealed.

Table 6: The Demographic data about the Respondents

n =96

Bio-data	Options	Frequency(f)	Percentage (%)
a) Gender	Male	60	62.5
	Female	36	37.5
b) Age Bracket (years)	20-29 years	14	14.6
	30 -39 yrs	27	28.1
	40-49yrs	40	41.7
	50yrs and above	15	15.6
c) Education Level	Certificate and below	32	33.3
	Diploma	30	31.3
	Degree	20	20.8
	Postgraduate and masters	14	14.6
d) Designation	Top management	10	10.4
	Middle level employee	20	20.8
	Lower level employee	66	68.8
e) Length of Service	1 -3year	15	15.6
	4-6years	17	17.7
	7years and above	64	66.7
f) How often NBL carries out Supplier Development	Annually	52	54.2
	Semi- Annually	20	20.8
	Quarterly	14	14.6
	Monthly	10	10.4

Source: Primary data

According to the findings in table 6 above, the majority of the respondents 60 (62.5%) were male employees while 36 (37.5%) were female counterparts. This reveals that there is uneven distribution of workers at Nile Breweries Ltd. The male respondents are more because of the company policy of 2:3 ratio composition in their organization. Obtaining information from both sex helped to gather more objective data.

The findings on respondents' age, 14.6% of respondents were aged between 20-29 years, 28.1% were in the age bracket of 30-39 years, 41.7% were of the bracket 40-49 years while those above 50 years were 15.6%. This implies that majority of respondents were adults who gave elaborate and well thought after answers to questions related to supplier development and operational efficiency of NBL and hence provided more reliable information due to virtue of their maturity. Regarding respondent's levels of education, the findings revealed that 33.3% of the respondents had attained Certificate qualifications, 31.3% had completed diploma education, 20.8% were university graduates with degrees while 14.6% were postgraduate and master's holders. This implied that the majority of suppliers (farmers) of Nile Breweries Ltd were certificate holders though enlightened to understand and interpret accurately the variables under investigation. As reflected in table 6 above, 68.8% of the respondents were employees of the lower level management, 20.8% belonged to Middle level employees whereas 10.4% were members of the top management. This means that information was obtained from all the strategic levels of management with a pool of skilled personnel to ensure operations success.

Furthermore, Table 6 results indicated that 15.6% of the respondents had spent 1-3years working at Nile Breweries Ltd, those who had been in Nile Breweries Ltd for 3-6years constituted 17.7% of the total respondents, and those that had worked with Nile Breweries Ltd for a period of 7 years and more comprised 66.7%. From these findings, it was observed the majority of the respondents had been serving for a period of 7 years and more. This implies that majority of the respondents had spent a considerable period of time working at Nile Breweries Ltd and farmers had also had considerable time supplying the company with local sorghum and malt/barley products hence understood the company trends towards supplier development process and its corresponding effect on operational efficiency.

In regard to how often NBL carried out Supplier Development, 54.2% of the respondents revealed that it was annually, 20.8% stated that the company does it on Semi- Annually basis, 14.6% observed the NBL conducted supplier development on Quarterly basis while 10.4% revealed that it was done on Monthly basis. The implication of the above finding is that NBL conducted supplier development on a regular basis on the demand and need as it arose from time to time as a continuous process of enhancing supplies efficiency within the supply chain system.

4.3 The effect of financial support on operational efficiency of Nile Breweries Limited.

The first objective of this study was to examine the effect of Financial Support on Operational efficiency of Nile Breweries Limited. Respondents provided data in regard to the extent to which they strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5). Data was analysed using SPSS version 21 where findings were presented in both descriptive and inferential analysis format. Descriptive analysis was presented using mean and standard deviation while inferential analysis utilized Pearson correlation co-efficient to establish the effect of Financial Support on Operational efficiency of Nile Breweries Limited as shown below;

Table 7: Illustrating the effect of Financial Support on operational efficiency of NBL

	Financial Support and operational efficiency of NBL	N	Minimum	Maximum	Mean	Std. Deviation
1	NBL provides equipment and tools(tractors, harvesting and drying tools) to farmers	96	1	5	3.33	0.29
2	NBL provides loans/capital to boost large scale farming of barley & sorghum	96	1	5	2.60	0.47
3	NBL provides capital to buy high quality barley seeds and pesticides	96	1	5	3.06	1.34
4	Farmers are better able to communicate with NBL based on technical details	96	1	5	3.0	0.75
5	Farmers are motivated with monetary rewards for good performance	96	1	5	2.71	0.63
6	NBL provides physical cash to boost farming financial needs	96	1	5	2.75	0.51
7	NBL gives Fertilizers to boost soil fertility for barley growing farmers	96	1	5	2.38	0.35
8	Farmers are aware of best practices in large scale commercial farming	96	1	5	2.19	0.46
	Average				2.75	0.6

Source: Own computation based on survey data

Table 7 Results revealed that NBL provided direct investment in equipment and tools (tractors, harvesting and drying tools) to farmers (Mean=3.33, S.D= .29). The implication of the above finding was that, Supplier Development initiative through provision of farming equipment such as tractors, irrigation equipment and combine sorghum harvest tractors improved suppliers'

reliability and new product manufacturability. This means that, farmers who practiced on large scale were provided with agricultural extension machines to enhance high productivity yield of both barley and sorghum.

Interviews conducted on 4th October, 2016 the manager Local sourcing, Mr. Joseph Kalule had this to say; "Through strong partnership with our farmers and taking ownership of the business helps to achieve steady supply of the required inputs raw materials) and to realize shared innovation in the process of local sourcing for improved productivity".

Respondents also agreed that NBL provides loans/capital to boost large scale farming of barley & sorghum (Mean=2.6, S.D=.47). The results implied that NBL launched a broad based social enterprise development initiative for securing continuity of supply and economic benefits through localisation of sorghum And barley malt for brewing beer.

During interaction with the Corporate Affairs Director Mr. Onapito–Ekomoit, he revealed that, "We infused an annual average of about USD 90million into farming communities and value chains to obtain locally grown raw materials for our brewing operations in 2013. We also invested over USD \$11 million in 2011 into the local grain sector promotion including large sorghum trials in Ngenge/Kapchorwa and Nwoya. .Onapito added that, NBL had to raise the number of farmers to 250 guarantee market for locally sourced inputs capable of translating translated high beer production for NBL market growth.

Respondents further agreed that NBL provided capital to buy high quality barley seeds and pesticides (Mean=3.06, S.D=1.34). The results implied that supplier development initiatives of providing farmers with social capital promotes development of white sorghum varieties planted and barley foot print limited to regions at above 1500 ccmeters.

Interviews held on 4th of October 2016 with the head of productions and operations

Indicated that, Through NBL Local Raw Material program we provide farmers with the necessary seeds to grow the grain we need for our processes. We educate them on how to achieve the right quality and subsequently provide the market once the crop is harvested. The statistics for the past 10years investment is as follows;

Nile Breweries' Capital Investment In Uganda USD (000's)

F05	F06	F07	F08	F09	F10	F11	F12*	F13	F14	TOTAL
3,458	2,738	6,760	18,184	35,132	38,536	24,643	50,642	79,469	27,943	287,505

Results in table 7 above also indicate that, Farmers are better able to communicate with NBL based on technical details (Mean=3.0, S.D= 0.70). The results imply that sharing of proprietary information is an incentive to Supplier Development initiatives because it enhances trust between the parties and that sharing of information enhances reduction of costs and enhances innovation.

In addition to the above an interviewee lamented that, "The perceived benefits of sharing strategic information are enhanced sales and margins from supplier products that better meet the needs of end-customers, as well as reciprocated rewards from grateful suppliers".

Respondents further agreed that, Farmers were motivated with monetary rewards for good performance (Mean=2.71, S.D=.63). The implication of this finding was that, rewards enticed farmers to indulge in progressive farming of barley and sorghum. The implication of the above finding is that, cash is necessity for sustaining production in farm lands that is in terms direct payment to casual labourers.

In relation to monetary rewards, the head accounts- in charge of supplier development revealed that since 2011, our gross direct payments to farmers amounted to approximately USD \$4 million and in 2014, we paid out a total of approximately USD \$7 million. Over a three-year period, approximately USD \$18 million was paid out to farmers and other actors in the value chains of Barley, Sorghum, Corn starch (maize) and Tapioca. This represents a 50% increment in our brewing crop requirements over a three-year period.

During Interviews with the heads of the farmer's forum executives, a similar argument was, "continuous long term improvement of suppliers is only achieved by identifying where value is created in the supply chain, positioning the buyer strategically in line with value creation and implementing an integrated supply chain management strategy to maximize internal and external supply chain capabilities throughout the supply chain. This enhances lead time reduction because raw materials supplied are right first time removing need for inspection and wastage of time.

Similarly,

In further interactions, Mr. Onapito, had this to say; "In 2015, we reached a total of approximately 17,000 farmers under our LRM agenda and in turn benefitted over 25,000 households countrywide. Our 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 table 7 further revealed that NBL gave Fertilizers to boost soil fertility for barley growing farmers (Mean=2.5, S.D=.43). This implies that implementation of supplier Development initiative such as supply of fertilizers, herbicides, fungicides and insecticides had a positive

impact on NBL's product quality because of the reduction in reverse logistics and increased sales volume.

Farmers Executive Forum comprising of Associations and farmers Unions revealed that the use of locally developed bred white sorghum breed, maize and barley were the best practices used in large scale commercial farming.

Above all the corporate officer together with the local enterprise development officer provided some of the challenges to local barley growing and the malting plant as below; some difficulties associated with barley farming include: Limited geographic footprint due to specific temperature, rainfall and soil requirements, unlike sorghum which grows in most regions of Uganda; Fragmented gardens due to land tenure system and lack of commercial farms; Poor soil husbandry due to low fertilizer usage and crop rotation; Little use of fungicides, insecticides and herbicides to protect the crop; Absence of irrigation to supplement low rainfall; Very little mechanization to improve productivity, and: Poor knowledge of barley farming best practice. All these factors contribute to relatively low yields, and are compounded by post-harvest losses due to inadequate and insufficient drying and storage facilities. The typical yield for a Ugandan smallholder barley farm is 800kgs/acre, compared to 1.5t/acre for NBL model farms and up to 6t/acre for an irrigated farm.

