

The Relevance of Programme Evaluation and Review Technique (PERT) Network and Management by Objectives (MBO) towards Organization Efficiency at the Export Processing Zone, Calabar Cross River State

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Abstract

The reality that the Nigeria Government has judiciously invested over three billion naira towards the improvement of the Export Processing Zone (EPZ) in Cross River State is a significant demonstration of the degree of productivity which is expected from the EPZ operations there. This is the time for all Local Government administrators in Cross River State to adopt the information management styles relevant to export products specification, assessment, and Evaluation and transportation modalities to help process goods to the required destinations of the EPZ. The Local Government officials must open EPZ offices in their areas and establish viable links between those offices and the main EPZ office at the State Capital. Management by Objectives (MBO) has been applied to indicate how the EPZ can succeed if the MBO is practiced. Also, Programme Evaluation and Review Technique (PERT) network can be used to enhance EPZ activities as specified projects can be broken down into identifiable activities, where it can be calculated mathematically to know which activities could be done within specified time frames. When, for instance, Government agents give the dates when some specific commodities are to be assembled for them at the State Capital, the Local Government administrators become mandated to work with the local producers to ensure that specific projects are commenced at appropriate times, since PERT analysis of time durations for accomplishing the activities in the plans can be measured mathematically and evaluated to know which pathway is the most appropriate to follow.

Index terms— products specification, assessment, and Evaluation and transportation modalities to help process goods to the required destinations.

1 Introduction

or any enterprise to prosper, a high degree of organizational efficiency must be maintained. Being prosperous in this context implies that the objectives for which the enterprise was set up are being realized. Such prosperity can only be attained through some well structured and properly programmed system of management of information and material resources.

In the context of this paper, 'efficiency' refers to the positive, favourable, significant relationship between inputs into a system and the outputs from the system. For instance, in any given organizational situation, it is Author: Department of Business Administration, Federal University Wukari, Taraba State Nigeria. e-mail: orokbonifacearrey@yahoo.com necessary to define the objectives one intends to attain and the specific outputs

1 INTRODUCTION

expected from the activity. It is usually said that an enterprise is efficient if it produces maximum output with a commensurate quantity of input; that is, when a given quantity of input produces the highest possible amount of output. Efficiency in information and resources management is, therefore, measured by the degree to which the resulting output of goods and services approximates or exceeds the value of information input fed into the system. This is the concept of maximum output from minimum input.

Under the prevailing atmosphere of crisis and depression in world economy in general, and Nigeria in particular, in the previous millennium, the economic survival of the nation has become a challenge to our business and chief executives both in the public and private sectors. So for contemporary Local Government Administrators to rise up to the challenges posed by the prevailing economic situation; they must of necessity, have a firm grip and an up-to-date knowledge of what information management is all about; the modern management techniques, and the essential ingredients for their use to achieve predetermined results. Over the years, there had been a lot of controversy over both theories and techniques of management. But in times however, there has been the encouraging recognition of the fact that no one theory or technique is applicable in all circumstances. Luther Gulick in the 1930's adopted the approach of breaking down management job into components. He coined the acronym POSDCORB from the initial letters of the seven management functions of planning, organizing, staffing, directing, coordinating, reporting, and budgeting. (The extra 'O' was added in order to make the acronym pronounceable) (Dale 1981:4). We shall not bother to go into details of what each of the management functions involves. This is implicit in the words themselves; as they are selfexplanatory.

A Local Government Administrator that wants to achieve a high degree of management efficiency in his jurisdiction must efficiently perform all the seven management functions. Management of information is garnered through these seven avenues following a wellset organizational plan, established to bring about predetermined outputs. But the extent to which every administrator performs each of the functions varies from situation to situation, since the local governments have little information apparatuses for effective information management. Also the degree of success of the administrators will depend on business climate, the circumstances in which individual administrators find themselves, and the degree of urgency involved in supplying the information at the required time. This point is very crucial because of the high level of poverty of the people at the local areas: this poverty manifesting itself in the inability to afford the radio and television, efficient means of transport. The result is ignorance of what happens beyond people's door step, culminating in the obliteration of information concerning the particular area of the economic activity such as the Export Processing Zone (EPZ).

The EPZ is an enterprising economic development. The fact that the Nigeria Federal Government has judiciously invested over two billion naira towards the improvement of the Export Processing Zone in the Cross River State is a significant demonstration of the degree of productivity expected from EPZ operations. One wonders whether the Cross River State Local Government Administrators realize the significant role which this project places on them, since most of the exports accepted for processing should come from their areas of operation. To what extent are they prepared for this activity? It must be made abundantly clear that at this instance if the administrators do not perform well, they will be selling their regal first position for a pint of porridge as the Biblical Esau did to his younger brother, Jacob. That means if the local government administrators do not measure up in their preparedness towards supplying required export commodities for processing, other states of the Federation will take over this position. This is true because as soon as the machinery is set for the operations to commence, the Federal Government agents leading the EPZ.

