


**Understanding the Predictor of Zero-Based Budget Adoption in Borno State**  
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<p><b>*Corresponding author</b>  <i>Mustapha Ibrahim</i></p> <p><b>Article History</b>  <i>Received: 26.12.2017</i>  <i>Accepted: 10.01.2018</i>  <i>Published: 30.01.2018</i></p> <p><b>DOI:</b>                  10.21276/sjbms.2018.3.1.3</p> 	<p><b>Abstract:</b> This study aims to predict the possibility of adopting zero-based budgeting (ZBB) system in Borno State. To ensure this, the study considered viability as predictor variable that was perceived to have contributed to adoption of ZBB in the state. ZBB has resurfaced as a prominent topic of discourse due to the economic downturn experienced in Nigeria as well as the failure of the existing traditional budgeting system to meet the economic objectives of the government. The focal point of discourse, therefore, dwelt on Borno state because it is adversely affected as a result of the revenue volatility witnessed in the country as well as the level of budget implementation with the existing budgeting system in the state experienced decade of monumental budget indiscipline at all levels of government. In view of this, Binary logistic regression was employed to examine whether the predictor variable have significant influence or not on the dependent variable, that is, the adoption of ZBB. Stratified sampling technique was used to arrive at a sample size of 103 drawn from the total population of 139. The findings of the study established that the adoption of ZBB in the state is politically feasible and offers more appealing opportunities in minimizing costs and prioritizing government’s needs while adding value to the operational efficiency in the budgeting system. It is therefore, pertinent to recommend the establishment of implementation plan that are consistent with synergistic principle and application of ZBB which ensure aggregate fiscal discipline and enhanced technical efficiency through transparency and accountability.</p> <p><b>Keywords:</b> ZBB, Viability, Fiscal discipline, Sustainable Fiscal Transparency, and Effective Budget Implementation.</p>
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**INTRODUCTION**

The annual public sector budget in any given economy in the world is targeted towards the developmental process of the country. It is an instrumental of policy and as a vehicle for channeling resources to specific development projects and programs. The potentiality of the budget to influence development is enormous and largely depends on the credibility of the budgeting system in use or practice.

The traditional budgeting system as conceived in most public sector organizations around the world is referred to as a line item budgets (incremental budgeting system). Drury [1] avers that incremental budgeting approach assumes extrapolating past activities and cost as opposed to zero-based budgeting (ZBB) which is the forward-looking approach. Accordingly, Abdullahi [2] 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. This entails that compliance with line item budgets provides no assurance that resources are used wisely, efficiently or effectively in financing the various activities in the public sector organizations.

Zero-based budgeting entails constructing a budget without any reference to what has gone before, based on a fundamental reappraisal of purposes, methods, and resources. The distinctive and essential hallmark of zero-base budgeting is its focus on the total budget request. The current spending level is not regarded as an inviolate base, predisposal from detailed scrutiny. Existing activities are examined along with proposed new activities as a contrast to traditional incremental budgeting systems, signifying that each spending agency has to justify every item in its request for funding. Incremental budgeting effectively denies decision makers the option of trading off a requested

increase in one action against a reduction in another and assumes past activities and their costs is inviolate [3].

However, even with the introduction of budget reforms, budget implementation at the federal and state government levels in Nigeria has basically been a carryover from the military regimes characterized by the absence of a clear linkage between policy, plan, and budget, with the legal framework for the authorization and compliance with fiscal responsibility Act [4] expected of a budget. Put succinctly, the policies and plans of government hardly have a practical expression in the budget, thus giving room for flagrant fiscal indiscipline and mismanagement of resources.

Shayne [5] confirms that government across the globe facing budget cuts and increased public scrutiny, government agencies have been using alternative budgeting methods such as zero-based budgeting instead of the line item and incremental budgeting.

Incremental budgeting in Nigeria at both federal and states level failed to provide a yardstick for performance measurement, checkmate corruption, realigned resources allocations with strategic goals. Another drawback to incremental budgeting is that it failed to address citizens' perception, transparency, and accountability which leads to poor budget implementation as suggested in the work [6].