4.4 The effect of Training on Operational Efficiency of NBL

The second objective of the study was to examine the effect of Training on Operations Efficiency of NBL Limited. Respondents provided data in regard to the extent to which they strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5). Data was analysed using SPSS version 21 where findings were presented in both descriptive and inferential analysis format. Descriptive analysis was presented using mean and standard deviation while inferential analysis utilized Pearson correlation co-efficient to establish the effect of Financial Support on Operational efficiency of Nile Breweries Limited as shown below;

Table 8: Training and Operational Efficiency of NBL

	<i>Training and Operational Efficiency of NBL</i>	N	Minimum	Maximum	Mean	Std. Deviation
1	NBL offers training to its farmers to improve on the quality of sorghum	96	1	5	2.62	0.37
2	Knowledge transfer positively improved output level of barley	96	1	5	3.83	1.62
3	Sorghum growers successfully understand the new farming practices	96	1	5	2.51	0.41
4	Technological learning improves sorghum productivity	96	1	5	2.74	0.63
5	Farmers acquire external knowledge to exploit competitive advantage	96	1	5	3.63	0.51
6	knowledge transfer improves production completion time	96	1	5	3.94	0.31
7	Training Speeds up the exchange of tacit knowledge and greater output	96	1	5	3.92	0.78
8	Farmers assimilate& socialize knowledge with NBL training experts	96	1	5	3.50	0.46
9	Farmers focus on NBL capabilities and resources to provide planned inputs	96	1	5	4.0	1.45
10	Knowledge Transfer & Training improved farmer's competences influence the future business	96	1	5	4.23	1.85
11	Farmers capabilities improve with assistance of NBL workshops/seminars	96	1	5	3.42	0.68
	Average				3.49	0.82

Source: Own computation based on survey data

Table 8 indicates that, results on the effect of Knowledge Transfer and Training on Operational Efficiency of Nile Breweries Limited. The interpretation of the results was based on the mean and the S.D.

Table 8 Results revealed that NBL offered training to its farmers to improve on the quality of sorghum (Mean=2.62, S.D=0.37). The implication of the above finding was that, NBL's partnership with suppliers helped to train farmers to take ownership of the business which enhanced steady supply of the required inputs (sorghum and malt barley for brewing) and also through shared innovation in the process of manufacturing.

During interviews with the head of operations and production, had this to say; NBL launched a broad based local enterprise development initiative, with the primary aim of

securing continuity of supply and economic benefits through localization of sorghum in 2002 and barley 2008.

Respondents also agreed that Knowledge transfer positively improved output level of barley (Mean=3.83, S.D=1.62). This means that, Supplier development improved collaboration and knowledge sharing across the organization's Extended Enterprise because it has brought about Bench marking.

Farmers Executive Forum comprising of Associations and farmers Unions revealed that Knowledge transfer and training facilitated the production of the eagle lager brand portfolio brewed from mainly sorghum while the rest of the brands are brewed from locally grown malt.

Respondents further agreed that Sorghum growers successfully understand the new farming practices (Mean=2.51, S.D=0.41). This means that through partnerships with suppliers and open channels of information flow, suppliers are involved in early stages of product development. through technical centres established to offer logistics planning, coordination and services skills, inputs to refocus to agronomy and skills development when unions and associations have developed their capacity.

The study also found out that, Technological learning improves sorghum productivity (Mean=2.74, S.D=0.63). this means that supplier involvement in new product development have a number of benefits in the area of product quality, purchasing cost, access to technology and product development time.

Farmers Executive Forum comprising of Associations and farmers Unions indicated that, The involvements of suppliers in product development will not only support the manufacturing company to improve design and avail the expertise of their suppliers. However companies can also influence the direction of their supplier for improvements.

In a related interview with the head of local sourcing manager, Joseph Kalule, said that; NBL uses a hybrid model where some activities or roles are in house and others are out sourced. NBL has worked with private companies, government agencies, donors, banks to set up structures including group formation, farmer training in business and financial management programmes.

Respondents also agreed that, Farmers acquire external knowledge to exploit competitive advantage (Mean=3.63, S.D=0.51). The implication of the above findings was that, when suppliers are involved in product development it requires a regular flow of information from both directions in order to ensure the targeted results.

The study also found out that, Training Speeds up the exchange of tacit knowledge and greater output (Mean=3.94, S.D=0.31). The implication of the above finding is that, provision of technical support by sending engineers from NBL to suppliers with the goal to increase efficiency and effectiveness

Respondents also agreed that, Farmers assimilated & socialized with NBL training experts (Mean=3.92, S.D=0.78). The implication of the above finding was that, supplier development aspects of NBL exploited various interventions including providing equipment or capital, equipping supplier by technological support, equipment, or even by direct investments which was more similar to transfer of capital resources from a buyer company towards suppliers to raise local raw materials from 13% in 2002 to 93% in 2016.

From Table 8 above, respondents also agreed that, Farmers focus on NBL capabilities and resources to provide planned inputs (Mean=3.5, S.D=.46). The implication of the above finding was that, Supplier's early integration in a product development is crucial to reduce time to market, improve quality, and cut down costs using locally produced raw materials.

Knowledge Transfer & Training improved farmer's competences influence the future business (Mean=4.0, S.D=1.45). The implication of the above finding was that, NBL used a hybrid model of small holders and commercial farmers in targets to achieve the brewing demand supplied by a mix of 50% smallholder and 50% commercial farmers.

The head of operations revealed that two options are being developed: commercial farming (large scale) commonly known as Hub and Spoke in North West and Eastern Regions of Uganda. But 95% of the farmers are small holder's farmers farming on less than 5 acres of land.

The study also found out that, Farmers capabilities improved with assistance of NBL workshops/seminars (Mean=4.23, S.D=1.85). The implication of the above finding was that, since the launch of Eagle Project NBL had outsourced its operations to one company through introducing contract farming and forward contracts with farmer associations and commercial farmers to guarantee farmers market so a self-sustaining business.

The overall mean was 3.01 on the Likert scale as indicated in table 8 which implies that majority of the respondents agreed that farmers training helped NBL to strengthen partnership with local consultants to ear mark on the process of facilitating farmers' group formation and training has enabled established infrastructure-storage facilities, land preparation machinery, processing (cleaning) equipment and handling supply stocks worthy greater than 3.0 billion Ugandan shilling per annum.

4.5 The effect of Supplier Performance Evaluation on Operational Efficiency of Nile Breweries Limited

The third objective of the study was to examine **the effect of Supplier Performance Evaluation on Operational Efficiency of Nile Breweries Limited**. Respondents provided data in regard to the extent to which they strongly disagreed (1), disagreed (2), Not sure (3), agreed (4), strongly agreed (5). Descriptive analysis was presented using mean and standard deviation while inferential analysis utilized Pearson correlation co-efficient to establish the effect of supplier performance evaluation on Operational efficiency of Nile Breweries Limited as shown below;

Table 9: Supplier Performance Evaluation & Operational Efficiency at NBL

	Supplier Performance Evaluation & Operational Efficiency at NBL	N	Minimum	Maximum	Mean	Std. Deviation
1	NBL conducts on-time Product delivery assessment	96	1	5	2.47	0.61
2	NBL evaluates farmers on quality compliance	96	1	5	2.44	0.26
3	NBL does Capacity assessment to evaluate willingness to change product/services to meet changing needs	96	1	5	2.49	0.44
4	NBL conducts Information assessment to evaluate willingness to share sensitive information and to participate in new product development	96	1	5	2.62	0.24
5	Supplier Performance Evaluation aims at improving the efficiency and effectiveness of the farmers input	96	1	5	2.68	0.68
6	Performance Evaluation enables farmers adhere to standard operating procedures	96	1	5	2.54	0.46
7	evaluation of individual suppliers improves overall performance	96	1	5	3.34	1.49
8	Performance Evaluation permits farmers to strengthen their position at NBL	96	1	5	2.37	0.39
9	NBL engineers analyse each supplier's adherence to quality approved working procedures and equipment capability	96	1	5	2.05	0.34
	Average				2.56	0.55

Source: Own computation based on survey data

Table 9, explored whether Supplier Performance Evaluation influenced Operational Efficiency of Nile Breweries Limited. Results showed that NBL conducted on-time Product delivery assessment (Mean=2.47, S.D=0.61). The findings meant that NBL supplier performance evaluation approaches was utilized to efficiently integrate suppliers, manufacturers, warehouses and stores so that raw materials/inputs is produced and distributed at the right quantities, to the right locations, and at the right time in order to minimize system wide costs while satisfying service level requirements.

Respondents also agreed that NBL evaluated farmers on quality compliance (Mean=2.44, S.D=0.26). The implication of the above finding is that, Supply Quality Management (SQM) used by NBL to a smaller extent enhance operational excellence across the supply chain by minimizing operational costs, shortening process cycle, refining quality performance and enhancing customer satisfaction.

Table 9 shows that respondents further agreed that NBL did Capacity assessment to evaluate willingness to change product/services to meet changing needs (Mean=2.49, S.D=0.44). The results implied that NBL conducted performance evaluation to allow managers to measure performance, to signal and educate suppliers on the important dimensions of performance, and to direct improvement activities by identifying deviations from standards.

The study also found out that, NBL conducted information assessment to evaluate willingness to share sensitive information and to participate in new product development (Mean=2.62, S.D=0.24). This implied that assessing the performance of key suppliers of high value and high risk goods and services (outsourced service providers, for instance) required close performance and relationship monitoring and information exchange for better resources allocation.

Table 9 reveals that respondents also agreed that, Performance Evaluation enabled farmers adhere to standard operating procedures (Mean=2.68, S.D=0.68). The results implied that Performance measures provided the information necessary for decision makers to plan, control and direct NBL activities.

