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EVALUATION OF STRATEGIC PROCUREMENT OUTSOURCING ON NIGERIAN BREWERIES PLC' PRODUCTIVITY

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Abstract:

This article examined the influence of strategic procurement outsourcing on Nigerian Breweries Public Liability Limited Company's productivity. The objectives of the study were to examine the reasons Nigerian Breweries Plc outsource the procurement of items used in production of the company's product; to determine whether procurement of the items used in the production increases the company's productivity or not; and lastly, to assess the contributions of the identified factors that inhibit the smooth flow of procurement activities of the companies. Out of the 191 sampled size of the production staffs selected for the study, only 131 returned the questionnaires used for the survey. The two most rated factors that made the company to outsource are; Expertise skills and lack of raw materials; Patent right and ability to focus on main activity of the company. The research through PPMC, concluded that; there is positive correlation between procurement outsourcing and company's productivity. Suppliers' delay and problems of transportation were the potent factors that hinder the flow of procurement by the company as they were both statistically significant with $p < 0.05$. There is crucial need for the company to increase the suppliers so as to create necessary competition as the company will be dealing with the most competent suppliers and reliable transportation firms.

Key words:

Strategic, Procurement, Outsourcing, Nigerian Breweries Plc.

INTRODUCTION

All business oriented organizations continually seek strategies and measures to boost productivity and profitability. Parts of the strategies include procurement and outsourcing.

Procurement or purchasing as can be regarded as the flow of materials through an organization and usually initiated when procurement sends a purchase order to a supplier.

[14] explained the differences between procurement and purchasing by saying that; purchasing is more concerned with establishing and managing a commercial relationship, whereas procurement is also concerned with the more physical material or service delivery control aspects after the contract has been let or the order placed. This means that procurement finds suitable suppliers, negotiates terms and conditions, organizes delivery, arranges insurance and payment, and does everything needed to get materials into the organization. Organizations begin to realize the importance of strategic procurement through outsourcing by how it has helped in reducing the work process and enhance productivity.

Although, the two terms are used interchangeably but, there is/are differences in the two terms. According to [3], procurement can be regarded as obtaining items by means of loan, transfer or hire purchase of supplies and services with or without consideration. Procurement as defined by [18] including “all activities required in order to obtain the product from the supplier and get it to the place where it is actually used. However, according to [12], sourcing can be referred to as ‘the process of identifying, selecting and developing suppliers. [4] defined procurement as supporting a delivery-relationship between buyers and sellers. [17] noted that the sole aim of strategic procurement outsourcing is to reduce cost of procurement and risk of errors which if reduced can lead to more efficient operations. Sourcing and procurement are important elements in supply chain management [2]; that must be integrated through all of the strategic, tactical and operational levels in organizations. Apart from cost reduction, strategic outsourcing can enhance revenue generation expansion, time reduction and synergizes relationship.

The productivity of an organization depends on how it can increase the level of output that yearns for more demand and how it can reduce the cost of operations. To strike a balance between the two is not always easy for all organizations. Although; [2] opined that, the purchasing and supply function will depend upon specific company strategy. Strategic outsourcing can give organizations competitive advantage, substantial cost saving and enhanced service delivery, provided we have kept our ‘eyes and ears’ open. Structuring effective business strategies as noted by [5] requires companies to closely integrate the physical capabilities, knowledge competencies, and technology connectivity of their supply chain networks alongside company-centric product, service, and infrastructure architectures.

[15] explained the reason for outsourcing by different companies; organizations do not want to keep paying pension, flexibility use of resources, investing in the skills necessary to sell to its clients, or the skills needed to operate the latest technology in its delivery vans or the warehouse. The need for the usage of latest technology that, the organization may not have. One facet of the management of a company never changes according to [15] managers forecast resource requirements – and the forecasts are never right. Their allowance for risk and resource investment is, therefore, either too high or too low. Furthermore, he explained that, focusing on core resource business areas you can probably match investment and requirements more closely than in other business areas.

Outsourcing procurement must examine certain criteria before giving out the contract to some contractors. It starts with assessing the credibility of the organization from the past records based on the specific area of interest. The next thing is the negotiation. According to [12], the following may be considered at the law court in an attempt to enforce negotiation between or among parties:

- a) The timing of the statement;
- b) The strength of the statement;
- c) The expertise and knowledge of the parties;

- d) Whether the statement was recorded in any written contract.

