

ANALYSIS, PROSPECTS AND PROBLEMS OF ELECTRONIC PROCUREMENT IN NIGERIA

BY

Dr. McChester Odoh, Ihejirika Uchechukwu
Department of Computer Science
Michael Okpara University of Agriculture, Umudike,
Abia State, Nigeria
Odo.chester@mouau.edu.ng.

ABSTRACT

The main objective of the study was to determine the e-procurement practices of Crude Oil and Gas Producing Company. The subsidiary objectives were: To determine if they used e-marketing method; To determine how effective materials management had been on profitability; To determine how profitability was operationalized in their company; To determine attitudes of the staff towards materials management; and To determine the attitudes of the staff towards profitability. In the Review of the Related Literature, the following headings were handled: Electronic Procurement and its capabilities; Purchasing Role in Business; Purchasing Environment and the Importance of Purchasing; The Purchasing Function; Profit Making Potentials. The research design was a combination of a survey and a case study. It was found that all the 100 respondents said that their company had e-procurement practices. It was recommended that the company should continue to use electronic procurement because of the advantages over the traditional methods and this should be backed by policy.

INTRODUCTION

Procurement is a term originated by the armed forces to define one of the supply functions involved in logistics. In a nutshell, the armed forces define procurement as including the whole process whereby all classes of resources (people, material, facilities and services) required by the armed force are obtained [1]. In electronic procurement all the buying is done through the internet.

Competitive pressures have become more and more intense and pronounced in the supply chain. The advances in technology, which has brought increased automation and information technology into the workplace have made the world a smaller global village and increased the competitive pressure. As a result, organizations have been forced to re-structure and re-engineer their procurement processes in order to reduce costs, improve service, and increase performance and profitability. In order to stay afloat in business and weather the whirlwind in supply chain, business organizations are embracing e-procurement (the buzz word of today business environment which is the vision of the future of the supply chain) initiatives [2].

Many questions are being asked on how organizations can harness the opportunities that e-procurement offers and problems it creates in an ever-changing business environment in Nigeria. It is in the context of the pioneering research works on the e-procurement prospect and problems in Nigeria that this project was conceived. E-procurement has been a topical issue that

is making waves in Europe and generating much interest in Nigeria. This study will therefore investigate the awareness, prospects and problems of e-procurement in Nigeria [2].

The focus of the study is to determine the e-procurement practices of a Crude Oil and Gas Producing Company.

RELATED LITERATURE

ELECTRONIC PROCUREMENT AND ITS CAPABILITIES

Simply put, e-procurement is a business model that applies consumer-friendly web technology to simplify and stream line the corporate purchasing process and to integrate buyers and suppliers business process. This is in order for the business consumer to find and obtain external resources that makes him or her to do the job at the best deal available in quick and reliable manner. E-procurement is changing the fundamental processes involved in procurement to deliver significant and quantum benefits. It is a complete change in paradigm of how procurement is done within and across the organization. E-procurement has the capability to deliver real, measurable value while leveraging new, convenient e-commerce solution as a chain catalyst to pull the employees into the company's best deals and to align the purchasing habits of employees with the goals of the organization [3].

The revolution of e-procurement started sometime in June 1999 following the world first transaction in an electronic market place in the utilities sector. But this historic movement was not reached without a huge amount of time and effort. E-procurement is being promoted as a means of improving order processing efficiency and cutting transaction cost. In basic terms, reducing cost means reducing staff and no longer having to pay their salaries [3].

PURCHASING ROLE IN BUSINESS

There are two types of purchasing role in the business world; purchasing for resale and purchasing for consumption or conversion. Purchasing for resale is performed by merchants and speculators. From the beginning of time, the quest for goods to sell was the motivating force that led to the discoveries of new world and the riches of the Indies. Ancient merchants spent some of their time dealing with sales problem, but they devoted by far the largest portion of it to the search for suitable purchases of new and desirable materials [4]. The basic problem of the merchants has not changed. Following the technique of their predecessors, today merchants ascertain what consumers want, buy it at a price to which they can add a profitable markup, and sell it to be consumer satisfaction as to quality and service. Purchasing entails buying all the items used for production [4].

Purchasing Place in Business:

What is purchasing places in business management? Why is it important? To answer these questions, a quick panoramic view of the purchasing function will be sketched from three view points. Purchasing will be viewed first as a function of business, next as one of the basis elements to accomplish productive work, and finally in terms of the department responsible for outside manufacturing [4]. Purchasing is one of the basic activities common to all types of

business enterprise. These functions are basic because no business can operate without them. All businesses are administered or managed by coordinating and integrating these six functions:

1. Creation: the idea or design function;
2. Finance: the capital acquisition and keeping of financial records;
3. Personnel: the human resources and labor relations functions;
4. Purchasing: the buying of required materials and services;
5. Conversion: the changing of materials to economic goods;
6. Distribution: the selling or marketing of goods produced.

The design engineering department, the finance or controller department, the personnel or industrial relations department, the purchasing department, the production department, and the sales or marketing department are the common industrial titles of the organizations responsible for performing these functions. In normal enterprise, some of these basic functions may be identified by different names.

