

AN EVALUATION OF THE EFFECTS OF PROJECT MANAGEMENT TECHNIQUES ON THE PERFORMANCE OF THE TEXTILE INDUSTRY IN SOUTH-WESTERN NIGERIA

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Abstract:

This study evaluates the effects of project management techniques on the performance of the textile industry in South-Western Nigeria. This study also evaluates the quality control process of the textile industry. A review of project management literatures and the organizational survival of the textile industry revealed that there is need for further research on identifying indicators for measuring project management techniques.

A survey research design was adopted. Questionnaires were administered to 300 top management staff and 300 customers cutting across the textile companies involved in production of fibers within the South Western Nigeria using simple random and judgmental sampling techniques. The production processes of these textile companies were also monitored by personal observations to ascertain if the production processes were in control or out of control. The data collected were analyzed using descriptive statistics; correlation analysis, regression analysis and Non-conforming Proportion (NP) control charts. The questionnaire for this study was validated using content validity. The reliability of the questionnaire was confirmed by determining the correlation coefficients of the data collected at two different periods, which was approximately equal to 1.

The coefficients of determination of 0.983 and 0.986 in the model summary for scope of project execution indicated that 98.3 % of the variance that occurred in the customer satisfaction could be attributed to the scope of project execution. The textile production process was found to be in control. This implies that the textile products possessed the needed quality that satisfies the need, requirement of the customers in their immediate environment. Because of this general acceptance of the textile product, there was a percentage increase of 269.9% in sales return.

This situation made it impossible for some of the textile companies to survive. These companies design a strategy, whose major objective is to satisfy the needs of the immediate environment where they operate. It was therefore recommended among others that stakeholders of the textile industry should encourage training of low and middle level management in order to appreciate the importance of quality control and problem identification relating to production. This study major contribution to knowledge include identification of indicators for measuring project management techniques and that quality is best provided when the project initiator is close to the customer.

Keywords: Quality, Customer Satisfaction, Scope of Project Execution, Organizational Survival

Introduction

The creative concept of project management is universal and generic. This cuts across all cultural, national and linguistic barriers. Some corporate cultures are much more supportive of project techniques than others. Top managers who plan to introduce the project management discipline, or wish to improve existing project performance, must pay attention to cultural, structural, practical and personal elements.

Project management techniques also include planning, organizing, directing and controlling activities in addition to motivating team members, which is usually the most expensive resources on the project, (Harvey, 2002). There are two basic planning and control technique utilized in project management. These are Programme Evaluation Review Technique (PERT) and Critical Path Method (CPM). These techniques involve the combination of interrelated activities that must be executed in a certain order for its completion. These interrelated activities involve planning; scheduling and controlling

(Clifford and Erik, 2003). These techniques are used in modern project management for dealing with the problem confronting textile industry.

Statement of the problem

The study conducted by David (2003), on an empirical study of project management methods in organizations showed that there are problems in applying project management theories in practice. This is attributed to the inability of not being able to determine the appropriate indicators for measuring the project management techniques. In his conclusion, he stated that there is need for the project management community to provide leadership through the developments of valid and useful indicators for assessing project management concepts. He concluded by asserting that there is a need for further research in this area.

In the study conducted by Harvey (2001), it was pointed out that there is a problem with the existing traditional approach of project management which was based on the computational planning and control models used for large projects. These models are deterministic in nature. Modern project management techniques are now applied in the organization. These techniques had led to the development of new product, which are now increasingly used in textile industries. These products require modern project management techniques for product development. Existing records showed that there were 45 textile manufacturing companies in the country as at 2005. This represents a 64% reduction from the 124 companies that were in existence in 1994, (Textile Report, 2005). Massive importation of textiles both second-hand and new garments especially from Asia coupled with high cost of production locally, led to the shutting down of 65 local textile mills and the laying off of about 150,000 textile workers in the last decade. Apart from this menace, an agreement signed in November 2004 between Nigeria and Benin Republic, which allows goods from both countries free passage through their common borders, tends to compound the menace of smuggling and nightmare of textile manufacturers.

Benin Republic economy is basically simulated by smuggling into Nigeria. Benin is a trading post for made-in-China and Malaysian goods. It is only natural that the border agreement will further compound the problem of smuggling and impact negatively on fortunes of the industry in great need of re-tooling. In recent times, these domestic markets have faced major threats from smugglers who import cheaper textile fabrics from neighbouring countries and sell at prices, which are far below market prices. This invariably stifles the growth of the domestic textile industry. These smugglers bring in their wares mainly through the sea ports and land borders particularly Lagos through Seme and Idiroko borders. Some also come in through the northern parts of the country passing the Niger

borders i.e. the Maradi and Jibiya borders (Niger Republic). These are some of the major reasons for the unimpressive performance recorded in the industry in recent times. The industry's contribution to Gross Domestic Product (GDP), in 2004 was less than 1% (i.e. 0.5%). This is quite minimal and the implication is that the industry is slowly heading for the brink, Textile report (2005).

