THE ROLE OF BALANCED SCORECARD IN MEASURING SUPPLY CHAIN PERFORMANCE: A STUDY OF NATIONAL OIL CORPORATION OF KENYA

BY

OGWANG, MAUREEN AMONDI

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfilment of the Requirement for the Degree of Masters in Business Administration (MBA)

SUMMER 2017
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: ___________________________  Date: ______________

Maureen Amondi Ogwang (Student ID 647410)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________  Date: ______________

Fred .O. Newa

Signed: ___________________________  Date: ______________

Dean, Chandaria School of Business
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ABSTRACT

The general objective of this study was to examine how the implementation of the Balance scorecard has affected Supply Chain Performance at National Oil Corporation. The specific objectives were to evaluate the effect of customer perspective on supply chain performance, measure the contribution of financial perspective on supply chain performance, evaluate the effect of internal processes on supply chain performance, and assess the influence of learning and growth perspective on supply chain performance.

The research design selected for the study was descriptive research. Descriptive research uses data gathered on a group to describe or reach conclusions about the group under study. For the purpose of this study, the parameter was the employees of the corporation under study. National oil has a total number of two hundred and twenty-three (223) employees. The study focused on employees in Strategic Planning, Customer service, Finance, supply planning, operations, and marketing, procurement and Business Continuity departments. The mentioned departments were chosen for the study because they are in the direct line of the variables under study. The study selected stratified random sampling for collection of quantitative data and purposive sampling where individuals in senior management were selected to provide an in-depth knowledge about the variables under study. For the descriptive study 30% of the sample frame was selected as the sample size targeting 43 respondents, while for the qualitative data a sample size of 4 employees were selected for the purposive study.

Quantitative data was collected using a structured questionnaire for the quantitative data, which was administered via online data collection tool called Google forms. The questionnaire/google form was directed to employees of the sample size of 43. The questionnaire encompassed twenty one questions. Qualitative data was collected with the help of an interview guide administered by recording the interview and also through an online based data collection tool, google forms; the list of questions were semi-structured. These questions gave attention to the variables under study. Data was analyzed using inferential method whereby hypotheses of the independent and dependent variable was analyzed by use of correlation coefficient from which a relationships were tested using the Pearson product-moment correlation. An independent t-test was also used to compare the independent variables under study. The reasonableness behind the selected data analysis methods was to search for relationships or correlations between and among
variables under study. Descriptive Statistics was used to measure and compute each variable of data; and was done through use of measures of central tendency (mean, mode, median), measures of dispersion (standard deviation).

Effects of customer perspective on supply chain performance being the first objective revealed that the service charter is an important tool for ensuring service delivery is efficient to ensure customer satisfaction. Majority of the respondents knew about their departmental service charter, which indicated that service delivery is an important aspect to customers. The study also measured respondent’s involvement on use of the BSC as a tool of maintaining customer relationship with the corporation, and an average number said the BSC was slightly involved while a smaller percentage of respondents said the BSC is not involved in service delivery.

The second objective, the effect of internal processes on supply chain performance, proved that the departmental policies and working instructions are indeed aligned to corporate strategy. Most respondents agreed that they understand the procedures that affect their department and that departments review and reassess the processes whenever there are service delivery difficulties. Respondents were asked the measure used in assessing their adherence to policies and procedures, the highest percentage acknowledged that evaluations are done both qualitatively and quantitatively.

From the analysis of the contribution of financial perspective on supply chain performance as the third objective, it was established that respondents agreed that revenue collection is done in a timely manner and that financial audits are done and communicated by the corporation management, which is an indication of transparency, by the management team. respondents agreed to the fact that constant monitoring of debtors and adherence to credit limit policies are observed and that there is accountability for petty cash.

Analysis of the fourth objective, influence of learning and growth perspective on supply chain performance, this being the perspective that provides feedback through reviews; as shows what was well done and what needs improvement. Respondents were therefore asked to provide the extent to which they acknowledged certain aspects touching on their learning and growth within the corporation. It was noted that most of the respondents agreed that their skills and capabilities drive improvement of the organization. Of all the
respondents, most agreed that performance appraisals are done as scheduled in the corporate plan.

In conclusion, the effects of customer perspective on supply chain performance is highly influenced by the customer relationship management. Customers should be involved in decisions that affect them. Internal processes that work for the organization lead to increase in supply performance. Policies are therefore important as they can be the basis of measuring performance. A focus on the financial performance expected serve as crucial yardstick upon which supply chain performance is measured, this is a just contribution of financial perspective to supply chain performance. Learning and growth perspective defines the core competence, skills and the corporate culture needed to support the organization’s strategy, training of employees should be considered to reinforce employee capability.

Recommendation was made on customer retention with the need to constantly carry out customer satisfaction survey. Formal documentation of customer complaints ought to be observed, officially handled and feedback given, these are important aspects in ensuring good performance on supply chain performance. For internal processes, firms need to undertake regular reviews of their policies and processes to establish if the policies are working and if they are strategically aligned to the overall objectives of the firm. The study confirmed that there is a high correlation between sufficient budget and supply performance. There is need to ensure financial information is communicated to encourage transparency by management. Finally, to measure the influence of learning and growth perspective on supply chain performance, the perspective needs to clearly bring out the organizations’ core competence, skills and corporate culture needed to support the organization’s strategy.
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<tr>
<td>ANOVA</td>
<td>Analysis of Variances</td>
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<tr>
<td>BSC</td>
<td>Balanced Scorecard</td>
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<tr>
<td>ERC</td>
<td>Energy Regulatory Commission</td>
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<tr>
<td>KPC</td>
<td>Kenya Pipeline Corporation of Kenya</td>
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<tr>
<td>KPRL</td>
<td>Kenya Petroleum Refineries Limited</td>
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<tr>
<td>MoE</td>
<td>Ministry of Energy</td>
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<td>NOC</td>
<td>National Oil Corporation of Kenya</td>
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<tr>
<td>OMC</td>
<td>Oil Marketing Companies</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
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<td>SCM</td>
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CHAPTER ONE

1.0 INTRODUCTION
1.1 Background of the Problem

The study carried out is on National Oil Corporation of Kenya and it looked at the extent to which the Balanced Scorecard (BSC) perspectives (Internal process, Financial Perspective, Customer perspective and Learning and growth) can be used at National oil to measure the performance of supply chain. The BSC was developed as an enhancement to the previously traditional methods of measuring performance such as return on investment (ROI), payback period and net present value (NPV) (Ashioya, 2013). Supply chain performance stems from the task of managing the flow of inputs and components from suppliers into a company’s production processes to minimize inventory holding and maximize inventory turnover (Jones & Hill, 2010) meeting both extremes is an indicator that performance measures are being met. Supply chain is a tool used by companies to evaluate the value contributed from raw material supply to the final customer, (Macmillan & Tampoe, 2000). Mintzberg and Quinn (1996) propose that the center of gravity of a company depends on where in the industry chain the company started.

The Balanced Scorecard is a performance measuring tool developed by Kaplan and Norton (1996), to establish company’s mission and goals, develop strategy and structure and create strategic control processes to measure efficiency, quality, innovation and customer responsiveness. Choosing an appropriate value proposition poses no less of a challenge. Many will choose one of three “disciplines” articulated by Treacy and Wiersema in The Discipline of Market Leaders (2004) which include, Operational excellence, Product leadership and Customer intimacy. Balanced Scorecard has emerged as a proven and effective tool in the quest to capture, describe, and translate intangible assets into real value for all of an organization’s stakeholders and, in the process, to allow organizations to implement their differentiating strategies successfully, (Niven, 2010).

To develop the right performance measuring tools and systems, it is vital to bring together quantitative skills, psychological understanding and operational know-how. Supply chain
performance focuses on effectiveness, efficiency and adaptability of the organization, it involves the ability to give the customer the product they want, when they want it, as often as they want it and all at a reasonable price while still being able to make a profit (Neal J.J. etal, 2003). Performance measures enable a more open and transparent communication between people leading to a co-operative work environment hence improved organizational performance (Gunasekaran and Kobu, 2007). Performance Measurement provides a mechanism to monitor and report key performance indicators and critical success factors. Supply chain functions can be viewed as chains- individual chains which are interconnected and interdependent- this was the view in the past, individual business functions were tasked with specific but limited duties, however the modern way of viewing supply chain is that, every level is about integrated goals, integrated responsibilities and integrated supply chain management.

National Oil Corporation of Kenya Limited was incorporated in 1981 under the Companies Act (Cap 486). The company's main objective then was to coordinate oil exploration (upstream) activities. In 1988, the company was mandated on behalf of the government to supply 30% of the country's crude oil requirements that would in turn be sold to oil marketing companies for refining and onward sale to consumers. However, after the company de-regulation of the oil industry in 1994 lost that mandate, and had to formulate new survival strategies that saw its entry into downstream operations. The Balanced Scorecard was introduced in National Oil Corporation in 2014, in as much as there are set objectives that have been derived from the corporations’ vision and mission statements, realizing the goals have been a continuous process that calls for performance measurement every quarter. Given the corporation is currently purely in the business of supplying petroleum products, supply chain management has been at the forefront of most if not all operations.

The institutional structure of petroleum industry comprises the Ministry of Energy (MoE), the Energy Regulatory Commission (ERC), Kenya Pipeline Company (KPC), Kenya Petroleum Refineries Limited (KPRL) and Multinational Independent Oil Marketing Companies, other OMCs and a State Oil Company the National Oil Corporation of Kenya (NOC). The Ministry of Energy provides the policy leadership, while ERC provides
regulatory stewardship of the sub-sector. KPC is a State Corporation fully owned by government under the MoE. Its overall objective is to provide the economy with the most efficient, reliable, safe and least cost means of transporting petroleum products from Mombasa to the hinterland.

The supply chain at NOC begins from importation in the Open Tender System (OTS) or direct purchase after which the product can be received from Kenya Pipeline Corporation (KPC) (Noc Procedures Manual, 2016). Supply to customers is then done through various distribution channels. In 2014 the BSC was introduced in Noc as a performance measuring tool, to help evaluate outcome of operations at the corporation and if the set corporate goals and objectives are being met to help track performance and identify areas of improvement. National oil is purely in the business of supplying white products, liquefied petroleum gas and lubricants to the general public for a profit.

1.2 Statement of the Problem

Although most companies measure performance ratios, quality and productivity, these factors mainly focus on historical figures. Kaplan and Norton (1996) emphasized on the shift from the normal financial ratio data such as; Return on Capital Employed (ROCE) claiming that these are functional measures, and what really matters in strategy implementation is the process, focusing on management, business and work. Kebu (2015) researched on the Balanced Scorecard and Strategy Implementation at the Kenya Electricity Generating Company in Kenya and found that KenGen has successfully applied the balanced scorecard technique to effectively implement strategy. The major factor that emerged is that the balanced scorecard is used as a tool to communicate and clarify strategy and directions within the business, gain consensus and therefore rally the organizational members in the same direction (Kebu, 2015). This needs to be integrated into the overall outcome of ensuring efficient and sufficient supply of petroleum products through implementing internal processes that enable value addition. The study showed that the implementation of strategy at KenGen was successful, the question therefore is if the same approach can be used to measure supply-chain performance in an oil and gas company (Kebu, 2015).
Teuteberg and Wittstruck (2011) carried out a study on the Development and Simulation of a Balanced Scorecard for Sustainable Supply Chain Management – A System Dynamics Approach, the study focused on increasing *customer satisfaction* with regard to environmental and social dimensions. The degree of satisfaction was measured using the customer satisfaction index, the study also looked into the coordinated and supervised staff training times and measured the degree to which they Increase staff/customer retention. For the “classic” BSC perspectives, Supply Chain Performance Measurement Approaches: Review and Classification, a research carried out by Agami, Ramsy and Saleh (2012) in Egypt. The study concluded that most of the already existing supply chain performance measurement systems are inflexible and lack continual improvement, this is a concept open for investigation as more corporate companies embrace performance measurement tools to ascertain progress made.

Varma and Deshmukh (2007) conducted a research in India on evaluating petroleum supply-chain performance: Application of analytical hierarchy process to balanced scorecard. Their study determined that apart from financial perspectives, non-financial perspectives of supply chain performance like “steady supply of raw material” and “purity of product” are included, making performance evaluation more comprehensive. The study on National oil will investigate this aspect linking the connection of constant supply of product and reliance on supply chain performance to bring in revenue.

*Learning and growth* perspective is an aspect that requires continuous growth and innovation to enhance skills in project management, change management and other technical areas. National Oil Corporation strives to ensure development of organizational and operational excellence as explained by National Oil, Strategy officer, Ochollah. Akyuz and Erkan (2009) did a study on Supply chain performance measurement: a literature review and they established that there’s need for having a broad, organization-wide perspective of learning and growth in supply chain management. Wouters (2009) mentions the concept of ‘enabling performance management’, emphasizing the need for involvement of people at all levels, starting with the determination of the metrics. Challenges of performance measurement need of developmental approach in performance measurement and the importance of delegating the performance measurement at every level of hierarchy to motivate and foster growth. In
Kenya, Ashioya (2013) did a case study on the balanced scorecard and supply chain performance: A case study of Kenya Nut Company (KNC). She found that the major challenges faced in the implementation of the BSC at KNC were that there are too many measures being used, which are difficult to determine and developing the measures were proven to be time consuming.

Scholars have carried out various studies of the BSC and the SCP. This study therefore established the relationship between Balanced Scorecard and supply chain performance at National Oil Corporation and the challenges faced in implementation of the Balanced Scorecard. All this aimed at filling the gap and explaining the relationship between the Balanced Scorecard and supply chain performance.

1.3 General Objective

The objective of the study was to examine how the implementation of the BSC has affected SCP at National Oil Corporation.

1.4 Specific Objectives

1.4.1 To evaluate the effect of customer perspective on supply chain performance

1.4.2 To measure the contribution of financial perspective on supply chain performance

1.4.3 To evaluate the effect of internal processes on supply chain performance

1.4.4 To assess the influence of learning and growth perspective on supply chain performance.

1.5 Significance of the Study

1.5.1 Supply Planning Department

Supply-planning department at NOC can use the study to enhance service delivery. The results will contribute to a better understanding of BSC as a supply-chain performance measurement tool.
1.5.2 National Oil Corporation

The Corporation can use the study to effectively fulfil the purpose of ensuring stability in the supply of petroleum products in the country. It is important to NOC management since they can be able to ascertain the role that the BSC plays to enhance supply chain performance and management and offer suggestions on how to meet the challenges in its implementation.