As a result of the monocultural economic nature of Nigeria and Borno state is adversely affected because it solely depends on by about 80% of its revenue from the federation account. There is the need, therefore, to re-strategize by drawing a financial road map that cuts down or avoids unnecessary funding for non-essentials services. This research, therefore, seeks to examine the perception of state legislatures and officials of the ministry of the budget on the viability of adopting zero-based budgeting in Borno state.

### **Research Questions**

The research is premised on the following question.

- i. What is the viability of adopting Zero-Based Budgeting in Borno state?

### **Objectives of the Study**

The study seeks to ascertain the perception of the state legislature and officials of the ministry of the budget on the possibility of adopting Zero-Based Budgeting in Borno State. However, the specific is objective;

- i. To determine the viability of adopting Zero-Based Budgeting in Borno state.

### **Research Hypotheses**

The research was guided by the following hypothesis;

H<sub>01</sub>: Viability of Zero-Based Budgeting does not influence its adoption in Borno state.

## **THEORETICAL AND EMPIRICAL REVIEW**

### **Conceptual Framework**

Zero-based budgeting is a budgeting system based on estimates of activity rather than things that have done in the past. Each activity will be evaluated separately through various programs developed in the fiscal year called the decision package [7]. Originally it was used specifically to describe a system of budgeting that begins every budget cycle at zero, rejecting any assumption that the activities that were funded in the last budget will continue in the coming one. It requires a rationale for each activity that will be funded in the new budget. It was intended to foster thorough analysis and prioritization of every program and activity, with an emphasis on cost-effectiveness and economy [8].

It is a budgeting process that allocates funding based on program efficiency and necessity rather than budget history. Kamlet & Mowery [9] adds that as opposed to traditional budgeting system, no item is automatically included in the next budget. In ZBB, budgeters review every program and expenditure at the beginning of each budget cycle and must justify each line item in order to receive funding. Budgeters can apply ZBB to any type of cost: capital expenditures; operating expenses; sales, general, and administrative costs; marketing costs; variable distribution; or cost of goods sold.

ZBB's task is to aggregate and re-evaluate an organization's activities considering cost, levels of service, and alternative delivery methods within budgetary guidelines. The work is primarily grounded in analysis at the lowest levels of management, where front line managers are asked to calculate all activity related costs and suggest more efficient ways accomplish the same activity goals, as well as to assess the implications of different funding levels for each activity [10].

The organization is initially broken down into "decision units" headed by experienced and knowledgeable front line managers. The front line managers then aggregate individual expenditures into

activity costs which become individual decision packages. Each of these packages is then considered for alternative delivery methods in order to maximize services while minimizing resource usage. Decision packages may also include multiple funding levels for each activity or each different funding level becomes a unique decision package depending on how ZBB is implemented. Finally, managers rank the decision packages in order of priority, consolidating them into a final list. Larger organizations may employ additional levels of review, but the process generally remains the same.

In view of the above arguments and assertions, zero-based budgeting can be viewed as a budgeting system or technique which attempt to overcome the perceived deficiency that existed in the traditional line budgeting by drafting an estimates from the scratch or zero sum so as to avoid extrapolating funding programs and activities that has been done in the past without reasonable reappraisal of purpose. In this type of budgeting system, present activities are being fund based on their priorities and must be justified by the usability and organizational needs as well as the availability of resources on the ground. The essence of this budgeting system is to mitigate unnecessary spending and enhance costs benefits approach.

### **Historical Background of Zero-Based Budgeting**

Zero-base budgeting, also known simply as ZBB, had its beginning at Texas instrument 1969. Peter Pyhrr was credited with its application [11]. Zero-Base Budgeting was developed by Peter Pyhrr and a team of analysts in 1969 as a strategy for dealing with fiscal stresses at Texas Instruments. Using a ZBB-like procedure, the analysis identified significant resource allocation and strategic goal mismatches as well as various communication failures across business units. The process was so successful that they developed guidelines for a more comprehensive zero-based budgeting process, which was rolled out to the entire company for the 1971 budget year. The new process required an annual comparison of programs and services to ensure that funds were allocated according to organizational priorities and that programs were optimally run as measured from a cost standpoint. Reviews of this effort found that the ZBB process resulted in better management of revenue volatility, improved product and process evolution, as well as improved response to outside shocks to the organization [12].

