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Effects of Supply Chain Management Practices on Organizational Performance: A Case of Kenya Wine Agencies Limited, Nairobi

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Abstract:

The interest in managing supply chains had grown rapidly among companies around the world. Many companies had moved aggressively to implement and improve on supply chain management practices with the hope of enhancing revenue, profitability, control costs and asset utilization, as well as lead to market share growth. However, these companies had not been able to formulate the right strategies required to achieve this task and this had affected negatively the performance of most organizations, therefore, the study investigated the effect of supply chain management practices on performance with reference to Kenya Wine Agency Limited, Nairobi. The study was conducted between June and August, 2014. The objectives of the study were: to establish the effects of distribution planning, supplier relationship management, Business Process Re-engineering and Information Technology on performance at KWAL. The research adopted a case study design drawing a sample size of 91 employees from a target population of 120 employees using the Fischer's model through stratified sampling technique. The researcher used structured questionnaires to collect data. To supplement the primary data, secondary sources were used. The data was analyzed using descriptive statistics of mean and variance and inferential statistics i.e. correlation and then presented by the use of frequency tables and percentages. Distribution planning had the greatest correlation coefficient of 0.609 and therefore had greater impact on organizational performance in improvement in downstream operations. Supplier relationship management, Business Process Re-engineering and information technology had correlation coefficients of 0.019, 0.004 and -0.111 on organization's performance respectively.

1. Background of the Study

In today's global market the main focus of competition is not only between different companies but also between supply chains. As the satisfaction of the final customer is of utmost importance for the successfulness of the whole chain, effective management of those processes is crucial. It is not sufficient to have efficient processes within a company, synchronized operations of all partners and integration of processes in the supply chain are required. Business processes are critical components of almost all systems that support enterprise-level and business-critical activities (Williamson *et al*, 2004). Practical experience has shown that the root cause therefore is not technological problems but is linked to organizational and process aspects (Jaklic *et al*, 2003.)

A supply chain is a network of connected and interdependent organizations mutually and cooperatively working together to control, manage, and improve the flow of materials and information from suppliers to end customers, as defined by the Supply Chain Council, (2005). It not only includes manufacturers and suppliers, but also transporters, warehouses, retailers and customer (Siau *et al*, 2005). Supply chain flows are both forward and backward; products usually flow forward, while information flows backward and forward (Steckel *et al.*, 2004). Supply chain management is a new concept involving the integration of all the value-creating elements in the supply, manufacturing, and distribution processes, from raw material extraction, through the transformation process, to end user consumption. SCM activities are motivated by the ideals of customer service, compression of lead time, and inventory reduction. SCM is facilitated greatly by the latest in communication technologies, such as Electronic Data Interchange (EDI) and the internet. This permits quick communication of end-consumer demand to the upstream stages of the supply chain (Steckel *et al*, 2004).

Business organizations need to capitalize on Supply Chain (SC) capabilities and resources to bring products and services to the market faster, at the lowest possible cost, with the appropriate product and service features and the best overall value (Gunasekaran *et al.*, 2001). Performance measures are important to the effectiveness of SC. Companies can no longer focus on optimizing their own

operations to the exclusion of their suppliers' and customers' operations. Supply Chain Performance Measures (SCPM) serve as an indicator of how well the SC system is functioning. Measuring SC performance can facilitate a greater understanding of the SC and improve its overall performance. There is an emerging requirement to focus on the performance measurement of the SC in which company is a partner (Peter, 1998). Interest on performance measurement has notably increased in the last 20 years (Gunasekaran et al., 2001). Companies have understood that for competing in continuously changing environment, it is necessary to monitor and understand firm performances.

Recent study by Supply Chain Council (2002) on the use IT in supply chain management in large US companies, mainly manufacturers, revealed that although the use of IT has progressed, companies had still much to go. For example, 60-70 % of transactions were still done by manual methods (phone, fax, and mail). This demonstrated how companies having to interact with multiple partners could not use IT with all. Supply chain management emphasizes the long-term benefit of all parties on the chain through cooperation and information sharing (Lee et al., 2000).

KWAL, the leading player in wine, has in recent years seen intensive rebranding and reposition locally and regionally. This has seen it grow immensely leading to a government reposition that it can be privatized. However, the real onslaught has perhaps been from wine makers based in South Africa. They have locally introduced brands that have adopted local names such as Mara Wines. They have also made good use of the advances by common markets for East and Southern Africa trading block in order to raise exports in Kenya. Wine is expected to see a volume rise of 4% over the forecast period on the back of a recovering economy and a growing middle class with rising disposable income. Nonetheless, stricter regulations and higher taxation will hamper growth, leading to consumers trading down to relatively cheaper products such as traditional chang'aa and beer (Peter, 1998).