Existing literatures also revealed that Practitioners that are charged with developing project management competencies within companies are looking for evidence to show that the application of formal project management knowledge and practices produce better project outcomes. The current data on this is few. There is none yet to demonstrate casual relationship between the application of formal project management and project outcomes, Pinto and Slevin 1988, Morris and Hough 1987, Ibbs and Kwak 1997 and Crawford 2001.

Objectives of the study

The major objective of this study is to evaluate the effect of project management techniques on performance of the textile industry. However, this study develops the following objectives based on the identified indicators by this study for measuring project management techniques. These indicators are developed from the management functions of planning, scheduling and controlling. The specific objectives are to:

- i. Evaluate the quality control process of the textile industry.
- ii. Determine the relationship between customer satisfaction and scope of project of the textile industry.

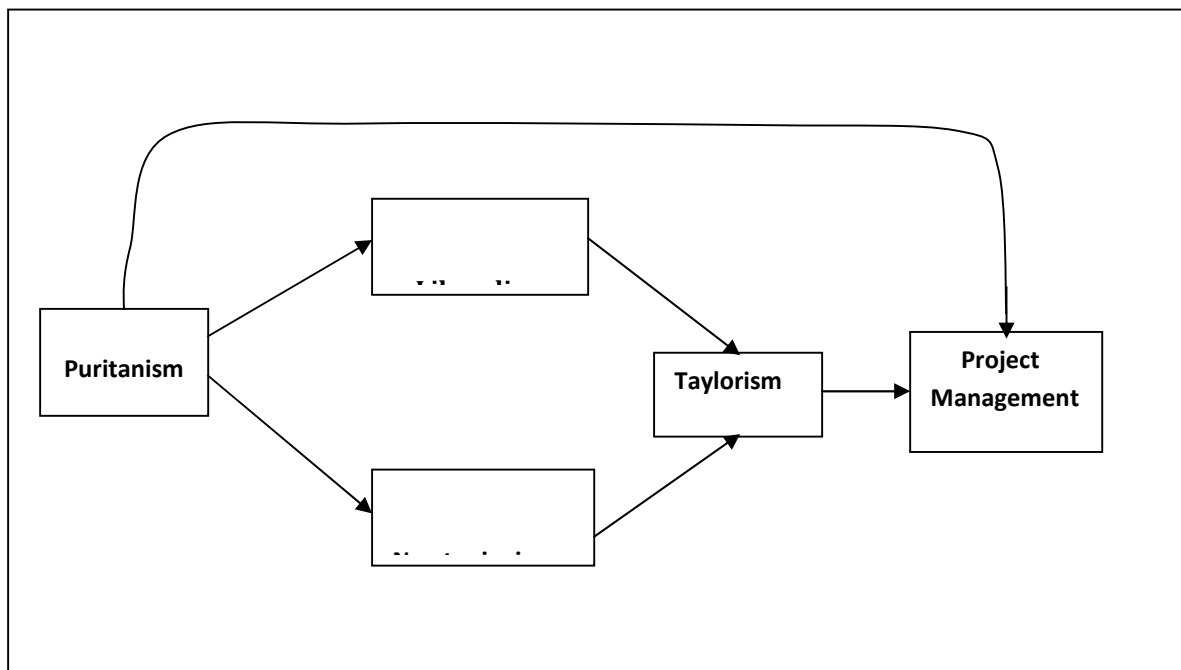
Literature review

Theoretical framework

The genesis of the ideas that led to the development of modern project management can arguably be traced back to the protestant reformation of the 15th century. The Protestants and later the Puritans introduced a number of ideas including 'reductionism', 'individualism' and the 'protestant work ethic' (PWE) that resonate strongly in the spirit of modern project management. From the perspective of the evolution of modern project management, these ideas were then incorporated into two key philosophies, Liberalism and Newtonianism. Liberalism included the ideas of capitalism (Adam Smith), the division of labour, and that an industrious lifestyle would lead to wealthy societies based on the concept that 'self interest' is tempered by the influence of an 'invisible hands' that directs this 'selfish interest' to the benefit of society as a whole. Newtonianism marks the era of scientific enquiry. Newton saw

the world as a harmonious mechanism controlled by a ‘universal law’. Applying scientific observations to parts of the whole would allow understanding and insights to occur and eventually a complete understanding of the universe (Whitty& Schulz, 2007).