Results showed that evaluation of individual suppliers improved overall performance (Mean=2.54, S.D= 0.46). The implication of the above finding was that, reluctance to evaluate individual Suppliers may compromise operational success.

The study also found out that Performance Evaluation permits farmers to strengthen their position at NBL (Mean=3.34, S.D=1.46). This meant that operational success in an organization was central to effective farmers control in a bid to provide better quality and quantity inputs at different stages.

Findings also revealed that, NBL engineers analysed each supplier's adherence to quality approved working procedures and equipment capability (Mean=2.37, S.D=0.39). On analysis of the above with a view of preventing poor quality material from being supplied to the purchaser was exhibited where model farmers practiced improper agronomic practices, use of non-adaptable barley varieties and adherence to seed quality.

Interviews with the local enterprise development manager had this say; proper supplier evaluation requires regular Supplier's site visit linked to a specific time period, needed to be done during the evaluation period of the suppliers. During site visits it is required to take into consideration the differences between buying companies and their suppliers such as language, work ethics, and cultural differences. Site visiting is an important element which determines whether outsourcing from one supplier or another is a value added for buying companies or not and subsequently strengthens buyer-supplier partnership. Regular visits at supplier's site by the buyer's engineers, and dedicated supplier development teams is a direct involvement activity by the buying firm, in order to improve the supplier's skills and performance. This would involve creating opportunities for socializing employees of each firm through supplier conferences, on-site visits, workshops and team building, as well as implementing innovation-focused performance measures that reinforce the need to collaborate on product design and development.

4.6 OPERATIONAL EFFICIENCY OF NILE BREWERIES LIMITED

In bid to realize the results of dependent variable which was to explain “*Operational Efficiency of Nile Breweries Limited*” respondents indicated the extent to which they strongly disagreed (1), disagreed (2), Not sure (3), agreed (4), strongly agreed (5). The interpretation of the results was based on the mean and the Standard Deviation as presented below:

Table 10: Showing Descriptive views on Operational Efficiency of Nile Breweries Limited

	Operational Efficiency of Nile Breweries Limited	N	Minimum	Maximum	Mean	Std. Deviation
1	Availability of output to the market is desirable	96	1	5	2.58	1.64
2	Deliveries are received at the exact time of need(Timeliness (JIT)	96	1	5	2.33	1.70
3	Beer produced is Reliable to clients (Dependency, Quality, Adaptability)	96	1	5	2.19	1.63
4	The Cost per unit of producing beer Reduces with improved suppliers performance	96	1	5	2.59	1.50
5	Quality of beer is not compromised(number of defect, quality management, audit)	96	1	5	2.73	1.35
6	Price of outputs is moderately liked (cost reduction, price level, price trend, so on)	96	1	5	2.46	1.36
7	Continuous improvement helps NBL gain competitive advantages	96	1	5	2.71	0.24
8	Orders made are proportionate to the supplies (process, accuracy)	96	1	5	2.43	0.46
9	Customer relationship is excellent	96	1	5	3.52	1.20
10	Procedure and policies are followed to suit production	96	1	5	2.65	0.79
	Average				2.62	1.19

Source: Own computation based on survey data

Availability of output to the market was desirable (Mean=2.85, S.D=1.64). The results implied that having effective suppliers helped NBL to improve supplies to the market such as Eagle Lager beer brand .

Table 10 Results revealed that Deliveries are received at the exact time of need (Timeliness (JIT)(Mean=2.33, S.D=1.7). This implies that, to ensure the best people create the best processes, which leverage the best and most relevant technology for increased supply of inputs to NBL.

Respondents also agreed that Beer produced was Reliable to clients (Dependency, Quality, Adaptability) (Mean=2.19, S.D=1.63). The above findings imply that, product capabilities contribute directly to improved operational efficiency, improved customer service, and increased revenues.

Respondents further agreed that The Cost per unit of producing beer Reduced with improved suppliers performance (Mean=2.59, S.D=1.5). This implies that operational success entails driving down costs for any activities that are repeatable.

Results in table 10 indicated that Quality of beer was not compromised (number of defect, quality management, audit) (Mean=2.73, S.D=1.35). This meant that, Supplier effectiveness in providing quality barley and sorghum was usually considered a platform from which NBL built its operational success.

Table 10 results showed that respondents also agreed that, continuous improvement helped NBL gain competitive advantages (Mean=2.46, S.D=1.36). The implication of the finding was that their farmers produced quality inputs to permit quality output at lower costs, delivered in a timely manner to enhance beer product design aimed at upgrading their capacities and capabilities in order to meet NBL's short and long term needs.

Results in table 10 showed that orders made were proportionate to the supplies (process, accuracy) (Mean=2.59, S.D=1.5). This meant that Supplier development activities add value to NBL product or service line by eliminating shortage of raw materials.

The study also found out that Customer relationship was excellent (Mean=2.73, S.D=1.35). This implied that the proactive buying firm (NBL) demanded higher quality and willingness to work jointly with suppliers to achieve the specified levels.

Table 10 results revealed that Procedure and policies were followed to suit production (Mean=2.46, S.D=1.36). This implied that the operational efficiency was retraded by failure to adhere to proper procedures and policies.

Interview results

The manager local sourcing said that,

“Operational success is what occurs when the right combination of people, process, and technology come together to enhance the productivity and value of any business operation, while driving down the cost of routine operations to a desired level. The end result is that resources previously needed to manage operational tasks can be redirected to new, high value initiatives that bring additional capabilities to the organization. Focusing on operational success can help your business work smarter: increase efficiency, reduce costs, and streamline processes

4.7 Multi Regression Analysis between the Variables

Multiple Regression Analysis

The multiple regression analysis was utilized to test the effect of supplier development on operations efficiency of NBL. The models are presented below in equation form:

$$Y = b_0 + b_1F_1 + b_2T_2 + b_3P_3 + e$$

Where:

Y = **Operations Efficiency**;

F = financial support

T = training;

P= *Performance evaluation*

e = Error term.

In the model, in according to this, regressions result of interaction term is presented in Table 6.

Table 11: Illustrating the Multi Regression Analysis between the Variables

Predictor Variables	Non standard beta	Standard beta	t -value	P
(Constant)	5.452	5.154	20.712	.000
F=46.734; p=.000; R=0.495; R ² = 0.245				
Financial support	.388	.320	4.152	.000
Training	.114	.495	6.836	.000
Supplier Performance evaluation	.540	.295	3.824	.000
F=24.615; p=.000; R=0.506; R ² = 0.256				

Dependent Variable: Managerial Performance

The result presented in table 11 showed that the standardised beta coefficient for the interaction between financial support and operations efficiency of NBL is positive and significant (beta =.320; $t=4.152$, $p=.000$). The direct effects of training and supplier performance evaluation on operations efficiency of NBL were positive and significant and the beta values are 0.495 ($t=6.836$, $p=.000$) and 0.295 ($t=3.824$, $p=.000$), respectively. Mentioned interaction explained 24.5% of the variance of the operational efficiency score. Supplier development enhances operational efficiency when the coefficients of financial support, supplier training and supplier performance evaluation increase.

Hence the linear regression model is

$$Y = 5.452 + 0.32F_1 + 0.495T_2 + 0.295P_3 + e$$

Where:

Y = Operations Efficiency;

F = financial support

T = training;

P= *Performance evaluation*

e = Error term.

4.3.3. Results of t-test Analysis

In this section, we explore whether the two-way interaction between BP and organizational commitment varies between low and high managerial performance. With this aim, t-test analysis was performed and results of the analysis were presented in Table 7.

Table 12 below Mean (SD) and t-test For Budget Participation, Organizational Commitment and Interaction Term between High vs. Low Managerial Performance.

Variables	Farmers having low performance Mean(SD) N=20	Farmers having high performance Mean(SD) n=196	t-value(p)
Supplier development (X ₁)	3.1510 (.79146) N=20	3.7206 (.78158) n=196	-2.823 (.005)
Operations efficiency (X ₂)	3.7461 (.71059) N=20	4.1853 (.47823) n=196	-3.416 (.001)
Interaction term X ₁ X ₂	11.9630 (4.54579) N= 20	15.6768 (4.00916) n=196	-3.535 (.001)

According to the mean scores on BP, t-test indicates that farmers with high performance have under gone supplier development greater extent than farmers with low performance. In other words, the results of t-test refer to significant variations ($p < 0.01$, two-tailed test) between groups in terms of their supplier development levels. However, the mean scores on supplier development indicated that farmers with high performance appear to have high financial support, well trained and frequently evaluated more than farmers with operations efficiency. Similarly, as expected, the two-way interaction between supplier development and operations efficiency was found significant differences between production officers with high and low performance. In other words, these findings show that high interaction between buyer firm (NBL) and its farmers (suppliers) is associated with high operations efficiency.

CHAPTER FIVE

SUMMARY OF DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the discussions of the results, summary, conclusions and recommendations of the findings in chapter four in relation to the questions/objectives of the study and literature review basing on supplier development initiative, and its implications on operations efficiency of Nile Breweries Ltd.

5.2 Summary of the major findings

Following the discussion of the major findings above, the summary of the findings of the study were as follows;

The study deduced that indeed supplier development plays a vital role in influencing operations efficiency in terms of financial support, supplier training and supplier evaluation. Supplier development resulted to increased profitability, reduced product cost, helps to improve product quality and it helped in producing products faster than before due to improved supplier quality

The study deduced that has indeed NBL has training program that trains the suppliers and most trainings are well funded by NBL. In relation to financial support the study deduced that again financial support is an important element in supplier development because it really supports the suppliers gain a lot and producing good quality products. The study also found out that the organization provided the suppliers with equipment or tools for process improvement; it also provided technical support (personnel) to help out key suppliers to improve their operations and the organization.

Provide the supplier with capital for new investments at their facilities which are in line with improving the supplier development program and that will eventually help both firms to benefit equally. Financial support could make suppliers more willing to make customized items for customers, allow both parties to communicate more efficiently and hence result in shortened product development cycles and reduced procurement costs.