KWAL has formulated several interventions aiming at offering quality products that meet international standards. Some efforts have to be made to promote strategic options in its Supply Chain Management so as to enhance Organization Performance. The linkages in SCM at KWAL are weak and because of this there exists little inter-industry integration in the organization. This has resulted in consistently low value added in the supply chain thereby prompting the researcher to investigate the effect of Supply Chain Management practices on organizational performance, a case of KWAL.

Statement of the Problem

KWAL markets a wide range of selected quality alcoholic and non-alcoholic beverages, has a country-wide and regional distribution portfolio of beverages including wines, spirits and ready to drink products. In the recent years, KWAL had faced stiff competition and business challenges that threatened its existence. This had happened as a result of it doing little to manage its supply chain. Instead, it tended to concentrate on its own operations and on its immediate suppliers. Moreover, the planning, marketing, production and inventory management functions had often been operated independent of each other. As a result, its supply chain experienced a range of problems which were seemingly beyond the control of individual organizations. These problems included large escalations of inventory, inventory stock outs, late deliveries and quality problems (Zoryk-Schalla et al., 2004). Furthermore, if a manufacturer's operation is frequently affected by competitors' actions, it may face greater needs to coordinate with supply chain partners. For example, a manufacturer that needs to modify the design of its product, because of market entry or new products launched by competitors, also needs to modify the design of upstream components that constitute the product; it may also need to rearrange downstream channels for new product distribution. These may induce considerable coordination tasks (Bensaou, 1997). Accordingly, technologies that help reduce coordination costs are more valuable in intensely competitive markets. These and other issues now made it clear that management of supply chain was essential for business success. In view of the existing scenarios, it was therefore necessary to establish the effect of supply chain management practices on organizational performance of Kenya Wine Agency Limited, Nairobi. Specifically the study aimed to investigate effects of distribution planning, supplier relationship management, business process re-engineering, and information technology on performance of KWAL, Nairobi.

1.1. General Objectives of the Study

The general objective of the study was to investigate the effect of Supply Chain Management practices on organizational performance at Kenya Wine Agencies Limited.

1.2. Specific Objectives

- i. To establish the effects of distribution planning on organizational performance at KWAL, Nairobi.
- ii. To assess the effects of supplier relationship management on organizational performance at KWAL, Nairobi.
- iii. To establish the effects of business process re-engineering on organizational performance at KWAL, Nairobi.
- iv. To assess the effects of information technology on organizational performance at KWAL, Nairobi.

1.3. Research Questions

- i. What is the effect of distribution planning on organizational performance at KWAL, Nairobi?
- ii. How does supplier relationship management affect organizational performance at KWAL, Nairobi?
- iii. What is the effect of business process re-engineering on organizational performance at KWAL, Nairobi?
- iv. How does information technology affect organizational performance at KWAL, Nairobi?

1.4. Limitations of the Study

The study was limited in scope since it only covered Kenya Wine Agency Limited and yet there were many wine producing companies in Kenya. Thus, this did not give a fair representation of the entire wine industry since only one company was selected. Other areas of limitation included time constraint and the busy schedule of some of the respondent hence, affecting the response rate.

1.5. Research Gap

While there was plenty of published literature that explains SCM, there was a relative lack of empirical studies examining SCM practices and their effects on organizational performance. Little research had been conducted on the effect of Supply Chain Management practices on organizational performance in the Wine or Beer industry in Kenya. There were very few documented cases showing how SCM affects performance.

