
**An Assessment of Good Research Activity and Mechanization System as Determinants of
Higher Productivity in United Nigeria Textile Ltd in Kaduna State**

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ABSTRACT

The study sought to assess good research activity and mechanization system as determinants of higher productivity in United Nigeria Textile Ltd in Kaduna State. The population of the study comprised all the staffs in United Nigeria Textile Ltd. The researcher adopted primary method (open and closed ended, and oral interviews), and secondary method (textbooks, lecture notes and past research projects) of data collection. To this end, the total of 20 respondent was used as sample for the study. The instrument used in this study was questionnaire and personal interview. The reliability coefficient obtained was 0.84 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as the use of tables, percentage computations, and narrative notes. The test for significance was done at 0.05 alpha levels. The study concluded that a good and well conducted research is important in achieving higher productivity. That goods mechanization of production system in industry reduces time and material wastages and inefficiency. The study therefore recommended that there should be full time manpower training programmes. The government should be encouraged to establish more research institutions and possibly provide guidelines on the minimum level of research and development programmes to be conducted in every industry.

KEYWORDS: Research, Mechanization System, United Nigeria Textile Ltd

Introduction

The urgent necessity and crying needs for increasing productivity in industrial establishments has led to the development of “research” as an important decision making tools in the acceleration of industrial developments. New approaches for increasing productivity have to be mapped out in order to optimize the use of available industrial resources. The first historical indication of coming change was the work of “ROBERT OWEN” a British Industrialist who believed that invention of equipment’s in replacing human physical efforts would increase productivity.

Research is essentially the search for facts in the furtherance of knowledge. It involves the collation and analysis of information to improve the human understanding of phenomena understudy (Etzkowitz, 2003). Before the industrial revolution in the 18th century, research was given little or no consideration and human relations or human beings were forced to work like slaves and were treated like commodities. Since then, attention to research is one of the most

important issues in scientific communities (Bahadori, Momeni, Ravangard, Yaghoubi, Alimohammadzadeh, and Teymourzadeh, 2015). Nowadays, research has been developed as a special function in most existing industries/organizations and also as a decision making tools to obtain and analyze information about the subject matter arising in the organization and the organization's activities required in solving or serving it.

Statement of Problem

In any industrial establishment, the fact remains that efficiency in the use of available industrial resources, techniques, system has a direct relationship with the success or failure of the industry. Problems arises because of any or combination of the following: reliance on the foreign raw materials, skilled manpower and foreign investment; no attention given to the allocation of funds for the performance of research and development activity; the inability of industrial establishments to put into practices the result of research projects; this has resulted in slow industrialization and technological development in the country.

Objective of the Study

1. To find out if good and well conducted research activity is important in achieving higher productivity.
2. To determine if production efficiency is acquired through goods mechanization system

Research Questions

1. Is good and well conducted research activity important in achieving higher productivity?
2. Is production efficiency acquired through goods mechanization system?

Literature Review

Pure Research

Pure research is usually concerned with the theoretical aspects of science and indirectly interested in the practical application. It involves original investigation for the advancement of scientific knowledge that do not have specific commercial objectives, but have a broad range of applications. Very careful sampling procedures are used in order to extend the findings beyond the group on situation studied. Fundamental or pure research is usually the activity of psychologists using laboratory situations where adequate control of variables could be achieved. In short it is a search for new facts and information.

Applied Research

Applied research, on the other hand, is concerned with the practical application of science as well as in its theory. It involves investigations directed to the discovery of new scientific knowledge about a particular problem or investigations with specific commercial objectives with respect to products or process. Most of the educational research is applied research because it is much more concerned with developing generalizations and principles concerning teaching – learning processes and instructional materials. Both pure and applied researches are oriented towards the discovering of truth, and both are practically oriented in the sense that they both lead to the solution of man's problem.

Action Research

The findings of local action research can only be useful in term of local applications. It cannot be used as a basis for the development of theories and general principles. It is useful process in improving practices and most appropriate for those who might wish to get involved with research activity. It will only help with the improvement of the skill and also quality of thinking of the researchers.

Research Method

According to Prof. A.A. Aderinto (2000) there are four (4) general categories of research method namely, historical, experimental, case study and statistical methods. This classification follows the four general methods employed in scientific research investigations. This is a process of conceptualizing, hypothesizing and theorizing in order to discover facts.

Historical or Documentary Method

The historical method is a study of the past with a view to reaching conclusion about possible developments in the future. Historical research calls for the use of secondary data which are data that were collected by others for a special purpose but left over as published materials.

Documentary investigation method is aimed at gaining a clearer perspective of the present and with a greater appreciation of the culture and of the role which new knowledge can play in the progress of society. Therefore, the data must be viewed with historical perspective as part of the process of social development rather than isolated attitude, events or facts. Historical research may sometimes require the use of primary data. These are data collected for the first time by a researcher for a particular purpose through personal and telephone interviews, and mail questionnaires.