1.5.3 Other Oil Marketing Companies (OMC’s)

The Kenyan Oil Marketing Companies can use the concept to examine their supply chain performance and to improve their operations through the BSC tool.

1.5.4 Researchers

There has been little study on the concept of supply-chain performance measurement using the balanced scorecard in Kenya. This study will contribute to the knowledge in supply-chain performance measurement: in the oil and gas industry particularly at NOC.

1.6 Scope of the Study

The research study concentrated on National Oil Corporation of Kenya centering on the efficiency of the Balanced Scorecard as a supply chain performance-measuring tool. It incorporated different levels of staff. The study was carried out at the main petroleum terminal in industrial area in Nairobi and the head office, which is situated in South C, KAWI House; both of these areas are a representation of NOC’s operations countrywide. The study was conducted in the period of October 2016 to May 2017.

1.7 Definition of Terms

1.7.1 Balanced Scorecard

The Balanced Scorecard is a set of four measures directly linked to a company’s strategy: financial performance, internal business process, learning, growth, and customer perspective (Kaplan & Norton, 2001)
1.7.2 Supply Chain Management

Involves coordinating and integrating materials, information, and finances flows both within and among companies. (Shah, 2009)

1.7.3 Supply Chain Performance

Refers to the extended supply chain's activities in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the supply chain to deliver that performance in a responsive manner. (Neal J.J. etal, 2003)

1.7.4 Kenya Pipeline Company

Facilitates the implementation of Government policies by acting as a Government agent in specific projects - as directed through the Ministry of Energy (KPC, 2016).

1.7.5 Customer Perspective

Refers to customer retention, profitability measures and satisfaction, it includes basic measures of the successful outcomes of a well-formulated strategy. The perspective concentrates on how an organization should appear to its customers to help achieve their vision. (Kaplan, 2010)

1.7.6 Financial Perspective

The financial perspective measures whether an organizations strategy, implementation and execution contribute to the bottom-line improvement (Kaplan and Norton, 1992).

1.7.7 Internal Processes Perspective

This refers to the internal operations that enable an organization to satisfy customer needs, to meet customers’ expectations excellent customer performance derives from processes, decisions, and actions occurring throughout an organization (Kaplan and Norton, 1992).
1.7.8 Learning and Growth Perspective

This refers to the ability of an organization to innovate, improve, and learn ties directly to its value. The perspective focuses on the capabilities of people. It is the managements’ responsibility to develop its’ employee capabilities (Kaplan and Norton, 1992).

1.8 Chapter Summary

The chapter was an introduction of the study, it outlined how supply chain performance can be measured using the BSC. It focused on the statement of the problem, general objective and specific objectives mentions the importance of the study, citing the users of the content. The following chapter concentrated on literature review, and theories concerning the variables of the study by highlighting the balanced scorecard, supply chain managements and theories that can be used in the study. After which the third chapter, focused on the methodology of the study in terms of the research design, target population, sample size, sampling procedures, tools and data collection methods, data collection procedures and methods of data analysis. Chapter four presented the results and findings of the study and lastly chapter five provided a discussion, conclusion and recommendation of the study.
2.0 LITERATURE REVIEW

2.1 Introduction

This chapter will present a review of the literature related to how supply chain performance can be measured using the BSC. The chapter will be steered by the research objectives in chapter one, which include evaluating the effect of customer perspective on supply chain performance, this will focus on the customer perspective element of the balanced scorecard. Measuring the contribution of supply chain performance to financial profits, evaluating the efficiency and sufficiency of internal processes in ensuring optimal supply and establishing the challenges encountered by National oil when implementing learning and growth practices.

The BSC however strive to connect all the four perspectives to explain how effective they all are in objective achievement. Learning and growth for instance looks at employee training to ensure quality delivery of services, this creates internal efficiency leading to better internal processes which will lead to customer satisfaction and in turn lead to better financial outcome.

2.2 Effects of Customer Perspective on Supply Chain Performance

2.2.1 Supply Chain Performance

This refers to the extended supply chain activities are used in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the supply chain to deliver that performance in a responsive manner. (Neal J.J., 2003). Performance measurement is as the process of quantifying the efficiency and effectiveness of an action (Gunasekaran & Kobu, 2007). Supply chain performance is measured to facilitate a better understanding of the supply chain, positively influencing supply chain partners and improving its overall performance (Chen & Paulraj, 2004). Supply chain encompasses all activities involved in the transformation of goods from the raw material stage to the final stage, when the goods and services reach the end customer.
(Shah, 2009). Mentzer (2001) views supply chain as the management of goods and information flow through the supply chain from the raw material supplier to the final customer. Components of the supply chain include:

**Suppliers**; this is the starting point in a typical supply chain; suppliers are responsible for providing the materials and services needed by organizations to start and continue production to meet customer demand. (Mentzer, Dewitt, Keebler, Min, Nix, Smith and Zacharia, 2001)

**Factory**; this is the facility where materials sent from the supplier are converted into products; factories rely on suppliers to provide required material in a timely manner. In this case, however, there is no factory involved, as the product from KPC is already refined and ready to be sold. **Warehouse**; this refers to the storage area for product; product will remain here until they have to be transported to various locations. (Mentzer, et al., 2001) At Noc there is a big tank farm that stores white oils (Diesel, Petroleum motor-spirit and Kerosene) which is picked by trucks to various service stations across the country. **Store**; this refers to the retail location where products are available for purchase by consumers (Mentzer, et al., 2001). National Oil has a number of 95 petrol stations, all have to be stocked with product for consumption and these service stations are the stores / distribution centers. **Consumer**; these are the recipients of the product, and consumer needs are kept in mind in all steps of the supply chain management. (Mentzer, et al., 2001)

The Supply-chain Council developed the Supply Chain Operations Reference (SCOR) model as the industry standard for supply chain management. The model looks at four categories, cost, assets, reliability and flexibility (SCC website, 2015). The SCOR categories in line with the operation flow explain the flow of operations. Goods and services move chronologically down through the supply chain from supplier to customer, as cash/money moves back through the supply chain, from customer to supplier and finally information flows both directions making this aspect extremely important.

### 2.2.2 Balanced Scorecard

Refers to a methodology developed by Kaplan and Norton (1996), it interprets an organization’s strategy into performance objectives, measures, targets, and initiatives in four balanced perspectives: **Customer Perspective, Employee Learning and Growth Perspective,**
Internal Process Perspective and Financial Perspective, the study being conducted concentrates on using the BSC as a comprehensive measurement system for supply chains. The BSC assists organizations in overcoming three key issues: effective organizational performance measurement, the rise of intangible assets, and the challenge of implementing strategy. (Niven, 2010). With all these at play it goes without saying that the ability to execute strategy is more important than the strategy itself (Kaplan & Norton, 1996).

These four perspectives cover different aspects of the supply chain performance, which is grouped into lead indicators and lag indicators; Lead indicators are performance drivers that lead to achievement of lag indicators whereas lag indicators represent past performance. See figure 2.1 below;

![Figure 2.1 Lead indicators and Lag indicators](Image)

**Figure 2.1 Lead indicators and Lag indicators**

*Source; Chittooran (2011)*

With the above perspectives, the BSC tries to solve the problem of companies only looking at the financial bit to estimate how they are performing. Problems with this view is that it leads to strategic myopia -this being a short sightedness to what the organization can achieve- another shortcoming is that financial outcomes only focus on top management.
2.2.3 Customer Perspective

This perspective looks into customer retention, profitability measures and satisfaction; are suppliers willing to work long-term to ensure constant supply? Are the end customers satisfied with what we have to offer? If not, how can that be improved? Supply chains are successful due to a unified physical flow of materials to the end customers and efficient information flows backwards and forward through the chain. Ndiba (2014) argues that physical flow of materials to the end customers cannot be achieved if supply chain members are not integrated in terms of their processes, activities and systems that should have a human aspect if objectives are to be attained; customers here are both external and internal. The advantages of integration include improved quality, innovation sharing, reduced costs and improved scheduling of production and delivery (Porter, 1985). Ndiba (2014) further argues that companies need to bring on board workers with a broad range of skills those with an orientation to market success based on managing processes that deliver value to the customer. This however does not fully touch on all aspects related to supply chain even though it is an important aspect as aforementioned emphasis was put on internal customers, and to ensure competency of supply chain, it is important to have a strong skill force.

The customer perspective is a lead indicator of the Scorecard, as it prompts an organization to decipher three critical questions; who are the target customers and what do our customers expect or demand? On what basis does the company plan to please and delight customers so that they want more of what the company offers? Is it Quality, Low cost, dependability, Reliability, Brand image, Convenience, or some mixture of these elements (and more)? As articulated by Parmenter (2007) customer perspective measures focus on adding value through a customer-oriented strategy.

A descriptive research on the balanced scorecard as a tool for enhancing maximum performance: a case of Chase Bank Nairobi, Kenya, carried out by Mwangi (2014). Purpose of the study was to establish the effectiveness of the BSC in enhancing performance at work. Her study showed customer loyalty improved with the use of the balanced scorecard as a performance-measuring tool.
Varma and Deshmukh (2007) carried out a research on evaluating petroleum supply chain performance through application of the analytical hierarchy process (AHP) to balanced scorecard, the research study identified the generic issues in petroleum SCM and mapped these to the four perspectives of the BSC. They concluded that the relative weights of the four perspectives can be found by this method. They found evidence that the customer perspective is the most important perspective in the petroleum supply chain. Customer satisfaction being an important objective of SCM, this is as expected.

To ensure competent supply chain, there ought to be reliable competitive objectives. The need for this integrative view is that achieving cost or lead-time reduction within one enterprise at the expense of other supply chain members simply transfers costs or delays to the end customer, leading to higher prices and customer dissatisfaction (Burt et al., 2001). Q-sort technique assumes that there is a theoretical dimension concept of supply chain integration. To illustrate the usefulness of Q-sort methodology, six dimensions of supply chain integration were developed by Bowersox et al. (2000) and Stank et al. (2001).

An integration of the components of supply chain has been studied by Reiner and Seuring (2005) in the study they illustrate how to use of the Q-sort technique, and how it can be used to measure performance. Customer Integration is the degree of customer involvement in product development, level of information sharing about market information and inventory stock levels with customers. The integration also looks into the capability of achieving efficient and rapid delivery of orders. (Reiner and Seuring, 2005) This very much incorporates the customer perspective of the balanced scorecard looking at the integration of supply chain and the customer, and helps to critically evaluate the efficiency and sufficiency of flow of goods and services to the customers. Supplier Integration; concentration is on the degree of supplier involvement in the process of procurement and the level of strategic partnership and long-term relationship with the supplier. (Reiner and Seuring, 2005) This view helps to establish the operational flow of suppliers to customers and how to measure its performance across the organization, hence helps to further explain the customer perspective of the BSC. Technology and planning Integration; is the capability to provide integrated database and access method to facilitate information sharing, it’s the capability to obtain available, timely and accurate information to facilitate use and the degree of information
system that reflects more enterprise-wide integrated processes (ERP - Enterprise Resources Planning). (Reiner and Seuring, 2005) The technology integration is an aspect of the BSC internal process perspective, as the integration is aimed at ensuring internal efficiency which leads to better internal processes. \textit{Relationship Integration;} capability to provide guidelines for developing, maintaining and monitoring supply chain relationships, it’s the arrangements with suppliers and customers that operate under shared rewards and risks.

Sillanpaa’s (2010) extensive study focused on the key processes that can be integrated across the supply chain i.e. customer relationship management, customer service management, demand management, order fulfilment, procurement, manufacturing flow management and product development. The study looked at the degree to which an organisation strategically collaborates with its partners and manages intra and inter-organisational processes in order to achieve efficient and effective flows of products, services, information, money and decisions (Sillanpaa, 2010). Supply chain includes the customer at the end of the chain. One of the keys to supply chain success and advantage is the concept of integration as earlier explained.

Mutinda (2014) carried out a descriptive study on the effectiveness of the balance scorecard in enhancing efficiency in customer service department of organizations, with a focus on commercial banks and Micro-finance Institutions, the general objective of this study was to determine the effectiveness of the balance scorecard in enhancing efficiency in customer service department of organizations. Her results showed that the customer perspective of the balance scorecard is indeed reliable and accurate in measuring performance. She further mentioned that management should analyze how customers perceive the company, through measuring lead times, quality, performance and service.

Kariuki (2016) carried out a case study, which focused on the balanced scorecard as a strategy implementation tool at AAR Kenya ltd. The objective of the study was to assess the implementation of strategy using the balanced scorecard. His study concluded that the customer perspective being a leading indicator is vital to a firm, he further mentioned that when customers are not satisfied they strive to find other suppliers to satisfy what they need. Meaning poor performance from this lead indicator shows future decline.
To achieve supply chain objectives, customer perspective activities must be strategic in nature and must be designed based on an understanding of the service levels important to critical customers (Mentzer, 2004). To ensure sufficient and efficient supply, a system of distribution is in place, supply chain not only focuses on supply of products but also better customer service, reduced lead times, advancement in technology hence the need of performance measurement systems that can capture all the required data (Brewer & Speh, 2000).

2.3 The Contribution of Financial Perspective on Supply Chain Performance

2.3.1 Financial Perspective

Termed the lagging perspective or lag indicator looks at past performance, it is what the firm presents to its stakeholders; All energy and capabilities should be focused on improving customer satisfaction, quality, on-time delivery, or any number of things, but without an indication of their effect on the organization’s financial returns, they are of limited value (Niven 2009). It is normal to encounter classic lagging indicators in the financial perspective. Typical examples include profitability, revenue growth, and asset utilization, the perspective acts as a diagnostic check on whether the BSC matches the organization strategy (Kaplan & Norton, 2001)

Supply chain activities affect profit and loss statements, balance sheets and cost of capital. Mentzer and Min (2004) emphasizes that substantial prospects arise when supply chain expenses are reduced, as this generates better returns on invested capital and improved cash flow; by controlling supply chain expenses profit margins are improved and by continuing to shorten cycle times, cash flows are enhanced. Mentzer and Min (2004) further elucidates that improved collaboration between finance other business and supply chain function is necessary to facilitate the process. ROCE is the measurement of returns that a company is realizing from its capital and it’s calculated as earnings before interest and tax (EBIT) divided by the interest between total assets and current liabilities the resultant ratio represents the efficiency with which capital is used to generate revenue. Supply chain management concepts affect inventory which in turn affect sales and eventually the return on capital employed. The effects of running out of inventory at any point can be dramatic, as this rolls
over to affect sales. Higher levels of customer retention lead to greater sales; therefore, if a company wants to generate improved sales flows and sufficiently supply customers they must be flexible, responsive and reliable in delivery, which is highly dependent on quality of supply chain operations (Camerinelli, 2009).