The study established that organization are directly involved with the suppliers and that the organization conducts site visits to the suppliers premises to assess their facilities also suppliers are selected carefully and evaluated regularly and once the suppliers are evaluated they are given feedback as soon as possible. This was a very important aspect when it came to supplier development and it actually led to the organization's better performance which as the study deduced leads to improved profitability.

The findings showed that Nile Breweries Ltd achieved reasonable benefits from developing suppliers as well as procurement effectiveness. Also findings showed that supplier development had an effect on the procurement effectiveness and efficiency of the organization. The purchasing department consulted and involved other departments in developing suppliers.

5.3 Discussion of the major Findings

5.3.1 The effect of Financial Support on Operational Efficiency of Nile Breweries Limited

Basing on results in Table 8, the study established NBL provided direct investment in equipment and tools (Mean=3.33, S.D= .29). The Supplier Development initiative was done through provision of farming equipments such as tractors for operations on large scale farms, hand hoes and pangas. These helped farmers to improve supplies such as high portfolio of sorghum and barley foot print.

According to Table 7 results NBL provides capital to boost large scale farming of barley & sorghum (Mean=2.6, S.D=.47). NBL launched a Broad Based Social Enterprise Development initiative for securing continuity of supply and economic benefits through localisation of sorghum and barley malt for brewing beer. The study established that on annual basis, average of USD 90million had been infused into farming communities and value chains to obtain locally grown raw materials for our brewing operations in 2013 while over USD \$11 billion had been invested into the local grain sector promotion including large sorghum trials in Ngenge/Kapchorwa and Nwoya in the last seven years since 2011. Massive investment of NBL benefited communities to attain better standards of living have a longer life Span. NBL guaranteed market for various supplies.

According to table 7 results NBL provided capital to buy high quality barley seeds and pesticides (Mean=3.06, S.D=1.34). Breed white sorghum varieties were planted and barley

foot print limited to regions at above 1500meters. This helped to boost NBL Local Raw Material sourcing program covering sorghum, maize, barley development and malting operations for improved operations efficiency.

The study results also indicated that in 2015, NBL paid out approximately 17,000 farmers over 25,000 households countrywide. This helped the company to maximize material out turn target purchase of over 2,000 metric tons of barley, 4,500 of sorghum, 3,000 of corn starch and 3,208 of high quality cassava flour.

However, besides the developments NBL sighted some challenges of Poor soil husbandry due to low fertilizer usage and crop rotation; Little use of fungicides, insecticides and herbicides to protect the crop; Absence of irrigation to supplement low rainfall; Very little mechanization to improve productivity, and: Poor knowledge of barley farming best practice. All these factors contributed to relatively low yields, and are compounded by post-harvest losses due to inadequate and insufficient drying and storage facilities.

5.3.2 The Extent to which Training influences Operational Efficiency of Nile Breweries Limited

Chapter four results in Table 8 revealed that, NBL offers training to its farmers to improve on the quality of sorghum (Mean=2.62, S.D=0.37). NBL partners with suppliers to train farmers take ownership of the business which enhances steady supply of the required inputs (sorghum and malt barley for brewing) and also through shared innovation in the process of manufacturing. NBL looks suppliers as the partners and want to establish long term relationship for meeting high standards of quality and error free deliveries for meeting the increased demand.

The results is in agreement with Ragatzet *al* (1997), who earlier established that trainings and education strengthen the relationship and improves the performance level of both buyer and supplier. He categorized the training into periodic and ad hoc trainings. Periodic trainings enable suppliers to have deeper understanding of customer's processes and the improvement areas. Ad hoc trainings are more new product development specific and with building long term relationships (Ragatzet *al.*, 1997).

Results also provided that NBL had a strategy of achieving the right quality and subsequently providing the market once the crop is harvested. To achieve this strategic goal, NBL launched a Broad Based Local Enterprise Development Initiative, with the primary aim of securing

continuity of supply and economic benefits through localization since 2002 for sorghum 2002 and barley in 2008. Through training, knowledge was imparted to reside in human minds of the farmers. Manufacturing processes became efficient due to improved knowledge transfer within or outside company's boundary like between NBL contractors and their suppliers which in turn led to improved supplier's productivity and NBL performance. The finding is supported by Nagati and Rebolledo (2013), who revealed that training and education will be an investment made by the customers, so strategic suppliers are suitable for training and education.

Respondents also agreed that Knowledge transfer positively improved output level of barley (Mean=3.83, S.D=1.62). Supplier development improved collaboration and knowledge sharing across suppliers of inputs through socialization with employees, having site visits to assess and improve production processes.

Information from Farmers Executive Forum comprising of Associations and farmers Unions showed that NBL's capacity to provide Knowledge transfer and training facilitated the production of the eagle lager brand portfolio brewed from mainly sorghum while the rest of the brands are brewed from locally grown malt. These trainings were conducted from through technical centres established to offer logistics planning, coordination and services skills, inputs to refocus to agronomy and skills development when unions and associations have developed their capacity. The finding is similar to Krause et al (2000) who argued that direct influence of customers through training of suppliers have significant effect on suppliers performance level.

In addition to the above finding, the head of local sourcing manager, Joseph Kalule, mentioned that NBL uses a hybrid model where some activities or roles are in house and others are outsourced. NBL has worked with private companies, government agencies, donors, banks to set up structures including group formation, farmer training in business and financial management programmes. Similarly, the head of operations revealed that two options are being developed: commercial farming (large scale) commonly known as Hub and Spoke in North West and Eastern Regions of Uganda. But 95% of the farmers are small holder's farmers farming on less than 5 acres of land. This finding is synonymous to Modi and Mabert (2007) who found out that supplier's employees expertise could be improved by providing them trainings and problem solving skills, it will also impact on the supplier's productivity. The training will provide the

opportunity to transfer tacit knowledge which in terms will improve supplier's competences and that will influence the future business.

The study results further indicated that farmers training helped NBL to strengthen partnership with local consultants to ear mark on the process of facilitating farmers' group formation and training. Training has enabled established infrastructure-storage facilities, land preparation machinery, processing (cleaning) equipment and handling supply stocks worthy greater than 3.0 billion Ugandan shilling per annum.

Table 9 results show that respondents also agreed that, continuous improvement helps NBL gain competitive advantages (Mean=2.46, S.D=1.36). The implication of the finding is that there is a need for promoting supplier efficiency in the areas of quality, costs, delivery, innovation and product design aimed at upgrading their capacities and capabilities in order to meet the purchaser's short and long term needs among which provision of high quality is considered as part of buyer-supplier needs. The manager local enterprise development said that, "Operational success is what occurs when the right combination of people, process, and technology come together to enhance the productivity and value of any business operation, while driving down the cost of routine operations to a desired level. The end result is that resources previously needed to manage operational tasks can be redirected to new, high value initiatives that bring additional capabilities to the organization.

5.3.3 The effect of Supplier Performance evaluation on operational efficiency of Nile Breweries Limited.

According to the results in Table 9, Supplier Performance Evaluation influenced Operational Efficiency of Nile Breweries Limited. Results showed that NBL conducted on-time Product delivery assessment (Mean=2.47, S.D=0.61). The findings meant that NBL supplier performance evaluation approaches were sub optimally utilized to efficiently integrate suppliers, manufacturers, warehouses and stores so that raw materials/inputs is produced and distributed at the right quantities, to the right locations, and at the right time in order to minimize system wide costs while satisfying service level requirements. This is in line with Sollish and Semanik, (2012), who established that, Supplier review is conducted by the companies through different ways like product testing, supplier site visit and meeting with supplier to identify the causes of

opportunity to transfer tacit knowledge which in terms will improve supplier's competences and that will influence the future business.

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performance decline or the improvement areas for achieving the desired objective of the companies from their suppliers.

Interview results provided that Regular visits at supplier's sites was done by the NBL's engineers, and dedicated supplier development teams was an direct involvement activity conducted by NBL in order to improve the supplier's skills and performance. This involved creating opportunities for socializing employees of each firm through farmers in conferences, on-site visits, workshops and team building, as well as implementing innovation-focused performance measures that reinforce the need to collaborate on product design and development. This finding is supported by Swanström, Managing director, (2014), who revealed that supplier site visits especially in the start of the project made NBL aware of supplier's abilities to fulfil the requirements. In addition, the site visits also enabled the opportunity for an informal audit of supplier.

Through suppliers' evaluation NBL was able to obtain new products from capable suppliers who can provide the specifications with high quality and low cost. NBL was able to propose the improvements to customer's product based on the discussion with suppliers especially for good hardening and surface treatment process. There was very little room for change as the product mainly decided by the customers. The finding is in agreement with Swanström, Managing director, (2014), who found out that companies are able to share information with suppliers and have confidential agreement with them so that companies do not have the risks for sharing the important information.

Through evaluation of suppliers' performance, NBL was able to also verify the product specification and look that the suppliers have the required human resources. This helped management to regularly measure its quality performance with the quality standards as a means of providing quality assurance to customers and that the predetermined quality standards should be strictly followed in the execution of tasks as one way of enhancing operational success. This finding is in accordance to Sollish and Semanik (2012) who established that supplier's reviews are conducted by companies to assess the progress of their supplier's performance. The performance scorecard could be utilized to communicate the supplier performance with the perspective of different categories like cost, quality, level of service on time delivery and other. The performance scorecard includes the desired level of performance among different categories and the current level of supplier's performance (Sollish and Semanik, 2012).

Similarly, Fowler and Graves (2011), they further argued that the evaluation of selected suppliers is also necessary. The criteria used for selecting the suppliers in step two i.e. performance criteria will be applicable for measuring supplier's current performance level as they have been selected based on that criterion (Fowler and Graves, 2011). According to Sollish and Semanik (2012) companies need to consider the supplier's perspective and their feedback for improvements. The supplier performance could be improved through developing an effective plan and it mainly based on six important steps; analyzing the current situation and performance level of suppliers, the identification of gaps from expected level of performance, development of improvement plans, implementation of plan, measurement of improved performance level and finally the continuation of this complete cycle for continuous improvements (Sollish and Semanik, 2012).