Figure 1: Model of Classical School of Scientific Management



Source: (Whitty& Schulz, 2007)

Robert Owen (1771-1858) and Charles Babbage (1792-1871) were two of the early management thinkers. Owen recognised that people should not be considered as if they were simple machinery and introduced improved working conditions into his Scottish cotton mill. Babbage was interested in work specialisation and motivation; as well as being an eminent mathematician credited with developing the forerunner of the modern computer.

All of these philosophies influenced the scientific management theories of Taylor. Taylor was undoubtedly influenced by his Quaker roots (Puritanism), worked in an intensely capitalistic society (Liberalism) and used the scientific approach of Newtonianism in his work developing the ‘Classical School’ of scientific management (Whitty& Schulz, 2007). This study was based on the emerging theories and principles that led to the development of project management techniques.

Conceptual clarification

Project

Different school of thought viewed project from different dimensions. According to (Nokes, 2007), a project is a temporary activity with a starting date, specific goals and conditions, defined responsibilities, a budget, a planning, a fixed end date and multiple parties involved. (Lewis, 2006), viewed project as an undertaking requiring concentrated efforts. (Albert, 2004), defined project as a sequence of tasks planned from beginning to end bounded by time, resources and required result. Project usually includes constraints and risk regarding cost, schedule or performance outcome. (Cusworth, 1983), sees project as a series of activities in which cost, time schedule and resources (personnel/ labour, equipment, material) are consumed. (Morris, 1986) in his own viewed project as a set of activities that has a defined starting and finishing time. In the words of (David, 2006), project is a temporary endeavour having a defined beginning and end (usually constraint by date but can be funded or deliverables) undertaken to meet unique goals and objectives. According to (Baum, 1978), a project is the investment of capital in a time- bound intervention to create productive assets.

From all the different schools of thought, it was clear that fundamentally a project is a “temporary endeavour undertaken to create a unique product, service, or result. It could also be deduced from the different definitions that projects are different from operations. All the different schools of thoughts agreed that, to be temporary signifies that there is a discrete and definable commencement and conclusion; the management of a project requires tailored activities to support this characteristic, as such, a key indicator of project success is how it performs against its schedule—that is, does it start and end on time.

According to Turner (1994), project management is the closer link between project teams and downstream. Harvey (1977), in his own view sees project management as planning, organizing, directing and controlling of activities. Generally from different schools of thought, it is believed that Project management is the discipline of planning, organizing and managing resources to bring about the successful completion of specific project goals and objectives. It sometimes combines with programs, group of related projects or interdependent projects.

Textile materials

According to Juran (1974), textile materials are “fibers” yarn intermediate, yarn, fabrics and products made from fabrics which retain more or less completely the strength,

flexibility and other typical properties of the original fibers or filaments. ("ASTM 1966). Fibers are manufactured from many different substances and are prepared from many different materials occurring in nature. The list of these materials includes asbestos, jute, flax, ramie, cotton, glass, nylon, graphite, polypropylene, wool, polyester, and cellulose acetate. This list, while not complete, does indicate the wide range of materials, both natural and man-made, from which textile materials are produced.