1.6. Conceptual Framework

1.6.1. Supply Chain Management Practices

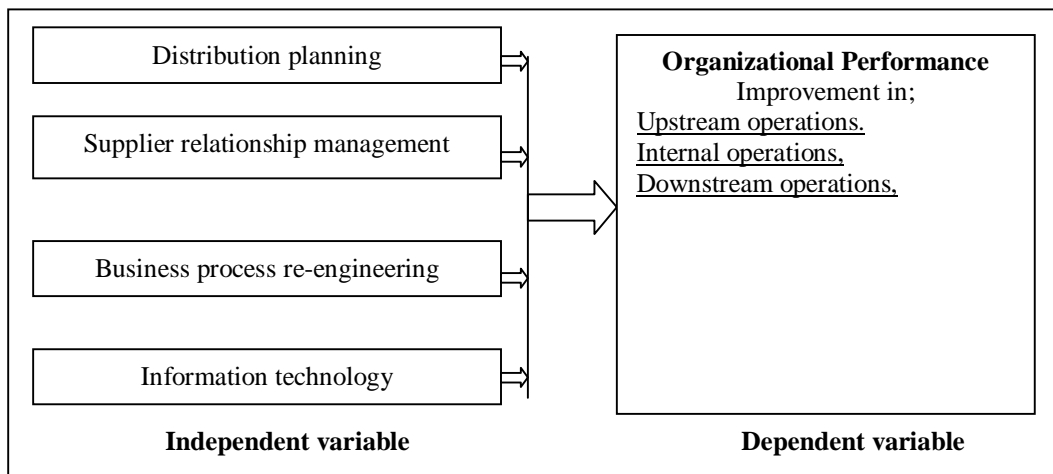


Figure 1: Conceptual framework showing the relationship between supply chain management practices and organizational performance

1.7. Research Design

The research designs were empirical and a case study designs because the study involved a careful and complete observation of a social unit. Oso et al., (2005) defined a case study as a research method which is involves in an intensive, descriptive, and holistic analysis of a single entity or a bound case, for this case, Kenya Wine Agency Limited. In such an empirical research design, the study focuses more emphasis on the full analysis of a limited number of events or conditions, for example, sample and other interrelationships. Empirical research design is appropriate when proof is sought that certain variables affect other variables in some way (Kothari, 2004). This research design was deemed more preferable by the researcher since it is more reliable and can provide detailed information therefore, justification for the study.

1.8. Target Population of the Study

Target population refers to the entire group of individuals, events or objects having a common observable characteristic. The target population was the entire population of Kenya Wine Agency Limited, Nairobi. The employees were distributed unevenly in the various departments as follows: production department 10, purchasing department 10, finance department 10, human resource department 18, design department 10, stores department 15, transportation department 40, and research & development department 7, giving a total of 120 employees in various cadres. Majority of employees in these departments (70%), were in the middle and lower job groups working as supervisors, technical and non-technical staff (messengers, drivers and clerical officers). All the employees at KWAL were picked as the target population since little study of the same kind had been previously done and at the same time, KWAL acted as a monograph which could be replicated in other wine producing industries.

1.9. Sample Size and Sampling Technique

A sample is the number of items selected to represent the whole population (Kothari, 2004). Cooper (2001) defines sample size as the subject on which the measurement is being taken as the unit of study. A sampling design is the method of selecting items to be observed for a given study (Kothari, 2004). Purposive and stratified random sampling was adopted in order to obtain appropriate sample for the entire population. Purposive sampling is a form of non-probability sampling in which decision concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist

knowledge of the research issue, or capacity and willingness to participate in the research (Oso et al, 2005). The method was applied to personnel at strategic management levels mainly; heads of departments because of their nature of special skills and knowhow on the matter under study.

According to Kothari (2004), a stratified sample is a probability sampling technique in which the researcher divides the entire target population into different sub-groups, or strata, and then randomly selects the final subjects proportionally from the different strata. This type of sampling is used when the researcher wants to highlight specific subgroups within the population. Stratified random sampling was good for this research since ensured the presence of key sub-groups within the sample. Stratified random sampling technique allowed the population to be stratified into a number of non-overlapping sub-populations or strata (departments); and sample items (personnel) at tactical and operational level was selected from each stratum (department). A sample size of 91 employees was studied since the entire population of interest could not be studied. To arrive at the desired sample, Fisher's model was used. In this case, when the target population is more than 10,000, the formulae is given as

$$n = \frac{z^2 pq}{d^2}$$

Where

p is the proportion of target population with traits being investigated;

q is the proportion of target population without traits being investigated i.e. (q=1-p);

d is the tolerance error; and

z is normal statistical deviation.

At 95% confidence level, and taking p=0.5,

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.5^2}$$

$$= 384$$

Since target population is less than 10,000, the modified Fisher's formula to be used for the appropriate sample is:

$$n_f = \frac{n}{1 + n/N}$$

where: n_f is the required sample size;

n is the sample size when population is more than 10,000; and

N is the observed target population

$$n_f = \frac{384}{1 + \frac{384}{120}}$$

$$= 91 \text{ employees}$$

The sample size of 76% (91) is supported by Kothari (2004), who indicates that an optimum sample is the one that fulfills the requirements of efficiency, representativeness, reliability and flexibility. According to Kothari this sample was above 50%.