The pertinent questions that identified gaps in the operations of the Nigerian Breweries Ltd regarding strategic procurement outsourcing on the company's productivity are:

1. Why do Nigerian breweries Plc outsource the procurement of can, cartons and other materials used for the production various drinks produced by them?
2. Does procurement through outsourcing increase the company's productivity?
3. What are the factors that inhibit the smooth flow of procurement activities of the company

These questions were raised to pursue the itemized objectives in-line with the questions as follows:

1. To examine the reason most Nigerian breweries outsource the procurement of can, cartons and other materials used for the production various drinks produced by them
2. To determine whether procurement through outsourcing increase the company's productivity
3. To assess the contributions of the identified factors that inhibit the smooth flow of procurement activities of the company.

Product these days are being manufactured to suit customer's demand and specifications. However, according to [8] customers demand more and more different kinds of services. These services include logistics operations, product design and product development activities, quality assurance related activities, inventory financing, consulting and training on manufacturing methods related issues, cost calculations, brokerage service, purchasing service, etc. The problem today is generally that these services are not identified, packaged and priced.

1. LITERATURE REVIEW AND CONCEPTUAL UNDERPINNINGS

1.1 Concept of purchasing, procurement and outsourcing

[14] critically explained the concept of purchasing, procurement and outsourcing within the context of supply chain management. He noted that, procurement connotes purchasing in that; it encapsulates purchasing function- store, traffic and transportation, incoming inspection, and quality control and assurance. Furthermore, procurement is purchasing, contracting, and logistics, wherein logistics is taken to be inventory control, warehousing, transport, quality assurance, and control. Hence, procurement is responsible for the identification of (internal) customer's needs, translation of those needs into specifications, management of the delivery of goods and services and an assessment of the (internal) customer's satisfaction with those goods and services. The other responsibilities within the process involve communication with suppliers – sourcing, requests for tenders, price negotiation, ordering, receipt and invoicing, [4].

Given this background about purchasing and procurement, it may not be easy for an organization to identify and purchase rightly unlike the company who has expertise knowledge of the product/ service required. The reason is because the activities involved in purchasing and procurement can be in form of understanding requirement and specifications, taking decisions in value analysis, conducting supply market research, managing supplier negotiations, managing supplier quality, buying inbound transportation cannot be as easy and faster compared to when it is outsourced to a competent firm [6]. According to [9], the strongest and most sustained trends within business over the last 10 years has been the trend towards

outsourcing. Corporations have sought to reduce costs by contracting out services and activities traditionally provided in house. The challenges in outsourcing most time used to be whether the company should involve many outsourcing companies or suppliers or just single one. In other to achieve quick purchasing delivery; companies do multiple sourcing to different suppliers which invariably double the cost but reduces the delivery time.[2] explained that, multiple sourcing the organization is spreading the risks, in case there is a problem with a supplier failing to meet our requirements. An advantage for single sourcing is the ability to build stronger relationships with the supplier for strategic reasons. Depending on the contracting firms, the price of supplier differ which may be to the advantage of the purchaser. Usually, this used to be in quotation per unit price of the items and contractors do known they are in competition with other firms so, they beat down the price to win the contract.

The strategy that can be adopted in procurement outsourcing [16] which is linking both the functional and business strategies together is product strategy. [14] noted that, product strategies include the determination of priorities, with regard to product objectives, needed to meet customer requirements and to beat the offerings of competitors. Although, differentiating products in terms of quality, cost, time, and product innovation, impose different requirements on the supply chain they to be considered in the design and development of both the structural and infrastructure features of the supply chain [19].

Strictly speaking, [14] enumerated the factors to be considered in strategic procurement which he emphasized must emanate from the cooperate plan of such organization.

- a) Make or buy strategies
- b) Research and development of new materials and suppliers
- c) Price cost analysis studies
- d) Inventory requirement
- e) Sourcing strategies
- f) Supply chain management

[2]stated the almost the same thing by stressing what will be needed Strategic management of procurement which are as follows:

1. reviewing existing suppliers in relation to risk and spend;
2. identifying a number of potentially strategic suppliers;
3. examining existing activities to see if they can be outsourced; developing strategic alliances, collaborations and partnerships;
4. developing strategic performance criteria;

The strategic information decision should be based on answering the followings: The number of suppliers, the best ten suppliers, the expenditure in purchasing/procurement per annum, the best moving and rated products and the least moving/rated products. This analysis will provide an indication for planning and enable organization to be more productive.