However on the contrary, Simpson *et al* (2002) showed that 45.5 percent of the firms do not have formal method for supplier evaluation. Handfield, (2009) insisted on measuring the supplier's performance as in the absence of appropriate supplier performance measures, it will be difficult for organizations to evaluate supplier's contractual obligations fulfilment. Organization need to decide what is important for them to measure and how they will allocate the weight to measurement criteria. The quantitative and the qualitative part of measurement also required to be clarified. Mainly three categories are used for measuring quantitative performance; delivery performance, quality performance and cost reduction.

Handfield, (2009), accepted that supplier development practices not only improves the supply chain efficiency but also contributes manufacturing firms to create competitive edge by developing appropriate suppliers. Supplier inspection for quality at NBL was noted to be below average although monthly internal meeting were held to discuss their supplier's performance. Some supplier performance evaluation was conducted once per two years while other discussions with suppliers were done when quality or delivery problem arises. It could be argued that companies continuously follow supplier performance as mentioned by Talluri and Sarkis (2002). Companies also conduct yearly, twice per year or monthly meetings to discuss supplier performance evaluation. All the studied companies mentioned that they consider supplier feedback for performance improvement as this was also argued by Sollish and Semanik (2012) that companies should consider supplier's feedback.

5.4 Conclusions

From the summary of findings, the study concluded that: -

Indeed, supplier development is crucial in improving the supplier performance and the NBL's operations efficiency. The study established a significant positive relationship between three elements of supplier development namely financial support, training and supplier performance evaluation. Therefore, firms in manufacturing industry ought to engage more in activities that help improve the operations of their suppliers.

This study also concludes that direct involvement in supplier activities should be considered paramount also offering rewards to the suppliers is very key as it surely acts as a motivation tool and if suppliers are motivated they perform well and they also end up to be loyal to their customers. Also offering training is also important since when suppliers are trained they tend to perform well.

And finally to maintain a competitive age across the market requires having capable suppliers is an important factor to be successful in business. Therefore, for a firm is to remain competitive it needs to invest heavily in suppliers through the supplier development program to help improve on the quality of products or services, reduce on product costs and more so to increase profits and also to sustain customers.

The findings revealed that there is a significant relationship between supplier development and NBL operational efficiency and without farmers being effectiveness in providing raw materials, operational success of Nile Breweries Ltd development would have been worse. And that the benefits of operational success are centered on significant cost saving, increased productivity and improved quality control, strong competitive advantage, and increased earnings for the organization and mitigation of resource wastage

5.5 Recommendations

In reference to the conclusion the study recommends that;

NBL should work hand in hand with the financial institutes to curb the challenge of finances because providing funds to the supplier is not easy but when money is available it becomes much easier.

Also the study recommends that the organisations, both private and public should fund well the training programs that they administer to their suppliers this will indeed to better performance.

In firm involvement firms ought to evaluate and give feedback to their suppliers more often. This gives the suppliers an opportunity to know their weaknesses and shortfalls as well as adjust their operations to meet the needs of the manufacturing firms. On rewards I would recommend that firms should be more vigorous in rewarding and recognizing there supplier as it's a motivation tool.

The study recommends that the with emphasis of maintaining a good NBL-farmer relationship, the two parties should therefore implement strategies such as setting key performance indicators, understanding their long term objectives and strategic goals of the partnership

NBL needs to recognize that improved supplier performance can only be realized and sustained if it recognizes procurement and supply chain management as sources of competitive advantage and align their supply chain management with its overall business strategy. Any performance improvements gained without this strategic alignment are likely to be short term and perhaps only tactical in nature.

Institutional Managers must view supplier development as a long term business strategy that is the basis for an integrated supply chain. Although difficult, supplier development to be an important aspect in the deployment of a truly integrated supplies chain.

The management of Nile Breweries Ltd should decide on the methods in developing suppliers. The management should get one person or a representative situated at the suppliers premises where they are buying the products/services from in order to provide administrative support to the suppliers.

The study suggests that government to extend services in form of loans to aid the suppliers develop their supply base and ensure good roads and communication services to these areas where suppliers are located. The government should also make sure that may be equipments needed by the organization that cannot be got locally and need to be sourced outside beyond the local borders.

Purchasing department should bear in mind that more emphasis should be on assessing the performance of the suppliers and records must be kept for comparison purposes. Managers should make sure that problems which are internal are solved and they should not hold stock for a very long time. They should control or procure what is enough for production.

The management should continue with its theme of supplier development and also be creative and innovative in their bid to ensure operational excellence. Therefore the study calls upon the management to involve all departments which add value on to the company's products/services to be actively involved.

The management should regularly measure its quality performance with the quality standards as a means of providing quality assurance to customers and that the predetermined quality standards should be strictly followed in the execution of tasks as one way of enhancing operational success.

It was recommended that NBL should create awareness through regular capacity building programmes especially among the suppliers to enhance the understanding of the importance of supplier development on product quality so that they don't look at it with a negative attitude which will rather hinder its progress, make reasons for undertaking supplier development initiatives known to all employees through training so that they can be able to appreciate the possible benefits an organization can reap from supplier development and how they can gain from those benefits, carry out routine product quality checks as part of ongoing supervision, initial and follow up assessments of quality management and reporting systems, strengthening programme staff's capacity in assessing product quality and preparation of a formal product quality audit as a way of assessing product quality of the delivered products rather than basing on only dimensions such as Performance, Features, Reliability, Conformance, Durability, Serviceability, Aesthetics, Safety, and subjective perceptions based on brand name and advertising.

5.6 Areas of Further Research

In regard to results and recommendations, the following areas are put forward for future research;

To examine the effect of Supplier development initiatives on Organizational information sharing.

Distributor sharing of strategic information with suppliers is an important but under researched issue within the marketing discipline. Since information sharing is regarded as a barrier to supplier development, further research is necessary with regard to what type of information should be shared.

To investigate how supplier development affects total lead time of the buying organization.

To determine the impact of supplier development on an organisation's costs of production such as inspection of quality, inventory control, and benefits of tendering in procurement.

To examine the relationship between suppliers and buyers and methods used in supplier development.

To examine the impact of benchmarking and employee involvement in product/service design on operational efficiency.

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APPENDIX I: QUESTIONNAIRE FOR NBL STAFF

Dear Respondent,

I am a student of Kyambogo University pursuing a study on; *“Supplier Development and Operational Efficiency; a Case Study of Nile Breweries Ltd”*. You are among the selected participants in this study by providing information. This study is a requirement for partial fulfilment for the award of the degree of Master of Science in Supply Chain Management of Kyambogo University and is purely for academic purposes. Therefore the information given will be treated with utmost confidentiality. I therefore request you to spare some time and help me to fill in these questionnaires. Your response is highly appreciated.

Thank you for your cooperation.

Section A: Background Information

Instruction: Please tick the most appropriate option that applies to the topic of study in relation to your organization.

- A). Gender: Male Female
- B). Age Bracket: 20-29 years 30-39 years
 40-49 years 50 years and above
- C). Qualification
 Certificate and below Diploma
 Degree Post graduate & masters degree
- D). Length of service at NBL
 1. years 4-6 years 7 years and over
- E) How often does NBL carry out its Supplier Development programme?
 Annually Semi- Annually
 Quarterly Monthly

For each of the following questions/statements, in Sections B, C, D and E indicate with a tick in the box on the right the extent to which you agree/disagree with the question/statement as shown below:

1	2	3	4	5
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree

Section B: The effect of financial support on operational efficiency of Nile Breweries Limited.

Which of the following statements explain “**The effect of Financial Support on Operational efficiency of Nile Breweries Limited**” Please indicate the extent to which you strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5)

	Financial Support on operational efficiency of NBL	1	2	3	4	5
1	NBL provides equipment and tools(tractors, harvesting and drying tools) to sorghum growers					
2	NBL provides loans/capital to boost large scale farming of barley & sorghum					
3	NBL provides capital to buy high quality barley seeds and pesticides					
4	Farmers are motivated with monetary rewards for good performance					
5	NBLvisits famers’ farms to share knowledge and feedback					
6	NBL provides equipments					
7	NBL gives Fertilizers to boost soil fertility for barley growing farmers					
8	Farmers are aware of best practices in large scale commercial farming					

Section C: The effect of Training on Operational Efficiency of NBL

Which of the following statements explain “*The effect of Knowledge Transfer and Training on Operational Efficiency of Nile Breweries Limited*” Please indicate the extent to which you strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5)

	<i>Training and Operational Efficiency of NBL</i>	1	2	3	4	5
1	NBL offers training to its farmers to improve on the quality of sorghum					
2	Knowledge transfer positively improved output level of barley					
3	Sorghum growers successfully understand the new farming practices					
4	Technological learning improves sorghum productivity					
5	Farmers acquire external knowledge to exploit competitive advantage					
6	knowledge transfer improves production completion time					
7	Training Speeds up the exchange of tacit knowledge and greater output					
8	Farmers assimilate& socialize knowledge with NBL training experts					
9	Farmers focus on NBL capabilities and resources to provide planned inputs					
10	Knowledge Transfer & Training improved farmer’s competences influence the future business					
11	Farmers capabilities improve with assistance of NBL workshops/seminars					

Section D: The effect of Supplier Performance Evaluation on Operational Efficiency of Nile Breweries Limited

Which of the following statements explain “The effect of Supplier Performance Evaluation on Operational Efficiency of Nile Breweries Limited” Please indicate the extent to which you strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5)

