

ZERO-BASED BUDGETING AS A MANAGEMENT TOOL FOR EFFECTIVE UNIVERSITY BUDGET IMPLEMENTATION IN UNIVERSITY OF CALABAR, NIGERIA

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ABSTRACT

The attempt to mitigate budget implementation problem in University of Calabar, Nigeria necessitated this study. Zero-based budgeting technique tends to drive administrators to identify mission, relate to overall goals and improve operation. Hence, the purpose of this study was to investigate the application of zero-based budgeting (ZBB) as a management tool for effective university budget implementation in University of Calabar, Nigeria. This survey inferential design study provided micro-policy management background on education in order to increase initiatives and responsibility among the university system. Two research questions and one hypothesis were formulated to guide the study while the related literatures were reviewed. Using a stratified random sampling technique, 250 members of senior staff was drawn from the staff population. Further breakdown of the sample comprised of 120 academic staff and 130 non-academic staff of the university proportionately. A researcher constructed instrument was used to collect information from the respondents. Data was statistically analyzed using mean and independent t-test statistics. Results revealed that the application of ZBB for university budget implementation was effective, some factors inhibited the application of ZBB while the application of ZBB was dependent on university senior staff for university budget implementation. It was recommended among others that university management should ensure timely release of funds an efficient management accounting system for improved budget implementation in the university.

Keywords: Implementation, budget, management, university, zero-based budgeting.

Introduction

Educational institutions set targets on their programmes and courses of study through proper budgeting. It is a process which plans of institutions are translated into itemized, authorized and systematic plan of operation expressed in monetary terms for a given period (usually one fiscal year). According to Kuye (2010), such operational plan can only be effectively implemented with availability of funds, judiciously applied and accounted for. Hence, the university budget serves as a formal sub-system of financial administration for effective management of operation. Zero-based budgeting (ZBB) seems to become outstanding as a management tool in the realization of the educational objectives devoid of delay crises in budget implementation. It is on this basis that the researcher examines the application of the ZBB as a working tool with significant opportunity to plan the mission, improve the operations and achieve objectives in University of Calabar, Nigeria.

The success of any budget depends on its implementation. There is no gainsaying that budget implementation is an indispensable factor that determines budget outcomes for the purpose of equitable resource allocation, improvement, quality control and accountability. Nigeria has been experiencing difficulties in budget implementation (Idio, 2011). Budget implementation in this study is the move to begin to apply budget as an operational plan. This means that the delay in putting into use a university budget to guide activities can create crises such as uncertainty on the direction of the management as well as the seriousness of the policymakers in moving the university forward economically. Other challenges may include poor attitude of administrators, misplacement of priorities, budget indiscipline and inadequacy of funds (Ekpo, 2012). University managers are to ensure timely implementation of university budget not only because of its financial outlays, but also the economic philosophy of the university system. It is important to consider effective fiscal co-ordination among the workforce participation for goal achievement.

Budgeting is a working tool for successful operation of an organization. It becomes imperative that university education which is administered by the society can achieve socio-economic growth and development enough of perpetuate its existence with the application of budgeting. According to Peretomode (1995), educational budgeting deals with how individual school plans to spend and how the expenditure is to be effected. It is said to be a management technique that translate educational needs into information plan with an estimates of receipts and expenditure necessary to finance it for a definite period of time. Therefore, a budget as a product of budgeting is the forecast by the organization of its revenue and expenditure for a specific period of time. Adesina (1981) define a school budget broadly as an outline of the plan for financing the school programme for a given period. Thus, the university budget cycle (formation, enactment, auditing and execution) makes it a key management tool for planning, control and executing educational finance of the university system.

Zero-Based Budget (ZBB) may be applied with a view to plan the mission, improve the operations and achieve the university education objectives. This is because this method of budgeting allows various levels of university administration to make better programme and financial decision. A university zero-based budget (revenue plans, expenditure plans and programme plans) embraces planning as the process of collecting information, setting objective and stressing effective use of alternative actions. It identifies and examines the different ways of performing activities refer to as implementation or executing. It also provides performance measurement standard which refers to as control. These administrative functions enhances relations with sub-systems and stakeholders towards successful university operation.

ZBB is a method of budgeting that requires management to take a fresh look at all activities and programmes each year rather than on last year's budget. It begins with the assumption that the university system starts out yearly with a clean slate. According to Hartman (2010), ZBB is an approach of planning and decision making which reverses the working process of traditional budgeting. Thus, each programme or

decision package has to be justified annually, relating all costs to system goals and objectives (on the basis of cost-benefit analysis) to avoid habitual spending. The implication for this is that, in ZBB every line item of the budget must be approved unlike traditional incremental budgeting which only the changes (variances versus past years) are approved. Also, ZBB forces comparison and choice among programme and activities which are often difficult to compare adequately (Idio, 2011). This makes ZBB more as an exercise than a practical reality when considering the complexity of the university programme and the fixed nature of costs across annual budgets.

