

Assessing the Performance of Incremental Budgeting System in the Nigerian Public Tertiary Institutions

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Abstract

Focused and futuristic organizations like Nigerian tertiary institutions are expected to put in place a financial plan of its activities to guide on how to generate financial resources and allocate them to achieve predetermined target or goal in a particular period or year. This is usually carried out through budget. A committee is usually constituted to capture each functional unit of a tertiary institution to ensure coordination and full implementation of the budget. However, the full implementation may assumed not be feasible because of the continuous use of incremental budgeting (IB) system. The paper is to find out whether budget performance in the Nigerian tertiary institutions is dependent on the IB system and also to assesses if the IB's frame work is dynamic to provide for any material change in the institutions' projects. Primary source of data were used. The two major findings are that, budget performance is not depending on the use of incremental budgeting system and that inadequate and delay in releasing subventions from federal government are responsible for the budget implementation breakdown. The paper recommends that Nigerian government should timely release approved subventions to these institutions to enhance reasonable implementation of annual budget.

Key Words: Nigerian tertiary institutions, budget, incremental budgeting system, budgeting performance.

1. Introduction

Any focused organization either in the private or public sector must put in place a plan of its activities to guide on how to generate financial resources and how to allocate or commit the resources in an efficient manner. The purpose is to achieve the predetermined target or goal in a particular period. This plan is usually referred to as a budget. It is a kind of blueprint that guides an organization to focus mainly on financial resources for expected results in a defined period. The Chartered Institute of Management Accountants (CIMA) as cited by Dandago and Tijjani (2005 p. 237) defines budget "as a plan quantified in monetary terms, prepared and approved prior to a defined period of time, usually showing planned incomes to be generated or expenditure to be incurred during that period, and the capital to be employed to attain a given objective. Accounting data collection will aid in the provision of useful economic information for the decision making. The broad objective of budget preparation is to integrate the decision to achieve the plan".

Some specific reasons for preparing budget according to some authors and researchers (Watoseniya, 1999; Glautier and Under down, 2001; ICAN, 2006; Dandago and Tijjani, 2005 and Abdullah , 20011) include i) coordinate the activities of various parts of organization ii) ensure that parts are in harmony with each other iii) aid the planning of the period operations iv) communicates plans to the various responsibility secure v) control activities vi) evaluate the performance of officers vii) motivate officers and managers to strive to achieve the organizational goal. The aim of a budget is to articulate a realistic plan into action taking into consideration all the necessary variables (that may affect its success or failure) with the strong determination to achieve a specific goal. The budget is usually for a defined period of time, say one year and is referred to annual budget. The annual budget can be broken down by month for say the first three months where quarterly budget could be developed and monitored (Watoseniya, 1999).

In the budget administration, a committee is usually constituted and will consist of management staff or most senior officer who will present the major segments of the organization. The officer is to ensure that the components of the entire budget are realistically established and satisfactory coordinated. Usually the functional heads of an organization will be responsible for the preparation and presentation of their budgets taken into consideration the budget manual and or circular to that effect. The committee will review the functional budgets accordingly and where necessary call for defence for appropriate corrections before receiving approval. The purpose of the review is not only for approval, but more importantly to ensure that the budget is adequately implemented to achieve its determined goal. Budget performance therefore depends on the extent of implementation.

The budget preparation and presentation, setting up committee, reviewing the budget for compliance and amendment, then implementation, monitoring and control activities are to ensure that realistic performance is achieved within the budget period. Measuring budget performance in the government tertiary institutions mainly entails setting of realistic standards, implementing and monitoring, comparing the actual achievements with predetermined objectives and controls for any variance that may occur. In practice, the stages of budget preparation will include among others: i) determining the limiting factors ii) negotiation of budget with those responsible for the implementation and superior officers and iii) coordination and review of functional budgets. The inclusion of these factors becomes obvious in order to ensure that the budget performance is satisfactory. Another obvious defect is the inability of the system to define actual performance in year under review.

In spite these logical procedures in the process of preparing, presentation and implementation of the incremental budgeting system, its acceptability and mainly performance are not satisfactory (Pharr, 1970; Abdullahi, 2007; Bammeke, 2008; Adams, 2009 and Abdullahi, 2011). The reservation is that, adequate attention is not given to the budgeting system in terms of performance. Besides, the same monotonous process is always adopted every year without taken notice whether or not the method is providing satisfactory results. In the Nigerian tertiary institutions, the only commonest approach used in preparing budget is incremental budgeting (IB). As the name implies, it is a method where the previous year budget figures will be reviewed, usually upward to accommodate any expected increase in the following year's budget. For this approach, the only source for preparing the budget is the use of preceding year's budget figures taken little or no consideration of other determining factors; not even with the current or previous two years' actual financial achievement/figures because hardly they will be available. Usually the Nigerian tertiary institutions audited accounts will not be ready until after three to four years after the end of the institutions' financial years.