Department	Total population	Sample size	Percentage of sample size
Production	10	8	7%
Purchasing	10	8	7%
Finance	10	8	7%
Human Resource	18	14	12%
Design	10	8	7%
Store	15	11	8%
Transportation	40	30	25%
Research/Development	7	4	3%
Total	120	91	76%

Table 1: Departmental Distribution of Sample Size

Source: KWAL HRD Office (2014)

1.10. Data Collection Instruments

Data was collected using a semi structured questionnaire. A questionnaire is a collection of pre-formulated items in definite order on a form or set of forms to which a respondent is expected to react, usually in writing (Kothari, 2004; Oso et al., 2005). The semi-structured questionnaire was both open-ended and closed-ended to gather both quantitative and qualitative information relating to the objectives of the study. It also allowed freedom for the respondents to respond in their own words and have a greater depth of response. A questionnaire was appropriate because of its ease of administration, scoring and ready analysis of results and because it is fast, and cheap in monetary terms. The items in the questionnaire were developed in line with study objectives. Document analysis technique was also used to obtain information from secondary data related to the study.

1.11. Pilot Test of the Instrument

Before administering the questionnaire, it was tested for validity and reliability to authenticate its usefulness in quality control. Quality control ensured acceptability level of validity and reliability of research findings (Amin, 2005; Cohen, 1988; Oso et al., 2005). According to Kothari (2004), pilot-testing is an important step in research process because it reveals vague questions and unclear instructions in the instruments. It also captures important comments and suggestions from the respondents that enable the researcher to improve the efficiency of instruments, adjust strategies and approaches to maximize response rate. The researcher carried out pre-testing interviews among the targeted population. The data from the pilot testing was not included in the final analysis, but only used to make the research instrument better.

1.12. Validity of Research Instruments

Mugenda & Mugenda (2004) defines validity as the accuracy and meaningfulness of inferences, which are based on research results. The research instruments were exposed to experts and supervisors for validity checks. Face validity was ensured by the supervisors' expertise while construct validity was ensured through a thorough theoretical grounding in the subject matter. Validity is the extent to which the results of the study can be accurately interpreted and generalized to the general population (Cohen, 1988). The questionnaire was tested in order to check its content, construct and face validity. Content validity was done to ensure it contains adequate domain of content it is supposed to represent. Face validity deals with formatting the instrument and includes aspects like clarity of printing, font size and type, adequacy of workspace, and appropriateness of language among others. Construct validity determines the nature of psychological construct or characteristics measured by the instrument. Experts, supervisors and peers in research were engaged to ensure the instrument accurately measures the variables it is supposed to measure.

1.13. Reliability of the Research Instruments

Reliability is a measure of the degree to which a research instrument yields consistent results or data after repeated trials. It is influenced by random error. As random error increases, reliability decreases. Random error is the deviation from a true measurement due to factors that have not been addressed by the researcher. Errors may arise from inaccurate coding, fatigue and bias Mugenda & Mugenda (2004). To test reliability of the research instruments, the instruments were administered to the same group of individuals on two separate occasions. The results were compared by correlating the sets of scores and calculating reliability coefficient using cronbach alfa coefficient. In this view, the study adopted a cut off 0.60 Cronbach's alfa coefficient which was recommended by Bagozzi et al., (1988) as a good indicator of reliability

1.14. Data Processing and Analysis

Immediately after data collection, and prior to entry into processing software, data was carefully screened for accuracy. This was necessary in order to address issues of omissions, errors, or inaccuracies that could have been inadvertently made by the researcher. This was done by using computerized assessment instruments, which accepts only responses within certain ranges, checks for blank fields or skipped items, and even conducts cross-checks between certain items to identify potential inconsistencies between responses. Screened data was then entered into a well-structured database. This was carefully done while considering all the variables that were used in the study. A data codebook providing a clear and comprehensive description of the variables in the database was prepared. This became essential when the researcher began to analyze data. Moreover, it served as a permanent database guide that helped the researcher in case of need to re-analyze certain data.

Data entry was conducted by properly trained person with high level of accuracy and integrity in inputting data. This was done by double entry where data is entered in database twice and then compared to determine whether there was any discrepancy. The discrepancies were then examined by the researcher and corrected. Data was analyzed using both descriptive and inferential statistics using SPSS version 20. Descriptive statistics was used to describe data and to accurately characterize the variables under measure within a specific sample. This provided information about the overall representativeness of the sample, as well as the information necessary for other researchers to replicate the study. This was achieved by using frequency distribution tables, pie charts and bar charts as were deemed appropriate. It would not be feasible to collect data from the entire target population. A representative sample was therefore chosen by drawing inferences from the target population. Statistical tests were applied to measure the degree and direction of relationship between the variables using Karl Pearson's product moment correlation analysis.