Budget formulation, implementation, and reforms are interdependent as there are two sides of the same coin. This budget process involves an elaborate working out of all the estimate revenue and expenditure section by section and item by item in great details. This makes ZBB process inevitably a time consuming one. Essentials of such budget process which ensures budget credibility include top management support, clear and realistic goals, assignment of authority and responsibility, adaptation of accounting system, full participation, effective communication and flexibility (Ezeocha, 1990). Therefore, ZBB with its three basic features, must embrace these facts. The first feature is dividing the departments activities into division packages to provide information to management for comparing cost and benefits of each programmes and activities. The second one is ranking of the decision packages of order is decreasing importance in order to establish priorities for each programme and activities; and top management evaluation for final ranking. Finally, resources are allocated according to the top management's final ranking of programmes. High priority items will be made rather quickly, whereas closer scrutiny are given to the lower priority programmes and activities as a matter of decision rule. ZBB allocates resources in such a manner as to minimize friction, duplication and waste.

ZBB budget work in the implementation aims at achieving university accountability for policy commitment and expenditure to advocate for efficient and equitable use of resources. Three identifiable ways to attain this are through budget analysis, budget monitoring and budgeting tracking (Hartman, 2010). Budget analysis is understanding where income comes from how it is spent and what costs covered by the budget. Budget monitoring and evaluation is observing the process and activities involve in implementing the budget over a certain period of time. Budget tracking is following budget disbursement through the system down to the service provider. University managers are to be sensitive to budget work in practice to ensure the right to education.

Purpose of the Study

The purpose of this study was to investigate the extent of the application of Zero-Based Budgeting (ZBB) as a device for university budget implementation. Specifically, the objectives of the study were:

1. To determine the level of effectiveness in the application of ZBB for university budget implementation.
2. To find out the factors which inhibit effective ZBB application for university budget implementation
3. To ascertain the difference between academic and non-academic staff in the application of ZBB for university budget implementation.

Research Questions

1. What is the level of effectiveness in the application of ZBB for university budget implementation?
2. What factors inhibit effective ZBB for university budget implementation?

Hypothesis

There is no significant difference in the application of ZBB for university budget implementation between academic and non-academic senior staff in Unversirty of Calabar, Nigeria.

Methodology

This study adopted a descriptive survey research design. It took place at Calabar in Cross River State of Nigeria, one of the states in south-south geopolitical zone of the nation. It was a case study carried out in University of Calabar, Nigeria. A sample size of 250 members of senior staff was drawn from the staff population using stratified random sampling technique. The stratification was done along the academic and non-academic staff from which a simple random sampling method by ballotry was used to select 10 percent of the staff population. Further breakdown of the sample comprised of 120 academic staff and 130 non-academic staff of the university proportionately.

A researcher constructed instrument called “Zero-Based Budgeting for University Budget Implementation Questionnaire (ZBBFBIQ)” was used for data collection. The instrument has 20 items of Four-Point Likert scale as strongly agree (4 points), agree (3 points), strongly disagree (2 points) and disagree (1 point). It was designed for the university senior staff to find out relevant information about the application of Zero-Based Budgeting (ZBB) for solving the problem of University budget implementation in University of Calabar, Nigeria.

The instrument was face-validated by experts in educational management and one other experts in educational measurement and evaluation. The reliability of the instrument was ascertained using test-retest reliability method after serving in Cross River University of Technology, still in Calabar. The test-retest reliability co-efficient yielded 0.86 and the figure was considered adequate in achieving the research objectives.

The administration of the instrument was done by the researcher and his trained research assistance. The percentage response was 100 percent. Furthermore, the sampled members of senior staff were unstructurally interviewed on the possible factors that could inhibit effective application of ZBB for university budget implementation. The data collected was analyzed using statistical technique of mean rating and mean ranking on research questions while independent t-test analysis was used to test the hypothesis.

Data Analysis and Result

The information gathered from the members of senior staff of the university were subjected to descriptive statistics using tables, mean rating, mean ranking and independent t-test. The analysis were shown in tables 1, 2 and 3.

Research Question One

What is the level of effectiveness in the application of ZBB for university budget implementation? Mean was used to rate the effectiveness of the university senior staff on the application of ZBB for university senior staff on the application of ZBB for university budget implementation. Summaries of the results were presented on table 1.