	Supplier Performance Evaluation & Operational Efficiency at NBL	1	2	3	4	5
1	NBL conducts on-time Product delivery assessment					
2	NBL evaluates farmers on quality compliance					
3	NBL does Capacity assessment to evaluate willingness to change product/services to meet changing needs					
4	NBL conducts Information assessment to evaluate willingness to share sensitive information and to participate in new product development					
5	Supplier Performance Evaluation aims at improving the efficiency and effectiveness of the farmers input					
6	Performance Evaluation enables farmers adhere to standard operating procedures					
7	evaluation of individual suppliers improves overall performance					
8	Performance Evaluation permits farmers to strengthen their position at NBL					
9	NBL engineers analyze each supplier’s adherence to quality approved working procedures and equipment capability					

SECTION E: OPERATIONAL EFFICIENCY OF NILE BREWERIES LIMITED

Which of the following statements explain “*Operational Efficiency of Nile Breweries Limited*” Please indicate the extent to which you strongly disagree (1), disagree (2), Not sure (3), agree (4), strongly agree (5)

	Operational Efficiency of Nile Breweries Limited	1	2	3	4	5
1	Availability of output to the market is desirable					
2	Deliveries are received at the exact time of need(Timeliness (JIT)					
3	Beer produced is Reliable to clients (Dependency, Quality, Adaptability)					
4	The Cost per unit of producing beer Reduces with improved suppliers performance					
5	Quality of beer is not compromised(number of defect, quality management, audit)					
6	Price of outputs is moderately liked (cost reduction, price level, price trend, so on)					
7	Continuous improvement helps NBL gain competitive advantages					
8	Orders made are proportionate to the supplies (process, accuracy)					
9	Customer relationship is excellent					
10	Procedure and policies are followed to suit production					

“Thanks for your cooperation”

APPENDIX II : INTERVIEW GUIDE FOR MANAGEMENT

1. Does providing financial support improve operational efficiency of Nile Breweries Limited?
2. To what extent does training suppliers improve operational efficiency of Nile Breweries limited?
3. What are the important aspects while evaluating supplier performance?
4. Does the company continuously follow the supplier performance and improvements?
5. What do you think that how can suppliers effect on your products and performance?
6. What are the main problems that you face from your supplier's side?
7. To what extent does Supplier performance evaluation improve operational efficiency of Nile Breweries Limited?
8. What measures can be adopted to improve operational efficiency?

“Thanks for your cooperation”

APPENDIX III: FOCUSED GROUP DISCUSSION FOR FARMERS AND THEIR EXECUTIVES

Consent Process

Consent forms for focus group participants are completed in advance by all those seeking to participate. Below is a summary of the information in the consent form that focus group organizers and facilitators should use to make sure participants understand the information in the consent form.

Thank you for agreeing to participate. We are very interested to hear your valuable opinion on how Nile Breweries can develop farmers to retain yield a high farm yield of barley and sorghum

Instructions: This FGD will be conducted with 6 to 12 participants who are members of a farmers group targeted for NBL.

Introduction: Thank you for the opportunity to speak with you. We are a research team interested in learning more about sorghum and barley farming in this area. I assure you that all the information that you provide to us will be used exclusively for the study analysis. I will record the session but all responses will appear anonymously. This is not a test, and there are no right or wrong answers. The most important thing is that you should feel comfortable and contribute as much as you can. You can express opinions and discuss issues freely

1. What are some of the positive aspects of working in NBL farms?
2. What are some things that aren't so good about this Barley farming?
3. Have you considered leaving Barley farming? If so, why?
4. What factors contributed to your decision to want to leave and to your decision to stay?
5. What would keep you in Barley farming job longer?
6. What suggestions do you have to improve the working environment here so that you would want to farm more barley or sorghum?

Thanks for your cooperation

APPENDIX IV: OBSERVATION GUIDE

Principles for the Delivery of Quality

Rating: 1 = yes / satisfactory

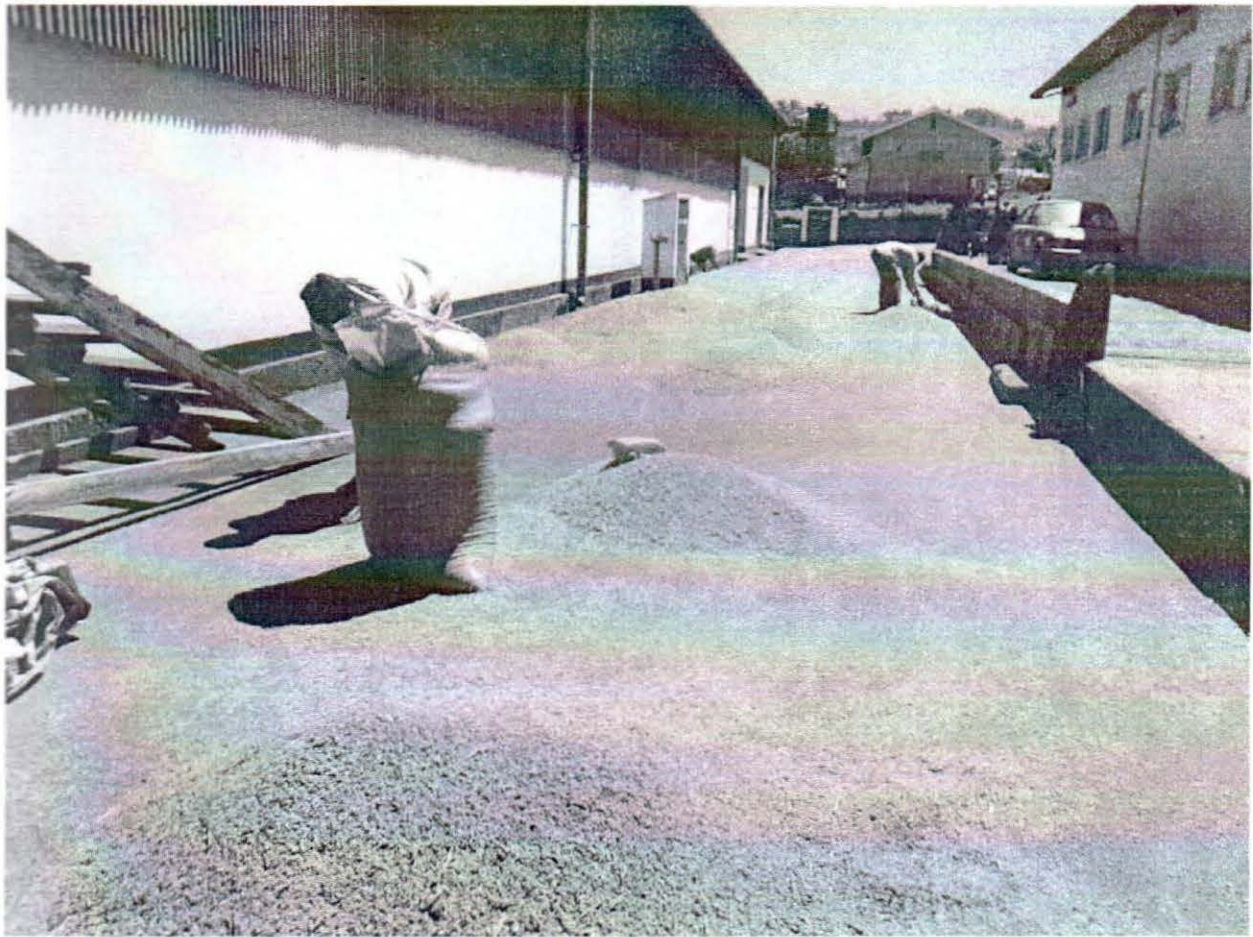
2= No/ unsatisfactory

No	Key Assessment Indicators for effective supplier development and operations efficiency	Regions					
		Western		Eastern		Northern	
		1	2	1	2	1	2
1	Delivery improvement and added value						
2	Delivery capability (quantity desired)						
3	Customer satisfaction attained						
4	Cost minimized and value added obtained						
5	Relationship strengthened and responsiveness.						
6	High Product quality						
7	Transaction costs are reduced and service improved						
8	Farming Innovative capacity gained						
9	Barley output conforms to standards						

**APPENDIX V: PHOTOGRAPHIC VIEW OF THE BALEY PLANTATION IN BUKWO
AND LIRA DISTRICTS**



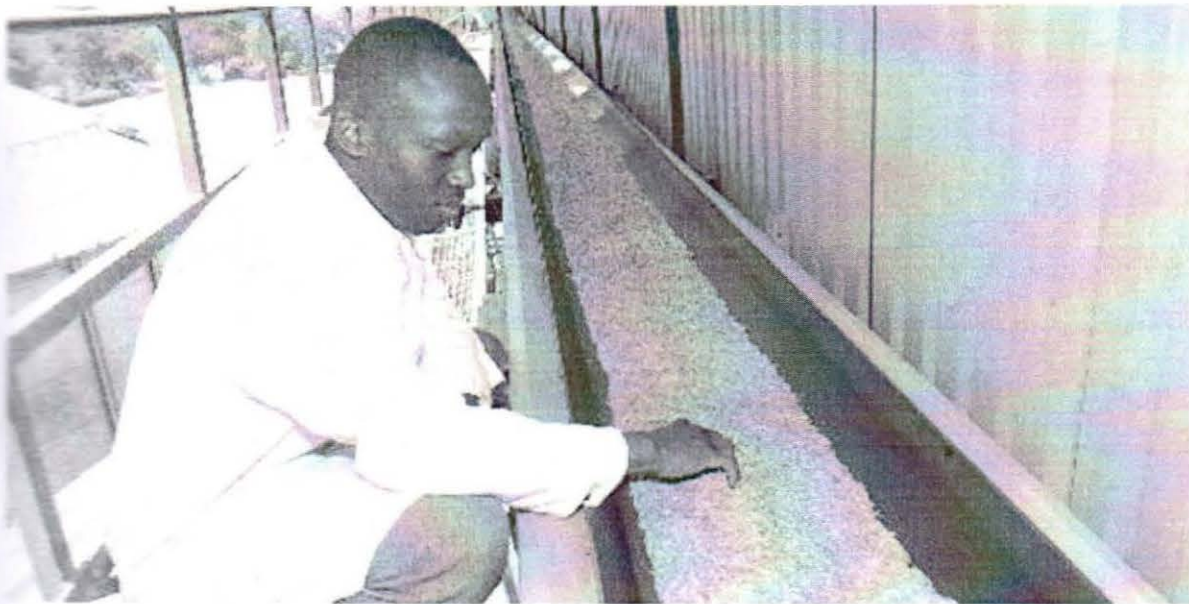
The chairman Lira farmers association inspects Green Barley grains once it was grown to maturity



Bagging up the Barley once it was dry enough in Bukwo district



Dude shuffling through the barley to aerate it and help it dry



A grain handler sorts out barley: More Ugandan farmers are turning to the crop, whose market is estimated at more than US\$18 billion (\$8 million) a brewer.