Shivo (2012) did an extensive research on downstream supply-chain performance measurement by the oil marketing companies in Kenya. Production level measures focused mainly on product cost and financial output, where questionnaires were used to collect data from 53 Oil Marketing companies in Kenya licensed by the ERC, concentration was on the long supply chains and the logistical challenges in their supply chain operations. The study proved that the supply chain finance and logistics cost performance can be assessed by determining the total logistics cost and that the petroleum industry in Kenya is very volatile and has many challenges ranging from petroleum regulations, the industry is highly capital intensive, increasing competition from new players in the market and decreasing profit margins. The OMCs therefore have to ensure that their downstream supply chains performance is at its best to ensure optimized supply chain operations. This could be achieved by measuring the downstream supply chain performance using KPIs such as cost per volume of product, cost of transportation per distance, time and cost of downstream supply chain information and communication, number of customer complaints, and gate-to-gate time. The research mentioned is a good measure of financial output because NOC can use the same approach to measure how logistics contributes to overall revenue of the organization.

Magutu (2013) carried out a research on supply chain strategies, technology and Performance of large-scale manufacturing Firms in Kenya, in which he analyzed the Factors Motivating Investment in Supply Chain Strategies, Correlation Analysis on SC Strategies, Technology and Firm Performance. A sample of one hundred and thirty eight (138) firms was drawn using proportionate sampling from a total population of six hundred and twenty seven (627) large scale manufacturing firms in Kenya. The descriptive statistics, reliability and validity tests of the constructs: correlation, factor and regression analysis models were used to test the hypotheses. The findings indicated that there is a significant relationship between supply
chain strategy and Kenyan firm’s SC performance, where SC strategies alone are able to explain 51.3% of the variance in the firm’s supply chain performance.

Mahulo (2015) carried out a far-reaching study on the supply chain management practices and Performance of cement companies in Kenya. Six cement companies in Kenya were studied; a multiple regression model was used to establish a relationship between supply chain management practices and performance. The study established the relationship between supply chain management practices and performance of cement companies in Kenya. The outcome of the study revealed that 83.3 percent of the cement companies in Kenya have established a supply chain management framework. Therefore, for firms to have substantial financial performance it is vital to have a supply chain management.

Camerinelli, (2009) argues that Supply chain performance affects the income statement through the cost of goods sold, which describes the direct expenses incurred in producing a particular good for sale including the actual cost of materials and direct labor cost associated with getting the product into a sellable condition. Financial performance is impacted by supply chain through depreciation, income taxes and interest expenses. We can examine depreciation first to see how it’s affected by supply chain. Depreciation is the reduction in value of an asset over time, an incorrect demand forecast of product triggers poor planning of production quantities that in turn leads to poor schedule of supplies, Camerinelli (2009). Company equipment and resources, inventory and assets are therefore utilized in a way that affects depreciation rate very differently, from how it may have been set in the budget. For income taxes changes to suitable production sources can reduce income taxes and vice versa. In interest expenses a reduction in inventory value reduces amount of capital tied up in stocks by reducing the inventory carrying cost the reverse is true.

Measurement Integration is the capability of measuring the supply chain performance in terms of impact on business profits. Financial perspective translates the purpose of the organization into action through ensuring cash flow, for instance ensuring Noc has the money to pay the suppliers of the products needed for business and efficient cash flow to pay workers involved in ensuring the supply functions are met. Measurement has been recognized as a crucial element to improve business performance (Taticchi et al., 2010).
Mutinda (2014) carried out a descriptive study on the effectiveness of the balanced scorecard in enhancing efficiency in customer service departments of organizations. Her study found that there is a positive relationship between the balanced scorecard and customer focus and satisfaction. The study further advocates for organizations to embrace the balanced scorecard as a measure of performance as it enhances financial stability, promotes customer satisfaction and learning and growth through enhanced training and employee evaluation (Mutinda, 2014). A recommendation to simultaneously track financial results and monitor progress through building and capabilities and acquiring intangible assets is emphasized in the study.

Measuring and evaluating performance in integrated supply chain management, a qualitative research carried out at a Philips Healthcare limited showed that the financial perspective is a measure that confirms that the supply chain is indeed competitive and is aimed at determining profitability growth for supply chain entities (Ndiba, 2014). The study found that there is no specific supply-chain performance measurement and evaluation approach, though elements of the study’s findings show performance prism approach for measuring and evaluating supply chains through stakeholder engagements (Ndiba, 2014).

Gitachu (2012) carried out a descriptive study on the challenges of application of the balanced scorecard in strategy implementation at the Kenya Electricity Generating Company. The study revealed that a lack of understanding the of the BSC and its application is a great challenge in ensuring the success of the evaluation tool. The complexity of the strategy implementation tool therefore falls flat when what is measured under each perspective is not necessarily what is required to be measured (Gitachu, 2012).

Kinyungu (2016) conducted a study on the extent of balance scorecard implementation and its effect on the financial performance of small and medium enterprises in Nairobi County. The study concluded that the financial perspective is the most implemented in organizations and with net operating income, revenue growth, cash flow and costs being points of performance measure. According to Kinyungu (2016) it is easier to monitor profitability and increase liquidity with the use of the BSC. He overemphasizes that the focus on customers and innovation has greatly improved the financial performance of firms.
Ithiami (2016) carried out a descriptive study on the factors that influence the perceived quality of service delivery of the KenGen. The study adopted the SERVQUAL model, which measures the gap between customers’ prior expectations and performance experience at the service encounter decisive moment. According to Ithiami (2016), supply chain financial loses and internal customers’ complaints attribute to the quality of service delivery of the KenGen Supply Chain department.

2.4 The Effect of Internal Processes on Supply Chain Performance

2.4.1 Internal Processes Perspective

Termed as a leading perspective, the task here is to identify those processes with which to track progress. To satisfy customer and shareholder expectations, Noc has internal processes that focus efforts on the improvement of existing activities this can be compared to Nair’s view (2004) where emphasis has been put on Product development, production, manufacturing, delivery, and post-sale service. Internal processes focus on the functional areas, level of information flow within an organization between order and inventory management process. Noc has ISO procedures and work instructions documented to articulate the order process management. The procedures followed by process owners in turn promote efficiency of the internal processes. The integration looks at level of responsiveness and flexibility, degree of interpersonal, relations and communication among the functions of an organization.

*Internal perspective* in terms of supply chain performance touches on internal performance measures related to productivity, capital investment against cost savings achieved, labor productivity improvements. It involves setting internal targets and establishing milestones for the strategy implementation (Lynch, 2009). Processes improvement is vital and the first step to ensure improvement is having processes, procedures and policies in place geared towards value addition. According to Chan (2003), the main advantages of adopting process based performance measurement in SCM are (Chan 2003):

Providing the opportunity of recognizing the problems in operations and taking a corrective action before these problems escalate. (Chan 2003) This can be ensured by having competent staff who understand the value of process ownership and compliance. Support in monitoring
the progress. Without support from top level management there is likely to be low motivation and this can be dealt with by directing attention of the management and resources allocation and enhancing communication of process objectives involved in the supply chain, thus increasing trust and common understanding. According to Chan 2003, the steps and processes of analyzing and decomposing the process to be measured include; Identifying and linking all the involved processes of internal and intra-organization, Defining and confining the core processes from which we derive the missions, responsibilities and functions of the core processes. Decomposing and identifying the sub-processes is the next vital step from which we derive the responsibilities and functions of sub-processes. Decomposing and identifying the elementary activities of sub-processes with which we finally link goals to each hierarchy from processes to elementary activity.

Process-based approaches include cost, time, capacity, capability, productivity, utilization, and outcome. Cost is the financial expense for carrying out one event or activity. It is always one of the indispensable aspects in assessing the performance of the business activities and processes. Time is an important resource in modern business environments. Capacity is the ability of one specific activity to complete a task or perform a required function. Capability measures include effectiveness, reliability, availability and flexibility measures. Utilization means the utilizing rate of the resources to carry out one specific activity. Outcome is the results or value added of one specific activity or event. (Chan & Qi 2003a)

Pasula et al (2012) carried out a study on Internal Audit of the supply chain management in function of cost reduction of the company, emphasis was put on Internal audit of the supply chain as one of the most powerful and fastest ways to reduce operational costs and provide the company competitive advantages. Given internal audit examines the organization and functioning of accounting systems and related internal controls, credibility of financial and operational information, it should evaluate the economy, efficiency and effectiveness of business operations and controls, application of policies, plans and procedures and conducts special checks. The study concluded that internal audit can be used for improving supply chain process in terms of efficiency and effectiveness, by providing insight and recommendations based on analyses and assessments of available data from the company. Ensure the internal processes work for the people and not the other way round, constant
amendments and revisions of company procedures and policies should be done to ensure they capture what happens on ground.

Osoro (2015) researched on factors affecting performance of Supply Chain Systems in the Petroleum Industries in Kenya. The study conducted a census of registered 73 oil companies and a general correlation analysis matrix for all registered Oil Companies’ (OMCs) in Kenya was generated and the result indicated that while some of the factors may have higher influence on performance, balances between all factors are necessary for optimal performance of the staff. Information functions are therefore vital in order to inform management, support decision making and to identify problem areas and controlling function in order to supervise process execution.

In Kenya Ashioya (2013) did a case study on the balanced scorecard and supply chain performance, a case study of Kenya Nut Company (KNC), the study adopted linear regression model to depict the expected relationship between the Balanced Scorecard measures and Supply chain performance. Data was collected through questionnaires and the study determined that when it came to internal processes measures determining the accuracy of forecasted demand, supply chain cycle time and responsiveness to urgent deliveries were given more attention ensuring flexibility in demand patterns of the supply chain processes. The study established that a unit increase in internal business processes would lead to an improvement in supply chain performance. Therefore it is vital to have internal processes that work for the organization as they in the long term improve performance.

Sharif (2011) did an extensive study on factors influencing the strength of the relationship between performance management and performance outcomes among Kenyan oil companies. The study embraced a descriptive survey design that discovered there is a strong relationship between performance management and internal processes.

Lohman et al. (2004), argues that BSC is a static approach which when applied in corporate setting does not provide an opportunity to develop, communicate and implement strategy. Second, although powerful and widely used in industry, BSC provides a conceptual framework only. That is, it lacks an implementation methodology and thus deviates from the merit of concept itself. Agami et al (2012) further maintains that BSC is powerful in
providing managers with a comprehensive picture of the enterprise performance. However, it suffers a major limitation. It is a top-down approach and not participative, which might fail to detect existing interactions between different process metrics.

Enteshari (2012) emphasizes that the internal processes is critical in ensuring accurate, adequate and timely funding of business operations as this creates benefits to the customers. According to Tardivo and Viassone, (2010) internal processes perspective controls the ability of an organisation to develop new productive processes and enhance its production technology in line with the market trends. The most used indices are the time to introduce and market a new product and the number of new processes implemented as they have a direct impact on customer satisfaction (Tardivo and Viassone, 2010).

Kaplan and Norton observed that, organizations are unlikely to be able to meet their long-term targets for customers and internal processes using today’s technologies and capabilities. This calls for ongoing development of capabilities to deliver value to customers and shareholders (Kaplan and Norton, 2007). According to Gitachu (2012), the internal business process looks at the outstanding performance in internal processes that lead to enhanced financial performance and stakeholder fulfillment. Improvement of the internal business processes leads to improved customer satisfaction (Gitachu, 2012).

Siesfeld, Cefola, and Neef (1998) clearly note that the BSC is not a template that can be applied to any business or industries in general. A lack of integration arises when organizations attempt to implement improvement programs for their internal processes. This is because diverse market situations, competitive requirements and product strategies require different scorecards. It is therefore very critical for every business to formulate custom-made scorecards (Siesfeld, Cefola, and Neef, 1998). Internal process management helps to realize what an organization does, management of the lifecycle of improvement in a way that directly translates to operation (Smith and Fingar, 2003). Whether an organization adopts the industry best practice for efficiency or pursues competitive differentiation, internal process management should be considered (Smith and Fingar, 2003).

Kaplan and Norton (2000) states that for an organization to successfully build their strategy map the internal process perspective should be utilized to identify operational, customer-
relationship and innovation processes to support customer and financial goals as well. Further emphasis is made on the importance to differentiate value proposition for customers and productivity improvements to attain financial objectives.

2.5 Influence of Learning and Growth Perspective on Supply Chain Performance

2.5.1 Learning and Growth Perspective

To achieve ambitious results for internal processes, customers, and ultimately shareholders, this perspective is the enabler of the other three perspectives. In essence, the perspective is the foundation upon which the Balanced Scorecard is built (Niven, 2003). Learning and growth perspective measures indicate how long-term growth will contribute to the strategic goals of the firm including Employee satisfaction and Employee retention.

*Learning and growth perspective* provides feedback generally through reviews; it also shows what was well done and what need to be done to foster improvement. Some of the performance indicators under this perspective include; investment rate, illness rate, internal promotions percentage, employee turnover and gender/racial ratios. Kaplan and Norton (2000) in their Harvard Business Review articulated that the learning and growth perspective defines the core competence, skills and the corporate culture needed to support the organization’s strategy. Some of the challenges encountered include:

- Lack of adequate funds to ensure all staff members are trained in their respective fields. High staff turnover may render the staff-training plan hard to implement, as the knowledge bank is not retained. Reluctance of staff with families to travel to areas where training is offered.
- Lack of the ability to maintain task focus (close loops) due to lack of enthusiasm. Lack of the ability by management through the human resources department to muster intellectual resources concerning knowledge of the organization and bank this knowledge for future reference.
- Lack of “hands-on” demeanor (aloofness) with employees. Lack of general thinking and Lack of ability to motivate.

