

Effects of Public Procurement Law on the Supply Chain Reliability at Nzoia Sugar Company Limited

Alex Musonye Odanga¹, Dr. Mike Amuhaya Iravo², Mr. Robert Wamalwa Wandera³

¹Masters of Science in Procurement and Logistics management student

²Senior Lecturer – Jomo Kenyatta University of Agriculture & Technology

³Lecturer – Jomo Kenyatta University of Agriculture & Technology

Abstract: Public procurement law regulates the purchasing by public sector bodies and certain utility sector bodies of contracts for goods, works or services. The most important factor in the successful management of the supply chain is a reliable relationship among the partners in the chain in such a way that they can have mutual trust in each other's capabilities and activities. Therefore, in the development of any integrated supply chain, increasing the confidence and trust among the partners and devising the reliability for them are the crucial factors to achieve sustainable success. The reliability attribute is one of the most important means of measuring and assessing the performance in supply chains. Supply chain robustness is the capability that supply chains function normally with the changes in its internal structure and external environment. In a supply chain system, its uncertainties result from supply, manufacturing, sales and other operational aspects, this is from the earthquake, flood, fire, production accidents, and international economic environment and so on. All these could influence the normal operation of the supply chain. Robustness plays an important role in its income increase and the sustainability of the supply chain under these uncertain factors. The purpose of this study was to determine the effects of Public Procurement Law on the Supply Chain Reliability at Nzoia Sugar Company Limited. The objectives of the study were; investigate the effect of efficiency on Supply Chain Reliability at Nzoia Sugar company Ltd, to find out how collaboration influence on Supply Chain Reliability at Nzoia Sugar company Ltd, to establish compliance practices on supply chain reliability at Nzoia Sugar Company Ltd, to determine the skills level at Nzoia Sugar Company towards supply chain reliability, and to establish the e- procurement practices at Nzoia Sugar Company Ltd. The study applied a descriptive statistical approach. Stratified sampling technique that was used to select the respondents in the procurement section at Nzoia Sugar Company. Both Primary data and secondary data will be used. Primary data was collected through structured and unstructured questionnaires. While secondary data was sought from literature review of industry, professional and other relevant publications. Individuals and key informants were appropriately identified to form another targeted respondents from which data was gathered through in-depth interview. Clarifications on the questionnaires required by the respondents were made by the researcher. The data collected were analyzed using descriptive statistics and inferential statistics were explored to analyze data before presentation and interpretation.

Keywords: Supply chain reliability, Public Procurement law, Public sector, compliance, Capability.

1. INTRODUCTION

Public procurement law regulates the purchasing by public sector bodies and certain utility sector bodies of contracts for goods, works or services. Public Procurement can be defined as the acquisition, whether under formal contract or not, of works, supplies and services by public bodies. It ranges from the purchase of routine supplies or services to formal tendering and placing contracts for large infrastructural projects by a wide and diverse range of contracting authorities. Public procurement procedures are as follows: Open tender procedure; restricted tender procedure, Prequalification procedure; Negotiated contracts procedure with invitation to bid, Negotiated procedure without invitation to bid;

Competitive dialogue; Design contest, and low-value public procurement procedure. Contract is awarded in open procedure or in restrictive procedure. Contract may also be awarded in other public procurement procedures, provided that the requirements prescribed for that by this Law are met.

According to Lukinskiy & Churilov (2014), Reliability is one of the most important characteristics of the functioning of supply chains since it has a significant impact on the completeness and quality of delivered parties, on the execution time of logistics cycle and on logistics costs in supply chains. Since the processes of interaction between the companies, that are participants of the supply chain, become more complicated, this leads to the need of improvement of methods used to assess the reliability of supply chains and to search for active ways to improve reliability. Analysis of a number of studies have shown that in many matters relating to the reliability of supply chains (such as terminology, classification of concepts and principles, analytical tools, failure models and its experimental evaluation) there is a significant range of opinions. The reliability attribute is one of the most important means of measuring and assessing the performance in supply chains.