Purchasing Materials as an Element of Productive work:

The basic goal of any industrial activity is the development and manufacturing of products that can be marketed at a profit. This goal is accomplished by the appropriate blending of what management may call the five M's Machine, Men, Materials, Money and Management. Materials today are life blood of industry. No industrial organization can operate without them. They must be available at the proper price. Failure of any of these responsibilities concerning materials adds to company cost and decreases company's profit just as surely as do outmoded product methods, inefficient personnel and ineffective selling [4].

PROFIT MAKING POTENTIALS

How can purchasing increase company profit? The purchasing department is responsible for spending over half of every dollar its company receives as income from sales and other sources. More dollars are spent for purchase of materials and services than for all other expense items combined, including expenses for wages, taxes, dividends and depreciation [4]. The fact that the purchasing department is responsible for the expenditure of over half of most companies' dollars highlights the profit making possibilities of the purchasing function. Every dollar saved in purchasing is a new dollar of profit. An additional dollar of income from sales however is not a dollar of profit. Applicable expenses must be deducted from the sales dollar to determine the remaining profit [4].

RESEARCH DESIGN

In this research work the researcher does not have control of the independent variables that affect electronic procurement in the Crude Oil and Gas Producing Company. If the researcher could manipulate the independent variables, the appropriate design could have been an experiment. As earlier stated the research design chosen in the study is a survey. The survey research design is a strategy in which data is collected from the members of the sample that represent a known universe or populations [5]. The survey research design has some merits. It

has the merit that the sample is selected in such a way as to allow for generalization to a defined population. It also has the advantage that the results gotten from a survey are reliable because of large sample sizes and generally low sampling error. There is also the advantage that probability sampling procedures reduce the problems of sample bias [6]. The other research design chosen in the study is a case study. The case study research design is chosen in the sense that electronic procurement in oil producing company is studied in only one Crude Oil and Gas Producing Company. There is an advantage that an in-depth study is done on the subject matter.

SAMPLING

One thing which is a researcher carrying out an empirical study must do and also early enough is to decide on whom shall be the focus of the study. The researcher must decide on the individuals, groups or organizations to be observed or interviewed in getting the facts associated with the study. If the focus of a study is restricted to a relatively small number of individuals, groups or organizations, etc collecting data from or about all of them is generally very costly (in terms of time, money, etc). The purpose of sampling is to get data on a subset of a population so that at a later point in time, inferences can be made about the population based on the data from the sample. In this research work, the population is made up of the senior and junior staff in the company under study. The random sampling technique of probability sampling is used to get a sample of 100 respondents.

TYPES OF DATA

Every research work starts with a search for secondary or existing data. If it is available, it is easier to collect and use. If it is available, it may not be in the form that is suitable for the particular study. The units of analysis may be different or the data may be obsolete or the contents may not be immediately irrelevant. In this research work, the search for the secondary data on electronic procurement in the firm under study did not yield the desired results and so the researcher resorted to primary data collection.

METHOD OF COMMUNICATION OF THE RESEARCH INSTRUMENT

The method of communication of the research instrument is the personal interview method of the researcher who is to do the fieldwork. The personal interview method relies on the verbal reports from the subjects. The personal interview method has the following advantage:

1. it is an appropriate method for large segments of the population especially where some respondents are not very literate;
2. it yields a much better sample of the population;
3. it gives a very high response and completion rates;
4. it has a greater sensitivity to misunderstandings by respondents; and
5. it is a more appropriate technique for revealing information about complex, emotional laden subjects.

The personal interview method has the following disadvantages:

- i. the interviewer and the person interviewed are both present as the questions are asked and are answered and so there is a greater care in communicating the questions in eliciting information;
- ii. the interviewer has the opportunity to observe both the subject and the total situation;
- iii. interviews can be used with almost all segments of the population;
- iv. it usually yields a much better sample of the population;
- v. it has a greater sensitivity to misunderstandings by the respondents; and
- vi. it is a more appropriate technique for revealing information about complex, emotionally laden subjects [7].

DATA PRESENTATION AND ANALYSIS

In the last chapter, the Research methods and procedures were handled stipulating that the Research Design is a combination of a survey and a case study. In this chapter, the primary data are to be presented and analyzed. The data is to be presented by the use of tables to make them amenable for further analysis, by analysis is meant the act of noting relationships and aggregating the data on a variable with similar characteristics and splitting the units into their parts [7]. [8] have written that it is at the analysis stage of a Research Project that meaning is given to the data that is collected. Also, [9] have observed that the factual information from the data could be used as a basis for reasoning discussion and calculation. It can be used as a basis for writing up the summary, findings, conclusion and recommendations in the in the next chapter.

DATA PRESENTATION

Table 1 below shows the summary of the personal data of the 100 respondents.

	Sex	Frequency
	Male	58
	Female	42
	Total	100
	Marital Status	
	Married	22
	Single	78
	Total	100
	Age	

Under 20 years	8
21-30 years	52
31-40 years	20
41-50 years	20
Total	100
Highest Educational qualification	
Senior School Certificate	8
Diploma	8
O.N.D	10
H.N.D	26
First Degree	34
Second Degree	10
Professional Qualification	4
Total	100

Source: From the questionnaires administered.