Allocation of Resources

Allocating resources for a strategy is to establish projections for revenues, total expenses, and earnings over the plan period. Revenue projection represents a combination of management's hopes and expectation for future. The allocation of resources must be made among functional operations and purpose such as research and development, manufacturing, marketing, sales, distribution, and services and to the several have witnessed a tremendous growth in the amount spent on research and development. As mentioned earlier on, companies, industries, universities, government and non-profit organizations for internal uses conduct research projects. It is very important to note therefore, that much of the research and development performed by one sector is financed by another. For instance, in the university sector the research and development by the university is financed by the federal Government. Despite the remarkable increase in recent years in the amount of attention devoted to the economics of research and development, there have been surprisingly few detailed studies of the research and development activities of the industry.

What determine how much money to be allocated to a particular research and development was the fact that:

1. Industries differ in market structure, industries composed of many small firms are unlikely to spend as much as research and development as somewhat less fragmented industries.
2. Industries differ in the value their customers' place on increased differs in the value their customers place on increased performance. Being second best in product performance in some fields is not a great handicap because customers do not care very much about the difference in performance.
3. Industries may differ considerable in the case with which research and development can bring about significance inventions. In most of the industries, applied research and

development was given more attention to than basic research because of its immediate usefulness such the development of a new product or the improvement of an existing one.

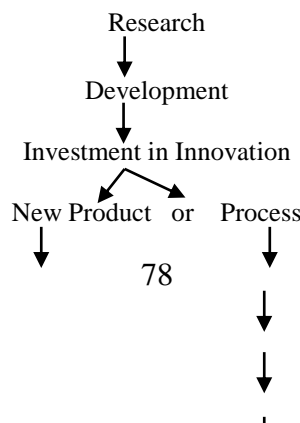
In the decision making process, the step to be taken on what amount to be apportioned to research and development are:

1. The profitability of commercial success of the project, if technically successful.
2. The extra profits to the firm, if the project is commercially successful.
3. The investment required putting the research result into practice.

Apart from industries, the Federal Departments and agencies also spent some amounts on research and development. Almost half of the federal research development expenditures were made by the department of defense with the aim of providing new and improved weapons and techniques to promote the effectiveness of the armed forces. Moreover, there is a tendency that the Defense Department's expenditures on research and development will rise greatly during the war period. Of course, tremendous emphasis can be laid on government research and development budget on defense.

Attitude and Extent of Research Development in Nigeria

The major attitude of the research is to discover the techniques, ideas, and search for new facts and information about the problem for which it is developed. In the initial phase of research and development, a corporation is sensitive to many specific external conditions which yields many small margins and rapid changes and thus challenges the versatility of management. Industrial research has led to technological changes, and technological changes, have played important but different roles in all corporations. To a large extent, research and development work was a consequence of existing products, production facilities and raw materials. On the other hand, research and development is a consequence of processes employed in the corporations; as soon as production is established there will be growing internal forces among the employed technologists to perform research and development (Chikwe, Ogidi, and Nwachukwu, 2015). Due to research development, a growth in sales has been sustained ever since among the corporations, with inflation as a significant additional factor. Therefore, individual companies are investing in research and development programmes because they believe that in the longer term they will be rewarded with profit and or growth. With research and development, it is possible for a corporation to expand the variety of their product line level, in which technological and product substitutions and differentiation's become more frequent. Product ranges have grown different technical parameters, components and materials have developed, performance has been improved in different respects, new products generation have emerged. At any point in time there exist a number of ways of producing the industrial goods. A linear view of the processes assumed to be followed from research is shown below and it shows how benefits are assumed to accrue not only to the firm but also to the national economy.



Consumer pleasure Company profit
 Increase Investment
 More jobs, more goods
 Higher GNP

Footnote: this implies that each successive step is the logical outcome of its predecessor.

These attitudes of research generate the immediate goal of most industrial research and development, which is technological innovation. By this, industry either produces goods which consumer prefer or products goods more efficiently and at lower cost. The consequence of such increase in economic efficiency will be reflected in a higher Gross National product. Wherefore, we can conclude with some confidence that technology plays an important role in increasing the output and changing the nature of industrial goods.

This is not to say all or most inventive and innovative activity from industrial research has no subsequent adverse effect on the environment. With a growing world population and demand for a higher standard of living, the research development must be made, and in many cases skillful planning has provided not only facilities for sport and recreation but also a scenic effect.

The increase in innovation, and invention of sophisticated machines couple with the use of chemicals in industry have brought about pollution of the atmosphere, water, soil and agricultural land. Pollution has a narrow meaning that is, impairing the purity of the atmosphere, water, or soil by noxious chemicals or waste materials.

Since the industrial revolution, the pollution of rivers has become a matter of major concern. Industrial effluent discharged into rivers are serious problem that causes a nuisance farther down the stream and destroy aquatic life through lack of oxygen. Pollution of soil and agriculture land was also as a result of industrial revolution. Dumping wastes of various kinds on land that is capable of development for agricultural and other purposes leads to difficulties in restoring land for productive or recreation purposes. The chief causes of atmospheric pollution are fuel-burning power plant, motor vehicles, and noxious chemicals used in industries. All of these are as a result of industrial research and development. It has also make the product life cycles becoming shorter, this is true in electronics, for example, but not in pharmaceuticals because of increase societal control, which also affects chemical used as fertilizers.