In procurement, organizations must have a strategic plan where the procedure for procuring materials or goods is detailed. The essence of this is to ensure that, the information flow of commodity can be traced from the source to the end users. Hence, [14] presented the figure 1 below to explain the loop of sustainable procurement within the context of supply chain for an organization. Procurement is central to all the activities in supply chain from the inception of users thinking of using the product to receiving the supply in the total movement of supply chain.

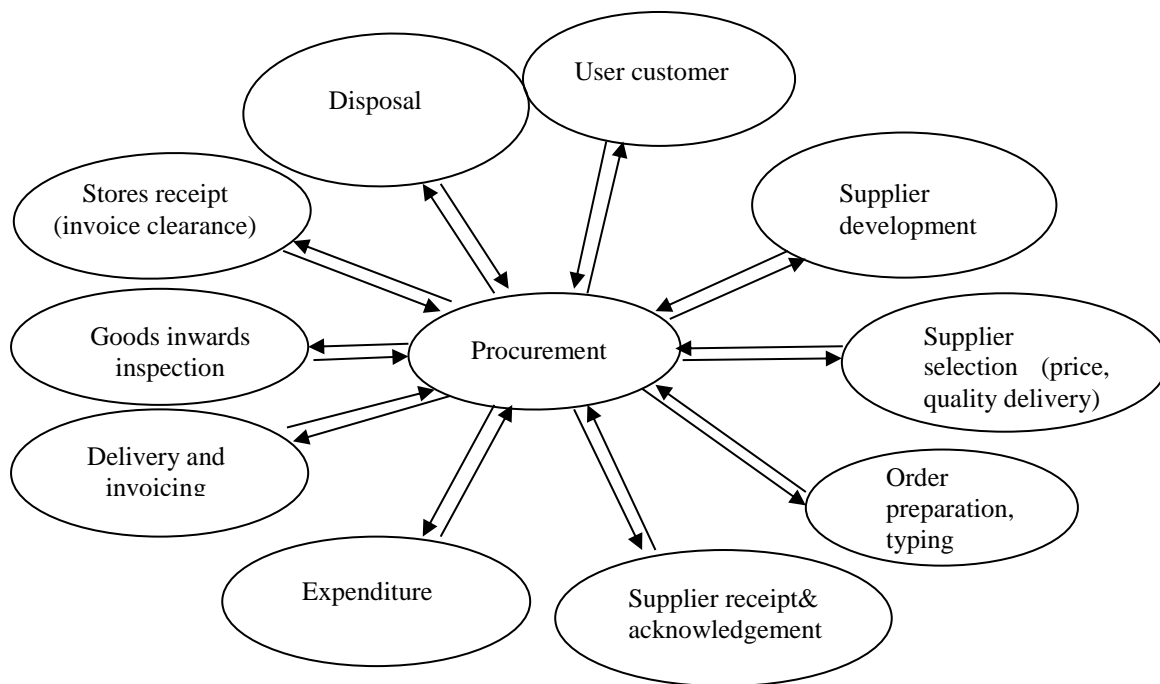


Fig 1 Procurement and supply chain cycle

Source: [14]

The stages below can be followed for the procurement of an item in any organization;

1. Information about supply market and environment
2. New materials recently developed, prices and expected demand
3. Tactical plans and strategies to link with organization's objectives and goals
4. Detail manpower and human resource functions in strategic plan
5. Monitor performance and evaluations

However, there are certain challenges confronting strategic procurement as traditional ways of transacting businesses had changed. The issue of inflation must be factor in procurement as time of purchase may differ from the time of negotiations. Similarly, the concern for energy in producing some items for manufacturing companies in particular is subject to the prices of fuel and other essentials that invariable influence the production of certain item. Shortage of items may lead to non-availability of supply at the right time and in the right quantity. [7] explained that; the location of suppliers and the cost of transporting supplies can significantly influence the economies of the location decision. For example, the high costs of transporting a large volume of low-value goods or a high consumption of energy can attract factories close to the supply sources.

The aims and objective of well-developed supply chain management are to provide a high velocity flow of high-quality, relevant information that will enable suppliers to provide an uninterrupted and precisely timed flow of materials to customers. According to [10] who expressed that, unplanned demand oscillations, including those caused by stock outs, in the supply chain execution process create distortions that can wreck havoc up and down the supply chain. There are numerous causes, often in combination that will cause these supply chain distortions to start what has become known as the bullwhip effect. The most common general drivers of these demand distortions are customers, suppliers, promotions, sales, manufacturing, and poor internal processes.