The assumed justification for continuous use of IB budgeting system is simplicity of obtaining the data, less time in its preparation and no more. This is because the users of IB are reluctant to make any further inquiry into the efficiency of the system to know whether the method is good enough to achieve the desired performance of the institutions. Pharr (1970) has strongly criticized IB, as he believes that the system is rigid and that the basis for preparing the budget could mislead. The author equally believes that the approach is weak and may not be accepted if it should be sampled for opinion among the users of the budgeting system.

The two objectives of the paper are directly traced from the problems stated in the preceding paragraphs i) to find out whether budget performance is dependent on budgeting system and ii) to assesses if the IB's frame work is dynamic to provide for any material change in the tertiary institutions projects. In addition, hypothesis is formulated for statistical test to complement the result of the analysis of the responses obtained from questionnaires distributed. The research assumption is that, budget performance is the function of incremental budgeting system in the Nigerian tertiary institutions. The scope of the study is therefore limited to the federal government tertiary institutions. There are universities, polytechnics and colleges of education operating in Nigerian. The targeted determining budget performance factor in this study is the incremental budgeting system. Other variables are containing in the questionnaire.

2. The Concept and Objective of Budgeting

Resource input both in the private and public sectors are scarce, therefore must be properly and adequately planned to achieve optimal results in a defined period of time. Individual organizations including governments at all levels have to effectively plan and control their resources through budget to achieve a target goal. Budget is the frame-work that provides the guideline to arrive at the predetermined goal. The historical French word for budget is known as *bougettee* meaning, small bag; but it was first used in England to describe the white leather bag that held the seal of the medieval court of the exchequer. Therefore, the minister's bag containing his proposals for financing government expenditure became his budget (Edwards, 1945).

Budget is a plan that provides answers to three important questions in any organization, formal or informal: first, what is the desired goal or goal to be achieved? Second, when is the goal to be achieved and thirdly, how is to be achieved? This is because any organization without goal, any performance or production lacks directions, problems are unforeseen, and therefore result will be hard to interpret (Horngren, 1978). Planning involves objective and result oriented thinking well ahead, taken into consideration known and unknown variables factors. Budget is therefore a formal expression of an organizational plan. Shim (2005) sees budget as a formal manifestation of organizational

plans, goals, and objectives which covers all aspects of the operations for a designated time period usually one year; it is a tool used in providing organizational target and directions.

Walter (2009) considers budget as a financial statement, a monetary statement or quantitative course of action prepared and approved before a given period of time stating the policies to be pursued during the time and ways of achieving the target. Abdullahi (2011) describes budget in the following words: plan, forecast, standard, or even prediction depending on the nature of the organization. Reviewing these various opinions, explanations and or descriptions, 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 activities in a specific period.

On the government aspect, Abubakar (1986) sees budget as an aggregate 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. In line with this detailed explanation, Abdullahi (2007) describes government budget as a political and administrative instrument by which the executive and the legislative bodies endeavour to allocate scarce resources among the various organs of government either at state or federal level. This descriptions rather than definitions of budgets are comprehensive enough to bring out exactly what government budget is all about. Adams (2009) defines budget as a future plan of action for the whole organization or section thereof. In fact, it is a tool guiding the management of government organization in directing and controlling the financial and non financial activities to achieve and measure its goals in a defined period of time.

2.1 Process of Budgeting in the Nigerian Public Sector

Budget involves planning the inflows and outflows of financial (and non financial, but related) resources in the various departments, segments or divisions of an organization in a particular period of time with a view to achieving a defined goal. Budget process in the public sector is not much different from the private sector. It is a complete set of events occurring every year in the same sequence. Usually it begins from each department or government agency by putting together or calculating mainly the expected costs of maintaining current ongoing services or activities. Making provisions for new activities and then adding to those costs any further developments of the services which are considered desirable. For instance, expected services like the education, agriculture, housing, health, and other social services will be proposed; and any specific services and their corresponding costs including overhead, personnel and capital for the budget period/coming year. The expected internally generated revenue will equally be contemplated and tabulated for the same budget period.