Learning and growth objectives are intended to drive improvement in financial, customer and internal process performance, (Kaplan and Norton, 2000). A comprehensive employee survey should be undertaken to find out how well employees understand the company’s strategy as well as whether or not they are asked to deliver results consistent with the
corporate strategy. The Learning & Growth Perspective focuses on Human Capital-Jobs and people issues, Information Capital- Systems and technology issues and Organization capital- Organizational climate and quality of work-life. The Learning and Growth objectives describe how the people, technology, and organizational climate combine to support strategy. Measures in this perspective are lead indicators for improvements in the internal processes, customer and financial perspectives.

Magutu (2013) carried out a research on supply chain strategies, technology and Performance of large-scale manufacturing Firms in Kenya, a sample of one hundred and thirty eight (138) firms was drawn using proportionate sampling from a total population of six hundred and twenty seven (627) large-scale manufacturing firms in Kenya. Correlation, factor and regression analysis models were used to test the hypotheses. The findings indicated that there is a significant relationship between supply chain strategy and the firm’s SC performance. This therefore shows that technology is an important aspect in the growth of an organization and should be considered when establishing objectives.

Varma and Deshmukh (2007) carried out a research on evaluating petroleum supply chain performance through application of the analytical hierarchy process (AHP) to balanced scorecard. The study applied generic issues in managing petroleum supply chains treating them as objectives of any petroleum supply chain. They collected data through questionnaires and there was a response of 24 petroleum companies. The perspectives were weighted and given a scale of four each. Use of information technology (IT) came out to be a very important criterion within the innovation, learning and growth perspective. This is expected, as IT is the key to any effective SCM.

Sillanpaa (2012) carried out a study on measuring supply chain performance, he reviewed current understanding of supply chain management and literature related to SC performance measurement, he concluded that to enable stabilizing variations of capacity in production, employees should be more multi-skilled and this can be done via training of employees.

The ability of a company to survive and exceed in a dynamic environment is based on approach to organizational decision making. Ackerman (2005) links the importance of
learning and growth of employees involved in supply chain management, he emphasizes that of all elements of supply chain management, leading people is the most important aspect and challenging. It is important to create a stimulating and rewarding work environment, measuring and monitoring performance, compensating fairly and developing skills and capabilities within functions and individuals involved in the supply chain management. Ackerman (2005) Supply chain occupations – Particularly warehousing and trucking – may not be as glamorous but they demand much more from workers. For one thing, they require constant learning. Both managers and supervisors are encouraged to practice the “7 T’s” *Take Time To Talk To The Troops.*

Callado (2013) divides the BSC profiles into supply chain roles and learning and growth is explained using, Input suppliers, producers, distributors and retailers stating importance of each. Under input suppliers, it is important that the organization ensure employee motivation, employee capability and employee satisfaction. Under producers, the organization should invest in training, technology and information technology systems. The other roles mentioned need all the above-mentioned important aspects.

Misawa (2016) carried out a case study on the factors influencing successful implementation of balance scorecard in the insurance sector in Kenya: the case of Pacis Insurance Company limited. The general objective of his study was to examine factors influencing balance scorecard implementation in insurance sector in Kenya, focusing on Pacis Insurance Company Limited. His results showed that employee participation is of major importance in realizing the advantages of BSC-based strategy implementation.

Strong learning and growth objectives help to uphold supply chain agility and flexibility in the organization. Agility is the capability of the firm, both internally and in conjunction with its key suppliers and customers, to adapt or respond in a speedy manner to marketplace changes as well as to potential and actual disruptions, contributing to the agility of the extended supply chain (Husdal, 2009). This can however be affected by the organizational culture, therefore management instill an organizational culture that promotes growth. The Resource Based View (RBV) is a tool used to determine the strategic resources available to a firm. The fundamental principle of the RBV is that the basis for a competitive advantage
of a firm lies primarily in the application of the bundle of valuable resources at the firm’s disposal (Wernerfelt, 1984). Supply chain relationships are a potential source of vital complementary resources that the focal firm can access (Fawcet et al. 2007; Ketchen et al. 2007). It is therefore very important to link supply chain resources and the overall organization objectives linked to performance.

Learning and growth perspective promotes practical excellence, cultivate leadership skills, and generate an cohesive view of the company among employees through espousing new technology that inspires and supports process improvement, this can only be achieved by aligning business and personal goals (Kaplan and Norton, 2000). With all the aforementioned at play, the employees will definitely need certain knowledge, skills and systems to innovate and build the right strategic capabilities and efficiencies to ensure customer satisfaction, which in turn will foster profitability (Kaplan and Norton, 2000).

The learning and growth perspective focuses on the firms intangible assets, these are aimed at improving the internal processes. The intangible assets include the skills, knowledge and training of the human capital. Systems, databases and networks under information capital and lastly culture, leadership, alignment and teamwork under organizational capital. Muli (2016) carried out descriptive study on the extent of balance scorecard implementation and its effect on the financial performance of small and medium enterprises in Nairobi County, his study found that organizations that implemented the BSC had increased profitability, (Muli, 2016).

Gitachu (2012) carried out a descriptive study on the challenges of application of the balanced scorecard in strategy implementation at the KenGen, her study found that the learning and growth perspective is a driver of future financial performance. Kaplan and Norton (2007) clearly states that this perspective identifies the groundwork that an organization must establish to build long-term growth and improvement. From Gitachu’s study, results showed that learning and growth perspective has a direct impact on internal processes. The learning and growth perspective is aimed at aligning employees to the organizations’ desired culture and information technology to improve critical processes (Gitachu, 2012).
Ashioya (2013) carried out a descriptive study on the balanced scorecard and supply chain performance; a case of Kenya Nut Company, the study’s objective was to establish the extent to which the BSC measures are used. Her study found that the level of partnership with suppliers and level of information sharing played major roles at providing a conducive environment for smooth operation (Ashioya, 2013).

2.6 Chapter Summary

This chapter covers the literature and theories concerning the variables of the study by highlighting the balanced scorecard, supply chain managements and theories that can be used in the study. The chapter defines and explains the parameters of the supply chain performance, the balanced scorecard, after which an in depth review of the literature relevant to the research study has been done. The chapter links the relationship between balanced scorecard and supply chain performance through use of techniques that explain integrations between the independent and dependent variables.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY
3.1 Introduction

This chapter presents the elements of methodology that were applied in the study. According to Kothari (2005), research methodology is the study of various steps to be adopted by the researcher in studying research problem and the logic behind them. The chapter first described the research design that was used. It then explained the population of the study, sample size and the sampling procedure. The chapter further explained data collection methods and instruments, the procedure for data collection and how the data was analyzed. Later the chapter provided ways of ensuring validity and reliability of the data collected in relation to the study.

3.2 Research Design

Research design is the procedure that employed to achieve the objectives of the research. This is the conceptual structure within which research is carried out; it constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2004). Research design refers to the overall strategy used to integrate the different components of the study in a coherent and logical way.

The research design for the study was descriptive study. A descriptive study is using data gathered on a group to describe or reach conclusions about the group under study (Black, 2013). The statistical data generated from this study was considered descriptive because it focused on employees of one company, National Oil. The objective being to examine how the implementation of the BSC has affected SCP at National Oil Corporation. The study used a mixed methodology approach to triangulate by use of both quantitative and qualitative data, the overall aim being to find out the linkage between BSC and SCP.
3.3 Population and Sample Design

3.3.1 Population

Mugenda and Mugenda (2003), defines population as an entire group of people from which a research is conducted before a sample size is selected. Population is the entire group of individual or group having common observable characteristic (Kothari 2005). It should be noted that a descriptive measure of the population is referred to as a Parameter (Black, 2013). For the purpose of this study, the parameter was the employees of the corporation under study. National oil has a total number of two hundred and twenty-three (223) employees, the study was interested in employees in the below departments, see table 3.1 which total up to 143. The 143 are the total population of employees from the departments directly linked to both supply chain performance and Balanced scorecard.

Table 3.1 Population of the Study

<table>
<thead>
<tr>
<th>Designation</th>
<th>Sample size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Planning</td>
<td>5</td>
<td>3%</td>
</tr>
<tr>
<td>Operations</td>
<td>36</td>
<td>26%</td>
</tr>
<tr>
<td>Supply planning</td>
<td>5</td>
<td>3%</td>
</tr>
<tr>
<td>Marketing</td>
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<td>21%</td>
</tr>
<tr>
<td>Finance</td>
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<td>25%</td>
</tr>
<tr>
<td>Customer Service</td>
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<td>3%</td>
</tr>
<tr>
<td>Procurement</td>
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<td>7%</td>
</tr>
<tr>
<td>Business Continuity</td>
<td>17</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>143</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source; National Oil Corporation Organizational Structure (2016)

3.3.2 Sample Design

3.3.2.1 Sample Frame

Mugenda and Mugenda (2003) define a sample frame as a set of information used to identify a sample population for statistical treatment. The sampling frame was a listing of all the employees that make up the population under study. The study focused on employees in Strategic Planning, Customer service, Finance, supply planning, operations, and marketing,
procurement and Business Continuity departments. The mentioned departments were chosen for the study because they are in the direct line of the variables under study. The information therefore used in the study to identify the sample frame was the input that the selected departments have in ensuring efficient and effective deliverables of the supply chain. A sample frame should be truly representative of population characteristics without any bias so that it may result in valid and reliable conclusions (Kothari, 2004).

3.3.2.2 Sampling Technique

A sample is a representation of the population (Mugenda and Mugenda, 2003). The study selected stratified random sampling for collection of quantitative data. Mugenda and Mugenda (2003), defines stratified random sampling as selecting subjects in such a way that the existing subgroups in the population are more or less reproduced in the sample. Stratified random sampling denotes that each category of the population should be represented in the sample. The categories are referred to as Strata and the method used to take a sample is from such a population is called stratified sampling. The eight departments chosen are the strata and the selected employees from the strata represented the stratified random sample.

For the study, purposive sampling was used for qualitative data. Purposive sampling is a nonprobability technique where members are chosen specifically because they are knowledgeable about the variables under study. Tongco (2007) defines purposeful sampling as a deliberate choice of an informant due to the characteristics the informant possesses. The study used purposive sampling by selecting individuals in senior management to provide an in-depth knowledge about the variables under study, this included the Supply Manager, Strategic Planning Manager, Operations Manager and the Marketing Manager. According to Creswell & Plano (2011) purposive sampling requires selecting individuals or groups of individuals who are knowledgeable about or experienced with phenomenal interest. Chadran (2004) further indicates that, the researcher chooses the sample based on whom they think would be appropriate for the study, this is suitable where there is a limited number of people that have expertise in the area under research.
3.3.2.3 Sample Size

A sample size is the collection of data by only a selected size of the population through sampling methods. Borg and Gall (2003) state that a sample size of at least 30% of the total population is representative. Therefore, in the descriptive study 30% of the sample frame was selected as the sample size, see table 3.2.

Sample Size - 30% X 143 = 43

Table 3.2 Quantitative Data Sample Size

<table>
<thead>
<tr>
<th>Designation</th>
<th>Population</th>
<th>Sample size</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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<td>Operations</td>
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<td>Finance</td>
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</tr>
<tr>
<td>Procurement</td>
<td>10</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Business Continuity</td>
<td>17</td>
<td>2</td>
<td>12%</td>
</tr>
<tr>
<td>Totals</td>
<td>143</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>

The selected sample size of 43 was for the quantitative study, and a questionnaire was used to collect data.

For the qualitative data, a sample size of four employees was selected for the purposive study and an interview guide was used to collect data, see table 3.3 below;
Table 3.3 Qualitative Data Sample Size

<table>
<thead>
<tr>
<th>Designation</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Planning Manager</td>
<td>1</td>
</tr>
<tr>
<td>Operations Manager</td>
<td>1</td>
</tr>
<tr>
<td>Supply planning Manager</td>
<td>1</td>
</tr>
<tr>
<td>Marketing Manager</td>
<td>1</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>4</strong></td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

Kothari (2005) defines data collection as a means by which information is obtained from the selected subjects of an investigation. Data collection refers to the data collection steps which include setting the boundaries for the study; collecting information through structured, unstructured or semi structured observations and interviews, documents, and visual materials, as well as establishing the protocol for recording information (Creswell & Plano, 2011). The study used both qualitative and quantitative data with sources from both primary and secondary data. Primary data is the data that is collected for the specific research at hand using procedures that fit the research problem while secondary data is data collected originally for a different purpose and reused for another research question (Hox & Boeijee, 2005). The study used both quantitative and qualitative data. Quantitative data refers to data that use numerical values to indicate how much or how many (Anderson, 2011). Qualitative data on the other hand refers to categories or types of a characteristic or attribute which form a basis of the analysis (Buglear, 2010). This type of data uses non-numerical categories.

Primary data was collected using a structured questionnaire for the quantitative data, which was administered via online data collection tool called Google forms. A questionnaire is a data collection instrument that is a systematically prepared form or document with a set of questions deliberately designed to elicit responses from respondents or research informants for the purpose of collecting data or information (Annum, 2016). The questionnaire/google form was directed to employees of the sample size of 43. The questionnaire encompassed twenty one questions. A measure of attitude was administered using a 5-likert scale. The google form had six sections the first being the general knowledge section where questions
about departments where the employees work in was asked, their age and gender, how long they have been in the organization and if they have undergone any training on BSC as a performance measurement tool. The next section was customer perspective section that focused on areas of the supply chain, which was followed by the internal processes, financial perspective and learning and growth perspective questions all focusing on supply chain performance. The final question was on supply chain performance as this was the dependent variable, it is the variable for which the study is measured.

Qualitative data was collected with the help of an interview guide administered by recording the interview and also through an online based data collection tool, google forms; the list of questions asked during the interview focused on semi-structured questions. These questions gave attention to the variables under study, that is, supply chain performance and the balanced scorecard. The interview guide was administered to two employees from the sample size aimed at collecting qualitative data, the aim was to have four individuals from senior management so that they provide an in-depth knowledge about the variables under study, however the respondents were two, which included the Supply Manager and the Customer Service Manager. The interview guide begun with introductory questions which covered all the four objectives; questions covered how to evaluate the effect of customer perspective on supply chain performance. Their opinion on how to measure the contribution of financial perspective on supply chain performance, evaluating the effect of internal processes on supply chain performance and assessing the influence of learning and growth perspective on supply chain performance. Lastly, the interview guide asked for comments relating to why the organization adopted the BSC and the impact it has on SCP.