Table 1 revealed that the senior staff rated the application of ZBB for university budget implementation as effective (mean significant at 2.50 and above) on the overall. Only two variables: adaptation of accounting system (mean = 2.18) and communication of plans (mean 2.29) were considered not effective. Therefore, most of the variables (eight variables) of the study disclosed that the ZBB method was effective while only two variables recorded not effective.

TABLE 1**Senior staff mean rating of effectiveness in the application of ZBB for university budget implementation**

N=200

| S/N | Variables | \bar{X} | SD | Decision |
|-----|--|-----------|------|---------------|
| 1 | Top management support | 3.37 | 0.55 | Effective |
| 2 | Clear and realistic goals | 3.33 | 0.51 | Effective |
| 3 | Assignment of authority and responsibility | 2.87 | 0.78 | Effective |
| 4 | Adaptation of accounting system | 2.18 | 0.89 | Not effective |
| 5 | Full participation | 3.34 | 0.53 | Effective |
| 6 | Communication of plans | 2.29 | 0.38 | Not effective |
| 7 | Flexibility of the budget | 3.29 | 0.51 | Effective |
| 8 | Adequacy of information in decision packages | 3.32 | 0.52 | Effective |
| 9 | Ranking of decision packages for priorities | 3.27 | 0.36 | Effective |
| 10 | Allocation of resources for priority items | 2.21 | 0.34 | Effective |

*mean significant at 2.50 and above

Research Question Two

What factors inhibit effective ZBB for university budget implementation? Mean was used to rank the response of the university senior staff. Summaries of the results were presented on table 2.

TABLE 2**Mean ranking of responses to inhibitions of ZBB for university budget implementation**

| Factors | \bar{X} | Rank order |
|--|-----------|-----------------|
| Time consuming budget process | 3.80 | 1 st |
| Large and over-whelming amount of information | 2.53 | 2 nd |
| Problematic in justifying items with intangible output | 2.16 | 3 nd |
| Increased complexity | 1.96 | 4 th |
| Specific training of staff | 1.71 | 5 th |
| Honesty of staff | 1.42 | 6 th |

N = 250 in all cases.

Table 2 revealed that outstanding reasons by the respondents on factors that inhibit effective application of ZBB for university budget implementation. This results were obtained from unstructured interview conducted by the researcher. The factors were in the order of time consuming budget process, large amount of information, problematic in justifying items with intangible output, increased complexity, specific training of staff and the honesty of members of staff.

Hypothesis

There is no significant difference in the application of ZBB for university budget implementation between academic and non-academic sessions staff in University of Calabar. The independent variable was the application of ZBB while the dependent variables was university budget implementation. The independent t-test statistical analysis was used to compare the mean (\bar{X}) scores of the two classes of university senior staff in the application of ZBB for university budget implementation. Summaries of their results were presented on table 3.

TABLE 3**Independent t-test analysis of the dependence on university senior staff application of ZBB for university budget implementation****N=250**

| Variable | Classification | N | \bar{X} | SD | t-value |
|----------------------|---------------------------|-----|-----------|------|---------|
| Zero-based budgeting | Academic senior staff | 120 | 8.85 | 2.32 | |
| | Non-academic senior staff | 130 | 11.03 | 2.75 | 6.431* |
| | Total sample | 250 | 22.62 | 4.36 | |

* $P < 0.05$, $df = 248$; critical t-value = 1.968

The result of the analysis in table 3 indicated that the calculated t-value of 6.431 in the application of ZBB for university budget implementation. The critical t-value was 1.968 at 0.05 alpha level of significance and with 248 degree of freedom. The calculated t-value were found to be greater than the critical t-value. The interpretation was that the null hypothesis was rejected while the alternate hypothesis was retained. Therefore, the application of the ZBB for university budget implementation is significantly dependent on the senior staff.

Further examination of the results in table showed that non-academic senior staff had higher mean value (11.03) their academic senior staff counterpart (8.85) in their than of ZBB for university budget implementation. This implies that the non-academic senior staff had better understanding in the application of ZBB for university budget implementation than their academic senior staff counterparts.

Discussion of Results

The results of the analysis revealed that the application of ZBB doe university budget im0plementation was effective. This was explained by the fact that eight out of the ten variables were assessed effective while only two were ineffective. By implication, the numbers of staff in the university were well exposed to ZBB practice, and as such they have high perception about what it involves.

The reason for this findings bordered on the fact that the university budget a plan for co-operation developed from bottom (lowest management) up rather than top (senior management) down. Therefore, the budget was not imposed from above without further amendment (Hartman, 2010). Moreso, the budget was treated with flexibility (no rigid standards), realistic (ideal assessment of future results) and it provided useful control information especially where unexpected variance occupied. This articulation was in consonance with Idio (2011) who viewed effective application of ZBB of as that which devoid of staff aggression in forecast and standards since there were not imposed on them without consultation. Ideally the decision to use ZBB ensured budget in the link between subsidiary budgets and their total relationship with master budget.

