

Zero-Based Budgeting is a Panacea to Fiscal Distress: Do the Perceived Benefits Significantly Influence its Adoption in Borno State?

Mustapha Ibrahim¹, Abba Ashigar², Bello Muhammad Bello³, Ali Usman Mamuda⁴

^{1,2}Department of Accounting, College of Business and Management Studies, Konduga, Borno State Nigeria.

³Department of Banking & Finance, Ramat Polytechnic Maiduguri, Borno State Nigeria.

⁴Department of Accounting, Ramat Polytechnic Maiduguri, Borno State Nigeria.

*Corresponding author

Mustapha Ibrahim

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Abstract: During the 1970's the world's economy began slowing even as government programs were growing as a result of fiscal distress, and Zero-Based Budgeting (ZBB) was seen as an attempt to rationally manage the size and scope of government as well as a remedy for dealing with the austerity. The aim of this study, therefore, is to ascertain whether the perceived benefits of Zero-Based budgeting would significantly influence its adoption in Borno state. Stratified sampling technique was used to arrive at a sample size of 103 drawn from the total population of 139. Binary logistic regression was employed to predict whether the predictor variable namely, perceived benefits have significant influence or not on the dependent variable, that is, the adoption of ZBB. The finding of the study establish that it is possible to adopt ZBB in Borno state because it is politically feasible as the covariate suggest, perceived benefits was statistically significantly related to the adoption of ZBB in the state. We, therefore, recommend for the adoption of ZBB in the state So as to embark upon administrative reforms to incorporate policies and prioritize their public spending projects based on the fundamental principles of zero-based budgeting system in order to accomplish it perceived benefits.

Keywords: ZBB, Perceived Benefits, Fiscal Distress, Public Spending, Borno State and Priority

INTRDUCTION

The adoption of new budgetary technique such as Zero-Based Budgeting has been initiated and popularized principally in the USA and later spread all over around the world. In developing countries, similar initiatives have commenced which is being pushed and encouraged by United Nations Developments Program (UNDP), World Bank, and International Monetary Fund (IMF). These international agencies have urged the developing countries to consider ways to recognize their budgeting systems to be compatible with the classification and measurement of efficiency, to manage their scarce economic resources and to link their public budget with their economic development [1-3].

According to Forrester and Adams [4], the traditional (Incremental) budgeting system effectively denies decision makers the option of trading off a requested increase in one activity against a reduction in another and assumes past activities and their costs are inviolate. As such, due to the perceived deficiency encounter in the existing budgeting system as well as other factors inhibit to meet the economic objectives of the government, it then gives borne to new budgeting system, the zero-based budgeting.

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 feature of zero-based budgeting is its focus on the total budget request. The current spending level is not regarded as an inviolate base, predisposed 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 [4].

Jason, Eric and Brad [5] observes that the resurgence of interest in zero-based budgeting is not surprising given the economic doldrums as well as the fiscal distress 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 was originally developed at Texas Instruments by Pyhrr [6] 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.

From a retrospective view of periods under review in line with the above study, Malgwi and Unegbu [7] examines the key indicator of public sector budget performance and growth in Borno state between 2000-2010 fiscal years which shows that the level of budget implementation with the existing budgeting system in the state experienced decade of monumental budget indiscipline at all levels of government. They further suggest that money spent must be justified and satisfied by the establishment of budgetary and budget monitoring organization as it is done elsewhere like United States of America (USA), United Kingdom (UK) and other developed nations of the world. Hence, close monitoring of budget execution should be enshrined in work ethics of the ministries, department, and agencies (MDAs) so as to strengthen other measures in mitigating public corruption in the state. Thus, controls of the budget should be made ethically paramount. This concurs with the findings of Chegwe [8] that the effectiveness of the budget is emphasized, in which the emphasis is in its entirety on the system of the expenditure control. Further, concludes that budgets at the state or federal levels have not been able to achieve up to a mere 45% annual budget implementation in the last twelve years. This menace accordingly has sabotaged policies in a key public infrastructural provision such as transport, power, and communication among others, which in turn resulted to the consequential manifests in the increases in the cost of doing business in Nigeria.