Liu & Peng (2009), Supply chain robustness is the capability that a supply chain function normally with the changes in its internal structure and external environment. In a supply chain system, its uncertainties result from supply, manufacturing, sales and other operational aspects, this is from the earthquake, flood, fire, production accidents, and international economic environment and so on. All these could influence the normal operation of the supply chain. Robustness plays an important role in its income increase and the sustainability of the supply chain under these uncertain factors. Robust optimization is a new method to solve the problems happening in the changes of its internal structure and external environment under uncertainty. When solving the problems, one of the mathematical programming deals with the uncertainty of constraint parameters, while the other handles the uncertainty of objective function parameter. Robust optimization mainly deals with the uncertainty of the external disturbance.

2. RESEARCH OBJECTIVES

General Objective:

The general objective of the study was to investigate the effects of Public Procurement law on the Supply Chain Reliability at Nzoia Sugar Company Limited

Specific Objective:

The specific objectives of this study were:

- a) To investigate the effect of efficiency on Supply Chain Reliability at Nzoia Sugar company ltd
- b) To find out how collaboration influence on Supply Chain Reliability at Nzoia Sugar company ltd
- c) To establish compliance practices on supply chain reliability at Nzoia Sugar Company ltd
- d) To establish the e- procurement practices at Nzoia Sugar Company ltd
- e) To determine the moderating effect of balanced scorecard on efficiency, collaboration, compliance and e- procurement on supply chain reliability

3. RESEARCH QUESTIONS

This study was guided by the following research questions:

- a) What is the effect of efficiency on Supply Chain Reliability at Nzoia Sugar company ltd?
- b) How does collaboration influence Supply Chain Reliability at Nzoia Sugar company ltd?
- c) How are compliance practices on supply chain reliability achieved at Nzoia Sugar Company ltd?
- d) What are the e- procurement practices at Nzoia Sugar Company ltd?
- e) What are the moderating effect of balanced scorecard on efficiency, collaboration, compliance and e- procurement on supply chain reliability?

4. JUSTIFICATION OF STUDY

This study was undertaken amidst debate on whether sugar companies apply public procurement law to create supply chain reliability. The study, therefore, is timely as its findings and recommendations will provide answers to many unanswered questions and also for policy formulation and further research by stakeholders in sugar companies. The findings of this study will be useful to sugar firms and the government of Kenya, and other policy makers like the Kenya sugar board.

5. LITERATURE REVIEW

This study is based on the following theories;

Transactional cost theory:

Transaction cost refers to the cost of providing for some good or service through the market rather than having it provided from within the firm, (Watkins, 1973). In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. More succinctly transaction costs are: (a) search and information costs, (b) bargaining and decision costs, and (c) policing and enforcement costs. Watkin (1973) as explained by Coase contends that without taking into account transaction costs it is impossible to understand properly the working of the economic system and have a sound basis for establishing economic policy. Asset specificity is the relative lack of transferability of asset intended for use in a given transaction to other uses. Williamson identifies six main types of asset specificity; (a) site, (b) physical asset (c) human asset (d) brand name (e) dedicated assets (f) temporal.

Resource based view theory:

This theory encompasses that each firm is characterized by its own unique collection of resources of core competencies. Kay (1995) argues that the source of competitive advantage is the creation and exploitation of distinctive capabilities that are difficult to build and maintain, codify and make into recipes, copy and emulate, and can't simply be bought off the shelf. He identifies three basic distinctive capabilities; (a) Corporate architecture (b) innovation (c) Reputation. From this analysis, Cox identifies the following propositions, (a) Arms -length relationships, which are associated with low asset specificity and low supplier competencies that can easily be bought off the shelf as there are many potential suppliers, (b) internal contracts, which is an in-house provision associated with high asset specificity and core competencies, (c) partnership relationships, which applies to assets of medium specificity and ascend in steps according to the distance of the complementary competencies provided by external suppliers from the core competencies of a particular firm.

Robustness Evolution system theory:

Immers, Yperman, Stada, & Bleukx (2011) avers that robustness is defined as the degree to which a system is capable of functioning according to its design specifications in the case of serious disruptions. The robustness of the transportation system may be enhanced by taking a number of corrective measures. These measures include the introduction of a certain redundancy or spare capacity into the system and minimizing the interdependency of system components to prevent a local disturbance from propagating through the entire system. In our opinion the related notions of resilience and flexibility also have a bearing on the robustness of a system.