From Table 1 above, it is shown that the sexes of the respondents, 58 out of 100 are males while 42 of them are females. For the marital statuses of the respondents, they are single, and married with frequencies of 22 and 78 out of 100 respondents. For the ages of the 100 respondents, they are those under 20 years, 21-30 years, 31-40 years, and 41-50 years with frequencies of 8, 52, 20, and 20 of them respectively. For the highest educational qualifications of the 100 respondents, they are Senior Secondary Certificate, Diploma, O.N.D, H.N.D, First Degree, Second Degree, and Professional Qualification with frequencies of 8, 8, 10, 26, 34, 10, and 4 of them respectively.

PERCENTAGE ANALYSIS

Table 2: The analysis of the response to the yes or no questions

s/n	Questions	Yes in num.	%	No in Num	%	Total in num	Total in %
1	Does your company have E-procurement practices?	100	100	0	0	100	100
2	Do you use e-marketing method?	100	100	0	0	100	100

3	Does material management in your company have an effect on profitability?	100	100	0	0	100	100
4	Does your company have material management practices?	100	100	0	0	100	100

Source: From the questionnaires administered.

From Table 2 above, it is shown that the responses are given in both absolute numbers and percentages. The 100 respondents were asked if their company had E-procurement practices and all the 100 of them making 100% of them said yes. The 100 respondents were asked if their company used e-marketing method and all of them making 100% of them said yes. The 100 respondents were asked whether materials management in their company had an effect on profitability and all of them making 100% of them said yes. They are also asked if their company had materials management practices and all of them making 100% of them said yes also all of them said that they has a material management department.

CROSS-TABULATED ANALYSIS

Table 3: The analysis of how effective materials management in their company has been on profitability

Responses	Frequency	Mean	Standard deviation	Z
Very Effective	84	4.72	0.74	06.447
Effective	10			
Neutral	2			
Ineffective	2			
Very Ineffective	2			

Source: From the questionnaires administered.

From the table 3 above, it is shown that using a Likert scale of very effective 84, effective 10, neutral 2, ineffective 2, very ineffective 2, the mean score is 4.72, the standard deviation is .739 approximated to 0.74 to 2 decimal places and the calculated Z score is 06.449. So the null hypothesis that the population mean is 3 is rejected and the alternative hypothesis that the population mean is greater than 3 is accepted. This means that materials management has been effective on the profitability of the company at 5% level of significance.

FINDINGS RELATED TO THE OBJECTIVES

It was found that:

All the 100 respondents said that their company had e-procurement practices;

All the 100 respondents said that they use e-marketing method;

It was found that on how effective materials management was on profitability the responses were very effective, effective, neutral, ineffective and very ineffective with frequencies of 84, 10, 2, 2, 2 and 2 out of 100 respectively giving a mean of 4.72, standard deviation of 0.74 and Z score of 6.447.

CONCLUSION

In this research, the six objectives have been fully achieved and the six corresponding research questions have been fully answered. The finding that all the 100 respondents said that their company had e-procurement practices put the research topic in the context. The finding that all respondents said that they use e-marketing method implied that, the aspect of e-commerce was being used by the company.

The finding that 94 out of 100 respondents said that their materials management was either very effective or effective to profitability implied that materials management could become a very energetic independent variable to enhance profitability in a multi-national oil producing company. The finding that net profit margin was the higher method of operational profitability in the company implied that net profit made per unit sale of crude oil went a long way in determining the difference between total sales and total cost.

The finding that staff had positive attitude to materials management implied that the staff of this pioneer Crude Oil and Gas Producing Company would be disposed positively to materials management. The same finding also went for profitability.

REFERENCES

- [1] Anyiwe, E.M.A. (1994). *ECOSTAT! Statistical Handbook for Economists, Social Scientists*: Yaba, Lagos: Ama Resources Nigeria Limited.
- [2] Arminas, D. (2000). “*CIPS Conference*”. *The Supply Management*, Number 113, Volume 28, 10-11.
- [3] Bates, R. and Parkins, J.R. (1981). *Business Economics*, London: Cassel and Company Limited.
- [4] Blitz, A.R. (1990). *Statistics: A Workbook for Professional Student*. London: Cassel and Company Limited.
- [5] Burford, R.L. (1990). *Foundations of Behavioural Research*, New York: John Willey and Sons Incorporated.
- [6] Campbell, J.P., Daft, R.L., and Hulin, C.L. (1982). *What to Study: Generating and developing Research questions*. Beverly Hills: Sage Publications.
- [7] Canover, W.J. (1990). *A Basic Statistics for Business and Economics*. Columbus, Ohio: Charles E. Errill Publication Company.
- [8] Podsakoff, P.M., and Dalton, D.R. (1987). “*Research Methodology on Organization Studies*” *Journal of Management* Volume 13, number 2, Page 419-441.
- [9] Stone, E. (1995). *Research Methods/Organizational Behaviour*. Santa, Monica: Good Year Publishing Company Incorporated.