During the 1970's the economy began slowing even as government programs were growing, and ZBB was seen as a way of attempting to rationally manage the size and scope of government. By 1977, at least 20 states had implemented or were implementing ZBB as were a host of local governments [13]. However, by the 1980's, ZBB was largely abandoned due to massive paperwork and significant staffing requirements. The reform had proven too time-consuming and costly to implement [32], although elements of the reform continued to influence budgeting at different levels of government. For instance, Georgia, USA retained some aspects of the system—such as presenting agency budget requests for multiple funding scenarios. The federal government discontinued ZBB during the Reagan Administration [14, 15].

Early experiences with ZBB showed that design and implementation issues such as executive level guidance, departmental “buy-in,” upper management commitment, information availability, employee education, and ample lead time are major determining factors as to whether the implementation of ZBB succeeds or fails [16, 12]. Therefore, these must be addressed at the beginning of a ZBB implementation process.

Interest in ZBB had been in decline for many years owing to the large amount of paperwork and data ZBB generates, along with doubts about the method's ability to fully meet its theoretical promises, were at least partially responsible [17]. The improving economic conditions from the low points of the late '70s and early '80s, in the U.S., and the early '90s, in Canada, probably reduced the perceived need for what was largely regarded as a “cut back budgeting” method [18].

However, pure ZBB may have largely disappeared, but it wasn't forgotten; vestiges have lived on. Bland & Rubin [19] observed that ZBB seems to be experiencing a kind of resurgence. A survey of participants in Government Finance Officers Association [20] Distinguished Budget Presentation Award Program shows that an increasing number of leading public budget practitioners (44% of all respondents) are considering ZBB. GFOA's survey also showed that actual use of ZBB-like practices is increasing. Just over 20% of those surveyed say they are now using ZBB, at least in part. This represents an increase of more than 50% in the number of governments that say they are using at least some

elements of ZBB, compared with the period just before the worst financial impacts of the 2008 recession hit these governments.

### **The Recent Resurgence of Interest on Zero-Based Budgeting**

Jason, Eric & Brad [21] observes that the resurgence of interest in zero-based budgeting is not surprising given the economic doldrums experienced by the private sector, as well as state and local governments, during the recent and lingering post-2008 mini depression. Zero-based budget which is originally developed at Texas Instruments by Pyhrr in 1970 as a method of controlling overhead costs, and subsequently implemented by Jimmy Carter in the State of Georgia United State of America (USA) ZBB's popularity peaked in the mid-late 70's as Carter mandated its use in the federal government, and hundreds of companies adopted it as a method for dealing with the 1974-75 recessions.

Zero-base budgeting was perceived as a response to the politics of scarcity in the late 1970's [22] and has resurfaced as a prominent topic during the most recent economic downturn. According to the National Association of State Budget officers U.S.A., in 2008 there were 17 states using some form of Zero-Base Budgeting [20], but no state has successfully implemented ZBB as it was originally designed by Peter Pyhrr [23]. Instead, they are using modifications either in timing, structure, or breadth of application.

Proper implementation remains the main obstacle, much of which may be resolved through experience. Implementing ZBB 40 years later should prove much easier given the development and common use of powerful computers, spreadsheet, and decision flow software. In 1970, only 28 percent of state agencies (USA) used computers to compile budgets, and 16 percent of state budget offices. By 1990 all states used computers in the budget process [8]. These tools will significantly improve the speed of the consolidation and ranking process, allowing for easier adjustments at higher levels of management, while greatly reducing both required staffing and document volume at each decision level. Combining these new tools with current ZBB modification trends, such as sunset reviews or periodic reviews, may lead to a large reduction in workload, making the process more feasible for implementation [10].

In view of the aforementioned, therefore, studies by Ahmad [24], Meliano [25], Faleti *et al.* [26], Bin Dost & Shafi [27], Lubis, Hasan & Fausi [28], Mohamed *et al.* [29], Ekanem [30], Haxholli [31] established that, ZBB is a response to an incremental decision-making process. In contrast to incremental budget, the allocation of scarce resources funding is determined from zero sum accounting method. Hence, it was able to justify that, ZBB is geared towards achieving aggregate fiscal discipline and enhancing technical efficiency and that formal mechanism for transparency and accountability have been priorities.