The internal revenue is usually credited to the government account otherwise used to supplement the budgeted expenditure (if approved). The budgets are then coordinated by the accountants often referred to as directors of finance of various ministries and parastatals into an overall budget proposal. This procedure could be described as the budget formulation and approval. One major difficulty usually encountered in the government organization, is that output from the various resources inputs cannot be measured in figurative terms or value. That is, the quality and amount of the services provided cannot be seen or touched. This is contrary to the manufacturing sector, where for instance, the output can easily be seen, countered or touched in terms of unit produced. The main feature of government organization budget is greatly concerned with the resource inputs in the form of expenditure. On the other hand, a private organization will focus on the relationship between resource inputs and outputs in order to assess the performance. In government organizations, hardly emphasis is placed on what can be achieved from a given resource input allocated to provide required public services. In addition, emphasis will not be on measuring managerial performance in terms of profitability in a particular year.

In the recent years however, efforts have been made to overcome these deficiencies through developing measures of outputs with which the budgeted resource input can be compared with the actual achievement in a fiscal year. The various methods of performance measurements in this organization are mainly concerned with the budgeting system and will include: rolling or continuous budgeting, zero-base budgeting; activity-base budgeting; incremental budgeting; planning programme budgeting systems and programme performance budgeting (Bammeke, 2008 and Adams, 2009). They are of the view that budgets could be used for planning communication, motivation, standard for measurement of performance and evaluation of economic and social policy. However, the authors have failed to state how this could be achieved in measuring the performance.

2.2 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. This 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 decrease) in operations or expenditure which would take place during the next budget year (Watoseniya. 1999). Increment means. Always there is an increase (Abdullahi, 2007). For instance, the allowance for budgeted expenditure may be based on the previous budgeted allowance plus an increase to cover any expected increase in prices. 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.

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 (20011) 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. It could also lead to spend it or lose mentality. 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) and Ellis-Christensen (2010) 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.

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 (Blocher; Chen; Cokins and 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 (Hongren, 1978). In other words, variance analysis is the analysis of performance by means of variances

and it is aimed at promoting management action at the earliest possible stage (Lynch, 2005). In a sentence, the accurate analysis and follow-up of variances is what pays off in budget control.

3. Methodology and Data Specification

Primary data were collected from only senior officers of these institutions; they are middle management staff of budget section/unit, assistant director in the finance division and director of finance and administration (were applicable) from 15 selected tertiary institutions at random (five universities, five polytechnics, five colleges of education) but were dependent on the availability of these officers. The instrument used in collecting the data is questionnaires; they were distributed to 150 proposed respondents from the institutions. Ten personnel from each institution were selected and were based on their schedule of duties that are mainly on budget and budgetary control. From the questionnaire distributed, a total number of 134 were returned and analyzed using chi-square technique. This is because of the instrument used and proposed objectives of the study. However, other tests were used as necessary to acquire more information and also to improve the quality of the work.

The researchers planned to use secondary data to supplement the primary data, such as approved budget, vote book and financial statements of the selected institutions, but these documents were not available. The work is therefore based on the primary data collected.

4. Result and Discussion

Reliability

The reliability statistics table in the following paragraph is based on total number of 150 cases of which 132 are valid while the difference of 18 is excluded because the questionnaires were not retrieved from the respondents. There are 21 items in each case as defined in the scope of study. For reliability of these factors, the researchers compute Cronbach's alpha and the coefficients is about 78 per cent as shown below which suggests that the factors are reliable and therefore accepted. This test is also to ensure that the outcome of the processed data would be not be spurious but relied upon if the result is within the acceptable range as in this case.

Reliability Statistics

Cronbach's Alpha	N of Items
.777	21

Chi-Square Test

From the chi-square computed below for 21 budget performance indicators, all of them show significant results at 1% while one at 5%.

Chi-Square Test of Significance

Variable Attribute	Chi Square	<i>df</i>	<i>Critical Chi</i>	Level of Sig.
F ₁	58.815	4	9.488	.000
F ₂	13.089	4	9.488	.000
F ₃	140.911	4	9.488	.000
F ₄	147.04	4	9.488	.000
F ₅	79.5	4	9.488	.000
F ₆	31.153	4	9.488	.000
F ₇	89.218	4	9.488	.000
F ₈	59.581	4	9.488	.000
F ₉	14.5	4	9.488	.000
F ₁₀	196.315	4	9.488	.000
F ₁₁	124.903	4	9.488	.000
F ₁₂	36.387	4	9.488	.000
F ₁₃	24.903	4	9.488	.000
F ₁₄	40.516	4	9.488	.000
F ₁₅	54.581	4	9.488	.000
F ₁₆	16.194	4	9.488	.000
F ₁₇	93.935	4	9.488	.000
F ₁₈	93.290	4	9.488	.000
F ₁₉	72.645	4	9.488	.000
F ₂₀	40.387	4	9.488	.000
F ₂₁	64.903	4	9.488	.000

Source: Chi-Square Computation Using SPSS, Version 16

From these results, it is evident that the factor influencing budget performance can be addressed. However, it can also be deduced from F14 above representing *incremental budgeting system* that budget performance is not dependent on budget system. Comparing the computed chi-square value above with the representative table value, the formulated hypothesis will not be accepted. In considering the second objective, it will logically be considered that since budget performance is not dependent on the incremental budgeting, the issue of dynamism will not even arise.