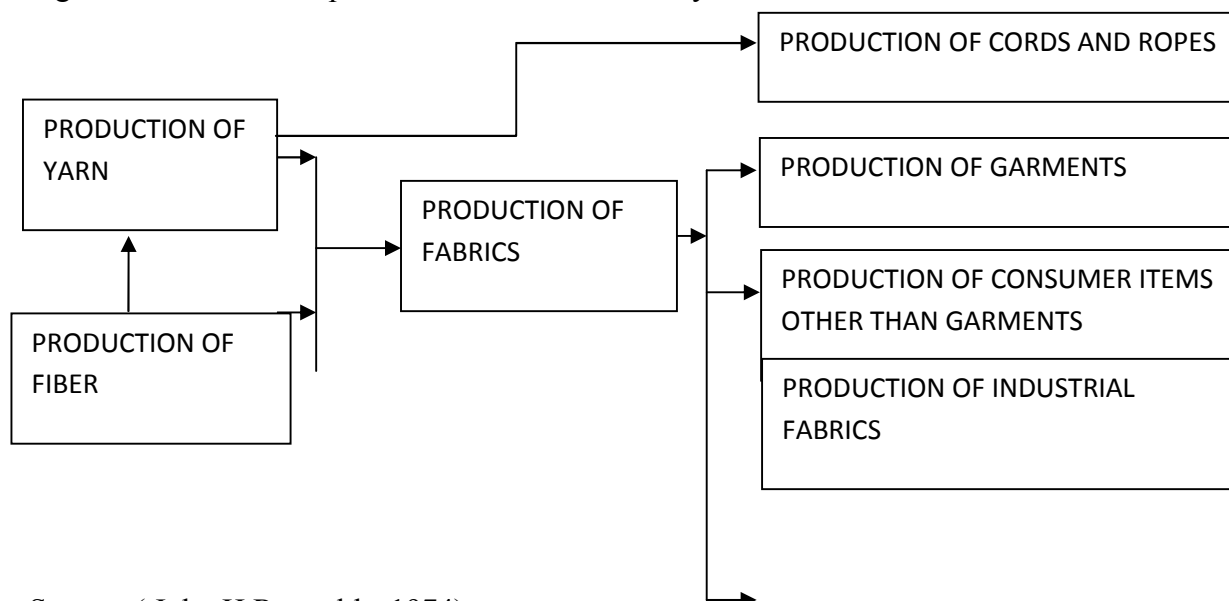
Textiles yarns and fibers are made of two general types of materials, those found in nature and those produced by man. Usually the natural material occurs in fiber form which can be subsequently put into yarn form. Generally man-made materials are first formed into continuous filaments which may subsequently be spun into yarn again. Fabric is from the fibers or yarn and then made into various items such as shirts, skirts, panties and slipcovers.

Quality problems

It is not surprising that with so much variety in materials to be processed, and with added variety in the processes, the textile industry has quality problems, (Juran, 1974). However, this variety is not the major cause of these problems. Some of the industry's major quality problems are the following:

1. The fiber from production to the final form passes through many operations and stages, usually through a number of different manufacturing plants. As in other industries, production rates continue to be increased by using improved and automated machinery. Each stage then puts more pressure on the preceding stages to produce a uniform and high- quality product which can be processed in one standard way and without costly machine stoppages.
2. The textile industry has a higher number of production workers per unit of product than any other industry. The industry's value added per year, per production worker, excluding chemical fiber production, is only \$8, 704, the lowest of all industries, compared with a national average of \$18, 555. The industry next above textiles is leather at \$8,765. (The highest industry is petroleum and coal products, \$53, 560). The high numbers of workers makes it difficult to maintain the high- quality individual workmanship which is necessary to prevent errors and quality accidents.(Juran, 1974).

Figure 2: Flow of product in the textile industry.



Source: (John H Reynolds, 1974)

3. The problem of increased demand continues. Industrial uses are ever demanding. For example, larger aircraft need fabric with higher strength and less weight for the tires; more traffic in a hotel lobby requires a better carpet.
4. There is an increase need for quality control for quick development of new products and variations of old products. Two forces have brought this about. New products are needed to meet new uses and desires, for example space suits, outdoor carpets, and easy- care clothes for jet- age travel. But probably the most pressure for quick development comes because of the increased rate of style change. Better communication facilities, including advertising and more widespread affluence largely account for this.

To meet these new needs and desires, new design and new materials have been introduced into textile products. Some of these designs and materials have been unfamiliar to the consumer, who requires instruction and guidance in the most advantageous way to use the products. This, coupled with growing government regulation, has prompted textile manufacturers to put together emphasis than ever on safety and care to their products.

In those relatively small plants to the textile industry, quality control has not kept pace with the rest of the textile industry. This among other things, has brought them into sharp competition with imports from Japan. Since the World War II, Japan has revolutionized its organization and training for quality control. Dr. Juran has described it as “the quality miracle of the century”. This is an extremely serious quality problem for the cotton textile producers. Japan’s ability to obtain a significant part of the market in America is due to a combination of

high quality of textile materials, a reputation for quality products in all fields, development of efficient textile processing machinery, and the lower wages paid to Japanese textile workers. The combination of low prices and good quality is a significant factor which contributes to the growing Japanese share of the world textile market (Juran, 1974).

Economic models for quality control

In the work of Menipaz (1978), he explained that while a very important fact of industrial quality control is the economic design and evaluation of quality control procedures, very little has been published on this problem. Two basic categories of operational quality control procedures may be identified.

- 1) Sorting procedures, that is, procedures intended to separate between good and defective product with respect to some quality characteristics.
- 2) Process control problems, that is, procedures intended to maintain the quality level of a process at some desired predetermined quality level.

The survey categorized the different models in the following manner:

- a) Models for the economic selection of a quality level.
- b) Models for the selection of the optimal sampling plans.
- c) Models for the design of consecutive sampling plans
- d) Models for the process control.

