

Comparative Analysis of Zero-Based Budgeting and Incremental Budgeting Techniques of Government Performance in Nigeria

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Abstract:-The study revolves on the comparative analysis of zero-based budgeting and incremental budgeting techniques of government performance in Nigeria. The incremental budgeting applications in Nigeria have witnessed several frivolous expenditures in the budget that does not stand any reasoning or logic. The arrays of unjustifiable expenses on the incremental budgeting are quite devastating, zero-based budgeting is also costly. The study evaluated if there is a significant difference between the applications of zero-based budgeting and incremental budgeting techniques of time consumed, allocation of resources among others. The study was conducted within the budget units of selected federal government's Ministries, Department and Agencies (MDGs) in Cross River and Akwa-Ibom States. The MDGs chosen include University of Calabar, and its teaching hospital; the University of Uyo and its teaching hospital; Federal Airport Authority of Nigeria in Calabar, Federal Metrological Agency, Uyo. A sample size of 239 staff members was used. Two hypotheses were tested using the analysis of variance and the independent t-test and it was discovered that there is a significant difference between them except of the innovative means of reducing cost that is associated with the budget; whereas, there is no significant differences between Zero-based and incremental budgeting technique government performances. It was therefore recommended that budgeting staff should be adequately trained in order to save time and cost in the future budgetary process. Cost incurred on the zero-based techniques should be curtailed and reduced to barest minimal and possibly used for economic development rather than for budget procedure.

Keywords: Zero-based budgeting, incremental budgeting, time consumed, allocation of resources, ease of preparation, innovation

I. INTRODUCTION

The reliance of government performance on budgeting techniques in Nigeria, just like any other country in the world has continued unabatedly. As a planning document, a budget enables businesses, governments, private organizations, and households to set priorities and monitor progress toward selected goals.

A budget is generally used as a tool to formulate intelligent decisions on the management and growth of any organization. Dandago and Tijjani (2005) also added that the

budget is usually quantified in monetary terms, prepared and approved prior to a defined period of time, showing planned incomes, expenditure and capital required for the attainment of a specific objective. Additionally, the most complicated type of budget is a government budget, which is a plan for the collection and expenditure of monies needed to carry out the social, military and economic policies of an administration (Fisher, 2008).

However, there exist plethora of budgeting techniques and their unique features on government performance have attracted fierce and counter-contributions on their applications. According to Adams (2009), the various budgeting techniques include: Zero-based budgeting; incremental budgeting; continuous budgeting; and planning, programme and budgeting systems and among others etc.

Zero-based budgeting (ZBB) is a budgeting process that allocates funding based on program efficiency and necessity rather than budget history. It set the tone to review every program and expenditure at the beginning of each budget cycle and must justify each line item in order to receive funding (Deloitte, 2015). ZBB always begins the new budget from an established point of zero. Instead of starting off with last period's budget and adding or subtracting from it, you begin with zero, and then go through every expense that government will incur during the course of its activities. This budgeting method utilizes much more detail and makes MDAs accountable for their revenue and expenditure.

Incremental budgeting on the other hand begins with the budget from the last period. Once there is an established starting point, if a department needs more money than the previous budget, they have to be able to justify the extra expenses. Also, if you do not use your budget, then the next period's budget will be reduced. The budgetary performance of government rest on the base for budgeting, time consumed in the preparation of the budget, allocation of resources, ease of preparation, innovation and training need of budgeting process.

Recently, in 2016 the Federal Government of Nigeria changed from the incremental budgeting to ZBB technique, even when

it means that the latter is time consuming because it was prepared from the scratch and requires deep analysis, complex calculations, special skills and knowledge to prepare, all of which is also costly to the government. In comparison, the incremental budgeting applications in Nigeria have witnessed several frivolous expenditure in the budget that does not stand any reasoning and logic such as the 732 million naira that was budgeted for food in the presidency; and over 826 million Naira for rehabilitation of villa facilities; over 27 million Naira daily for newspapers for federal government offices. The arrays of unjustifiable expenses on the incremental budgeting are quite devastating as presumed from relevant quarters (Iloani, 2015).