2. METHODOLOGY

The Nigerian brewery Limited is one of the largest beer producing company in Nigeria. The company situated at different locations in Nigeria. Lagos, Ibadan, Enugu, Ijebu-ode, Makurdi, Uyo, Awo-Omama, Aba, Kaduna and Ota are the places where the company's branches are located. Presently, the company has over 3,195 workers across all the units and departments for each of the location [13]. Moreover, the ad-hoc staffs working indirectly or directly with the company are over 2705 per location. The products of the company are many such as Star, Gulder, Maltina, Legend Extra Stout, Amstel Malta, Heineken, Climax, Goldberg, Malta Gold and life continental larger among others. The Nigerian Breweries Plc encourages the establishment of ancillary businesses like manufacturers of bottles, cans, crown corks, labels, cartons, plastic crates and services providers as hotels/clubs, distributors, transporters, event managers, advertising and marketing communication agencies, etc. [14].

This research focused on the items procured by the company through outsourcing. The followings are the items procure by the company through outsourcing [13]:

- a) Sorghum
- b) Wheat
- c) Yeast
- d) Barley
- e) Flavor
- f) Pilsner
- g) Hops

These are the main ingredients of the Nigerian Brewery's production. Most of these products are outsourced both from home and abroad.

Data collection was mainly from production department. Stratified sampling technique was adopted to collect data from the department in form of the shift working time of the production workers.

[20] explain sample size about a population from 'Statistics: introductory analysis as:

$$n = \frac{N}{1 + N(e)^2}$$

Where;

n = no of sample

N = total population

e = error of margin

Therefore,

$$n = \frac{367}{1 + 367 (e)^2}$$

$$n = \frac{367}{368 (0.05)^2}$$

$$\frac{367}{1 + (0.92)} = \frac{367}{1.92} = 191$$

Therefore, 191 workers were randomly selected across the factories of the company. Of the structured questionnaires designed to elicit information from the respondents, 131 were

recovered from the sampled size. This was because (60) respondents from a particular facility did not return given questionnaires.

$131/367 \times 100 = 35.69\%$. This is more than 33% presented by [19] for sample size.

In addition, the distribution department explained challenges confronting strategic procurement of the company through interview.

3. DATA ANALYSIS

The data collected through structured questionnaires was to understand the reason for outsourcing in relation to the procurement of the company.

The various reasons itemized are:

1. Security
2. lack of raw materials
3. Expertise skill
4. Equipment
5. Patent right
6. To focus on main activity of production
7. Capital

The respondents were asked to rate the reasons in hierarchy of their perceptions to the reasons for procurement outsourcing and the result is indicated in fig 2 below.

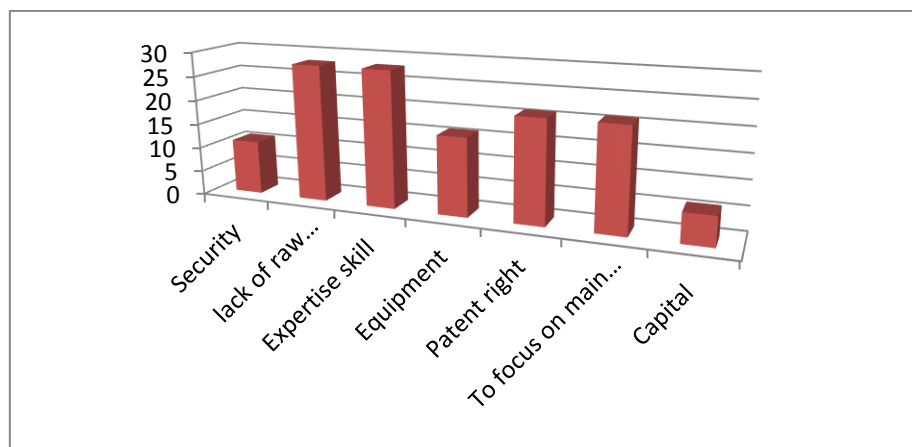


Fig.2 Perceptions of respondents
Source: Authors' computation (2017)

From the fig 2 above, inadequacy of raw materials for production of the products made the company to outsource even beyond the shore of Nigeria because the quantity that can be gotten within the country is always small. The requisite expertise skills required to produce these products is another reason for outsourcing. These two factors are the first factors that necessitated outsourcing by Nigerian Breweries Plc. Similar to these are; the patent rights and the ability to focus on the main production activities. The ingredients used in producing the different products of the company are usually mixed with various formulae which need to remain the secret of the company. In order to focus on the main activities of the company, the company contracts out her logistics to third party logistics service providers. The next thing there is the equipment that is being used to mix and brew the ingredients. Although, this is located across almost all the sites of the company, it is a technical area where the company source for technically special skills to operate the equipment. The company also outsources

non-core services and procures certain ingredients for security reasons. From all indication, capital is the least factor that made the company to outsource. This is due to the fact that, the company is a public liability company that has many shareholders with good dividend.