The first three categories deal with sorting procedures, while the last set of models deals with the process-control problem, which is one of the identified variables for this study. This model is reviewed as follows;

Model for process control

The important contributions in this area are by Burr (1976), Clements (1992), Flood (1993), Menipaz (1978) and Aquillano (1977), among others. The problem of process control is one of maintaining a production process in such a state that the output from the process conform to the design specification. They all agreed that a process control chart has a central line (CL), an upper control limit (UCL) and a lower control limit (LCL).

There are basically two classes of control charts namely:

- (a) Variable Control Chart: Mean Chart and Range Chart
- (b) Attribute Control Chart: P- Chart (Percentage defective chart) and np Chart (Number of defective Chart).

Organizational performance

The concept of organizational performance is based upon the idea that an organization is the voluntary association of productive assets, including human, physical and capital resources for the purpose of achieving a shared purpose (Alchian and Demsetz 1972; Jensen and Meckling, 1976; Simon 1976; Barney 2002). Those providing these assets will only commit them to the organization so long as they are satisfied with the value they receive in exchange, relative to alternative uses of the assets. As a consequence, the essence of performance is the creation of value. So long as the value created by the use of the contributed assets is equal to or greater than the value expected by those contributing the assets, the assets will continue to be made available to the organization and the organization will continue to exist. Therefore, value creation as defined by resource provider is the essential overall performance criterion for any organization.

Organizational performance is a concept that has attracted various meaning to various scholars. For instance someone wished to know how well an organization is performing, it might seem reasonable to assume that the organization's purpose would be reflected by its activities and that an indicator or measure of its activities would show how successful the organization was in realizing its purpose. But a perceptive reader would of course raise the point that organizations usually have more than one goal and would need more than one measure to assess performance. Nonetheless, this simple common sense approach to assessing organizational performance was a typical of early research in the sociology of organizations (Jones 1996). Blau's research (1970), on organization agencies which may be seen as representative of the rational perceptive school similarly, used productivity as a measure of organizational performance. The choice of goal achievement as a measure of performance is supported by theory. In general according to (Jones 1996), is of the opinion that organizations goals are explicit in the concept of organization which is in contrast to natural collectives, such as families other kinship groups and groups of friends; organizations are seen to be created as a means to achieve some purpose, objective or goals.

The use of goals and criteria of goal achievement as a means of assessing organizational performance went unchallenged until early 1960s. Perrow (1961), however contends the adequacy of early scholar's goal achievement criteria as a measure of organizational performance. He pointed out that serious analysis of organization goals had been neglected. He held that researchers either ignored goals or critically accepted the statements or organizations as given in charters, official reports and public statement. Such documents describe the official goals of organization but these are purposely "vague and

general” and accepting them at face value meant that researchers could neglect the many decisions organization make concerning the ways of achieving goals, the priorities attached to them and the official goals that an organization might pursue. He therefore suggests that if goals achievement is to be used at all, there is need to distinguish between two kinds of organizational goals, official goals which are the general purposes of the organization’s founders and leaders and operative goals which designate the ends sought through the actual operating policies, the modifications and subversions of these ends by personnel in decision making positions and by the force of pressures from the external environment. The extent to which organizations achieve the later goals, according to Hall (1977), constitutes performance.

Customer satisfaction

According to Davis (1973), “No business organization can afford to ignore its customers, for the success of the organization depends to a large extent on its public image determined by the customer” in fact it is often said that “customers are the king”.

From all indications, it seems the business owes the customers a lot than all other elements of the society combined together. This is probably because the customers or as the marketers would say, “the customers to large extent constitute the society”.

At the Textile industry, the primary customers are the consumers, the secondary are the distributors and others. To the customers, social responsibility may arise in two years. First, business organization must provide good quality product and / or services to the customers. It is socially irresponsible to produce goods and services that are detrimental to health.

Customers are constantly being supplied with new products, new techniques and needs to make investment the success of which will depend on making correct decisions on many complex issues. The business organization should also be of immense assistance in mobilizing its customers towards their own betterment. It can do this using any economic influence. It has to promote their welfare and induce them to aspire to be productive citizens.

Another responsibility is that business organisation should always endeavour to desist from putting indiscriminate and unrealistic price on its products and services. At Textile industry, customers are given good encouragement, its product are relatively cheap, distributors rates are quite alright and credit facilities are given to big time customers.