### **Review of Related Empirical Studies**

Ahmad [24] examined the perceptions and attitude of employees in some selected public sector organizations in Brunei Darussalam towards the adoption of ZBB. The study indicates that ZBB is a better approach for allocating resources or public money. Meliano [25] opined that ZBB is flexible, communicate corporate goals, minimize cost and enhance knowledge sharing. Mohamed *et al.* [29], in Analyzing the Effectiveness of Budgetary Control Techniques on Organizational Performance at Dara-salaam Bank Headquarters in Hargeisa Somali land concluded that ZBB was credible and rewarding to the banks budget implementation. The application of ZBB for the banks budget implementation was effective and also significantly dependent on the organization's senior staff.

According to a study conducted by Haxholli [31] ZBB will organize budget proposals on ranking by reducing unnecessary ones, feasibility for capital projects, cost benefits analysis as well as easier to control by the internal and external audit as it allows single audit report. The study was carried out in Kosovo correctional service given that the state of Idaho has a larger budget, larger number of prisoners and implement ZBB, gives a strong argument that ZBB can be applied in Kosovo correctional service which has a smaller budget, smaller number of prisoners and possesses sufficient time and space for administrative officials and implementation, monitoring, and reporting.

### **Gaps in the literature**

The reviewed of previous studies above revealed a methodological weakness in their studies because they almost adopted the same statistical tools such as ANOVA, simple percentage, mean, standard deviation, histogram and charts as evidenced from studies by Ahmad [24], Bin Dost & Shafi [27], Meliano

[25], Faleti *et al.* [26] and Haxholli [31]; hence there is the need for more robust methodology and as such this study seeks to address these weaknesses by employing logistic regression to predict the possibility of adopting zero-based budgeting system in Borno state.

Literature gap was also identified as shown from the above studies. There is no single study to the best of the knowledge of the researchers that empirically tested the viability of adopting ZBB as predictor variable in predicting the possibility of adopting zero-based budgeting in the study area or elsewhere in the world with sample size drawn from the population of the state legislatures, permanent secretaries, officials of the ministry of finance, budget and economic planning units in the study area.

Geographical gap also exists as many researchers have written on a different aspect of the topic across the world. However, it reveals that there are few studies conducted in Nigeria especially in the South, but none has been done in the North, particularly the Northeast, hence the need to carry out this research in this area is imperative.

**METHODOLOGY**

The survey research design was adopted, data were collected from a primary source. A closed-ended questionnaire was designed on a 5-Point Likert- scale and administered on four categories of respondents. Stratified sampling technique was used to arrive at a sample size of 103 drawn from the total population of 139 which comprised of 28 state legislatures, 24 permanent secretaries, 61 and 21 staff of the ministry of

finance, budget and economic planning unit respectively. Binary logistic regression was employed to predict whether the predictor variable namely, viability has significant influence or not on the dependent variable, that is, the adoption of ZBB  
*Logistic Regression Model*

The hypothesis was tested using Logistic Regression.

**Model Specification Viability (V)**

The model used the adoption of Zero-Based Budgeting (ZBB) as the dependent variable and Viability as the independent variable.

$$ZBB_i = \alpha_i + \beta_i V + E_i$$

Where:  $ZBB_i$  = adoption of ZBB,  $V_i$ = viability,  $\alpha_i$ = Constant,  $E_i$  = Error Term  
 $\beta_i$  = Coefficient of independent variable

**The decision rule**

Reject the null hypothesis if  $P < 0.05(5\%)$

**EMPIRICAL RESULTS AND DISCUSSION**

Table 1 Shows respondents’ perception as to whether it is possible to adopt ZBB in Borno state or not.

The table above shows that 54 respondents agreed that it is possible to adopt ZBB in Borno state this represents 62.8% of the total respondents. This implies that it is possible to adopt ZBB in Borno State.