3.5 Research Procedures

Research procedure enables the researcher to develop a deeper understanding of specific instances of a phenomenon (Santos and Eisenhardt 2004). A pretest was administered to three people via the online questionnaire, google form, to check the validity and reliability. Their feedback on the questionnaire was noted and review and corrections were made on the data collection tool. The study used google forms questionnaires and interview guide, to collect quantitative and qualitative data respectively. The questions stemmed from the strategic objectives that are highlighted in chapter one. These strategic objectives were
mapped to the perspectives of the BSC and it’s relation to SCP. Administering of the questionnaires was done through “email” which detailed the procedure for accessing the google form/questionnaire a duration of 10 days was given of which a follow up was done every two days to ensure an adequate response rate. Challenges included lack of timely response by the respondents, as they required constant monitoring to ensure their response. Some respondents had no idea how to go about the online questionnaire, which prompted the researcher to guide the respondents step by step via phone call for those who far from reach and for those who could be reached researcher had to physically guide the respondents on how to access the form.

For the interview guide for collecting qualitative data, a pre-test was done and necessary corrections made before the actual interview exercise. After correcting the interview guide, an email was sent to the selected senior managers informing them of the study and the interest they invoke, this was done in view of scheduling uninterrupted time with the interviewees. Date and time schedule for the interview was communicated to the interviewees. Clear indication of the interview process was highlighted in the email. The interviews was recorded for purposes of the study.

3.5.1 Validity and Reliability

Borg and Gall (1989) defines validity as the degree by which the sample of test items represents the content the test is designed to measure. Reliability refers to the ability of a research method to yield consistently the same results over repeated testing periods (Brink, 1993). A pilot study to pre-test validity of the questionnaire was carried out. This was done with the NOC’s staff based at the terminal in industrial area, Lunga Lunga in Nairobi Kenya which is the depot of National Oil Corporation of Kenya. Reliability is concerned with consistency, dependability and stability, Mugenda and Mugenda (1999), maintains that administering a test twice and getting the same score as the first time shows that there is reliability in the instrument under use.

3.6 Data Analysis Methods

In the study both qualitative and quantitative approaches was applied. For quantitative data the information from the questionnaires was interpreted using inferential method whereby
hypotheses of the independent and dependent variable was analyzed by use of correlation coefficient from which a relationship or association was tested using the Pearson product-moment correlation. An independent t-test was also be used to compare the independent variables under study. The reasonableness behind the selected quantitative data analysis methods was to search for relationships or correlations between and among variables under study.

Descriptive Statistics was used to measure and compute each variable under qualitative data; this was done through use of measures of central tendency (mean, mode, median) and measure of dispersion (standard deviation).

It is therefore critical to mention that the variables of the study was operationalized using two measurement scales, ratio scale where relationship or association was tested using the Pearson product-moment correlation, and ordinal scale where measures of central tendency (mean, mode, median) and measure of dispersion (standard deviation) was applied.

3.7 Chapter Summary

This chapter reviewed the methodology of the study in terms of the research design, target population, sample size, sampling procedures and data collection tools, data collection methods, data collection procedures and methods of data analysis. The chapter entailed the research design, sample size with number of respondents that gave information that best capture the study’s interest, what methods were used to collect data and how the data was collected and analyzed. The following chapters focus on the results and discussion sections respectively. In the results section, there is a provision of the outcomes and the interpretations of the data analyses. Based upon the results, a discussion and implications of the findings, the conclusions, and the recommendations stated.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

The chapter presents results of the findings of data collected. The first part of the findings discussed is the general information, followed by results of customer perspective focus, then the internal process perspective, after which results of questions focusing the financial perspective are analyzed, last but not least the fourth perspective learning and growth on data. Lastly, questions focusing on the supply chain performance are discussed with an assessment of challenges that are faced by the corporation in ensuring efficient product/service deliver. The results will help to establish the relationship between Balanced Scorecard and supply chain performance at National Oil Corporation and the challenges faced in implementation of the Balanced Scorecard.

4.1.1 Response Rate

Of the selected sample size of 43 an online questionnaire generated through google forms was administered to the respondents who are in the direct line of duty in supply chain. A purposive data was collected, with a sample size of four (4) employees an interview guide and online questionnaire was used to collect data. The response rate for qualitative data was 100% while the rate of response of quantitative data was 50%; collectively the results were favorable for the study. The aim was to collect 47 responses from both qualitative and quantitative data, however jointly responses add up to 45 making 96% , See figure 4.1 below;
4.2 General Information

4.2.2 Gender of Respondents

Gender of the respondents was a requirement in the questionnaire and from the analysis of data collected, male respondents were higher than female respondents pointing to the fact that in the line of supply chain management at NOC it is mostly men who dominate the particular field. See figure 4.2 below.

![Figure 4.1 Response Rate](image)

![Figure 4.2 Gender of Respondents](image)
4.2.3 Departments in the Line of Supply Chain Management

Respondents were required to state the departments in which they work, as they are more knowledgeable about the supply chain operations given their day-to-day operations. Of all the responses, 42% was the highest percentage and this was from the Operations department. It can be deduced that operations department is the backbone of the supply chain management at NOC. The department plays a critical role in ensuring successful product delivery.

Table 4.1 Departments under Study

<table>
<thead>
<tr>
<th>Department</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operations Department</td>
<td>19</td>
<td>42%</td>
</tr>
<tr>
<td>Finance Department</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td>Marketing Department</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Supply Department</td>
<td>5</td>
<td>11%</td>
</tr>
<tr>
<td>Procurement Department</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Customer Service Department</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Strategic Management Department</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>SHEQ</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>legal</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>
4.2.4 Work Experience

The years of experience at the corporation was required of the respondents. From the four-tier of age groups presented it was noted that employees with 1-3 years of experience made up 27% while 4-6 years were the largest percentage with 58% followed by 7-10 years with 11% followed by 1 respondent with over 10 years of experience and another one whom did not indicate years of experience, see table 4.2 below. It can be inferred that the implementation of the balance scorecard from its conception has taken averagely 4-6 years for a successful roll out.

Table 4.2 Work Experience

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3yrs</td>
<td>27%</td>
</tr>
<tr>
<td>4-6yrs</td>
<td>58%</td>
</tr>
<tr>
<td>7-10yrs</td>
<td>11%</td>
</tr>
<tr>
<td>Over 10yrs</td>
<td>2%</td>
</tr>
<tr>
<td>No response</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.5 Supply Chain Management as a Function

Respondents were required to rate how critical they perceive supply chain management to be for the corporation a nominal scale was used to rate the extent. Of the respondents 91% construed that supply chain management is a very critical function for the corporation whereas 7% viewed it as critical and 1% as slightly critical. It is therefore true to argue that supply chain management is a very critical function of the corporation. See table 4.3 below;
Table 4.3 Supply Chain Function

<table>
<thead>
<tr>
<th>Supply Chain Function</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Critical</td>
<td>41</td>
<td>91%</td>
</tr>
<tr>
<td>Critical</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>Slightly Critical</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Not Critical</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>I don't Know</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.2.6 Balanced Scorecard Training

From the analysis in table 4.4, it is clear that the corporation is keen on ensuring employees get necessary training on the performance evaluation tool annually, however the percentage of respondents who have never attended the training is at 18%, with one outlier whom is a respondent who has attended the training more than five times a year.

Table 4.4 Balanced Scorecard Training

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 5 times a year</td>
<td>1</td>
</tr>
<tr>
<td>Annually</td>
<td>32</td>
</tr>
<tr>
<td>Semi Annually</td>
<td>2</td>
</tr>
<tr>
<td>Quarterly</td>
<td>2</td>
</tr>
<tr>
<td>Never</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
</tr>
</tbody>
</table>

4.2.7 Level of Involvement in the Supply Chain Management Function

Respondents were required to indicate their level of involvement in the supply chain management. The nominal scale was used to measure the responses, this ranged from extremely involved to No knowledge, see table 4.5;
Table 4.5 Level of Involvement

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Involved</td>
<td>16</td>
<td>36%</td>
</tr>
<tr>
<td>Involved</td>
<td>18</td>
<td>40%</td>
</tr>
<tr>
<td>Slightly Involved</td>
<td>8</td>
<td>18%</td>
</tr>
<tr>
<td>Not Involved</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>No Knowledge</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.3 Effects of Customer Perspective on Supply Chain Performance

4.3.1 Service Charter

The service charter is an important tool for ensuring service delivery is efficient to ensure customer satisfaction. Table 4.6 breaks down responses, of the 45 respondents, 84% knew about their departmental service charter of whom the highest percentage were aware that reviews of the charter is done annually.

Table 4.6 Availability of Service Charter

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>38</td>
<td>84%</td>
</tr>
<tr>
<td>NO</td>
<td>7</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>YES</th>
<th>Frequency</th>
<th>Percent</th>
<th>Review Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>16</td>
<td>42%</td>
<td>Annually</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>16%</td>
<td>4-5 years</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>16%</td>
<td>when need arise</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>3%</td>
<td>Quarterly</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>24%</td>
<td>No response</td>
</tr>
<tr>
<td></td>
<td>38</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
4.3.2 Customer Focus Dimensions

Ordinal scale was used to measure the extent to which respondents perceived how various customer focus dimensions affected quality of service delivery, a 5 likert scale was used this ranged from 1- strongly agree to 5- I don’t know.

Table 4.7 Customer Focus Dimensions

<table>
<thead>
<tr>
<th>Customer Focus Dimensions</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>I don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction survey is carried out constantly</td>
<td>2</td>
<td>10</td>
<td>22</td>
<td>7</td>
<td>3</td>
<td>44</td>
</tr>
<tr>
<td>Customer complaints are formally documented</td>
<td>2</td>
<td>3</td>
<td>26</td>
<td>11</td>
<td>2</td>
<td>44</td>
</tr>
<tr>
<td>Customer complaints are handled and feedback given</td>
<td>1</td>
<td>7</td>
<td>23</td>
<td>12</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>Customers are involved in decisions that affect them</td>
<td>3</td>
<td>7</td>
<td>22</td>
<td>5</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>Customer retention strategies are implemented</td>
<td>1</td>
<td>7</td>
<td>22</td>
<td>6</td>
<td>7</td>
<td>43</td>
</tr>
</tbody>
</table>

4.3.3 Maintaining Customer Relationships using the BSC

To measure respondent’s involvement on use of the BSC as a tool of maintaining customer relationship with the corporation, the ordinal scale of measure was administered, this ranged from 1- Extremely involved to 5-No knowledge.
Table 4.8 Maintaining Customer Relationships using the BSC

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Involved</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>Involved</td>
<td>11</td>
<td>25%</td>
</tr>
<tr>
<td>Slightly Involved</td>
<td>18</td>
<td>41%</td>
</tr>
<tr>
<td>Not Involved</td>
<td>10</td>
<td>23%</td>
</tr>
<tr>
<td>No Knowledge</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.4 The Effect of Internal Processes on Supply Chain Performance

4.4.1 Departmental Policies and Working Instructions Aligned to Corporate Strategy

To assess respondents’ take on departmental performance in contribution to the internal processes, knowledge on the ISO procedures that affect each department was attested. Respondents’ view on departmental policies, working instructions and the measure of action taken to reassess processes whenever there are service delivery difficulties were considered. An ordinal scale was used to measure these dimensions, ranging from strongly agree (1) to I don’t know (5), see below;

Table 4.9 Departmental Policies and Working Instructions

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>I don’t know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I understand the ISO procedures that affect my department</td>
<td>15</td>
<td>25</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>Our departmental policies are not influenced by the corporate strategy</td>
<td>0</td>
<td>7</td>
<td>22</td>
<td>14</td>
<td>0</td>
<td>43</td>
</tr>
<tr>
<td>I am familiar with our departmental working instruction</td>
<td>22</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>We review and reassess our processes whenever there are service delivery difficulties</td>
<td>5</td>
<td>25</td>
<td>10</td>
<td>1</td>
<td>2</td>
<td>43</td>
</tr>
</tbody>
</table>
4.4.2 Measure of Adherence to Policies and Procedures

Respondents were asked the measure used in assessing their adherence to policies and procedures, the highest percentage of 74% acknowledged that evaluations are done both qualitatively and quantitatively. See table 4.10;

Table 4.10 Measure of Adherence to Policies and Procedures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitatively</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>Quantitatively</td>
<td>6</td>
<td>14%</td>
</tr>
<tr>
<td>Qualitatively &amp; Quantitatively</td>
<td>32</td>
<td>74%</td>
</tr>
<tr>
<td>None of the above</td>
<td>2</td>
<td>5%</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td>43</td>
<td>100%</td>
</tr>
</tbody>
</table>

4.5 The Contribution of Financial Perspective on Supply Chain Performance

This perspective translates the purpose of the organization into action through ensuring cash-flow, the respondents were asked a number of questions that directly affect the financial well-being of the corporation, an ordinal scale was used to measure these dimensions, ranging from strongly agree (1) to I don’t know (5), see table 4.11 below;
Table 4.11 Contribution of Financial Perspective to SCP

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>I don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue collection from customers done in a timely manner</td>
<td>8</td>
<td>22</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>Constant monitoring of debtors and adherence to credit limit policies</td>
<td>12</td>
<td>21</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>43</td>
</tr>
<tr>
<td>Corporate budget is duly communicated and purchases done within the budget</td>
<td>7</td>
<td>16</td>
<td>10</td>
<td>3</td>
<td>7</td>
<td>43</td>
</tr>
<tr>
<td>Financial audits are done and communicated</td>
<td>8</td>
<td>22</td>
<td>7</td>
<td>1</td>
<td>5</td>
<td>43</td>
</tr>
<tr>
<td>Accountability of petty cash is done in a timely manner</td>
<td>9</td>
<td>21</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>43</td>
</tr>
</tbody>
</table>

Of the respondents, 51% agreed that revenue collection is done in a timely manner and that financial audits are done and communicated by the corporation management, which is an indication of transparency, by the management team. 49% of the respondents agreed to the fact that constant monitoring of debtors and adherence to credit limit policies are observed and that there is accountability for petty cash. Corporate budget is not duly communicated as only 37% agreed to this, which indicated that purchases are not done within the budget.