Secondly, to determine whether the procurement outsourcing has increased the productivity of the company; the production staff and the production managers were asked whether since the company outsource and procure materials through outsourcing there has been significant productivity. There are three possibilities:

- A) Increase in productivity
- B) Decrease in productivity and
- C) Productivity remains the same

Therefore, Pearson Moment Correlation coefficient was used to analyse this segment part of the research objective. Table 1 provided data across locations based on the level of production, workers and the dividend given to the ordinary shareholders.

Tab. 1 Data summary of differences between outsourcing and productivity

Years	Factory/hector litres (before outsourcing)	Factory/hector litres (after outsourcing)	Workers		Dividend (after outsourcing) ordinary
Location A	19	25	1984	2005	2.40
Location B	7	28	2087	2172	3.00
Location C	12	19	2087	2946	4.50
Location D	14	22	2076	2901	4.40
Location E	19	27	2932	3107	3.50
Location F	24	26	2958	3195	3.58

Authors' feild survey (2017)

Tab. 2 Person Product Moment Correlation Analysis

		Productivity	No of workers	Dividend
Productivity	Pearson Correlation	1	.605*	.303*
	Sig. (1-tailed)		.000	.002
	N	131	131	131
No of workers	Pearson Correlation	.605*	1	.107
	Sig. (1-tailed)	.000		.061
	N	131	131	131
Dividend	Pearson Correlation	.303*	.107	1
	Sig. (1-tailed)	.002	.061	
	N	131	131	131

* Correlation is not significant at $p < 0.05$ level (1-tailed).

Source: Authors' computation (2017)

The productivity of the organisation were measured by comparing the number of workers' production output due to the introduction of outsourcing and payable dividend to share holders after the implementation of strategic outsourcing in the company.

From the Table 2 above, there is positive correlation between productivity of Nigerian Breweries Plc (NB) and number of workers with the value of 0.605 at $p < 0.000$ level of significance. Similarly, the productivity of the company can be reflected through the significance of dividend being paid or payable to shareholders of the company with significant

value of 0.02 and correlation value of 0.303 from 131 respondents. However, there is no correlation between the workers and dividend of the company with significant value 0.61 which is above acceptable significant value of $P < 0.05$ for social and management sciences. SPSS marks any correlation coefficient significant at this level with an asterisk [1].

The followings were assessed as factors that inhibit the smooth flow of procurement activities of the company:

- a) Incompetent staff
- b) Inadequate or faulty equipment
- c) Supplier's delay
- d) Purchasing costs
- e) Transportation

The incompetency of staff was measured with the quality assessment from the human resources performance evaluation system. The production department rated the availability and usability of the equipment using likert scale 1-5. Requisition form and delivery from suppliers were checked and recorded to determine the lead time i.e the time gap between when order is placed and the order received. The purchasing costs were scaled over a period of five years. The loading and reception of outsourced logistics firms compared with available goods to be carried were looked into.

Tab. 3 Analysis of Variance (ANOVA-one way)

		Sum of Squares	df	Mean Square	F	Sig.
Incompetent staff	Between Groups	1.167	3	.389	1.213	.308
	Within Groups	40.741	127	.321		
	Total	41.908	130			
Faulty equip.	Between Groups	.511	3	.170	.577	.631
	Within Groups	37.550	127	.296		
	Total	38.061	130			
Suppliers' delay	Between Groups	494.535	3	164.845	137.182	.000
	Within Groups	152.610	127	1.202		
	Total	647.145	130			
Purchasing cost	Between Groups	1.375	3	.458	.832	.479
	Within Groups	70.014	127	.551		
	Total	71.389	130			
Transportation Problem	Between Groups	2.640	3	.880	2.753	.045
	Within Groups	40.596	127	.320		
	Total	43.237	130			

Source: Authors' computation (2017)

Table 3 above explained the identified factors that inhibit the smooth flow of procurement activities of the company. Purchasing cost, faulty equipment and incompetency of staff are all not statistically significant as $p > 0.05$ with p-values = 0.479, 0.631 and 0.308 respectively. Therefore all these factors are not contributing to the hindrances of procurement outsourcing of the company. However, suppliers' delay is statistically significant as it hinders the flow of procurement of the company with p-value = 0.000 which is less than $p < 0.05$. Similarly, procurement outsourcing of the company used to experience difficulty from the outsourcing

companies from third party logistics service providers. This can be fathomed with $p=0.045$ which is less than 0.05.