2. Results and Discussions

2.1. Introduction

The study was carried in KWAL, Kenya with a target population of 120 respondents. A questionnaire with both open and closed ended questions was the main instrument of data collection issued to 91 sampled respondents to determine the effects of supply chain management practices on organizational performance supplemented by secondary sources. The data was analyzed qualitatively and quantitatively using descriptive such as mean and standard deviation and inferential statistics i.e. correlation to describe the association and direction among the variables under study and presented in form of tables.

The reason for qualitative analysis was to provide more information of the underlying issues pertaining to effects of supply chain management practices on organizational performance. The study benefited from a rich qualitative data through key information obtained in the questionnaires. This section relied mainly on descriptively statistics to interpret and structure the meanings that could

be derived from the data collected. The main objective of this section was to use qualitative data within the context of management in order to generate ideas, as opposed to inductive reasoning. Much of the qualitative analysis was focused on distribution planning, supply relationships, business process re-engineering and information technology on organizational performance.

2.2. Departmental Representation

Eight departments were involved in the study and the responses were tabulated in table 2 and all the respondents participated in the study. However, the representation was varied.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	production	8	8.8	8.8	8.8
	Purchase	8	8.8	8.8	17.6
	Finance	8	8.8	8.8	26.4
	Human Resource	14	15.4	15.4	41.8
	Design	8	8.8	8.8	50.6
	Store	11	12.1	12.1	62.7
	Transportation	30	33.0	33.0	95.7
	R&D	4	4.3	4.3	100.0
	Total	91	100.0	100.0	

Table 2: Departmental Representation

Respondents were sampled from eight departments. Many were drawn from the transportation department representing about 33.0 % because they are involved in the distribution of the products within the supply chain. The least, 4 respondents representing 4.3% were drawn from research and development. Other departments were fairly equally represented in the study.

2.3. Level of Education

The sampled respondents were asked to indicate their level of education attained and the following data was generated as shown table 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	6	6.6	6.6	6.6
	Secondary	16	17.6	17.6	24.2
	Diploma	33	36.3	36.3	60.4
	Bachelors	23	25.3	25.3	85.7
	Postgraduate	13	14.3	14.3	100.0
	Total	91	100.0	100.0	

Table 3: Level of education of the respondent

As regards to the level of education of the respondents, more of the respondents were Diploma holders, with a standard deviation of 1.10631 which translated to 36.3%. Other respondents were majorly drawn from Secondary level of education and Bachelors degree, representing 17.6% and 25.3% respectively. This was due to the fact that, they were the ones involved in carrying out activities in the supply chain like marketing, distribution, packaging and storing. It was worthy to note that, KWAL had 13 postgraduate employees representing 14.2% who were involved in the study and these were mainly top managers who charged with the responsibility of decision making and financing the supply chain activities.

2.4. Effects of Distribution Planning on Organizational Performance

On the extent to which distribution planning had addressed issues in the supply chain, respondents were issued with a 5 point likert scale questionnaire and all the 91 respondents participated in filling it. The collected data was coded into two sets: Agree and Disagree and those who were not sure were discarded and then tabulated as shown in table 4

Issues	Agree	Disagree
Product Dispatching	63 (69.2%)	10 (11.0)
Product Placement	70 (76.9%)	8 (8.8 %)
Vehicle Choice	54 (59.3%)	20 (22.0%)
Vehicle Planning	80 (87.9%)	5 (5.5 %)
Vehicle Loading	78 (85.7%)	11 (12.1%)

Table 4: Issues Addressed by Distribution Planning on Organizational Performance

From table 4, it was clear that distribution planning had addressed vehicle planning greatly as compared to other issues studied as it scored highly with a frequency of 80 respondents representing 87.9% who agreed against 5 respondents representing 5.5% who disagreed. This was attributed to the fact that road transport is a major mode of transport and therefore, proper vehicle planning increases efficiency and effectiveness of supply chain which in turn increases organizational performance. Vehicle choice had the lowest frequency of 54 respondents representing 59.3% agreeing against 20 respondents representing 22% who disagreed. On close scrutiny, the study established vehicle choice scored lowly because during distribution, the market for KWAL products is always segmented and therefore vehicle choice was always defined. Other issues scored fairly good with frequencies of 63, 70 and 78 for product dispatching, product placement and vehicle loading respectively. This was attributed to the fact that they were interdependent. Another factor considered as an organizational performance indicator was improvement in downstream operations and the data was subjected to a correlation and tabulated in table 5