4.6 Influence of Learning and Growth Perspective on Supply Chain Performance

The learning and growth perspective provides feedback through reviews; it also shows what was well done and what needs to be done to foster improvement. Respondents were therefore asked to provide the extent to which they acknowledged certain aspects touching on their learning and growth within the corporation. From the responses 60% confirmed that there is no constant monitoring of their annual personal development plans, this could be an indication of lack of “hands-on” demeanor of the employees by the Human Resource Management, it is critical to note that 56% of the respondents agreed that their skills and
capabilities drive improvement of the organization. Of all the respondents, 58% agreed that performance appraisals are done as scheduled in the corporate plan. See figure 4.3;

![Graph showing Learning & Growth Perspective]

**Figure 4.3 Influence of Learning and Growth on Supply Chain Performance**

4.7 Supply Chain

4.7.1 BSC Functions that Affect Efficiency of Supply

The study sought to establish whether respondents viewed the below aspects to be success factors of supply chain performance. A one-sample statistic showed that most respondents highly viewed the below aspects to be major factors of supply chain performance, with product quality having the highest mean of 4.955 and a std. deviation of 0.211 while the lowest factor being training with a mean of 3.818 and a std. deviation of 1.126, see table 4.12.
Table 4.12 BSC Functions that Affect Supply

<table>
<thead>
<tr>
<th>Function</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Planning</td>
<td>43</td>
<td>4.605</td>
<td>.695</td>
<td>.106</td>
</tr>
<tr>
<td>Stocks Availability</td>
<td>44</td>
<td>4.889</td>
<td>.387</td>
<td>.058</td>
</tr>
<tr>
<td>Logistics</td>
<td>44</td>
<td>4.705</td>
<td>.701</td>
<td>.106</td>
</tr>
<tr>
<td>Lead Time</td>
<td>44</td>
<td>4.432</td>
<td>.818</td>
<td>.123</td>
</tr>
<tr>
<td>Procurement Process</td>
<td>43</td>
<td>4.512</td>
<td>.985</td>
<td>.150</td>
</tr>
<tr>
<td>Training</td>
<td>44</td>
<td>3.818</td>
<td>1.126</td>
<td>.170</td>
</tr>
<tr>
<td>Sufficient Budget</td>
<td>43</td>
<td>4.465</td>
<td>1.008</td>
<td>.154</td>
</tr>
<tr>
<td>Customer Service</td>
<td>43</td>
<td>4.326</td>
<td>.969</td>
<td>.148</td>
</tr>
<tr>
<td>Reliable Delivery</td>
<td>44</td>
<td>4.864</td>
<td>.409</td>
<td>.062</td>
</tr>
<tr>
<td>Complaints</td>
<td>44</td>
<td>4.386</td>
<td>.784</td>
<td>.118</td>
</tr>
<tr>
<td>Flexibility</td>
<td>44</td>
<td>4.273</td>
<td>.727</td>
<td>.110</td>
</tr>
<tr>
<td>Added Value</td>
<td>44</td>
<td>4.364</td>
<td>.750</td>
<td>.113</td>
</tr>
<tr>
<td>Service Quality</td>
<td>44</td>
<td>4.864</td>
<td>.409</td>
<td>.062</td>
</tr>
<tr>
<td>Accurate Order</td>
<td>44</td>
<td>4.773</td>
<td>.522</td>
<td>.079</td>
</tr>
<tr>
<td>Delivery</td>
<td>44</td>
<td>4.750</td>
<td>.534</td>
<td>.080</td>
</tr>
<tr>
<td>Handling Complaint</td>
<td>42</td>
<td>4.524</td>
<td>.671</td>
<td>.104</td>
</tr>
<tr>
<td>Product Quality</td>
<td>44</td>
<td>4.955</td>
<td>.211</td>
<td>.032</td>
</tr>
<tr>
<td>Trust</td>
<td>44</td>
<td>4.773</td>
<td>.476</td>
<td>.072</td>
</tr>
</tbody>
</table>

The t-test showed that the respondents views did not significantly vary meaning all the below functions are critically important in efficient supply chain performance.
Table 4.13 One Sample T-test BSC Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>t</th>
<th>df</th>
<th>Sig.(2-tailed)</th>
<th>Mean Difference</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Planning</td>
<td>-3.731</td>
<td>42</td>
<td>.001</td>
<td>-.39535</td>
<td>-.6092 - .1815</td>
</tr>
<tr>
<td>Stocks Availability</td>
<td>-1.949</td>
<td>43</td>
<td>.058</td>
<td>-.11364</td>
<td>-.2312 .0039</td>
</tr>
<tr>
<td>Logistics</td>
<td>-2.794</td>
<td>43</td>
<td>.008</td>
<td>-.29545</td>
<td>-.5087 -.0822</td>
</tr>
<tr>
<td>Lead-time</td>
<td>-4.606</td>
<td>43</td>
<td>.000</td>
<td>-.56818</td>
<td>-.8170 -.3194</td>
</tr>
<tr>
<td>Procurement Process</td>
<td>-3.251</td>
<td>42</td>
<td>.002</td>
<td>-.48837</td>
<td>-.7915 -.1853</td>
</tr>
<tr>
<td>Training</td>
<td>-6.960</td>
<td>43</td>
<td>.000</td>
<td>-1.18182</td>
<td>-1.5242 -.8394</td>
</tr>
<tr>
<td>Sufficient Budget</td>
<td>-3.479</td>
<td>42</td>
<td>.001</td>
<td>-.53488</td>
<td>-.8452 -.2246</td>
</tr>
<tr>
<td>Customer Service</td>
<td>-4.564</td>
<td>42</td>
<td>.000</td>
<td>-.67442</td>
<td>-.9727 -.3762</td>
</tr>
<tr>
<td>Reliable Delivery</td>
<td>-2.213</td>
<td>43</td>
<td>.032</td>
<td>-.13636</td>
<td>-.2606 -.0121</td>
</tr>
<tr>
<td>Complaints</td>
<td>-5.192</td>
<td>43</td>
<td>.000</td>
<td>-.61364</td>
<td>-.8520 -.3753</td>
</tr>
<tr>
<td>Flexibility</td>
<td>-6.636</td>
<td>43</td>
<td>.000</td>
<td>-.72727</td>
<td>-.9483 -.5062</td>
</tr>
<tr>
<td>Added Value</td>
<td>-5.629</td>
<td>43</td>
<td>.000</td>
<td>-.63636</td>
<td>-.8644 -.4084</td>
</tr>
<tr>
<td>Service Quality</td>
<td>-2.213</td>
<td>43</td>
<td>.032</td>
<td>-.13636</td>
<td>-.2606 -.0121</td>
</tr>
<tr>
<td>Accurate Order</td>
<td>-2.887</td>
<td>43</td>
<td>.006</td>
<td>-.22727</td>
<td>-.3860 -.0685</td>
</tr>
<tr>
<td>Delivery</td>
<td>-3.107</td>
<td>43</td>
<td>.003</td>
<td>-.25000</td>
<td>-.4123 -.0877</td>
</tr>
<tr>
<td>Handling Complaint</td>
<td>-4.597</td>
<td>41</td>
<td>.000</td>
<td>-.47619</td>
<td>-.6854 -.2670</td>
</tr>
<tr>
<td>Product Quality</td>
<td>-1.431</td>
<td>43</td>
<td>.160</td>
<td>-.04545</td>
<td>-.1095 .0186</td>
</tr>
<tr>
<td>Trust</td>
<td>-3.170</td>
<td>43</td>
<td>.003</td>
<td>-.22727</td>
<td>-.3719 -.0827</td>
</tr>
</tbody>
</table>

The only function that response mean difference was high is training this implies that most respondents feel that training may not be a significant function of supply chain performance.
4.7.2 Factors for Successful of Company-Supplier Relationship

Data was collected on the importance of the certain factors to consider when developing successful supply relationship with suppliers, most of the respondents said that the factors were very important. 95% agreed that the higher the quality of product the more successful the relationship and the 88% said reliable delivery and quality of service were very important factors to be considered in building strong company-supplier relationship. An ordinal scale was used to measure these dimensions, ranging from unimportant (1) to Very important (5). See results on table 4.14;

Table 4.14 Factors for Successful Company-Supplier Relationship

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliable delivery</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Level of complaints/ returns</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>14</td>
<td>23</td>
<td>43</td>
</tr>
<tr>
<td>Flexibility</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>18</td>
<td>18</td>
<td>43</td>
</tr>
<tr>
<td>Added value</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>17</td>
<td>21</td>
<td>43</td>
</tr>
<tr>
<td>Quality of service</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>38</td>
<td>43</td>
</tr>
<tr>
<td>Accurate order fulfilment</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>35</td>
<td>43</td>
</tr>
<tr>
<td>Delivery at specified time</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>7</td>
<td>34</td>
<td>43</td>
</tr>
<tr>
<td>Handling of complaints</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>12</td>
<td>27</td>
<td>43</td>
</tr>
<tr>
<td>Quality of product</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>41</td>
<td>43</td>
</tr>
<tr>
<td>Trust</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>34</td>
<td>43</td>
</tr>
</tbody>
</table>

4.7.3 Service/Product Delivery Activity

Respondents were asked to rate the service/product delivery activity to customers, the purpose of the study is to examine how the implementation of the BSC has affected SCP at National Oil Corporation. It is therefore important to know the level of service and product delivery by departments. Most respondents rated the activity as good (44%), (37%) rated the activity as very effective.
Table 4.15 Service and Product Delivery Activity

<table>
<thead>
<tr>
<th>Service and Product Delivery Activity</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>3</td>
<td>7%</td>
</tr>
<tr>
<td>Very Effective</td>
<td>16</td>
<td>37%</td>
</tr>
<tr>
<td>Good</td>
<td>19</td>
<td>44%</td>
</tr>
<tr>
<td>Average</td>
<td>5</td>
<td>12%</td>
</tr>
<tr>
<td>Below Average</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.7.4 Challenges Encountered in Service/ Product Delivery Activity

The study sought to establish the challenges that the corporation encounter that hinder efficient service/product delivery, see responses on table 4.16.

Table 4.16 Challenges Encountered in Service and Product Delivery

<table>
<thead>
<tr>
<th>Challenges Encountered in Service and Product Delivery</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Unavailability</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Stock Outs</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>System Breakdown</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>Competitive Prices from competitors</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Poor Timely Delivery</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>Poor Planning</td>
<td>4</td>
<td>12%</td>
</tr>
<tr>
<td>Logistical Challenges</td>
<td>5</td>
<td>15%</td>
</tr>
<tr>
<td>Constraints on Financing Product</td>
<td>2</td>
<td>6%</td>
</tr>
<tr>
<td>Storage Constraints</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td>Exogenous Factors</td>
<td>3</td>
<td>9%</td>
</tr>
<tr>
<td>Corruption</td>
<td>1</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
4.8 Inferential Statistics

4.8.1 Correlation

The BSC variables (independent variables) analyzed against supply chain performance (dependent variable) revealed that there exists a positive relationship between the variables. The table below shows that supply performance is significantly correlated to the balanced scorecard variables as Customer service ($r=0.620$, $p<0.01$) procurement process ($r=0.585$, $p<0.01$), sufficient budget ($r=0.824$, $p<0.01$) and training ($r=0.733$, $p<0.01$). They imply that the success of supply performance is associated with all aspects of the customer perspective, internal processes, financial perspective and learning and growth perspective. See table 4.17.

The table below however shows that there is no correlation between customer service and logistics (supply performance aspect) as ($r=0.494$, $p>0.01$).
Table 4.17 Correlation between SCP and BSC Aspects

<table>
<thead>
<tr>
<th></th>
<th>Stocks Availability</th>
<th>Logistics</th>
<th>Lead-time</th>
<th>Procurement process</th>
<th>Supply Performance</th>
<th>Training</th>
<th>Sufficient Budget</th>
<th>Customer Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stocks Availability</strong></td>
<td>Pearson Correlation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>.473**</td>
<td>.453**</td>
<td>.838**</td>
<td>.703**</td>
<td>.745**</td>
<td>.745**</td>
<td>.542**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.002</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td>Pearson Correlation</td>
<td>.473**</td>
<td>1</td>
<td>.673**</td>
<td>.602**</td>
<td>.719**</td>
<td>.668**</td>
<td>.668**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Lead Time</strong></td>
<td>Pearson Correlation</td>
<td>.453**</td>
<td>.673**</td>
<td>1</td>
<td>.653**</td>
<td>.727**</td>
<td>.678**</td>
<td>.678**</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Procurement Process</strong></td>
<td>Pearson Correlation</td>
<td>.838**</td>
<td>.602**</td>
<td>.653**</td>
<td>1</td>
<td>.858**</td>
<td>.808**</td>
<td>.808**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Supply Performance</strong></td>
<td>Pearson Correlation</td>
<td>.703**</td>
<td>.719**</td>
<td>.727**</td>
<td>.858**</td>
<td>1</td>
<td>.824**</td>
<td>.824**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Training</strong></td>
<td>Pearson Correlation</td>
<td>.592**</td>
<td>.578**</td>
<td>.743**</td>
<td>.717**</td>
<td>.733**</td>
<td>.739**</td>
<td>.739**</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Sufficient Budget</strong></td>
<td>Pearson Correlation</td>
<td>.745**</td>
<td>.668**</td>
<td>.678**</td>
<td>.808**</td>
<td>.824**</td>
<td>1</td>
<td>.645**</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Customer Service</strong></td>
<td>Pearson Correlation</td>
<td>.542**</td>
<td>.494**</td>
<td>.661**</td>
<td>.675**</td>
<td>.620**</td>
<td>.645**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
4.8.2 Regression

Regression analysis was run between supply performance and aspects of the BSC perspectives, and this indicated that R square was 0.800. This can be interpreted to mean that 80% of the supply performance is because of trust, sufficient budget, training, customer service, and procurement process. See table 4.18 below.

Table 4.18 Goodness of Fit

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.895a</td>
<td>800</td>
<td>.772</td>
<td>33753</td>
<td>800</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), trust, sufficient budget, training, customer service, procurement process

The below table 4.19 is the ANOVA analysis that shows an F critical value of 28.024 which is significant as indicated in the below table.