The extent at which research develops in Nigeria can be viewed from the point at private and development. It has been estimated that not more than 8 percent of the total being spent annually for all research in this country, or less than three-twentieth of 2 percent of Gross National Product goes into research development. Rather companies, industries and non-profit institutions prefer development to extensive research.

Research and development statistic of Nigeria shows that, in the main, government research and development spending is not related directly to economic growth, but rather contribution to industrial research policies. The total government contribution to industrial research and development obviously reflects its concern for research and development to be carried out in its

own establishment, or in universities or research association. In the federal government of Nigeria budget since few years ago, almost half of all Federal research and development expenditure were made by the department of Defense with the aim of providing new and improve weapons and techniques to promote the effectiveness of the armed forces.

Inter-industry comparisons of government supported industrial research and development show enormous variation. It is very high in certain industries and very low in others. The money that the government contributes to each industry research and development expenditure of any industry depend on the importance percent of that product industry and this can be called research intensity.

It is interesting how so much creative individual talents has been channeled into the invention of physical designs and chemical composition, there are some stories concerning this point in Nigeria, but because the level of support of this talents by the government and industries is woefully low, this talent are exported to another country or buried.

The Usefulness of Research to Individual Organisation and the Society

According to Professor A.A. Aderinto (2000) the basic role of research to individual, organization and the society are as follows:

1. to establish a fundamental truth about a thing or people or event.
2. to provide a tentative proposition about an event.
3. to substantiate or confirm the truth of a proposition or position that has been made before – a replication of a position.
4. research provides decision makers in the organization with relevant and useful pieces of information with which to make timely decisions.

The Relationship Between Research and Implementation of Research Findings

According to Professor O. Effiong (2001) low or non-implementation of research findings is one of the reasons for poor state of research in Nigeria. He equally pointed out that delay in report publications could affect the implementation of research findings as individuals may assume that the report has been tampered with. However, the ability to implement research findings in a function of human understanding of the importance of research to the environmental variable that influences decision making.

The levels of risk associated with decision making in an organization would also determine to an extent the research awareness and implementation of research finding in that organization.

The Role of Government in Research & Development in Nigeria

The Federal Government of Nigeria has in the past established research institutes such as federal office of statistics, National population commission and National Veterinary Institute, Vom. So as to encourage research activities in Nigeria. However, the government efforts has met with brick walls in the administrative running of the established research institutes in some areas such:

1. inability to provide relevant modern research equipment.
2. inadequate remuneration of research workers to motivate them.

3. inadequate funding from both the government and private corporations.
4. lack of provision of data bank, whose the statutory role is to store available research works done in the country.

Methodology

Descriptive method was adopted for the study. The research area was Kaduna which is one of the northern State in Nigeria. The population of the study comprised all the staffs in United Nigeria Textile Plc. The researcher adopted primary method (open and closed ended, and oral interviews), and secondary method (textbooks, lecture notes and past research projects) of data collection. To this end, the total of 20 respondent was used as sample for the study. The instrument used in this study was questionnaire and personal interview. The reliability coefficient obtained was 0.84 and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as the use of tables, percentage computations, and narrative notes. The test for significance was done at 0.05 alpha levels.

Research Question One

“Is good and well conducted research activity important in achieving higher productivity?” from the table below, 100% of the respondents believe that good and well conducted research activity is important in achieving higher productivity.

Table 1

VARIABLES	RESPONSE	PERCENTAGE
Yes	16	100%
No	-	-
Total	16	100%

Decision

Since all the respondents agreed to the fact that good and well conducted research activity is important in achieving higher productivity, research question 1 is proved right and accepted accordingly.

Research Question Two

Is production efficiency acquired through the good mechanization system?

Table 2

VARIABLES	RESPONSE	PERCENTAGE
Very good	5	31%
Good	11	69%
Total	16	100%

It was found out that production efficiency is through the acquisition of good mechanization system. See table 2, where 31% of the respondents agreed that the management performance of United Nigeria Textile Plc Kaduna to technological changes in its environment is very good, and 69% believe it is goods. It could be said that this is as a result of the production efficiency through mechanization system.

Decision

From the above, based on the findings and analysis, research question has therefore been approved right and accepted on the fact that production efficiency is through the mechanization system.

Conclusions

From the data collected and analysed on research and industrial development the conclusion was made, that a good and well conducted research is important in achieving higher productivity. Also that goods mechanization of production system in industry reduces time and material wastages and inefficiency.

Recommendations

Based on the findings of this research the following recommendations are advanced to the manufacturing organisations and any other persons or organisations interested in improving its research and development programmes.

1. There should be full time manpower training programmes.
2. The government should be encouraged to establish more research institutions and possibly provide guidelines on the minimum level of research and development programmes to be conducted in every industry.
3. Personal initiative should be encouraged couple with reward for innovative activity.

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