		Distribution Planning	Improvement in Downstream Operations
Distribution planning	Pearson Correlation	1	.609
	Sig. (2-tailed)		.934
	N	91	91
Improvement in downstream operations	Pearson Correlation	.609	1
	Sig. (2-tailed)	.934	
	N	91	91

Table 5: Downstream Operations and Organizational Performance

It was established that the two variables had a moderate positive linear relationship with a coefficient of 0.609. This implied that improvement of downstream operations by one unit increased organizational performance by 0.609.

The correlation coefficient of 0.609 shows a coefficient of determination of 37.09%. This shows that approximately 37.09% of the variation in downstream operations as an indicator of organizational performance is accounted for by the variation in distribution planning; that is, about 62.91% of the variation in downstream operations as an indicator of organizational performance is brought about by other factors not included in the study.

Another factor considered as an organizational performance indicator was improvement in internal operations and the data was subjected to a correlation and tabulated in table 6.

		Distribution Planning	Improvement in Internal Operations
Distribution planning	Pearson Correlation	1	.095
	Sig. (2-tailed)		.771
	N	91	91
improvement in internal operations	Pearson Correlation	.095	1
	Sig. (2-tailed)	.771	
	N	91	91

Table 6: Internal Operations and Organizational Performance

It was established that the two variables had a weak positive linear relationship with a coefficient of 0.095. This implied that improvement of internal operations by one unit increased organizational performance by 0.095.

The correlation coefficient of 0.095 shows a coefficient of determination of 0.9%. This shows that approximately 0.9% of the variation in internal operations as an indicator of organizational performance is accounted for by the variation in distribution planning; that is, about 99.1% of the variation in internal operations as an indicator of organizational performance is brought about by other factors not included in the study.

2.5. Effects of Supplier Relationship Management on Organizational Performance

On this variable, 6 issues were studied and the respondents were asked to give their opinion as regards to these issues' effects on performance. The collected data was coded into three sets, Agree, Neutral and Disagree. The results were then tabulated in table 7.

Aspect	Agree	Neutral	Disagree
Reduce product development costs	45 (49.5%)	14(15.4%)	31(34.1%)
Reducing inventory levels	60 (65.9%)	02(2.2%)	29(31.9%)
Improve manufacturing schedules	65 (71.4%)	1(1.1%)	25(27.5%)
Timeliness of delivery of products	75 (82.4%)	0 (0%)	16(17.6%)
Minimizing transaction costs	8 (87.9%)	2(2.2%)	9(9.9%)
Helping suppliers with process improvement	70 (76.9%)	4(4.4%)	17(18.7%)

Table 7: Aspects' Effects on Performance

From table 7, it was clear that Supplier Relationship Management had addressed minimization of transaction cost greatly as compared to other issues studied as it scored highly with a frequency of 80 respondents representing 87.9% who agreed against 9 respondents representing 9.9% who disagreed while the remaining 2 respondents representing 2.2% who were neutral. This was attributed to the fact that transaction costs have great implications on profitability of an organization, proper transaction cost management increases efficiency and effectiveness of supply chain which in turn increases organizational performance. Reduced product development costs had the lowest frequency of 45 respondents representing 49.5% agreeing against 31 respondents representing 34.1% who disagreed. The remaining 14 respondents representing 15.4% were neutral. On close scrutiny, the study established reduced product development costs scored lowly because during product development, KWAL rarely involved suppliers early in new product development process and therefore product development costs were always high. Other issues scored fairly well with frequencies of 60, 65, 75 and 70 for reducing inventory levels; improve manufacturing schedules, timeliness delivery of goods and services and helping suppliers with process improvement respectively. This was attributed to the fact that they were interdependent.

Effect of Supplier Relationship Management data was subjected to a correlation and tabulated in table 8.

		Effect of Supplier Relationship Management	Organizational Performance
Effect of Supplier Relationship Management	Pearson Correlation	1	.019
	Sig. (2-tailed)		.860
	N	91	91
Organizational Performance	Pearson Correlation	.019	1
	Sig. (2-tailed)	.860	
	N	91	91

Table 8: Effect of Supplier Relationship Management on Organizational Performance

From the findings, there was a positive correlation between supplier relationship and performance with a correlation coefficient of 0.019 which indicates that an increase in supplier relationship management by one unit leads to a corresponding increase on organizational performance at a magnitude of 0.019.