ZBB is especially adapted to discretionary cost areas in which service and support are the primary outputs. It is this characteristic that has attracted the interest of government officials, as most expenditures of government can be classified as discretionary in nature.

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 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 programmes of most MDGs like the universities & teaching hospitals and the fixed nature of costs across annual budgets.

Objectives of the study

- To evaluate if there is a significant difference between the applications of Zero-based budgeting and incremental budgeting techniques of time consumed, allocation of resources, ease of preparation, innovation and the training need on the budgeting process of the federal government of Nigeria.
- To examine if there is a significant difference of government performance in the pre and post zero-based budgeting techniques implementations in Nigeria.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Budgeting plays a predominant role in the actualization of government businesses. This is because it is a frame-work that

is used to provide requisite guidelines to arrive at a predetermined goal. Budget also represents a plan, communication and control tools by ensuring that adequate answers are provided for questions of what, when and how a goal is to be achieved. As such, it specifies how resources, especially time or money, will be allocated or spent during a particular period or fiscal year. In a similar vein, budget is a forecast, standard, or even prediction depending on the nature of the organization (Abdullahi, 2011).

According to Shim (2005: 23) "budget could therefore be summarized as conscious and objective financial and related non-financial plans and guidelines of an organization to achieve a specified level of policy instrument for organizing and articulating governmental goals and objectives often expressed in terms of programmes and projects usually accompanied by a financial plan and the instruments for not only attaining pre-determined goals but also for imposing checks and balances on the relationship between government and the governed". However, budget has distinct techniques and of relevant importance to this article are zero-based budgeting techniques and incremental budgeting techniques being the two predominantly used techniques in Nigeria.

Incremental Budgeting System and Performance

Before any annual budget in a government could be contemplated or prepared, a base of such budget must be established from where the process will commence. With the base, common starting point for the preparation of the coming year budget is the current year's budget, incorporating the current level of operating activity and current budgeted allowances for current activities. These are then adjusted for expected changes that may likely occur during the next year. This approach is referred to as incremental or traditional budgeting. This is because the budget processes is concern mainly with the increment (and hardly decreases) in operations or expenditure which would take place during the next budget year (Watoseniya, 1999).

Abdullahi (2011) sees incremental budgeting system as a budget prepared using a previous period's budget or actual performance as a basis with incremental amounts added for the new budget period. The system is only seen as a tradition, no more. He added that Incremental budgeting always begins with the budget from the last period. Once there is an established starting point, if a department needs more money than the previous budget, they have to be able to justify the extra expenses. Also, if you do not use your budget, then the next period's budget will be reduced. This type of budgeting often leads to wasteful spending by employees because they do not want to lose their budget.

Abdullahi (2007) confirms that the incremental budgeting approach is used extensively in government parastatals because of its simplicity. However, he criticizes the system as having a problem of not being efficiency based and seems to transfer the problem of the previous financial year into the next because of the use of the same parameters on yearly

basis. In line with this problem, Abdullahi (2011) also states that the approach fails to take into account changing circumstances, and encourages spending up to the budget to ensure a reasonable allocation in the next period. Dandago and Tijjani (2005) and ICAN, (2006) also state that the budgeting system lacks budget expertise, no evaluation of alternatives, flexible budgeting is ignored and that future cost implication is equally ignored. All these definitions and views failed to address issue on the budget performance with which to measure the level of implementation.

Performance in budget is not as simple as it sounds because people often mean different things when they talk about performance generally. Hunger and Wheelan (1997) define performance as the end result of activity and the appropriate measure selected to assess corporate performance is considered to depend on the type of organization to be evaluated and the objectives to be achieved through that evaluation. Authors like Walden (2007); Ellis-Christensen (2010) and Beredugo, Igbeng and Eze (2013) believe that Performance measurement include: i) the use of statistical evidence to determine progress toward specific defined organizational objectives and (ii) the process of developing measurable indicators that can be systematically tracked to assess progress made in achieving predetermined goals and using such indicators to assess progress in achieving these goals. Performance measurement in budget could therefore be described as the process whereby a focused organization establishes parameters within which budgeted goals and objectives are compared through resource inputs and control with a view to achieving them and improving future objectives.