Also according to Clifford and Erik (1975), the ultimate goal in project management is to deliver customer satisfaction, which happens throughout the qualities customer service process including business alteration, ability demonstration, relationship maintenance, project execution,

performance improvement and knowledge inheritance. Therefore a qualified customer service is based on an, on time delivery with acceptable quality and at competitive rate and in terms of customer management and project management. These three factors are interpreted into the delivery of the customer's satisfaction.

Also according to Nicholas (1989), previous research has identified client/ customer satisfaction as the over-riding measure of success, having a wide range of measures of success inclusive, broad based team approaches to Project management practice that incorporates meeting the expectations of various parties to a project, though lessons from other subject areas highlight potential difficulties in implementing such an approach. The project management has related mirrors development in the area of performance measurement over the past 20 years that focus on establishing "balanced" or "multi-dimensional" constructs.

While there have been surveys relating to individual parts of project practice, particularly relating to measures of project success, the change in project management from its traditional form to an emergent form, discussed in the previous paragraph, is expressed in largely theoretical terms with writers describing how project management ought to be rather than how it is. Also, the empirical studies that have been carried out have focused on project management practice in generic terms or on the experiences of individual organizations. Therefore, there is need to validate the changes described by academics, management consultant and practising project managers. This paper contributes to meeting the needs by first investigating the extent to which the opinion and attitudes of staff by considering the extent to which project management practices in a variety of organization and work-related environments confirm to emergent project management theory.

Methodology

The study covered existing industries in the textile sub sectors within the south western Nigeria. There are 32 existing industries in the textile sub sector in Nigeria out of these number 23 are located in the south western Nigeria. A survey research method was adopted, (National Union of Textile Garment and Tailoring Workers of Nigeria, 2009). Questionnaires were administered to companies and organizations involved in the manufacturing of cotton materials. The production process of these companies was monitored to determine if the production process was in control or out of control. Questionnaires were also administered to top management staffs and customers of the 10 companies to inquire about their scope of project execution, sales turnover, product competitiveness and customer satisfaction.

This study covered all manufacturers of textile products (fabric), as reported by National Union of Textile garment and Tailoring Workers of Nigeria in 2009 that are used for the production of clothing materials within the south western Nigeria. The major states/cities identified include Lagos, Ogun, Oyo, Ekiti, Ondo and Osun. Ten (10) out of 23 textile companies were studied. Questionnaires were administered to 300 top management staff and 300 customers of the 10 companies out of an average of 350 customers that patronize the companies.

Simple random sampling techniques was used for selecting 300 top management staff, which includes factory managers, production managers, marketing managers, personnel managers and the Head of accounts. This technique was also used in selecting 300 customers cutting across the textile companies involved in the production of fibres in the south west Nigeria. Judgemental sampling technique method was adopted for the purpose of selecting the textile companies out of 23 (see Appendix). In all the state under consideration, 10 textiles companies are involved in the production of fibres others are involved in the production of threads, yarns, rope, leather, e.t.c. Based on this fact, the population became the sample of the study. As a result of these findings, the error margin was specified as 1%. The sampling size was determined, using

$$n_i = \frac{N}{1 + Nb_i} \quad (\text{Asika, 2004})$$

where $i=1,2,3,4,5,6$, [for all states] b = the maximum tolerable error margin.

$$\begin{aligned} \text{e.g. } n_i &= \frac{10}{1 + 10(0.01)(0.01)} & n_i &= \frac{10}{1.001} \\ &= 9.99 & &\approx 10 \end{aligned}$$

1. Atlantic Textile Nig.co. Limited
State Highway, Ilupeju, P.O B 2054, Lagos
2. Ijora Textile Mill, Limited
10, harbour Road, Ijora P.O. Box 2604, lagos
3. Sunflag Nigeria Limited
28, Eric- moore Road, Iganmu Lagos
4. Wollen& Synthetic textile manufacturing Limited
Oba Akran Avenue P.O.Box 507 Ikeja, Lagos
5. Nichemtex industries Plc
NIDC House (6th floor) Broad street, Lagos
6. Supreme Lace Limited

Plot 2, Block A ACME Road, Ogba Industrial Estate, Ikeja Lagos

7. Malone King Textile manufacturing co. Limited

Plot 77, LSPDC Industrial Layout Odogun Ikorodu, Lagos

8. Stallion Textile

Gbagada Industrial Estate, Gbagada, Lagos

9. Novelty Emb. Lace Manufacturing (Nig) Limited

Ijebu- Ode, Ogun state

10. Onahobi Textile Upholstery Fabrics Limited

Sagamu, Ogun State

Model satisfaction

Mathematical model is the commonest model in research because of its inherent simplicity. It simply specifies the relationships and interrelationships among the variables of a research problem in equations. (Asika 2004.)