4. CONCLUSION AND RECOMMENDATIONS

Obviously, the Nigerian Breweries Plc cannot combine certain activities with the production of various drinks she is producing. Lack of raw materials and expertise skills are the major factors responsible for making the organization to outsource some of the procurement activities. Hence, this research has been able to confirm to the fact that, procurement outsourcing has enhanced the productivity of the company over the years. The confirmation was buttressed by the increment in the number of workers and dividend paid to the shareholders of the company. In order to keep the flag flying, the company needs to outsource with reliable and competent third party logistics service providers so as not to experience stock out at various depots and locations across the country. Again, there will be need for the company to look into the issue of suppliers delay which adversely affecting rate and speed of production. More suppliers may be accommodated to enhance competition and reduce the delay as the company outsource with most reliable firm(s). The pull demand system should be adopted, although is not easy as the demand can be unpredictable for diverse products of the company. The outlets should be perhaps made to use their transportation from regional warehouses or wholesalers outlets of the company.

References

- [1] Andy Field, 2009, "Discovering Statistics Using SPSS".
- [2] CILT, 2006, "CILT International Diploma in Logistics and Transport PD10 Sourcing and Procurement".
- [3] Compton, K., and Jessop, D., 1995, "Dictionary of purchasing and supply," Easton, UK: CIPS.
- [4] Croom, S. and Johnson, 2003, "Restructuring supply chains through information channel innovation," *International Journal of Operations and Production Management*, 21(4), pp. 504-515.
- [5] David A. T., 2003, "Supply Chain Logistics Management McGraw-Hill Irwin series operations and decision sciences".
- [6] Dobler, D. W., 1990, "Purchasing and materials management text and cases," New York: McGraw Hill.
- [7] Fung, P., 1999, "Managing purchasing in a supply chain context: Evolution and resolution. *Logistics Information Management*," 12(5), pp. 362-366.
- [8] Häkkinen Kai, Merja Airola and Outi Kettunen, 2012, "From Traditional Manufacture Subcontractor to Modern Manufacture Service Provider – Challenges to The Procurement Function".
- [9] Hendry, J., 1995, "Culture, community and networks: The hidden cost of outsourcing. *European Management Journal*," 13(2), pp. 193-200.

- [10]Kacheria, N., 2003, "Supply chain management: Responsiveness, reality and relationships," pp. 1-32, Paper presented at a seminar of the Ninma Institute of Technology, Ahmedabad, India.
- [11]Ketshen, D., and Guinipero, L., 2004, "The intersection of strategic management and supply chain management," *Industrial Marketing Management*, 33(1), pp. 51-56.
- [12]Lysons, K. and Farrington, B., 2012, "Purchasing and Supply Chain Management," Harlow: FT Prentice Hall.
- [13]NB, 2013, "Nigerian Breweries Plc 2013 Annual Report and Accounts".
- [14]Qualye M., 2006, "Purchasing and Supply Chain Management: Strategies and Realities IRM Press Publisher of innovative scholarly and professional information technology titles in the cyberage".
- [15]Rushton Alan, John Oxley and Phil Croucher, 2005, "The Handbook of Logistics and Distribution Management".
- [16]Saunders, M., 1994, "Strategic purchasing and supply chain management," London: Pitman.
- [17]Tseng Yung-yu, Yue Wen Long and Taylor Michael A.P., 2005, "The Role of Transportation in Logistics Chain," *Proceedings of the Eastern Asia Society for Transportation Studies*, Vol. 5, pp. 1657 – 1672.
- [18]Van Weele, A. J., and Rozemeijer, F. A., 1996, "Revolution in purchasing," *European Journal of Purchasing and Supply Management*, 2(4), pp. 153-160.
- [19]WHO: "Sample Size Determination in Health Studies- A practical Manual "www.intirishandle
- [20]Yamane, T., 1967, "Statistics: An Introductory Analysis," New York Harper and Row.