Stakeholders expect the accruing revenue to expend properly and pragmatically, in a well-thought manner as well as in line with the ideals of strategic management (Igbeng, Beredugo & Adu, 2015).

Performance measurement indicator in this type of study will involve comparing of approved budget with the achievements for any variation that may occur. However, the more attractive area in any budget implementation and performance is expenditure and its control. Expenditure is said to be controllable if the management has discretion in choosing to incur it or can significantly influence its amount within a given, usually short period of time (Cokins & Lin, 2005). The purpose of expenditure control is to maintain a cost of a product or service to within a realistic standard. Expenditure control involves all methodologies of controlling costs for efficient utilization of resources to achieve the objective of an organization. It therefore becomes a process and any devising techniques that will continually guide and monitor expenditure that could give rise to immediate control action by management for effective measurement and corrections.

For expenditure control and measure for budget performance evaluation, standard costing and variance analysis are exceptionally important tools because they reveal and play

essential role in the financial analysis and decision making by the management of an organization, government or private sector. When implementable standards are put in place, taking into consideration wastage and other losses, and the actual performance deviates positively or negatively from the predetermined level of performance, then there will be a question of why budget or expenditure variance (ICAN, 2006). The basic concept of variance is simply the difference between actual costs incurred/revenue generated and standard or budgeted costs/revenue applied to an activity or service process in a period. What will the management do if variance has been established? First, the management should recognize that the variances are only a starting point, a clue for investigation and secondly, from the view point of control. These variances should be measured as soon as possible. The longer the delay, the staler would be the data and the fewer the opportunities for corrections (Horgren, Datar, Foster, Rajan & Ittner, 2008).

Zero-based budgeting and performance

Zero-based budgeting is a method of budgeting in which all expenses must be justified for each new period. *Zero-based budgeting* starts from a 'zero base' and every function within an organisation are analysed for its needs and costs. Meaning that all project of the Ministries, Department and Agencies (MDAs) will be treated as 'new' and as such each project will have to put forth reasons to buttress its importance before it is funded. This is because any organization without goal, performance or production would lack directions, problems are unforeseen, and therefore result will be hard to interpret (Horgren, et. al., 2008). Planning involves objective and result oriented thinking well ahead, taken into consideration known and unknown variable factors. Budget is therefore a formal expression of an organizational plan. As such, the milestones for gauging their progress via budgeting are spelt out; that is the financial and business plans are integrated as a basis for allocating resources and setting priorities (Effiong & Beredugo, 2015).

Apart from improved cost control and better allocation of resources, Zero Based Budgeting has the following important advantages: (1) It gives insight to management in proving answers to the following question: 'what do our overhead department produce? What should we produce, and at what cost?' (2) It leads unavoidably to the question such as 'what is our strategy, and what do we want to achieve?' (3) It assists all the company's managers to think clearly about purpose of their work and their interdependence with other departments. As such the resulting budget is well justified and aligned to strategy, supports cost reduction and improves operational efficiency (Deloitte, 2015), and also ensure adequate public accountability (Igbeng, Beredugo & Adu, 2015).

Differences between Zero-based budgeting and Incremental budgeting

Zero-based budgeting and incremental budgeting are the two most commonly used methods of budgeting that have been

implemented by the Nigerian government. Both methods are unique and are different from each other in many ways. Zero-based budgeting is a technique where current year's budget is prepared from the scratch taking the base as zero, whereas incremental budgeting technique is prepared making changes in the past year's budget. The changes are in the form of addition or reduction of expenses to last year's budget (Abdullahi, 2011).

The differences between both techniques based on the allocation of resources also shows that zero-based budgeting particular allocated more resources to the most critical and essential activities or unit that is most beneficial to government. In other words, allocations are prioritized, whereas, incremental budgeting does not give priority to any aspect but simply adjust the preceding year's budget (Adams, 2009).