The intuition behind the selection of this topical issue in this area of study was solely informed as a result of the mono-cultural 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 roadmap that cuts down or avoids unnecessary funding for non-essential services which in turn brings about effective budget implement, realistic budget estimates, an annual analysis and justification of all base budgets by activity, involvement of frontline managers in the budgetary process as well as more efficient allocation of resources in line with the government's strategic plan and economic constraints among others. The state was crippled in its revenue generation as a result of Boko Haram insurgency, unlike Kano or Lagos. As such, there is the substantial need for the state to structure its budgeting system to zero-based budgeting system in order to finance its essentials services such as health, education, and agriculture.

Statement of Problem

In view of the global trend in budgeting, there is need to supplement traditional budget with Zero-Based Budgeting (ZBB) as evidence from the work of [9] 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 line item and incremental budgeting. Similar in the lines of argument are the assertions of [10], who argue that budgets can be viewed as an indicator of the performance of ruling government. As such, 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 [11].

While acknowledging the previous scholars in enriching the literature in the field, however, majority of the studies surveyed mainly used ANOVA, simple percentage, mean, standard deviation, and chart as evidenced from studies by Ahmad (2007), Mohamed *et al.* (2015), Meliano (2011), Faleti, Faleti and Ojeleke (2014) and Haxholli (2015); hence there is the need for more robust and methodological innovations in this regard. It is against this backdrop, that this study adopted different methodological approach that is more appealing in understanding the predictor of ZBB adoption in Borno state so as to harmonize the previous findings or otherwise.

In view of the foregoing, therefore, the study employed binary logistic regression to predict whether the perceived benefits significantly influence its adoption in the study area.

Several pioneering studies have empirically established the evidence from past applications of ZBB which indicated a substantial value in the concept of re-evaluating budget programs and activities to determine relevant costs, benefits, and alternatives. ZBB has been successfully implemented in a growing number of firms and government units. However, there exists scanty study about whether the perceived benefits influence its adoption in the study area, as such, because of the contemporary and emerging national and international importance, research on this topical issue is desirous.

Research Questions

The research is premised on the following question.

- Do the perceived benefits of Zero-Based Budgeting in Borno state significantly influence its adoption?

While answering the above-mentioned question the study aims at;

- Ascertaining the perceived benefits of Zero-Based budgeting over its adoption in Borno state.

To achieve the stated objective, the research was guided by the following hypothesis
 H_{01} : Perceived benefits of Zero-Based Budgeting does not influence its adoption in Borno state.

Significance of the Study

This study is both theoretically and empirically relevant. Theoretically, the results will serve as a yardstick to assessing governance whose essential goal is to maximize the social and economic welfare of the people. More so, it can equally serve as an instrument for the State Government, to embark upon administrative reforms to incorporate policies that would justify requests for funding and realigned resources for optimum utilization in the budgetary process. This will, in turn, achieve a more equitable distribution of scarce resources, foster public confidence, and promote transparency in government.

International agencies such as the World Bank, UN, UNESCO, and the UK Department for International Development (DFID) would find the study a relevant source of information on the entire budgetary process and its effect in the study area.

Empirically, the study will have a significant contribution to the body of knowledge by bridging the knowledge gaps identified in the field through knowledge-based study especially for researchers, students as well as academicians and will open up a new area for further studies.

Theoretical and Empirical Review

Conceptual Framework

ZBB's task is to aggregate and reevaluate 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 [16].

According to the official terminology of the Chartered Institute of Management Accountants (CIMA); ZBB is viewed as a method of budgeting that requires all costs to be specifically justified by the benefits expected. Hence, it is a cost-benefit approach

which assumed that the cost allowance for an item is zero and remains so until the manager responsible justifies the existence of the cost item and the benefits the expenditure brings [17].

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 [18]. 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 [19].

The organization or government's unit 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.

Historical Evolution of Zero-Based Budgeting System

Zero-base budgeting, also known simply as ZBB, had its beginning at Texas instrument 1969. Peter Pyhrr was credited with its application [20]. 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-base 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 [21]. 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.