Farmers in Bukwo District have until recently been involved in small scale farming which limited adoption to modern methods of farming.

APPENDIX VI: TABLE FOR SAMPLE DETERMINATION

Ppnsize	Sample size	Ppnsize	Sample size	Ppnsize	Sample size	Ppnsize	Sample size	Ppnsize	Sample size
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

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

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KYAMBOGO UNIVERSITY

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Website: www.kyu.ac.ug

Office of the Dean, Graduate School

12th October 2016

To Whom It May Concern

RE: LETTER OF INTRODUCTION

Dear Sir/Madam,

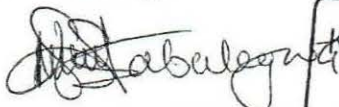
This is to introduce **Mr. Tugume James Joe** Registration Number **14/U/12879/GMSC/PE** who is a student of Kyambogo University pursuing a Masters Degree.

He intends to carry out research on **“Supplier Development and Operational Efficiency: A Case Study of Nile Breweries”** as partial fulfillment of the requirements for the award of the Master of Science Degree in Supply Chain Management.

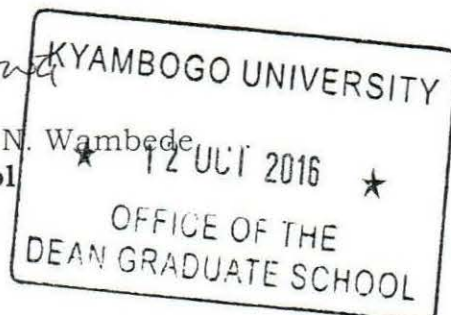
We therefore kindly request you to grant him permission to carry out this study in your organization.

Any assistance accorded to him will be highly appreciated.

Yours sincerely,



Assoc. Prof. Muhamud N. Wambede
Dean, Graduate School



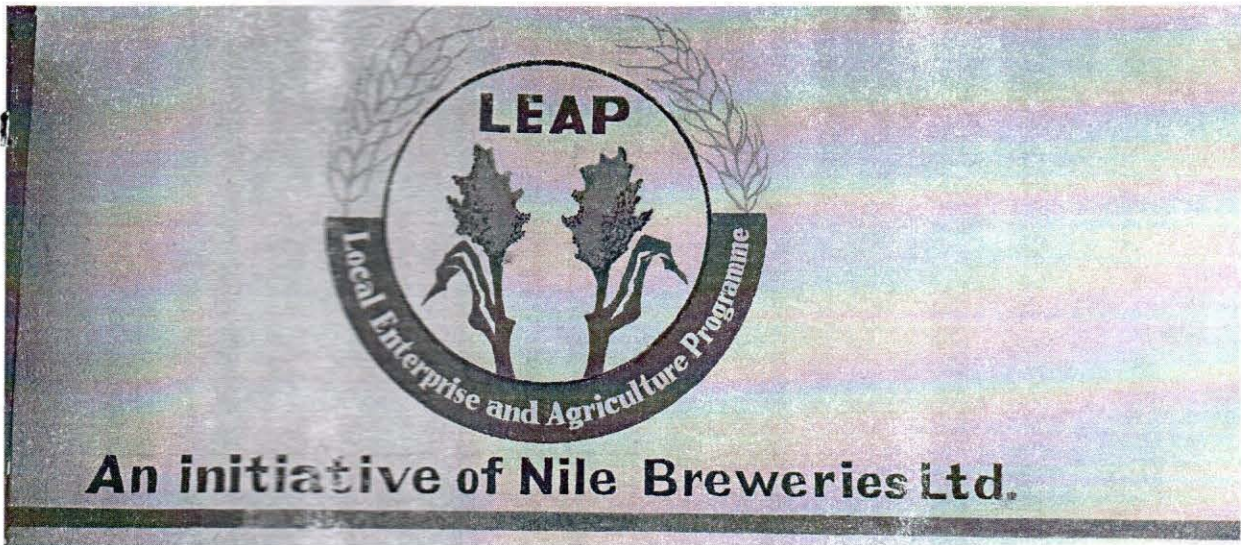
APPENDIX: VII: AUTHORIZATION LETTER ISSUED BY NBL



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Communications Manager

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Sumin.Namaganda@ug.sabmiller.com

APPENDIX VII: OFFICES OF LIRA BARLEY FARMERS





Impact of Local Sourcing Initiatives: A case of Nile Breweries Ltd's (SABMiller) Sorghum and Malting barley programmes in Uganda.

George Mbogo
Local Enterprise Development Manager
Nile Breweries Ltd
P.O BOX 762
JINJA – UGANDA
Tel: Office: +256332240344/ +256332210009
Mobile: +256756 720177/ +256776 720177
Email: george.mbogo@ug.sabmiller.com

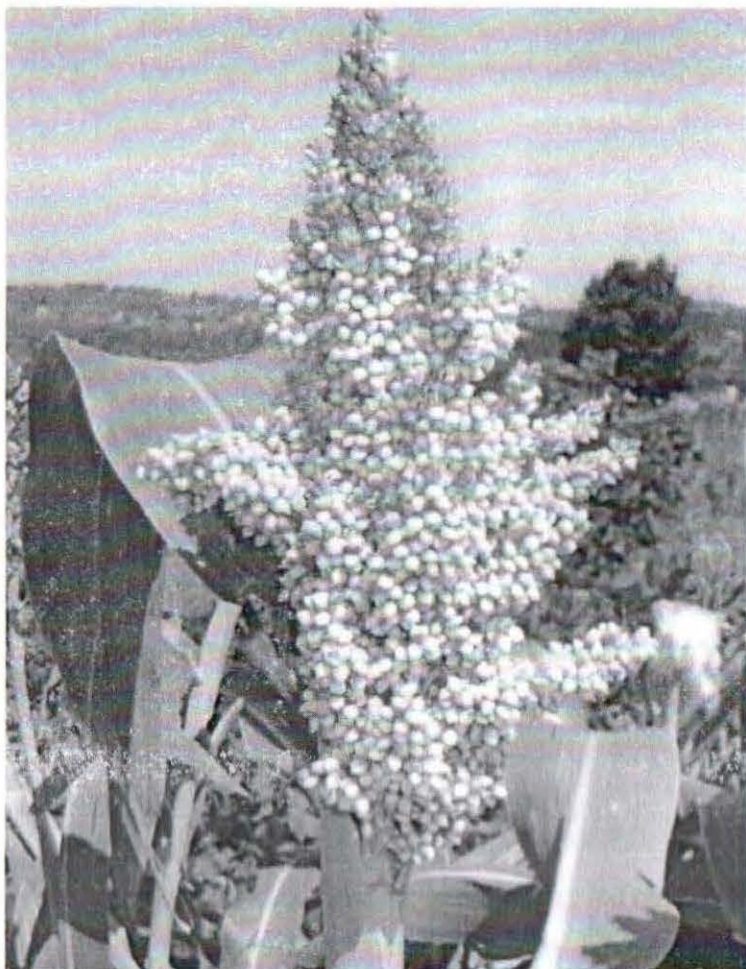
05th March 2013

Nile Breweries Ltd (NBL) is a beverage company operating in Uganda and is a subsidiary of SABMiller, which is the second biggest brewing company in the world.

The Local Enterprise & Agriculture (local sourcing) programme currently covers Sorghum, Maize, Barley development and the Maltings plant operations in Uganda



A subsidiary of SABMiller Ltd.



Agenda



- ✓ Background
 - History, mission & vision
 - Alcohol Market
 - Brand portfolio
- ✓ Sorghum and Barley foot print
- ✓ Raw material usage trends
- ✓ Supply chain model
- ✓ Maltings plant
- ✓ Socio-Economic Impact
 - Tax contribution
 - Job creation
 - Local enterprise development
- ✓ Corporate social responsibility & Sustainable Development
- ✓ Key challenges
- ✓ Conclusion



A subsidiary of SABMiller plc



History, Vision, Mission & Values



- NBL was established in 1951 by local Ugandans and sold to Madhvani in 1957
- 1971-1992 was under control of government and handed back to Madhvani in 1992
- 1997: joint venture formed with SABMiller & SABMiller bought out Madhvani group in 2001



Our Vision

To be the leading brewery in Uganda by market share, brand health, and product quality, and to be in the top quartile of SABMiller breweries globally by key functional measures.