The risk rewards of budgeting are adequately evaluated together with the elimination of wasteful expense that is often associated with incremental budgeting. In zero-based budgeting all inefficient application of funds is adequately curtailed. The social use of fund and the inculcation of creative means of reduces cost are imbedded in the zero-based budgeting which cannot be found in incremental budgeting. Conversely, in terms of budget timing, it takes more time to arrive at a zero based budget, unlike incremental budget that requires little time and cost in arriving at a valid budget for a fiscal year.

Hypothesis one

III. RESEARCH METHODOLOGY

The study adopts the survey research design. This approach enables the researcher to elicit information via the research questionnaire on respondents' inclination on both zero-based and incremental budgeting. It was conducted within the budget units of selected federal government's Ministries, Department and Agencies (MDGs) in Cross River and Akwa-Ibom States. The MDGs chosen include:the University of Calabar, and its teaching hospital; the University of Uyo and its teaching hospital; Federal Airport Authority of Nigeria in Calabar, Federal Metrological Agency, Uyo. The estimated staff member of the budget units in the various selected MDGS is 239. The questionnaire used was developed on a five-point Likert scale. This number was adequate for the study and was subsequently used as the sample size. To test the stated hypotheses both analysis of variance and population-t-test were used for the study.

IV. DATA PRESENTATION AND ANALYSIS

The following represent hypotheses that were tested in fulfillment of the objectives of this study:

- H₀1: There is no significant difference between the applications of Zero-based budgeting and incremental budgeting techniques of time consumed and allocation of resources, ease of preparation, innovation and the training need on the budgeting process of the federal government of Nigeria.
- H₀2: There is a significant difference in the government performance between the pre and post zero-based budgeting in Nigeria.

Table 1: AVONA Table

		N	Mean	Std. Deviation	Std. Error	F	Sig.
Time_consumed	Zero-based	105	3.0476	1.31105	.12795	4.299	.039
	Incremental budget	134	2.7015	1.25674	.10857		
	Total	239	2.8536	1.28970	.08342		
Alloc_of_Resour	Zero-based	105	2.7143	1.40544	.13716	4.835	.029
	Incremental budget	134	2.3358	1.25023	.10800		
	Total	239	2.5021	1.33119	.08611		
Ease_of_prepa	Zero-based	105	3.2667	1.44958	.14146	13.819	.000
	Incremental budget	134	2.5970	1.32710	.11464		
	Total	239	2.8912	1.41892	.09178		
Innovation	Zero-based	105	3.2190	1.11787	.10909	.181	.671
	Incremental budget	134	3.1567	1.12960	.09758		
	Total	239	3.1841	1.12253	.07261		
traing_need	Zero-based	105	3.0095	1.44445	.14096	22.386	.000
	Incremental budget	134	2.1642	1.31042	.11320		
	Total	239	2.5356	1.43112	.09257		

Source: SPSS output, 2018

The analysis of variance tests of significance was conducted using the f-statistics. The F-statistics value of 4.299 with a significant value of .039, reveals that there is a significant difference between zero-based budgeting and incremental budgeting on time consumed in the budgetary process. H₁ is therefore accepted. In term of favorable allocation of resources, there is also a significant different between zero-based budgeting and incremental budgeting on the allocation of resources in budgetary process [F_{cal}=4.835 exact Probability (Sig) = 0.029]. H₁ is therefore accepted.

The hypothesis test in terms of ease of preparation also shows that there is a significant difference between zero-based budgeting and incremental budgeting on the ease of preparation in the federal government budgetary process [F_{cal}=4.835 exact Probability (Sig) = 0.000]. Result on innovation shows that there is no significant difference between zero-based budgeting and incremental budgeting on

innovation through the reduction of cost in the federal government budgetary process [F_{cal}=1.181 exact Probability (Sig) = 0.671]. H₀ is therefore accepted and H₁ rejected. Result on training needs shows that there is a significant difference between zero-based budgeting and incremental budgeting on the training needs in the federal government budgetary process [F_{cal}=22.386 exact Probability (Sig) = 0.000]. H₁ is therefore accepted and H₀ rejected.