The correlation coefficient of 0.019 shows a coefficient of determination of 0.036%. This shows that approximately 0.036% of the variation in organizational performance is accounted for by the variation in Supplier Relationship Management; that is, about 99.964% of the variation in organizational performance is brought about by other factors not included in the study.

2.6. Effects of Business Process Re-engineering on Organizational Performance

Effect of Business Process Re-engineering data was subjected to a correlation and tabulated in table 9.

		Whether Creation of A Supply Chain Management Has an Effect on BPR	Upstream Reduction on Costs
whether creation of a supply chain management team has an effect on BPR	Pearson Correlation	1	.004
	Sig. (2-tailed)		.972
	N	91	91
upstream reduction on costs	Pearson Correlation	.004	1
	Sig. (2-tailed)	.972	
	N	91	91

Table 9: Effects of Business Re-engineering on Organizational Performance

One critical factor that was considered as an indicator of organizational performance was upstream reduction on costs. A correlation was performed on this two variables and the Pearson coefficient was found to be 0.004. This therefore implied that there existed a weak linear relationship between Business process re-engineering and organizational performance.

The correlation coefficient of 0.004 shows a coefficient of determination of 0.0016%. This shows that approximately 0.0016% of the variation in upstream reduction in costs as an indicator of organizational performance is accounted for by the variation in Business Process Reengineering; that is, about 99.9984% of the variation in upstream reduction in costs as an indicator of organizational performance is brought about by other factors not included in the study.

Another factor considered as an organizational performance indicator was improvement in internal operations and the data was subjected to a correlation and tabulated in table 10

		Whether Creation of a Supply Chain Management Has an Effect on BPR	Improvement in Internal Operations
whether creation of a supply chain management has an effect on BPR	Pearson Correlation	1	.294
	Sig. (2-tailed)		.005
	N	91	91
improvement in internal operations	Pearson Correlation	.294	1
	Sig. (2-tailed)	.005	
	N	91	91

Table 10: Internal Operations on Organizational Performance

Similarly, upon examination of another factor on organizational performance, improvement in internal operations, it was found that, actually there was a positive relationship with a correlation coefficient of 0.294.

The correlation coefficient of 0.294 shows a coefficient of determination of 8.644%. This shows that approximately 8.644% of the variation in internal operations as an indicator of organizational performance is accounted for by the variation in Business Process Reengineering; that is, about 91.356% of the variation in internal operations as an indicator of organizational performance is brought about by other factors not included in the study.

2.7. Effects of Information Technology on Organizational Performance

The extent to which IT had contributed to supply chain efficiency and effectiveness and the results tabulated after being subjected to a statistical correlation in table 11. All the respondents participated in the study.

		Does IT Lead to Standardization of Production Procedures	Improvement in Internal Operations
Does IT lead to standardization of production procedures	Pearson Correlation	1	-.111
	Sig. (2-tailed)		.295
	N	91	91
improvement in internal operations	Pearson Correlation	-.111	1
	Sig. (2-tailed)	.295	
	N	91	91

Table 11: Effects of Information Technology on Organizational Performance

Upon evaluation of the effect of information technology on organizational performance, it was established the relationship that exists at KWAL was negative and weak. The Pearson correlation coefficient was -0.111. This is because most of the employees of KWAL were afraid of embracing technology in operations. This owed to the fact that many of employees had stayed long enough hence complacent in IT related operations. These findings, contradicted Khandelwal (2001), who argued that for organizations to achieve their corporate objectives, the information system supporting the business process has to give right management information at the right time and to do this, information technology in an enterprise must align with organizational objectives. On the other hand, information sharing is important as it gives access to private data between business partners enabling them to monitor the progress of products and orders as they pass through various processes in the supply chain.

These findings also contradicted other studies by (Hirschelm and Sabherwal, 2001) that established information systems strategy to be equal with business strategy due to benefits from ERP that improves profitability potential of an organization by reducing time and costs of completing business activities. Ovia (2005) on his study on banks, opined that the revolution of information technology had made the banking sector change from traditional mode of operations to better ways with technological innovation that improves efficiency.

3. Summary, Conclusion and Recommendations

3.1. Summary of findings

The study investigated the effects of supply chain management practices on organizational performance in KWAL. The study intended to improve the supply chain management practices for better service delivery to customers.