To evaluate project management techniques and business performance of the management of the textile products, two models were used;

- (1). Project Management Techniques

The Project Management Techniques was assumed to be a function of two variables, listed below. Mathematically, expressed as

$$PMT = f(X_i)$$

Where

X_1 = Process Control.

X_2 = Scope of Product Execution

- (2). Business Performance (BP)

This is the second variable, which was assumed to be a function of one variable.

$$Bp = f(x_i)$$

Where I = for Business performance variable.

X_1 = Customer Satisfaction

Administration of questionnaire

The questionnaire on quality control of the production process was filled jointly by the researcher and members of staff of each company with the help of the quality control inspectorate of each division. The researcher used personal judgement and also relied on

advice from each company manager to determine the top management staff of each organization. The questionnaire on scope of product execution was administered to 30 top management executives of each company base on the organizational structure of each company.

Top 30 members of management staff were selected based on personal judgement and after identifying how duties are shared, delegated in each organization. The selection was also done in conjunction with the senior staff of each organization.

The questionnaire on customer satisfaction was administrated to 30 customers of each organization who makes repeated purchases and also buys in large quantities. These customers were identified by the researcher with the help of members of staffs of each organization.

Validity

The questionnaire for this study was validated using a number of measures which include content validity. The objectives of the research, the research questions and the conceptual framework were the focus in the design of the questionnaire.

The questionnaire was pre-tested on the respondents in the selected textile manufacturers in each of the towns within the study area. Comments and suggestions were collected and used to improve the quality of the questionnaire. In line with this approach, three experts on the subject matter moderated the questionnaire.

Reliability

This study used the test-re-test method of reliability. The questionnaire on scope of project, project competitiveness and customer satisfaction was administrated to the respondent twice within a period of two weeks. The coefficients of correlation of the data were determined as follows:

The correlation co-efficient of the data collected from the respondents at two different periods for all the questions are approximately equals to one (1). These results confirmed the reliability of the instrument used for this study.

Summary and analysis

The table below shows the summary results of the process control charts of the companies covered in the study. The upper control limit, the control limit and the lower control limit are shown in the table below.

Upper control limit, control limit and lower control limit of companies under study

S/N	Companies Under Study	Upper control Limit	Control limit	Lower control Limit
1.	Novelty Emb. Lace Manufacturing (Nig) Limited	6.588	14.3	-1.1
2.	Stallion Textile	3.8	9.65	-2.05
3.	Malone King Textile manufacturing co. Limited	3.69	9.45	-2.07
4.	Onahobi Textile Upholstery Fabrics Limited	6.47	14.10	-1.16
5.	Nichemtex industries Plc	9.57	18.849	0.291
6.	Ijora Textile Mill, Limited	3.4	8.9	-2.13
7.	Sunflag Nigeria Limited	5.3	12.2	-1.6
8.	wollen& Synthetic textile manufacturing Limited	6.9	14.95	-0.93
9.	Atlantic Textile Nig.co. Limited	6.8	14.62	-1.02
10.	Supreme Lace Limited	9.95	19.41	0.49

Source: Field survey, 2009

Decision

The production process of the surviving textile companies within the Southern Nigeria are in control. This implies that there is no visible assignable cause of variation. Since the process control graphs, of all the textile companies lie between the lower control and upper control limits i.e. the process of production is in control

Model Summary

Regression Analysis of Customer Satisfaction on Scope of Project Evaluation

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.992a	0.983	0.979	44.87734

a. Predictors: (Constant), Scope of Project Execution

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.447	29.261		.049	.963
	Scope of Project Execution	.996	.065	.992	15.277	.000

b. a Dependent Variable: Customer Satisfaction

Decision

The value of 0.983 in the Model Summary above indicates that 98.3 percent of the customer satisfaction could be traced to the scope of project execution.

98.3% of the variance that occurred in customers' satisfaction could be attributed to the scope of project execution. This implies that the customers are satisfied with the design and specification of the textile materials produced. Also, the value of the standard error is less than $\frac{1}{2}$ the value of the estimate. This implies that the estimate is statistically significant.

Discussion

Few years ago, the textile industry in Nigeria was one of the largest and, probably, the most important single manufacturing industry contributing immensely to the nation's economy. Apart from the fact that the textile industry is the fourth basic necessity of man, a large segment of the population derives economic security from the various manufacturing and marketing processes associated with it. This makes the industry the second largest employer of labour after government (RMRDC, 2003).

In view of the above, it was expected that the number of textile industries in the country should be increasing. Records have shown that the reverse is the case. Majority of the textile industries have closed down. The confirmation of this problem necessitated the need to conduct research in the textile industry. One of such research was carried out by the Raw Material Research and Development Council, 2003.