Systems theory:

The study of revenue collection was guided by the systems theory of organizations developed by Ludwig Von Bertalanffy in the early 1950's. Systems theory emerged as part of intellectual thinking following the World War II. Systems theory takes into account the inter relationships of the several parts of a phenomena that must interact. This theory is different from the classical and content theories that consider organizations as closed social units that are independent of external environmental forces (Oso and Owen, 2009). Sugar companies as organizations exist as social units in the larger environment. It is therefore important that they must be managed like systems where their operations and programmes continually interact with the outside environment in terms of its inputs and thereafter its output in form of service delivery and proposal.

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CONCEPTUAL FRAMEWORK

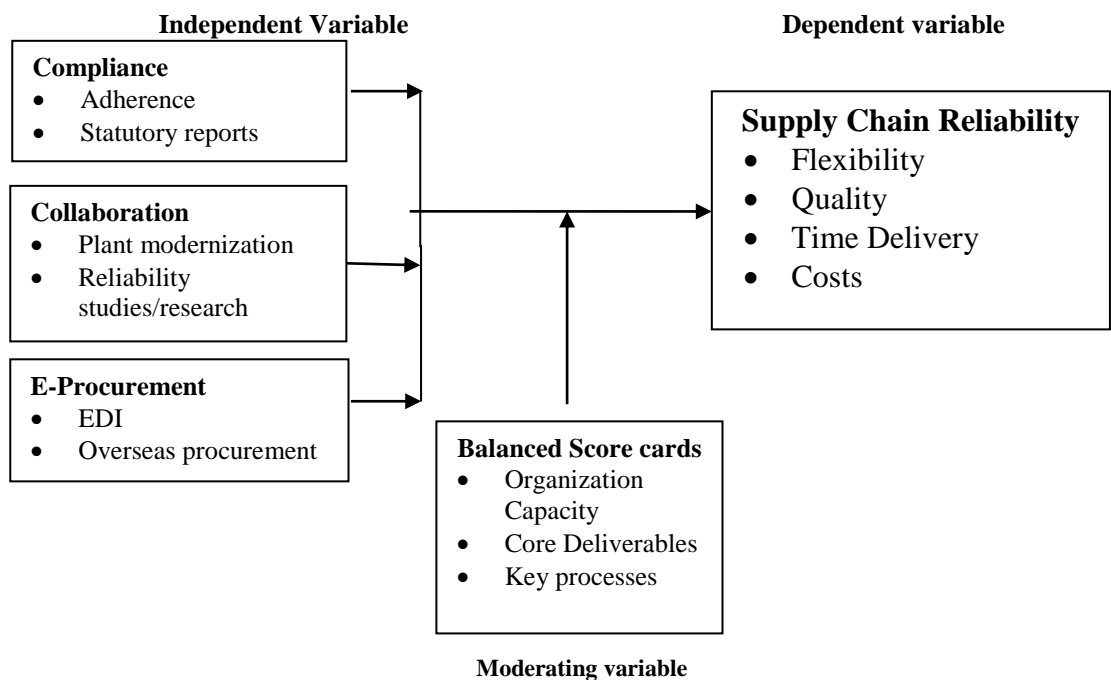


Figure 2.1: Proposed

6. REVIEW OF VARIABLES

Compliance practices:

Chabon (2012), avers global supply chains become more vital by the day, as businesses increasingly depend upon importing products into the United States or exporting goods to foreign markets. But government regulation can be a speed bump on this global superhighway. Importing and exporting products means companies must comply not only with U.S. shipping regulations, but a myriad of international requirements, as well. Even within a particular nation, multiple agencies may regulate shipping and trade, making compliance matters even murkier for businesses.

Collaboration:

Benavides, Eskinazis,& Swan (2015) posits that companies are often tempted to use collaboration as a way to fill gaps in their own capabilities. In practice, the most successful collaborations build on strengths rather than compensating for weaknesses. A manufacturer seeking to collaborate with a major retailer in order to improve its own forecasting performance, for example, will have little to gain from access to the retailer's point-of-sale data unless it has the in-house analytical capability to make effective use of that data. Similarly, there is little point in entering collaborations to boost sales if any increase in demand is likely to run into manufacturing-capacity constraints.