3.2. Effects of Distribution Planning on Organizational Performance

In order to establish the effect of distribution planning on organizational performance at KWAL, a correlation was performed on distribution planning and to whether it leads to improved downstream operations as an indicator of organizational performance in order to determine strength of their relationship between the two Variables. The correlation coefficient of the two variables was 0.609, implying that there was a strong positive relationship between distribution planning and organizational performance. This was because good distribution planning minimizes cost of distribution, formalize informed decision making and reduce variability on the distribution planning process, leverage information collected through ERP and other transactional systems for optimized planning and improve information visibility.

3.3. Effects of Supplier Relationship on Organizational Performance

From the findings, there was a positive correlation between supplier relationship and performance with a correlation coefficient of 0.019 which indicates that an increase in supplier relationship leads to a corresponding increase on organizational performance and vice versa at a magnitude of 0.019.

3.4. Effects of Business Re-engineering on Organizational Performance

One critical factor that was considered as an indicator of organizational performance was improvement in internal operations. A correlation was performed on this two variables and the Pearson coefficient was found to be 0.294. This therefore implied that there existed a linear relationship between Business process re-engineering and organizational performance.

3.5. Effects of Information Technology on Organizational Performance

Upon evaluation of the effect of information technology on organizational performance, it was established that the relationship that existed at KWAL was negative and weak. The Pearson correlation coefficient was -0.111. This is because most of the employees of KWAL were afraid of embracing technology in operations. This owed to the fact that many of employees had stayed long enough hence complacent in IT related operations.

3.6. Conclusion

The study was successful as all the respondents participated in the study as expected. The four objectives studied i.e. distribution planning, supplier relationship management, business process re-engineering and information technology on organizational performance were subjected to correlation analysis.

Distribution planning had the greatest correlation coefficient of 0.609. This was due to the fact that the distribution entails three strategies: Revolution, Evolution and Re-alignment strategies which if well integrated, leads to growth of an organization.

Supplier Relationships Management, Business Process Re-engineering and Information Technology had a correlation coefficients of 0.019, 0.294 and -0.111 on organizational performance respectively.

3.7. Recommendations

From the study, it was established that distribution planning had been exploited to boost organizational performance in terms of minimizing total costs of distribution and reducing variability on the distribution planning process. However, this had been moderately exploited, thus the study recommended that KWAL and other organizations should improve information flow by leveraging information collected through Enterprise Resource Planning (ERP) and other transactional systems for optimized planning and improved information visibility. This is so because distribution planning involves management of the flow of goods and any related information as well.

From the study, it was established that Supplier Relationship Management had not been fully exploited to boost organizational performance in terms of delivery of service that meets requirements and value for money. The study therefore recommended that KWAL should create a competitive advantage by creation of supplier competencies to create customer value and achieve differentiation advantages. It should also consider integrating suppliers with customers as a competitive strategy to improve operational and financial performance of organization. KWAL should also manage its affairs and interactions with the organizations that supply goods and services. This includes communications, business practices, negotiations, methodologies and systems that are used to establish and maintain a relationship with a supplier. Benefits include lower costs, higher quality, better forecasting and less tension between the two entities that result in a win-win relationship (Cohen, 2004).

From the study, it was established that Business Process Re-engineering had been moderately exploited. The study therefore recommended that KWAL and other organizations should invest heavily in IT since BPR relies heavily on IT and its potential for creating improved cross-functional integration in companies. The employees of KWAL should also be given regular trainings on business process reengineering to promote performance.

From the study, it was established that information technology had not been fully exploited to boost organizational performance in terms of profit and effectiveness. The study therefore, recommended that KWAL and other organizations should employ IT in their operations for improved performance because information sharing improves visibility of supply chain by enabling effective decision making if the information is relevant, accurate, timely and reliable (Simutupang and Sridharan, 2005). However, they should do it carefully to alleviate fears from employees of losing their jobs. Woherem (2000), on his study on banks, argued that banks that apply information and communication technology to their operations are likely to survive and prosper in the new millennium.

3.8. Areas for Further Study

The study formed a basis for further research in determining the extent to which information technology effects on customer satisfaction in organizations. This is because customer satisfaction has come to be regarded as a key business strategy of every organization and a benchmark against which many organizations have set their standards.

The findings also formed a basis in carrying out a study on the effects of supply chain management practices on employee satisfaction in wine industries or other sectors engaged in production of goods.

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