Factor Analysis

The researchers used principal components analysis to form the factors that capture different dimensions of budget and determine which of the budget indicators are associated with each factor. The result of the computations is on the table below:

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.515	26.264	26.264	5.515	26.264	26.264	4.097	19.508	19.508
2	3.634	17.306	43.571	3.634	17.306	43.571	3.736	17.788	37.296
3	2.976	14.170	57.741	2.976	14.170	57.741	3.703	17.631	54.927
4	1.851	8.814	66.555	1.851	8.814	66.555	1.847	8.797	63.724
5	1.239	5.901	72.456	1.239	5.901	72.456	1.485	7.070	70.794
6	1.040	4.954	77.410	1.040	4.954	77.410	1.389	6.616	77.410
7	.853	4.063	81.473						
8	.703	3.347	84.820						
9	.581	2.765	87.585						
10	.546	2.599	90.183						
11	.489	2.327	92.510						
12	.469	2.231	94.741						
13	.340	1.617	96.359						
14	.190	.904	97.263						
15	.141	.670	97.933						
16	.128	.611	98.544						
17	.108	.512	99.056						
18	.084	.401	99.457						
19	.053	.250	99.707						
20	.035	.166	99.873						
21	.027	.127	100.000						

Extraction Method: Principal Component Analysis.

In this procedure, the individual variables are reduced into a smaller number of principal components that account for most of the variance in the observed variables. The research uses a combination of the eigenvalue method and scree test in order to determine the number of factors to retain. In the eigenvalue method, all factors with an eigenvalue greater than unity are retained. In the scree test, the eigenvalue associated with each component are plotted and break between the components with relatively large eigenvalue and those with small eigenvalue are identified. The component that appears before the break is assumed to be meaningful and therefore retained for rotation test and those appearing after the break are assumed to be unimportant and are ignored.

The first six principal components form the extracted solution. The second section of the table shows the extracted components. They explain nearly 77.4% of the variability in the original twenty one variables; therefore can considerably reduce the complexity of the data set by using these components, with only a 22.6% loss of information. The rotation maintains the cumulative percentage of variation explained by the extracted components, but that variation is now spread more evenly over the g components. The large changes in the individual totals suggest that the rotated component matrix will be easier to interpret than the unrotated matrix.

Rotated Component Matrix

Rotated component matrix has to be adopted to assist in determine the most influencing budget factors since all the 21 cases in this study are significant, yet all of these variables cannot easily be managed. The computed rotated matrix is on the table below:

Rotated Component Matrix ^a

	Component					
	1	2	3	4	5	6
F1	.827					
F2						
F3						
F4					.835	
F5						
F6						.870
F7						
F8						
F9						
F10						
F11						
F12						
F13		.814				
F14			.871			
F15	.811					
F16						
F17						
F18				.858		
F19			.818			
F20		.872				
F21			.856			

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 15 iterations.

The rotated component matrix helps to determine what the components represent. From the rotated components matrix table above, the following factors are selected based on highest relationship with their respective components: F1, F20, F14, F18 F4 and F6. They reveal the most determining influencing factors on budget performance based on the matrix results above. In this case, F1 represents existence of budget committee in an institution while F20 stands for inadequate expenditure monitoring of budget. F14 is for incremental budgeting system and F18 represents delay in releasing subventions/grants. F4 and F6 are heading of budget committee by bursar and limiting factors that could render the budget implementation failure.

5. Findings and Conclusion

The four major findings from the data analysis above include the following:

1. Budget performance is not depending on the continuous use of incremental budgeting system.
2. A bursar in a respective tertiary institution should be an ideal management staff to chair budget committee.
3. Inadequate and delay in releasing subventions/grants are responsible for budget implementation breakdown and
4. Regulatory and closed internal monitoring by a committee could equally affect the budget performance.

From the findings above, it could be concluded that budget performance in Nigerian tertiary institutions is independent of incremental budget system in used. However, the acceptable performance would be recorded if functional budget committee should always be headed by a bursar rather than any other top management staff. In addition, the federal government should timely release adequate/approved grants to the institutions to enhance reasonable implementation

of annual budget. Finally, efforts should be made by the respective regulatory authorities and management to put in place control mechanism where budget implementation could be monitored with necessary report.

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