Hypothesis two

Table 2: Group Statistics

VAR00002		N	Mean	Std. Deviation	Std. Error Mean
Govt. Performance	Pre zero-based budgeting	239	2.962	1.24121	.08029
	Post zero-based budgeting	239	3.071	1.40197	.09069

Source: SPSS output, 2018

Table 3: Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Govt. Performance	Equal variances assumed	16.928	.000	-.898	476	.370	-.10879	.12112	-.34678	.12921
	Equal variances not assumed			-.898	469.110	.370	-.10879	.12112	-.34679	.12922

Source: SPSS output, 2018

The result of the independent samples t-test conducted to compare the government performance between the pre and post zero-based budgeting is as shown in Table 4.03 above. The Levene’s test for equality of variances gives a significant value of .000. This means that the data did not violate the assumption of equal variance since it is larger than .05. There is no significant difference in government performance for pre zero based budgeting (M=2.9623, SD=1.2412), and for pre zero based budgeting (M= 3.0711, SD=1.40197); t (476) = -0.898, p=.370.

Thus, for Hypothesis 2, H₀ is retained and H₁is rejected.

V. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study was on the comparative analysis of zero-based and incremental budgeting techniques of government performance in Nigeria. It was conducted within the budget units of selected federal government’s Ministries, Department and agencies (MDGs) in Cross River and Akwa-Ibom States. The MDGs chosen include University of Calabar, and its teaching hospital; the University of Uyo and its teaching hospital; Federal Airport Authority of Nigeria in Calabar, Federal

Metrological Agency, Uyo. The results of the study reveal that:

There is a significant difference between the applications of Zero-based budgeting and incremental budgeting techniques of time consumed, allocation of resources, ease of preparation, and the training need, while there exist no significant difference between them on the budgeting process of the Federal government in Nigeria. Discovered also was that there is no significant difference in the government performance between the pre and post zero-based budgeting in Nigeria.

Predominant differences exist between them in term of budgetary procedure. Although, these budgeting effects of government performance are somewhat difficult to come by; however, the effect of their common usage seem to revolve around the procedure, cost involvement time consumed, allocation of resources, ease of preparation, innovation and the training need on the budgeting process. The differences show that zero-based budgeting enhances cost reduction through active resource allocation over automatic budget increases unlike incremental budgeting. It also encourages prioritization of government programmes to increase government efficiency, while aligning resource allocation

with government's strategic goal such as the millennium development goals of the Nigerian government. Unlike incremental budgeting, zero-based budgeting is usually time consuming and costly and most government ministries, department and agencies may face extreme constraints relating to their ability to complete Zero-based Budgeting within a budget cycle and the availability of personnel to drive the process internally. Prioritizing budgetary procedures may be problematic for departments with intangible outputs. Incremental budgeting is less costly and complex, and less time consuming as budget is not built from scratch annually, but requires justification only for incremental changes.

From our study, there seems to be no significant difference between zero-based and incremental budgeting in establishing a creative means of reducing cost by the federal government in Nigeria. This is because, irrespective of the techniques used, nothing has really changed in terms of cost reduction. In Nigeria, anything could happen; this is because, other than the techniques, the issue of budget padding has further aggravated the issue. Most staffs of the budget office have also connived with relevant individuals to justify government programmes, even when the programmes are less relevant to others. Budgetary implementation is also outside the confine of the budgetary process. Hence irrespective of the techniques, performance in the pre and post zero-based budgeting might remain the same. It is therefore recommended that budgeting staff should be adequately trained in order to save time and cost in the future budgetary process. Cost incurred on the zero-based techniques should be curtailed and reduced to barest minimal and possibly used for economic development rather than for budget procedure. Government must ensure that budget are adequately implemented this is because implementation is not dependent on the budgetary techniques.

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