Perceived Benefits of ZBB

The evidence from past applications of ZBB indicated a substantial value in the concept of re-evaluating budget programs and activities to determine relevant costs, benefits, and alternatives. ZBB has been successfully implemented in a growing number of firms and government units [20]. For organizations looking to grow by released of capital through improved cost management, ZBB offers appealing possibilities for reducing costs while bringing additional value in the form of operational efficiency. Shelby [16] observed that, since the 1970s, many government entities have attempted to implement ZBB in one form or another. Thus, the full implementation of a Zero-Base Budgeting process is not an easy task, but may be worth pursuing its many benefits. The anticipated potential benefits of a successful Zero-Base Budgeting implementation among others can include:

- An annual analysis and justification of all base budgets by activity, unlike incremental budgeting [21].
- Increased involvement of frontline managers in the budget process who may typically be left out [6].
- A more efficient allocation of resources in line with an organization's strategic plan and economic constraints [6, 21].
- A comparison and ranking of programs against each other, resulting in the elimination of those of lesser value to the organization [6].
- Better budget information resulting in the identification of duplicate, redundant or obsolete services, activities or functions [22].
- An annual review of activities by lower levels of management forcing them to consider alternative delivery methods at lower funding levels [21].
- The ability to find funding internally for new programs through more efficient service delivery and priority ranking of programs [6].
- The planning portion helps to provide low-level management with the information necessary to understand how they own activities fit into the overall strategic plan of the organization [6].
- Upper-level management benefits from lower level management's detailed knowledge of day to day operations, thereby increasing budget information quality

[6].

- Upper-level management is provided with a wider range of budget choices related to varying levels of service and delivery than they might otherwise have access to [21].
- Finally, it can result in improved communication and open discussions between lower and upper management, leading to a beneficial exchange of ideas [21].

Given the foregoing, one may be tempted to ask how ZBB helps in an environment of fiscal distress, where budget cutbacks are required. Firstly, there are three essential questions of planning and budgeting, as shown in Appendix I, these questions are especially relevant in a time where budget cuts are required because they allow for a more rational and comprehensive approach to reducing budgets.

Criticism against Zero-Based Budgeting

Shelby [16] opined that those who have previously researched the Federal and Georgia State, U.S.A., attempts to implement ZBB during the 1970's, have identified the following problems that management should be aware of and possibly prepare for, including:

- A steep learning curve for all employees- Employees unfamiliar with budgeting will likely be needed in the ZBB process and require training in both process and cost analysis.
- Full "buy in" will be required from all departments. Fears regarding possible reductions in funding will need to be subdued through education regarding efficiency analysis.
- The necessary time and resources will need to be provided, including additional manpower. Initial implementation will require additional time as decision units, decision packages, and cutoffs are defined. The learning curve is steep but levels out after the second year [6].
- Clear policy guidance will need to be provided from the beginning in order to effectively rank decision packages and avoid political conflict later.
- Ample lead time must be provided to collect cost information that will be required for the process. There probably won't be enough time during the budget process to build the necessary databases concurrently.
- Conflicts may occur between cost analysis and political considerations when ranking programs. The reason why a program is continually renewed may not be based upon the underlying value of a program [23]. During past implementations, critics have complained

that the amount of paper generated by the ZBB process was overwhelming.

- In a 1979 survey of agencies regarding its impact on paper output at the federal level, responses ranged from a slight increase to over thirty times the usual amount of paperwork. The average response was a doubling in paperwork production [24].
- It is highly unlikely that applying Zero Base Budgeting to all states and departments on an annual basis is feasible. A large number of decision packages generated by large service organizations due to the range of services offered would overwhelm the ranking and consolidation process [25].
- ZBB is a rational comparison process as a result; the general public can better comprehend the basis for making budgetary decisions, inviting closer inspection and criticism. This can be threatening to an agency that is used to making decisions with less oversight [25].

Empirical Review

Ahmad [12] examines Employee Perceptions and Attitude in Brunei Public Sector Organizations the research investigates the perceptions and attitude of employees in some selected public sector organizations in Brunei Darussalam towards the adoption of ZBB. Both primary and secondary data were collected on face to face basis, through structured questionnaires containing open and closed structured questions was administered and collected from the financial units of seven ministries. The sample consists of 31 heads of section, 7 financial officers, 12 assistant financial and 7 accountants and further analyzed using ANOVA. The findings of the study indicate that ZBB is a better approach for allocating resources or public money. According to the respondents, ZBB provides an opportunity for government organizations to review and re-evaluate their functions annually which in turn produce better management information and assist public managers to make decisions based on improved reporting system.