Table 4.19 ANOVA Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15.964</td>
<td>5</td>
<td>3.193</td>
<td>28.024</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>3.987</td>
<td>35</td>
<td>.114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19.951</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: supply performance

b. Predictors: (Constant), trust, sufficient budget, training, customer service, procurement process
The research intended to establish if there exists a relationship between supply chain performance and the BSC variables, thus the equation presented is as seen below:

\[ Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 \]

\[ Y = 1.030 + 0.359x_1 + 0.089x_2 + 0.192x_3 + 0.020x_4 + 0.139x_5 \]

Where \( Y \)- dependent Variable, supply performance  
\( X_1 \)- procurement process  
\( X_2 \)- training  
\( X_3 \)- sufficient budget  
\( X_4 \)- customer service  
\( X_5 \)- trust

Table 4.20 Coefficients of SCP

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Std. Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.030</td>
<td>.607</td>
<td></td>
<td>1.696</td>
</tr>
<tr>
<td>Procurement Process</td>
<td>.359</td>
<td>.101</td>
<td>.509</td>
<td>3.537</td>
</tr>
<tr>
<td>Training</td>
<td>.089</td>
<td>.077</td>
<td>.143</td>
<td>1.155</td>
</tr>
<tr>
<td>Sufficient Budget</td>
<td>.192</td>
<td>.103</td>
<td>.279</td>
<td>1.858</td>
</tr>
<tr>
<td>Customer Service</td>
<td>.020</td>
<td>.101</td>
<td>.025</td>
<td>1.98</td>
</tr>
<tr>
<td>Trust</td>
<td>.139</td>
<td>.120</td>
<td>.093</td>
<td>1.150</td>
</tr>
</tbody>
</table>

The equation \( (Y= 1.030 + 0.359x_1 + 0.089x_2 + 0.192x_3 + 0.020x_4 – 0.139x_5) \) shows that when the balance scorecard factors are taken into consideration with all other factors held constant, supply performance increase by 1.030. The findings also show that a unit change in procurement process would lead to a 0.359 increase in supply performance. While a unit change in training would lead to a 0.089 increase in supply performance, also, a unit change of the budget would lead to a 0.192 increase in supply performance and lastly customer perspective would lead to a 0.020 increase in supply performance. See table 4.20 above.
4.9 Chapter Summary

The chapter presented an analysis and interpretation of the findings with an aim to establish a correlation between BSC and the SCP. This was presented in five sections as is in the questionnaire used to collect data. The first section looking into the general information and the following sections looks into all the objectives of the study. The next chapter will focus on discussions, conclusions and recommendations of the findings.
CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter discussed the findings of the data analyzed in the previous chapter. Therefore, a comparison of the findings to similar studies on the same topic are looked into. Conclusions and recommendations are also drawn thereto.

5.2 Summary

The general objective of this study was to examine how the implementation of the Balance scorecard affected Supply Chain Performance at National Oil Corporation. The specific objectives were to evaluate the effect of customer perspective on supply chain performance, measure the contribution of financial perspective on supply chain performance, evaluate the effect of internal processes on supply chain performance, and assess the influence of learning and growth perspective on supply chain performance.

The research design for the study was descriptive study because the design used data gathered on a group to describe or reach conclusions about the group under study. The dependent variable was the Supply chain performance while the dependent variables were the four perspectives of the balanced scorecard (Customer perspective, internal processes perspective, financial perspective and the learning and growth perspective). For the purpose of this study, the parameter was the employees of the corporation under study. National oil has a total number of two hundred and twenty-three (223) employees, the study was interested in employees in Strategic Planning, Customer service, Finance, supply planning, operations, and marketing, procurement and Business Continuity departments, of whom totaled up to 143. The 143 were chosen because they are employees from the departments directly linked to both supply chain performance and Balanced scorecard. The study selected stratified random sampling for collection of quantitative data and purposive sampling for qualitative data. In the descriptive study, 30% of the sample frame was selected as the sample
size of quantitative study that resulted to 43 respondents, and for qualitative data, a sample size of four employees was selected for the purposive study.

Effects of customer perspective on supply chain performance being the first objective revealed that the service charter is an important tool for ensuring service delivery is efficient to ensure customer satisfaction. Majority of the respondents knew about their departmental service charter, which indicated that service delivery is an important aspect to customers. The study also measured respondent’s involvement on use of the BSC as a tool of maintaining customer relationship with the corporation, and an average number said the BSC was slightly involved while a smaller percentage of respondents said the BSC is not involved in service delivery.

The second objective, the effect of internal processes on supply chain performance, proved that the departmental policies and working instructions are indeed aligned to corporate strategy. Most respondents agreed that they understood the procedures that affect their department and that departments review and reassess the processes whenever there are service delivery difficulties. Respondents were asked the measure used in assessing their adherence to policies and procedures, the highest percentage of 74% acknowledged that evaluations were done both qualitatively and quantitatively.

From the analysis of the contribution of financial perspective on supply chain performance as the third objective, it was established that 51% of the respondents agreed that revenue collection is done in a timely manner and that financial audits are done and communicated by the corporation management, which was an indication of transparency by the management team. Only 49% of the respondents agreed to the fact that constant monitoring of debtors and adherence to credit limit policies are observed and that there is accountability for petty cash. The study revealed that corporate budget is not communicated as only 37% agreed to this.

Analysis of the fourth objective, influence of learning and growth perspective on supply chain performance, this being the perspective that provides feedback through reviews; as shows what was well done and what needs improvement. Respondents were therefore asked to provide the extent to which they acknowledged certain aspects touching on their learning and growth within the corporation. From the responses 60% confirmed that there is no
constant monitoring of their annual personal development plans, this could be an indication of lack of “hands-on” demeanor by the Human Resource Management, it is critical to note that 56% of the respondents agreed that their skills and capabilities drive improvement of the organization. Of all the respondents, 58% agreed that performance appraisals were done as scheduled in the corporate plan. There was a split between respondents who agreed that trainings better their working skills, knowledge and know-how and those who disagreed with the notion.

5.3 Discussion

5.3.1 Effects of Customer Perspective on Supply Chain Performance

From the analysis of this objective it was established that majority of the respondents agreed that customer relations is a vital aspect in supply chain, Customer satisfaction survey is carried out constantly majority agreed that customer complaints are not formally documented, complaints are not handled and feedback not given, and that customer retention strategies are not implemented at NOC. Sillanpaa’s (2010) extensive study focused on the key processes that can be integrated across the supply chain i.e. customer relationship management, customer service management, demand management, order fulfilment, procurement, manufacturing flow management and product development. The study looked at the degree to which an organization strategically collaborates with its partners and manages intra and inter-organizational processes in order to achieve efficient and effective flows of products, services, information, money and decisions (Sillanpaa, 2010). Therefore, it is prudent to say that the customer relationship management is an important aspect of SCP.

The research carried out by Varma and Deshmukh (2007) on evaluating petroleum supply-chain performance through application of the analytical hierarchy process (AHP) to balanced scorecard, the research study identified the generic issues in petroleum SCM and mapped these to the four perspectives of the BSC. They concluded that the relative weights of the four perspectives can be found by this method. They found evidence that the customer perspective is the most important perspective in the petroleum supply chain. Customer satisfaction being an important objective of SCM. Kariuki (2016) carried out a case study, which focused on the balanced scorecard as a strategy implementation tool at AAR Kenya
The objective of the study was to assess the implementation of strategy using the balanced scorecard. His study concluded that the customer perspective being a leading indicator is vital to a firm, he further mentioned that when customers are not satisfied they strive to find other suppliers to satisfy what they need. Meaning poor performance from this lead indicator shows future decline. From the findings majority of the respondents said that customer satisfaction survey is not carried out constantly, and that customer complaints are not formally documented. This shows a laxity of the customer perspective by management.

Mutinda (2014) carried out a descriptive study on the effectiveness of the balance scorecard in enhancing efficiency in customer service department of organizations, with a focus on commercial banks and Micro-finance Institutions, the general objective of this study was to determine the effectiveness of the balance scorecard in enhancing efficiency in customer service department of organizations. Her results showed that the customer perspective of the balance scorecard is indeed reliable and accurate in measuring performance. She further mentioned that management should analyze how customers perceive the company, through measuring lead times, quality, performance and service.

The study carried out revealed that customer complaints are not handled as expected, feedback is not given and that customers are not involved in decisions that affect them. Majority of the respondents agreed that measuring lead-time, handling customer complaints is an important aspect in ensuring good performance on supply chain performance.

A descriptive research on the balanced scorecard as a tool for enhancing maximum performance: a case of Chase Bank Nairobi, Kenya, carried out by Mwangi (2014). Purpose of the study was to establish the effectiveness of the BSC in enhancing performance at work. Her study showed customer loyalty improved with the use of the balanced scorecard as a performance-measuring tool. From the study carried out on NOC it was established that there is no implementation of customer retention strategies, a high percentage of respondents also said that quality of service is vital for a successful customer-company relationship. This therefore is an indication that strategies should be put in place to cater for customer retention at NOC.
5.3.2 The Effect of Internal Processes on Supply Chain Performance

Analysis of the second objective, respondents were asked the measure used in assessing their adherence to policies and procedures, the highest percentage of responses, acknowledged that evaluations are done both qualitatively and quantitatively. Respondents’ take on departmental performance in contribution to the internal processes, knowledge on the ISO procedures that affect each department were attested and the majority were well aware. Osoro (2015) carried out a research on factors affecting performance of Supply Chain Systems in the Petroleum Industries in Kenya. Results indicated that while some of the factors may have higher influence on performance, balances between all factors are necessary for optimal performance of the staff. Information functions are therefore vital in order to inform management, support decision making and to identify problem areas and controlling function in order to supervise process execution. Internal processes are vital in supply chain performance. Ashioya (2013) carried out a case study on the balanced scorecard and supply chain performance, a case study of Kenya Nut Company (KNC), the study adopted linear regression model to depict the expected relationship between the Balanced Scorecard measures and Supply chain performance. The study established that a unit increase in internal business processes would lead to an improvement in supply chain performance. Therefore, it is vital to have internal processes that work for the organization as they improve performance.

Sharif (2011) did an extensive study on factors influencing the strength of the relationship between performance management and performance outcomes among Kenyan oil companies. The study embraced a descriptive survey design that discovered there is a strong relationship between performance management and internal processes.

The study on NOC revealed employees are well aware of the internal processes of the company and a majority of the respondents said that processes are reviewed and reassessed whenever there are service delivery difficulties.

In Kenya Ashioya (2013) did a case study on the balanced scorecard and supply chain performance, a case study of Kenya Nut Company (KNC), the study adopted linear regression model to depict the expected relationship between the Balanced Scorecard
measures and supply chain performance. The study established that a unit increase in internal business processes would lead to an improvement in supply chain performance. The study carried out on NOC agrees to this finding as the results showed that a unit change in internal procurement process would lead to an increase in supply performance.

The study revealed that a high number of respondents are evaluated both qualitatively and quantitatively; this is a good measure as all aspects are taken into consideration. Most respondents also said that they understand the ISO procedures that affect their department. Respondents’ view on departmental policies, working instructions and the measure of action taken to reassess processes whenever there are service delivery difficulties were considered and results showed that departmental policies are influenced by the corporate strategy which is of prime importance as these aspects can be measured by the BSC and hence show performance of the internal processes. The BSC assists organizations in overcoming three key issues: effective organizational performance measurement, the rise of intangible assets, and the challenge of implementing strategy. (Niven, 2010). The ability to execute strategy is more important than the strategy itself (Kaplan & Norton, 1996).

5.3.3 The Contribution of Financial Perspective on Supply Chain Performance

The analysis showed that majority agreed that revenue collection is done in a timely manner and that financial audits are done and communicated by the corporation management, which is an indication of transparency, by the management team. The study showed that corporate budget is not communicated as below average of the respondents agreed to this, which indicate that purchases are not done within the budget.

Camerinelli, (2009) argued that supply chain performance affects the financial statement which require auditing to arrive at them being true and fairness. Mahulo (2015) carried out a far-reaching study on the supply chain management practices and performance of cement companies in Kenya. Six cement companies in Kenya were studied; a multiple regression model was used to establish a relationship between supply chain management practices and performance. The study established the relationship between supply chain management practices and performance of cement companies in Kenya. The outcome of the study revealed that a high percent of the cement companies in Kenya have established a supply-
chain management framework. Therefore, for firms to have substantial financial performance it is vital to have a supply chain management.

Camerinelli, (2009) argues that Supply chain performance affects the income statement through the cost of goods sold, which describes the direct expenses incurred in producing a particular good for sale including the actual cost of materials and direct labor cost associated with getting the product into a sellable condition. Financial performance is impacted by supply chain through depreciation, income taxes and interest expenses. We can examine depreciation first to see how it is affected by supply chain. Depreciation is the reduction in value of an asset over time, an incorrect demand forecast of product triggers poor planning of production quantities that in turn leads to poor schedule of supplies, Camerinelli (2009). Company equipment and resources, inventory and assets are therefore utilized in a way that affects depreciation rate very differently, from how it may have been set in the budget. For income taxes, changes to suitable production sources can reduce income taxes and vice versa. In interest expenses a reduction in inventory value reduces amount of capital tied up in stocks by reducing the inventory carrying cost the reverse is true.

On the study on NOC most respondents agreed that revenue collection is done in a timely manner and that financial audits are done and communicated by the corporation management, which is an indication of transparency, by the management team. On the other hand, respondents slightly below average agreed to the fact that constant monitoring of debtors and adherence to credit limit policies are observed. Results also showed that a unit change of the budget would lead to a significant increase in supply performance. Constraints on financing product was cited as a challenge encountered in service and product delivery.

Mutinda (2014) carried out a descriptive study on the effectiveness of the balance scorecard in enhancing efficiency in customer service department of organizations, with a focus on commercial banks and Micro-finance Institutions. Her study revealed that the balance scorecard improves financial stability this was so because majority of the respondents were satisfied with the financial evaluation process by use of the balance scorecard. Her study also revealed that most respondents were satisfied with the aspects of the financial perspective of the balance scorecard. This agrees with the findings on the study on NOC where results showed that the financial aspect plays a major role in ensuring supply chain performance.
Niven (2009) emphasizes that all energy and capabilities should be focused on improving customer satisfaction, quality, on-time delivery, or any number of things, but without an indication of their effect on the organization’s financial returns, they are of limited value.

Shivo (2012) carried out an extensive research on; downstream supply-chain performance measurement by the oil marketing companies in Kenya. The results showed that the petroleum industry in Kenya is fickle and regulations set by ERC, high entry and exit barriers, high competition play a major role in the profitability of a firm.