Our Mission

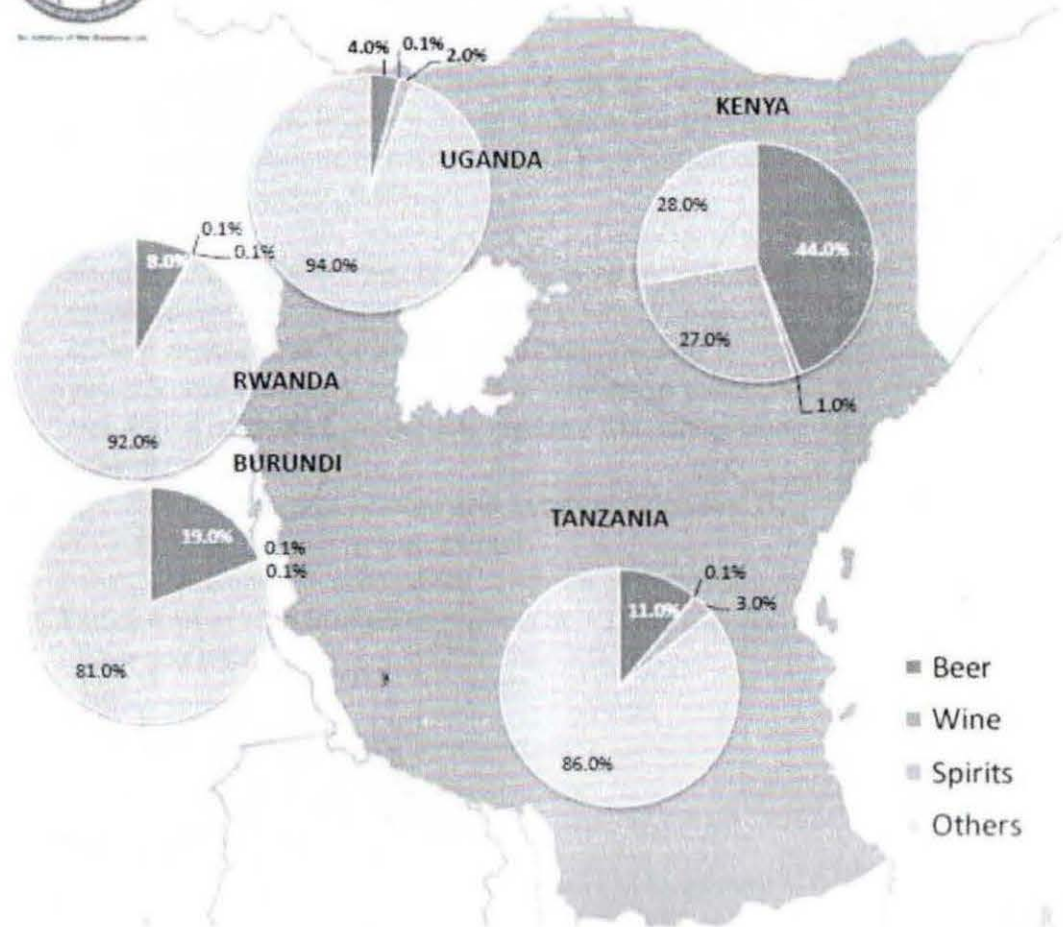
To own and nurture local and international brands that are the first choice of the consumer

Our Values

- Our people are our enduring advantage
- Accountability is clear and personal
- We work and win in teams
- We understand and respect our customers and consumers
- Our reputation is indivisible



Alcohol Market in East Africa



- Only 4% of alcohol consumed in Uganda is clear beer.
- 94% of the alcohol market in Uganda is non branded – the market is dominated by the informal sector – this sector does not pay taxes and also sell products with quality and safety concerns
- NBL took up the challenge to provide a brand that would attract customers from this segment to take up a hygienic branded beer.
- NBL is the market share leader with approximately 56% market share of clear beer market in Uganda

RECORDED ADULT (15+) ALCOHOL CONSUMPTION BY TYPE OF ALCOHOLIC BEVERAGE (IN % OF PURE ALCOHOL), 2005



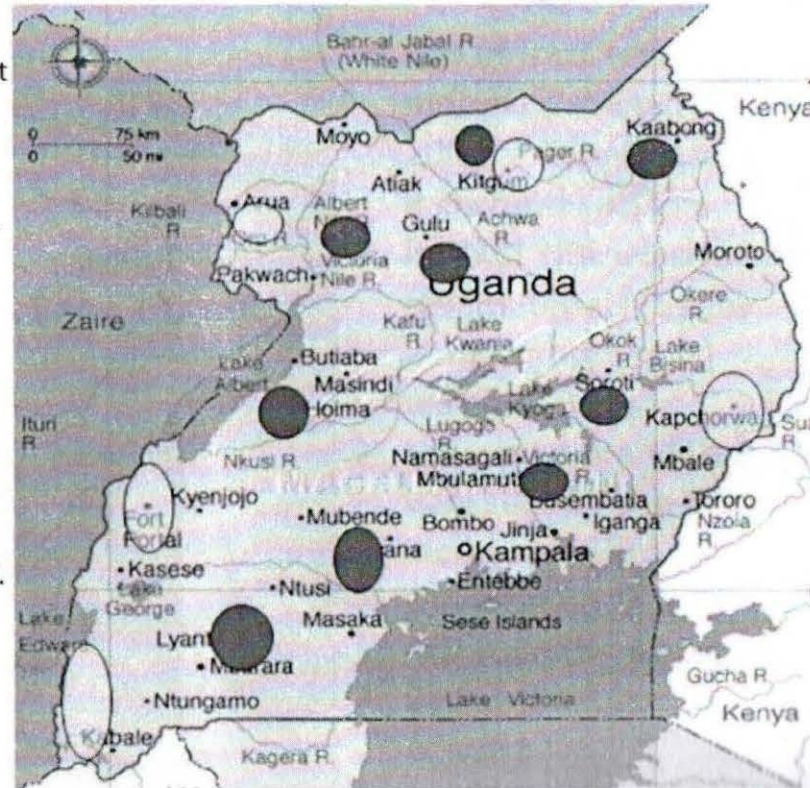
Barley and Sorghum foot print



- NBL launched a broad based local enterprise development initiative, with the primary aim of securing continuity of supply and economic benefits through localisation of sorghum and barley growing
- At the same time this strategy delivers a number of socio-economic benefits to the community at large, including employment and improved incomes, which, in turn, should drive certain business benefits (improved government relations, securing our “licence to trade”, enhanced corporate reputation, excise / tax concessions, ethical consumerism etc.)
- Uganda has a tropical climate and Sorghum is grown virtually in all regions in the country.
- Locally developed & bred white sorghum varieties planted.
- Barley foot print is limited to regions at > 1,500 meters above sea level

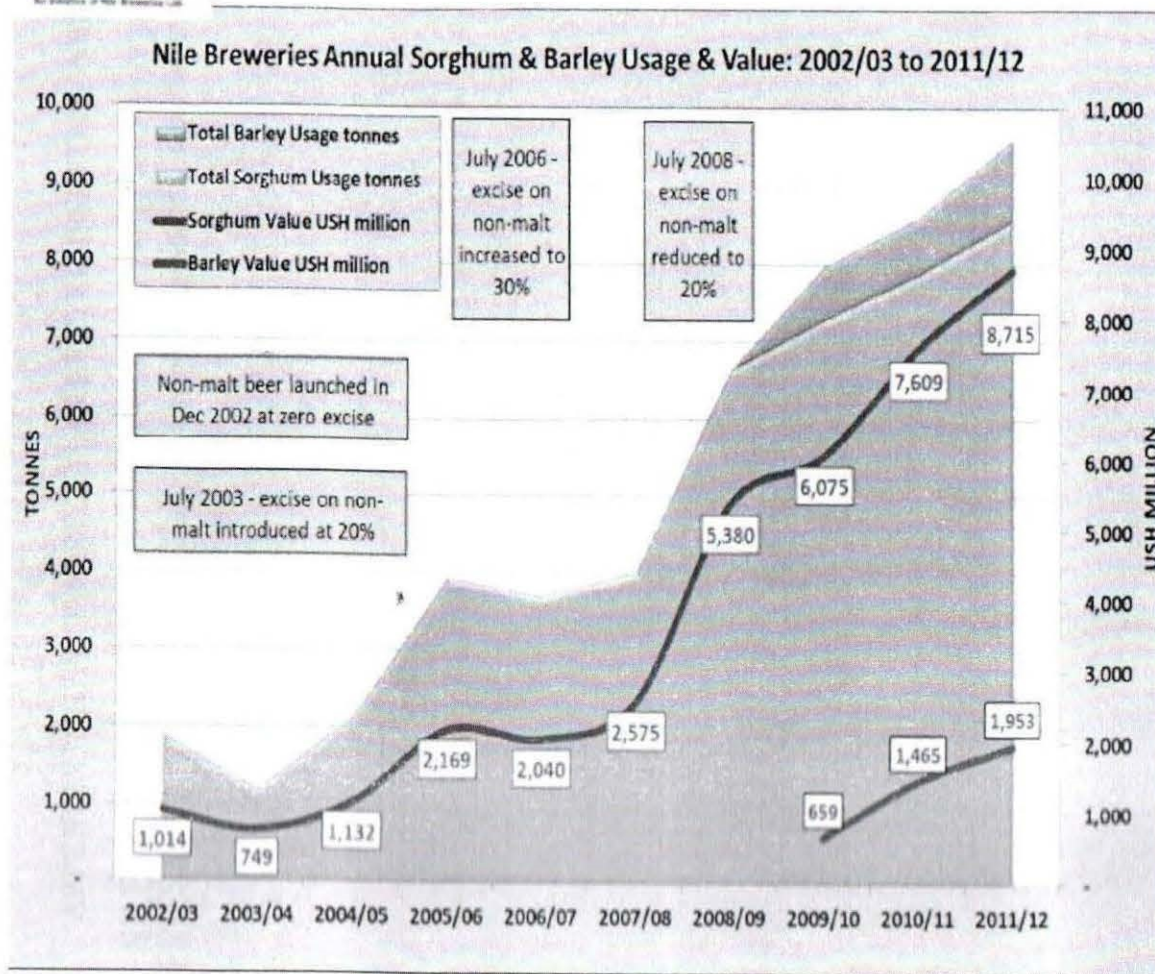
NBL Interventions

- Extension services – Extension officers
- Supporting operations of nucleus farms
- Seed supply, research etc.
- Supply of fertilizer, herbicides, fungicides, insecticides
- Provision of small scale equipment - dryers, threshers
- Farmer training
- Local Enterprise development – Associations, Unions





Raw Material usage trends



- Use of local raw materials started in 2002 at Zero excise and it currently at 20%
- In 2011 NBL used local raw materials (barley and sorghum only) worth 11Billion
- Low value brands are very sensitive to price increase.
- Government has to maintain the excise rate
- Barley also used as adjunct
- In 2013 a USD 90Million new brewery will be commissioned and this will increase demand of raw materials

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