**Table-1: is it possible to adopt ZBB in Borno State?**

		Frequency	Valid Percent	Cumulative Percent
Valid	NO	32	37.2	37.2
	YES	54	62.8	100
	TOTAL	86	100	

Source: Field Survey 2017

**Variables in the Equation**

**Table-2: Variable in the Equation**

Variable	B	S.E.	Wald	Df	Sig.	Exp (B)	95% C.I. for EXP(B)	
							Lower	Upper
Viability	.312	.393	.558	1	.01	1.391	.193	1.687
Constant	1.297	.246	2.666	1	.99	0.256		

Source: Generated by the researcher using SPSS 20.0 from questionnaire response, 2017

Since Table 2 shows the covariates (independent variable), the P value is less than 0.05 (5%

level of significance) we reject the null hypotheses and accept the alternative hypotheses as follows.

Since the P value is 0.01, which is less than 0.05(5%) level significance. This means that the null hypothesis is rejected while the alternative hypothesis

which states that the adoption of ZBB in Borno state is significantly influenced by its viability.

Model Summary

**Table-3: Model Summary Table**

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	.000 <sup>a</sup>	.733	1.000

Source: Generated by the Researcher using SPSS 20.0 from Questionnaire Response, 2017

Table 2 shows R<sup>2</sup> estimate (.733 and 1.00) which indicating that approximately 73% or 100% of the variance in whether it is possible or not to adopt ZBB in Borno state can be predicted from a linear relationship of the covariate (independent variable). Thus, prediction and grouping suggesting that (viability of adopting ZBB in Borno state, significantly influence the possibility of adopting ZBB in Borno state P=0.000, P=0.000 and P=0.000). Therefore, since their P values were less than 0.05 that means we reject the null hypotheses and accept the alternative hypotheses.

**Findings**

It revealed that the adoption of zero-based budgeting system in Borno state is politically feasible and offers more appealing opportunities for costs reduction while adding value to the operational efficiency. Thus, this signifies that zero-based budgeting system draws a financial road map that cuts down or avoids unnecessary funding for non-essentials services. This is in line with the study of Haxholli [31], that zero-based budgeting will organize budget proposals in order of ranking by reducing unnecessary ones, feasibility for capital projects, cost benefits analysis as well as easier to control by the internal and external audit as it allows single audit report.

This study also found that sustainable fiscal discipline on part of ministries, departments, and agencies could be enhanced when zero-based budgeting system is adopted in Borno state through proper evaluation of governments programs and services and timely preparation of approved estimates. This implies that the state legislature will diligently deliberate and embark on effective oversight functions which will lead to effective budget implementation. This is in conformity with the findings of Mohamed *et al.* [29] which they were able to establish that zero-based budgeting was credible and rewarding to the banks budget implementation. The application of zero-based budgeting for the banks budget implementation was effective and also significant depending on the organization's senior staff.

**CONCLUSION**

The study, therefore, concludes that it is possible to adopt zero-based budgeting in Borno state because it is viable and the state government has the capacity to implement. The perceived benefits are attainable because it is politically feasible, offers more appealing opportunities for costs minimization; sustainable fiscal discipline and fiscal transparency could be enhanced by drawing a financial road map and avoiding unnecessary funding for non-essential services as well as communicate corporate goals among stakeholders through knowledge sharing thereby speeding up the passage of the budget by the state legislature.

**RECOMMENDATIONS**

Based on the findings of the study, the following recommendations were made:

- Firstly, it becomes pertinent to recommend the adoption of zero-based budgeting system in Borno state because it is viable more especially in this era of fiscal constraint, where budgets cutbacks are considered to be more rational and comprehensive approach to dealing with austerity measures.
- Zero-based budgeting system is also recommended in Borno state because sustainable fiscal discipline could be achieve through proper evaluation of government’s programs and services on part of the ministries, departments, and agencies which allow timely preparation of approved estimates, timely passage of appropriation bill and effective oversight role by the state legislature. Thus, this entails achieving aggregate fiscal discipline and enhanced technical efficiency through transparency and accountability.
- Governments at all levels of Federal, States and Locals Governments should embark upon administrative reforms through the adoption of ZBB thereby incorporate policies and prioritize their public spending projects based on the fundamental principles of reappraisal.

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