5.3.4 Influence of Learning and Growth Perspective on Supply Chain Performance

Analysis of this objective it was established that majority of the respondents had no constant monitoring of their annual personal development plans, this could be an indication of lack of “hands-on” demeanor of the employees by the Human Resource Management. It is critical to note that most of the respondents agreed that their skills and capabilities drive improvement of the organization. Of all the respondents, most agreed that performance appraisals are done as scheduled in the corporate plan. Strong learning and growth objectives help to uphold supply chain agility and flexibility in the organization. Agility is the capability of the firm, both internally and in conjunction with its key suppliers and customers, to adapt or respond in a speedy manner to marketplace changes as well as to potential and actual disruptions, contributing to the agility of the extended supply chain (Husdal, 2009).

Misawa (2016) carried out a case study on the factors influencing successful implementation of balance scorecard in the insurance sector in Kenya: the case of Pacis Insurance Company limited. The general objective of his study was to examine factors influencing balance scorecard implementation in insurance sector in Kenya, focusing on Pacis Insurance Company Limited. His results showed that employee participation is of major importance in realizing the advantages of BSC-based strategy implementation.

Magutu (2013) carried out a research on supply chain strategies, technology and Performance of large-scale manufacturing Firms in Kenya. The findings indicated that there is a significant relationship between supply chain strategy and the firm’s SC performance. From the study carried out on NOC it was established that there was a split between those who agreed that trainings better their working skills, knowledge and know-how and those who
refuted the notion. The coefficients of supply-chain performance revealed that for training a unit change in training would lead to a minimal increase in supply performance. Kaplan and Norton (2000) in their Harvard Business Review articulated that the learning and growth perspective defines the core competence, skills and the corporate culture needed to support the organization’s strategy. Some of the challenges encountered include, lack of adequate funds to ensure all staff members are trained in their respective fields. This was attested in the study as it showed that sufficient budget has a correlation to training. Another challenge according to Kaplan and Norton (2000) is high staff turnover, this may render the staff-training plan hard to implement, as the knowledge bank is not retained. The study on NOC revealed that among other challenges system breakdown, poor planning and logistical challenges are encountered in service and product delivery, therefore it is an indication that the organization should consider improving their technological proficiency to enable an increase in supply-chain performance.

Callado (2013) divides the BSC profiles into supply chain roles and learning and growth is explained using, input suppliers, producers, distributers and retailers stating importance of each. Under input suppliers, it is important that the organization ensure employee motivation, employee capability and employee satisfaction. Under producers, the organization should invest in training, technology and information technology systems. The study on NOC showed skills and capabilities drive improvement of the organization, as a high number of respondents agreed to this factor.

5.4 Conclusion

5.4.1 Effects of Customer Perspective on Supply Chain Performance

The effects of customer perspective on supply chain performance is highly influenced by the customer relationship management. Handling of customer complaints and feedback is an important aspect as it fosters implementation of customer retention strategies this encourages quality of service, which is vital for a successful customer-company relationship. Customers should be involved in decisions that affect them. To measure performance of this perspective lead-time, customer complaints, feedback are important aspects in ensuring good performance on supply chain performance.
5.4.2 The Effect of Internal Processes on Supply Chain Performance

Internal processes that work for the organization lead to increase in supply performance. To ensure successful implementation of organizational strategies, departmental policies must be aligned to the corporate strategy. Policies influence the corporate strategy, the importance of this is that they can then be measured by the BSC and hence show performance of the internal processes. Employees should also be well aware of the organizations policies as it makes it easier for them to identify service delivery difficulties that will enable review and reassessing of policies whenever necessary.

5.4.3 The Contribution of Financial Perspective on Supply Chain Performance

From the study carried out it can be concluded that financial perspective plays a major role in ensuring supply chain performance. Constraints in financing product was cited as a challenge encountered in service and product delivery, this was further confirmed by the high correlation between sufficient budget and supply performance. Supply chain performance can be measured using the BSC. A focus on the financial performance expected serve as crucial yardstick upon which supply chain performance is measured this is a just contribution of financial perspective to supply chain performance.

5.4.4 Influence of Learning and Growth Perspective on Supply Chain Performance

The study carried out showed that skills and capabilities drive improvement of the organization. The influence of learning and growth perspective on supply chain performance should encourage employee motivation, employee capability and employee satisfaction. Among other challenges system breakdown, poor planning and logistical challenges are encountered in service and product delivery, therefore it is an indication that the organization should consider improving their technological proficiency to enable an increase in supply-chain performance. Learning and growth perspective defines the core competence, skills and the corporate culture needed to support the organization’s strategy, training of employees should be considered to reinforce employee capability.
5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Effects of Customer Perspective on Supply Chain Performance

As far as customer perspective on supply-chain performance is highly influenced by the customer relationship management. When it comes to customer retention, there is need to constantly carry out customer satisfaction survey. Formal documentation of customer complaints ought to be observed, officially handled and feedback given, these are important aspects in ensuring good performance on supply chain performance. Review of the service charter should involve those who are in line of duty as they are most aware of the issues that affect their areas of work.

5.5.1.2 The Effect of Internal Processes on Supply Chain Performance

Awareness of the organizations policies and processes is vital as it makes it easier for employees to identify service delivery difficulties that will enable review and reassessing of policies whenever necessary. This helps management to not only successfully implement organizational strategies but also to ensure departmental policies are aligned to the corporate strategy. Firms need to undertake regular reviews of their policies and processes to establish if the policies are working and if they are strategically aligned to the overall objectives of the firm.

5.5.1.3 The Contribution of Financial Perspective on Supply Chain Performance

Financial perspective greatly contributes to supply-chain performance and constraints in finances limits product availability. This affects service and product delivery. The study confirmed that there is a high correlation between sufficient budget and supply performance. There is need to ensure financial information is communicated to encourage transparency by management. From the study, respondents agreed that financial audits conducted are communicated.
5.5.1.4 Influence of Learning and Growth Perspective on Supply Chain Performance

To measure the influence of learning and growth perspective on supply chain performance, the perspective needs to clearly bring out the organizations’ core competence, skills and corporate culture needed to support the organization’s strategy. Training of employees reinforces employee capability to encourage learning, for growth technological advancement need to be considered to improve supply-chain performance.

5.5.2 Recommendations for Further Studies

The general objective of the study was to examine how the implementation of the BSC has affected SCP at National Oil Corporation. The main areas of concentration were to evaluate the effect of customer perspective on supply chain performance, to measure the contribution of financial perspective on supply chain performance, to evaluate the effect of internal processes on supply chain performance and to assess the influence of learning and growth perspective on supply chain performance.

For further studies there is need to carry out similar in other oil marketing companies in Kenya, especially for those who use the BSC as their performance evaluation tool. There is need to carry out a comprehensive study on the relationship between the BSC and the organization’s performance to enable employees know the role they play in the attainment of the organization’s objectives.
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APPENDIX 1: DATA COLLECTION QUESTIONNAIRE

Dear Respondent,

My name is Maureen Amondi Ogwang, an MBA (Strategic Management) student at United States International University- Africa (USIU).

I am undertaking a research on The role of Balanced Scorecard in measuring supply chain performance: A study of National Oil Corporation of Kenya. By virtue of being in a function that interacts closely with the Supply chain management function, you form part of the respondents for this research. Kindly accept my invitation for your participation in this research by sparing some time to fill the questionnaire.

This questionnaire is being administered for research purposes and any information provided will be used purely for academic purposes and will be treated with confidentiality.

Thank you.
Please read the questions carefully and feel free to respond to them by giving your response by ticking (√) whichever option best describes you or applies to you.

**SECTION A: GENERAL INFORMATION**

1. Age of the respondent. *Please tick where appropriate*
   - 20-28yrs [ ]
   - 29-37yrs [ ]
   - 38-46yrs [ ]
   - 47-55yrs [ ]
   - Over 55yrs [ ]

2. Gender of the respondent.
   - [ ] Male  |  [ ] Female

3. Which department are you in?
   - [ ] Supply Department
   - [ ] Strategic Management Department
   - [ ] Customer Service Department
   - [ ] Operations Department
   - [ ] Marketing Department
   - [ ] Finance Department
   - [ ] Procurement Department
   - [ ] Other

4. How many years of experience do you have at the Corporation?
   - 1-3yrs [ ]
   - 4-6yrs [ ]
   - 7-10yrs [ ]
   - 7-10yrs [ ]
   - Over 10yrs [ ]

5. How do you consider Supply Chain Management as a function in the Corporation?
   - [ ] Very Critical | [ ] Critical | [ ] Slightly Critical | [ ] Not Critical | [ ] I don't know

6. Have you attended the Balanced scorecard training?
   - [ ] Never  |  [ ] Quarterly  |  [ ] Semi Quarterly  |  [ ] Annually  |  [ ] More than 5 times a year

7. Are you involved at any stage in the process of service and product delivery to customers?
   - [ ] Extremely Involved  |  [ ] Involved  |  [ ] Slightly Involved  |  [ ] Not Involved  |  [ ] No knowledge

**SECTION B: CUSTOMER PERSPECTIVE**

8. a. Does your department have a service charter?
   - [ ] YES  |  [ ] NO

   b. If yes, how often is the charter reviewed and are you involved in the review process?
   - ...........................................................................................................................
   - ...........................................................................................................................
Indicate the extent to which you agree on the following customer focus dimensions (Please indicate as appropriate where: 1-Strongly disagree, 2-Disagree, 3-Agree, 4-Strongly agree, 5-I don’t know)

a) Customer satisfaction survey is carried out constantly { }
b) Customer complaints are formally documented { }
c) Customer complaints are handled and feedback given { }
d) Customers are involved in decisions that affect them { }
e) Customer retention strategies are implemented { }

9. In your opinion, do you think the balanced scorecard has been involved in maintaining customer relationships at NOC?
   - Extremely Involved
   - Involved
   - Slightly Involved
   - Not Involved
   - No knowledge

SECTION C: INTERNAL BUSINESS PROCESS PERSPECTIVE

What is your assessment of your department’s performance in contribution to the below dimensions:

10. I understand the ISO procedures that affect my department. (Select only one.)
    - Strongly disagree | Disagree | Agree | Strongly agree | I don't know

11. Our departmental policies are not influenced by the corporate strategy: (Select only one.)
    - Strongly disagree | Disagree | Agree | Strongly agree | I don't know

12. I am familiar with our departmental working instructions: (Select only one.)
    - Strongly disagree | Disagree | Agree | Strongly agree | I don't know

13. We review and reassess our processes whenever there are service delivery difficulties: (Select only one.)
14. How does your supervisor measure adherence to policies and procedures?
   a) Qualitatively [   ]
   b) Quantitatively [   ]
   c) Both a and b [   ]
   d) None of the above [   ]
   e) Other measures (please explain) ..............................................................

SECTION D: FINANCIAL PERSPECTIVE FOCUS

15. Indicate the extent to which you agree on the following financial dimensions (Please tick as appropriate where; 1-Strongly disagree, 2-Disagree, 3-Agree, 4-Strongly agree, 5-I don't know)

   Revenue collection from customers done in a timely manner {   }
   Constant monitoring of debtors and adherence to credit limit policies {   }
   Corporate budget is duly communicated and purchases done within the budget {   }
   Financial audits are done and communicated {   }
   Accountability of petty cash is done in a timely manner {   }

SECTION E: LEARNING AND GROWTH PERSPECTIVE FOCUS

16. Indicate the extent to which you agree on the following learning and growth dimensions (Please tick as appropriate where; 1-Strongly disagree, 2-Disagree, 3-Agree, 4-Strongly agree, 5-I don't know)

   Annual Personal development plans are adhered to through constant monitoring {   }
   Performance appraisals are done as scheduled in the corporate plan {   }
   I attend trainings to better my working skills, knowledge and know-how {   }
   There is a leave management plan to ensure process continuity in my absence {   }

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SECTION E: THE SUPPLY CHAIN

17. To what extent do you consider that the following functions affect efficiency of supply?

(Please indicate chosen response, Use 1, 2, 3, 4, 5; Where (1) = Low Extent, (5) = High Extent)

- Stocks availability [ ]
- Lead Time [ ]
- Supply Planning [ ]
- Sufficient Budget [ ]
- Transportation/logistics [ ]
- Procurement process [ ]
- Training [ ]
- Customer service [ ]
- Lead Time [ ]

18. How important are the following factors when developing a successful supply relationship with a supplier? (Please indicate chosen response, Use 1, 2, 3, 4, 5; Where (1) = Unimportant, (5) = Very important)

- Reliable delivery [ ]
- Accurate order fulfilment [ ]
- Level of complaints/returns [ ]
- Delivery at specified time [ ]
- Flexibility [ ]
- Handling of complaints [ ]
- Added value [ ]
- Quality of product [ ]
- Quality of service [ ]
- Trust [ ]

19. As per your department how do you rate the service/product delivery activity to customers?

☐ Excellent ☐ Very Effective ☐ Good ☐ Average ☐ below Average

20. Are there any challenges encountered in service/product delivery activity? If yes, kindly list below;

............................................................................................................................................................
............................................................................................................................................................

21. Do you have any other comment relating to the balanced scorecard and/or supply chain?

............................................................................................................................................................
............................................................................................................................................................

Thanks for taking time to answer the questionnaire.
APPENDIX 2: DATA COLLECTION INTERVIEW GUIDE

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date of Interview:</th>
</tr>
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<tbody>
<tr>
<td>Interview Start Time</td>
<td>End Time</td>
</tr>
<tr>
<td>Position/Title</td>
<td></td>
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</tbody>
</table>

**Interview Guide**

1. Communicate the research topic
2. Explain the interview process – how much time is allocated, the note taking and audio recording, give opportunity for the interviewee to ask questions.

**Interview Questions**

1. How long have you been in the industry?
2. In your understanding how is evaluating the effect of customer perspective critical to supply chain performance?
3. As a departmental head how would you measure the contribution of financial perspective on supply chain performance?
4. Do you consider internal processes to have an effect on supply chain performance?
5. How would you assess the influence of learning and growth perspective on supply chain performance?
6. Does your section have a service charter / Service Level Agreement (SLA) and how often is it reviewed?
7. In your opinion how important are Stocks availability, Transportation/logistics, Lead Time, Procurement process, Supply Planning, customer service, adequate financing when developing a successful supply relationship with a supplier?