It must be stressed that poor information flow in the Local Government Areas creates misconception which gives rise to negative attitudes. This is the time for all j Local Government Administrators in Cross River State to adopt the management styles of information relevant to export products specification, assessment, evaluation; and transportation modalities to help process goods to required destinations of the EPZ. The Local Government Administrators must open EPZ offices in their areas and establish a viable link between those offices and the main EPZ office at the State; Capital Such local EPZ offices serve to disseminate information to the local commodity producers who must have supervisor's to check for quality specification, assess and evaluate for onward transmission to the State Capital.

In order to protect quality, the Local Government Administrators must allow; the production and processing of commodities designed for the EPZ to be the individual; concerns of the producers. If this happens, they should know what they are handing; over the responsibility of their state to other states. Planning for efficient processing at the Local Government level must start now by improving the current information of systems in the areas. The primary information system is the road. The administrators must ensure that the roads are improved into the hinier-land to enable information; Bearers and the produce transporters easy passage. The mail systems must be reactivated; where telecommunications network had existed, such could be reactivated, and where possible, new ones installed. It must be made clear that advent; of the EPZ is meant to usher in improved systems of communication and commodity production in all facets of our endeavours. The Cross River State must see this as a great step towards its advancement into a more developed community.

There are various management and planning techniques currently in use. But in application, different organizations adopt different management and planning techniques to suit the needs of their establishments. According to a Committee on Administrative Practices of the International Labour Organization (ILO:1970), there are many different techniques of management, which can be categorized into three major headings as follows:

? Budgetary Programming Techniques made of:
 Cost-benefits analysis, value analysis, budgetary control.
 ? Quantitative Management Techniques include: M.B.O project evaluation, Program Evaluation and Review Technique (PERT).
 ? Financial Planning which include: Developmentbudget, non-development budget: Planning, Programming and Budgeting Systems (PPBS).
 We shall examine more closely some of these management techniques:
 ? Personnel planning and Management by the use of Management by objectives (MBO);
 ? Programme Planning by the use of Programmes Evaluation and Review Technique (PERT);

2 II.

Personnel Planning and Management by Objectives (mbo) Management by Objectives may be simply defined as a process whereby both the superior and subordinate workers in an organization jointly make work, plans by identifying Common goals and defining

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A each individual's major areas of responsibility in terms of the results expected of the enterprises. According to ??avis (1971; ??05-355), MBO seeks to integrate the organizations' needs for growth, fulfillment of its objectives and client's expectations with the individual manager's need to contribute to the organization and to develop and satisfy himself in the process. To this end, MBO makes the organization define its objectives at various levels and assists the manager to define his own key expected results within the total framework. The manager goes on to specify particular standards of performances including the conditions which exist when the result is achieved satisfactorily. At regular intervals, staff reviews are made, involving both superior and subordinate, to encourage a recycling of goal setting and activity behaviour patterns.

In applying the MBO concept in the context of the EPZ project, the Local Government Administrator is the manager, while the various producers of the required commodities in the Local Government Areas are the subordinates, and the particular products required for onward transmission to the EPZ center at State Capital is the Objective. The administrator gets information as to the specifications and quantities of particular commodities required from the EPZ center at the State Capital and disseminates this information at the Local Government EPZ office to the local producers of the commodities. Strict guidelines as to quality and time of assembly of such commodities must be clearly made to the producers. The administrators must recognize the fact that the producers have their own financial expectations from their work. Therefore, there must be co-operation and agreement all the time before the administrator can expect the commodities to be assembled on schedule. That is to say that where the objectives of the administrator and those of the producers are met is the only condition for the programme to work efficiently.

That is why it is necessary to have regular staff reviews where suggestions can be made to take care of any existing bottle-necks either in the administrator's work or in the producer's activity. The earliest exponent of management by objectives was Drucker ??1954). His aim was to emphasize the advantages of managing by objectives rather than by unspecified outcomes. He further argues that under MBO, each manger from the highest to the lowest levels of organization should have clearly defined objectives which reflect and support the objectives of higher level management. Under this arrangement, MBO insists on an organization defining its objectives at various levels and assists each manager to define his own key results and areas of effectiveness in the organization ??Drucker, 1954).

Studies so far carried out tend to suggest that the application of MBO to modem management has the following advantages:

? It makes for corporate strategies for the organization and ensures participation and contribution of every member of the enterprise to the management, planning decision-making, implementation, and operational evaluation.

? MBO makes for predictability of progress and problems of the organization in relation to the predetermined goals.

? The technique promotes the proper processing of relevant information, communication, accountably and reporting in an organization.

? MBO encourages self-development through individual staff identification of personal and organizational needs, promotes the development of relevant skills and enhances resources allocation and use.

All the points taken together show that MBO enables a high degree of organizational efficiency to be achieved by business leaders.