Potential collaborators should also be sure they have the right supporting infrastructure in place in advance of any collaborative effort. Is top management committed to the collaboration process and ready to offer support over the long term? Are in-house information technology (IT) systems robust enough to facilitate real-time data sharing if required? Some collaborations promise equal benefits for both parties. If, for example, a manufacturer and a retailer collaborate to optimize product mix, both could expect to benefit from the resulting increase in sales. In other cases, however, the

collaboration might create as much value overall but the benefit could fall more to one partner than to the other. Here's one real-life example: a retailer and a manufacturer were able to reduce overall logistics costs between factory and store by cutting out the manufacturer's distribution centers and treating the

E- Procurement:

Identifying the right e-Procurement strategy for each commodity is crucial to the success of a company's solution and therefore ranks as one of the major challenges. First of all, products and services with a very high degree of coordination effort with the supplier and a very low order frequency are certainly not candidates for e-Procurement (Porter, 2001). These products require a high effort for content negotiation. Bayer, for example, conducted an auction for a plant with a value of EUR 310 million. It took the company three months to specify the product with all the necessary details in order to keep it comparable among the different suppliers.

7. RESEARCH METHODOLOGY

RESEARCH DESIGN:

The study adopted a descriptive case research design study method was used to obtain the relevant data which was used to determine the linkages between the variables of the study (Sekaran & Bougie, 2010). Descriptive research design will be used in this study. Descriptive research design was considered best for it is a scientific method, which involves observing, describing, recording, analyzing and reporting conditions that exist without alterations. It was used to obtain pertinent and precise information concerning the current phenomena and where possible to draw valid general conclusions from the facts discovered (Lockesh, 1984). The study adopted a stratified sampling in which all samples in the same strata were classified in the same category.

TARGET POPULATION:

The populations of study were all procurement officers in the sugar industry in Kenya. However the target populations for this study were senior staff in Supply chain departments at Nzoia Sugar Company limited. This was determined by employing purposive sampling techniques which involved the use of the researcher's knowledge of the population in relation to the researcher's goals.

SAMPLE SIZE AND SAMPLING TECHNIQUE:

The researcher used stratified sampling technique to select employees from the various departments. This was the sample. Stratified sampling techniques identify subgroups in the population and their proportions and selects from each subgroup to form a sample (Oso and Owen, 2005). Factor rotation will be done to ascertain the actual variables of study. According to Yamane formulae, sample size for this study will be obtained using Urbański (2013) as follows;

$$n = \frac{N}{(1 + Ne^2)} \quad \text{Where, } n = \text{the sample size, } N = \text{the size of population, } e = \text{the error of 5 percentage points}$$

$$n = \frac{1762}{(1 + 1762 \times 0.05^2)} = 326$$

DATA COLLECTION METHODS:

The data were collected using questionnaires that were open and closed ended. The research permit was sought from the National Council for Science and Technology after receiving the approval from the university. On receiving the permit, the researcher proceeded to the field to collect data from 21 companies. The companies will be visited and managers consulted to provide date for the study. The respondents were requested to fill the questionnaires. They handed over back the filled questionnaires to ensure a high return rate. Section A of the questionnaires were used to address democratic information and section B assessed public law on supply chain reliability

PILOT TEST:

A pilot study was conducted Muhoroni to establish on supply chain reliability of the data collection instrument. These were done to test the validity and reliability of the data collection instruments. Respondents were encouraged to provide their views on the quality of the questionnaires (Sekaran, 2010). There are different types of validity that can take place

and they are content, construct and criterion validity. Validity is concerned with the truthfulness or accuracy of the results and refers to the extent to which it measures what it was intended to measure.

8. CONCLUSION

Also from the coefficient table 4.14 the model that was fitted on the data is given by

$$Y = 1.828 + 0.25X_1 + 0.206X_2 + 0.327X_3$$

From these results, it be seen that the moderating variable has a combined moderating influence on Compliance Practices, Collaboration Practices and E-procurement have a combined effect on the supply chain reliability. These is because there is a significance improvement on the value of R-squared for the model without the moderating variable which is 60.67% to 65.35% for the model with moderating variable. This indicates that unit change in the Compliance Practices will increase the Supply chain reliability by 2.165 times.

The study recommends that;

- (a) All revenue collection offices should be computerized as a means of internal control systems
- (b) Training of staff should be done in reference to improving on competencies
- (c) More means of sourcing for revenue should be established by allowing staff to be innovative to allow compliance

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