The result of research question two showed that they were factors which hindered the application of ZBB for university budget implementation. The unduly detailed budget in ZBB seemed to be more expensive than savings consequent upon control. This accounted for complexity and justification with intangible output as ZBB process forced the justification of every detailed relating to expenditure.

However, an increase in cost beyond the standard and could be justified if advantage was to be taken of a favourable market which will allow for more gain in educational development. This findings was noted in Ezeocha (1990) that ZBB suffered from viability of cost figures. Therefore with the large and overwhelming amount of information, cost figure agreed for one university budget may be automatically repeated for a subsequent period although, costs could possibly be reduced.

It became clear that decision units and decision packages were difficult to define as it was time consuming and exhaustive. Training of members of staff was necessary for proper understanding and the need for honesty. Possible reason for this was that as more staff were involved at various levels of implementation, the administration and communication of budgeting became more difficult. Moreso, the honesty of the senior staff must be reliable and uniform since any exaggeration could skew the results (Kuye, 2010 & Ekanem, 2011).

Results of the hypothesis showed that ZBB as a management tool for effective university budget implementation was significantly dependent on senior staff. In other words, the senior academic and senior non-academic staff of the University of Calabar differ significantly in the application of ZBB. By implication, the administrators and planners in the university made use of ZBB as a short-term measure to deal with monetary and outlined activities of the university. They apply simple rules, standardized certain procedure, ensure personal flexibility and tailored their approach towards the university needs.

The expenditure plan (cost of programme/activities) and the financial plan (allowances of incomes) were effectively communicated by the management while listening to the problems that others foresaw as the true test of a university dedication to objectives. It became necessary for the planners to state in clear terms the problems faced in producing funds for financing the university system. Also, Adesina, (1981) opined that the expenditure plan must not be a rigid document, rather it must be recognized and pervading salary schedules, cost of equipment, teaching and learning materials, books and other supplies; widely accepted. The fact that ZBB re-evaluated and critically examined all programmes/activities for each budgeting cycle by analyzing efficiency measures increased staff motivation by providing greater initiative and responsibility in decision. The senior staff were driven to find cost effective ways to improve operations while allocation of resources were on the basis of needs and benefits.

The ZBB helped the non-academic staff more than the academic staff to pin-point their responsibilities and improved their understanding of university objectives. This finding was not surprising because ZBB as a planning technique emphasized on identification of tasks and then funding resources to complete the task independent of current resourcing. Therefore, it became more useful to service departments where the output was difficult to identify. ZBB identified opportunities for outsourcing, eliminated wasteful and obsolete operations while detecting inflated budget. A plausible explanation for this finding was that the budget implementation was what informed educational reforms within the system (Idio, 2011 & Babalola, 2013) each functional area (budget centre) with its own target, enable group, personal responsibility, and management by exception to be established.

Conclusion

This study has been able to establish that zero-based budgeting was credible and rewarding to the university budget implementation in University of Calabar. The application of ZBB for university budget implementation was effective and also significant dependent on the university senior staff. Factor such as large amount of information, time consuming budget process and staff training among others inhibited ZBB for university budget implementation. ZBB involved building a budget from the ground up, while tackling these challenges. The delay in implementing university budget could raise uncertainty about the direction of the university growth as well as seriousness of policymakers on how best to move the university forward. Release of fund, monitoring and control of revenue/expenditure, cash/debt management and in-year financial reporting are some of the implementation system of the management, and are interdependent with budget formation and budget reforms processes. Therefore, the administrators in each of the cost centers were to identify their mission and relationship to the overall goals of the university.

Recommendations

1. Zero-based budgeting should be encouraged as a good means of budget implementation in universities. It can precisely define the university management and promote budget reforms with the capacity to plan execute and control operations.
2. University management should ensure timely release of funds and efficient management accounting system. This confirms the relevance of technical function of budget in authority expenditure as the basis of accounting control for budget execution.
3. University management should create awareness of team work by the administrators in budget formation, implementation and reforms. This will prevent ill-feelings of aggressiveness towards forecasts and standards imposed on them without consultation for efficient allocation of resources.
4. University policy planners should increase advocacy for honesty and integrity among university staff. This gives credibility to the university budget formation since unreliable budget information in the decision packages can skew budget results for accountability.
5. Members of staff of universities should be trained periodically on zero-based budgeting and budget work in universities. This will enable them acquire relevance experience and knowledge for effective functioning. Lack of political power among the lower management workforce can result in poor funding at the detriment of intended beneficiaries and university goals within the budget period.

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