The methodologies adopted by this research and the findings were in the multi-disciplinary committee report of a techno- economic survey on textile, wearing apparel, leather and leather products sector.

The methodology adopted was by administering questionnaires to seven zones in Nigeria, namely;

Research Areas Covered by Raw Material Research and development Council

S/N	LOCATION	ZONE/ AREA OF COVERAGE
1.	LAGOS	LAGOS
2.	ABUJA	SOUTH- WEST
3.	ZARIA	SOUTH- EAST
4.	JOS	SOUTH- SOUTH
5.	KADUNA	NORTH- WEST
6.	KANO	NORTH- EAST
7.	ABUJA	NORTH CENTRAL

This research was a follow up on earlier studies carried out by the (RMDRC). The studies dated back to 1988. A number of findings and recommendations have been made and adopted as national strategies for industrial development.

The findings centered on;

1. The inventory of all the industries in the textile industries, their installed capacity and operating capacities as well as capacity utilization.
2. The raw material requirements and their sources (local/ foreign).

The council report showed that there was a wide assumption that the quality of products from the textile industries was low compared to the imported materials. It was also assumed that there must have been a short fall on the sales of the textile industries.

The council came to this conclusion without actually monitoring the production process of the textile industries. This study on the impact of project management techniques on the performance of the textile industries saw this gap and as such decided to explore it. To assess the situation, project management techniques was assumed as the independent variable for this study. Production process, cost of production, scope of product and product competitiveness was identified as the major indicators for this study. Sales turnover and customer satisfaction was used to measure the performance of the textile industry.

From the findings of the study, the production process of the textile companies was in control. There is a possibility that the companies recognized that there is a general need to succeed in global competition. The companies must make a commitment to customer responsiveness and continuous improvement in quickly developing innovative products and services that at once combine exceptional quality, fact and on- time delivery, low prices and costs.

This line of thought could have led to the innovative strategy of producing fibers that satisfies the need and culture of the companies' immediate environment.

The findings also revealed that the scope of project execution contributed tremendously to the positive variance that occurred in the customer satisfaction. Naturally, project work scope keeps escalating until the project runs out of time, or money or both and then gets delivered with even less than the original planned content.

To ensure that the scope of project execution of the textile industries is relevant to the need and requirements of the customers, the baseline was controlled and the project work scope was contained.

Conclusion

The few surviving textile companies' currently producing fibres within the South-Western Nigeria had to design a strategy, whose major objective is to survive. In doing this, the scope of project execution was directed towards the needs of the immediate environment where they operate.

The textile companies develop a quality mechanism designed to meet the needs and requirements of the local customers. Majority of the products are packaged to satisfy the existing custom of the people. They produce massively to satisfy the social needs of the people. These social needs include burial, wedding, house warming, naming ceremonies etc. In line with this current objective of the textile companies the product specification, product sophistication, product reliability, and product maintainability are designed to meet the requirement of the social demands of the existing custom of the people. Within the last few years, the companies have enjoyed a passive customer loyalty which has led to a brand loyalty named "Ankara". However, to improve on the existing situation the following recommendations have been suggested.

Recommendations:

From the result of this study, it was observed that the products of the textile industries can compete favourably with the imported textile materials. The quality of the textile products are in line with the needs and requirements of Nigerians. The customers are satisfied because the culture and the ways of life have been used in designing the desired specifications of the finished product. The major problem with the textile sector is that a large proportion especially machinery are still being imported, taking colossal amount of foreign exchange which is not healthy to the growth of the industries and the economy. This in addition to the prevailing economic climate had not allowed the textile sector to fully utilize its capacity or seek the expected level of improvements, rather the reverse is the case.

This could be attributed to so many factors among which are high cost of production, scarcity of foreign exchange for importation of some essential materials, government policies, infrastructural deficiencies and the prevailing harsh economic climate.

Consequently, this study wishes to make the following recommendations;

1. Training of textile mills personnel, more especially low and middle level management to appreciate the importance of quality control and problems identification relating to production, should be encouraged by the textile industries.
2. There is the need for the textile mills, in addressing their energy problem, to plan for energy conservation through the use of more efficient technology.
3. There is the need for the private sector to invest in the establishment of textile mills at the Export Processing Zone (s) established, primarily for export of its products.
Improvement in competitiveness could include access to imported inputs at free trade price.
4. There should be an identified source of funding: Work should not be added to the project database without an adjustment for the added costs.
5. Records of all scope changes should be maintained

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