4 III.

5 Programmes Evaluation and

Review Technique (pert) In PERT network, a specified project is broken down into identifiable activities and events. A sequence of activities and events is made based on which a flow diagram is drawn. The performance of each phase of the work is assigned specific time durations based on three time specifications:

? The "pessimistic" time, i.e. the longest possible time it could take to accomplish the task if the condition is adverse. That is designated by the letter a.

? The "optimistic" time, i.e. the shortest possible time it could take to accomplish the task if the condition is excellent. That is designated by the letter b

? The "most likely" time, i.e. the length of time it will take to accomplish the task in normal conditions. That time specification is designated by the letter c. The expected time, t_c , for accomplishing the task is calculated out as: $t_c = \frac{a + 4m + b}{6}$

The answer is given in weeks and fractions of weeks.

The t_c is the basic unit from which other calculations can be made. Such include the total Expected Time (TE); the Latest Expected Time (TL). When time specifications are given in a PERT network and a network diagram is provided, it is possible to calculate mathematically and arrive at the exact date to start a project which is to be completed at a required date in future. Also, when a PERT network diagram with different (up to six) pathways are given, it is possible to calculate mathematically and know which pathway is the most economical and fast in accomplishing, the set task at the exact date in future.

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This is the type of information processing which the present administrators of the Local Government Areas of Cross River State need to utilize in preparing for the EPZ enterprise. Management of time to keep dates is of vital importance in the success of any enterprise. When the Government Agents of the EPZ give the dates when some specific commodities are to be assembled for them at the State Capital, it believes the Local Government administrators to get into working with the local producers to ensure that projects which will result in the production of such commodities are commenced at appropriate times. Also embedded in PERT Network Analysis are the concepts of the Critical Path and Slack Time. In the critical path, any deviation will result in a delay in the overall completion date Whereas a pathway which indicates slack times shows that if such pathways are used, no delay (of course of a stated duration of time) will cause a delay in the overall completion of the project. The PERT Network is thus an excellent device for the Local Government Administrator who wants to be successful in keeping pace with the growth of the EPZ in Cross River State. Details of how these techniques are applied can be worked out with the author of this paper.

The application of the PERT Network analysis to an organizational management has the following advantages.
? Network analysis identifies the sequence and relationship of all significant events and activities in the planning of the objectives of the enterprise;

? Time durations for accomplishing all activities in the plans are measured and evaluated to know which pathway is the most appropriate to follow. ? The critical path can thus be calculated and carefully watched and appropriately responded to since any deviation on this path will cause a change in production date. ? Slack areas are shown where some delay will not prevent the meeting of objectives times. ? The probability of meeting scheduled events is open to the administrator. ? It enhances interrelationship, sequence and occurrence in the execution of a project which needs specified time durations to accomplish. Nwankwo (1918) confirmed that PERT is very useful in analyzing and controlling complex programmes and in distilling a large amount of data into flow diagrams of events and activities which help the decision-maker in arriving at satisfactory decisions. Again, all the above advantages taken together make for enhanced organizational efficiency and greater productivity.

IV.

8 Conclusion

In an austere period such as Nigeria is now passing through it becomes a compelling duty for the Local Government Administrators in particular to ensure greater efficiency in all operations in their Local Government Areas, in preparation for the EPZ project. One way of doing this is to adopt and use some appropriate management and planning techniques for the attainment of the objectives of the Local Government Area.

In doing this, the starting point is the drawing up of a functional plan, comprehensive programme for action, and the adoption of affective monitoring and supervisory mechanism for the operation of the enterprise. Planning here refers to deciding in advance what the administrator wants to accomplish, (based on the requirements of EPZ government functionaries), and setting short and long-range goals for the state. In this direction, there is need to forecast as much as possible concerning the economic, social and political environment of the state, and the available resources human, financial, equipment, facilities, etc. of the state. It will be wrong to hand over the

processing of commodities meant for the EPZ by individual producers without proper assistance and supervision before such producers reach the EPZ depot at the State Capital.

Thus among the important facts in the management of information and plan implementations are the state of the environment and the resources available to the state. Also of equal importance is the quality of leadership ability which the Local Government Administrator brings to bear on plan implementation and operations in the area.

Such an administrator must not sit in the office and think about managing information received to achieve required objectives. Adequate information management implies putting such information into productive use, and this is done by the personnel which must be directed by the leader. As it had been indicated earlier, such directing is done through the planning and carrying out of plans which produce commodities required by the EPZ. Some of the essential ingredients for beneficial use of modern information management and planning techniques include the following:

? Through knowledge of various information management and planning techniques, theories and concepts, and the ability to make use of them in practical situations. ? Drawing up a good plan and programme of action for the Local Government Area and ensuring that its operations are effectively monitored and supervised, ? Being constantly aware of the fact that good plans could be marred by some interest obstacles to effective plan implementation; and guarding against this. ^{1 2 3}

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