Bin Dost & Shafi [13] in their work "The Impact of ZBB on Employee Commitment". The study based on data collected using questionnaire from two big cities of Pakistan (Islamabad and Lahore), where the survey design was used in the study with a sample size of 342 consisting of the public and private organization, employees relating to Human Resources, Information Technology, Audit, and Accountancy and Technical Department. The simple random technique was utilized in selecting the sample size and questionnaires were entered using SPSS software. The following tools were used for the analysis; Pearson correlation, ANOVA, Coefficients, and Coefficients

correlation. The findings of the study indicate that ZBB has a moderate effect on employee commitment in an organization.

Meliano [14] ascertained the management perception on the usefulness of ZBB evidence from NGOs in Kenya. The study adopted a descriptive survey design and data were collected using questionnaires. Stratified random sampling techniques were used with a sample size of 300 and it was further analyzed using SPSS. The following tools were used for the analysis percentage, mean, and standard deviation. The research findings revealed that ZBB is flexible, communicate corporate goals, minimize cost and enhance knowledge sharing.

Mohamed *et al.* [26], study the Analysis of the Effectiveness of Budgetary Control Techniques on Organizational Performance at Dara-salaam Bank Headquarters in Hargeisa Somali land the study utilized descriptive and retrospective research design. The study is a combination of library and empirical survey, both primary and secondary data were collected from the published materials. The sample size of 70 was used for the study. Statistical Package for Social Sciences (SPSS) versions 21.0 software was used to analyze data by the aid of percentages. The finding of the study concludes that it was able to establish 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.

Ekanem [27] opines in his work title Zero-Based Budgeting as a Management Tool for Effective University Budget Implementation in University of Calabar, Nigeria a study from Nigeria, the study adopted a descriptive survey research design. Stratified random sampling techniques were employed consisting of 250 staff both from academic and non-academic. Data were statistically analyzed using mean and independent T-test statistics. The instrument was face-validated by an expert to ascertain its reliability using the test-retest reliability method. The findings reveal that the application of ZBB for university budget implementation was effective. The researcher concludes that ZBB was credible and rewarding to the university budget implementation in the University of Calabar.

RESEARCH 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, Perceived Benefits has significant influence or not on the dependent variable, that is, the adoption of ZBB. Logistic regression is a nonparametric tool that can analyze data measured with ordinal, nominal, interval and ratio scales [28].

Logistic Regression Model

The above mentioned 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 Perceived Benefits as the independent variable.

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

Where: ZBB_i = adoption of ZBB, PB_i = Perceived Benefits, α_i = Constant, E_i = Error Term

β_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

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

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 the predictor variable (Perceived Benefits) is statistically significant in influencing the adoption of ZBB in Borno State.

Table-2 Variable in the Equation

Variable	B	S.E.	Wald	Df	Sig.	Exp (B)	95% C.I. for EXP(B)	
							Lower	Upper
Perceived B.	.125	.083	6.243	1	.00	1.361	1.292	1.892
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 above shows the covariate (independent variable), the P value is less than 0.05 (5% level of significance) we, therefore, reject the null hypothesis and accept the alternative hypothesis as follows;

Since the P value is 0.00, 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 perceived benefits is accepted.

Table-3: Model Summary Table

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	.000 ^a	.733	1.000

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

Table 3 shows R^2 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 in terms of perceived benefits can be accurately predicted from a linear relationship of the covariate (independent variable). Thus, prediction and grouping suggesting that (the adoption of ZBB in Borno state is influenced by its perceived benefits, $P=0.000$). Therefore, since the P value is less than 0.05 we,

therefore, reject the null hypothesis and accept the alternative hypothesis.

Findings

The study found that the variable perceived benefits were statistically significantly related to the adoption of ZBB in Borno state. Exp (B) values indicate that when the covariate rise by 1 unit, the odds ratio is 68 times likely to influence the adoption of ZBB in Borno state.

To ensure adherence to the fundamental principles of zero-based budgeting system as an instrument of economic policy, there is the need for the state government to design a decision package in order to evaluate, rank, and prioritise government programs and services in order of their priority and in accordance with the availability of resources on the ground. Thus, all ministries, departments, and agencies must ensure that all costs (requests for funding) to be specifically justified by the benefits expected. Suggesting a cost-

benefit approach, hence it communicate corporate goals and enhance knowledge sharing amongst stakeholders such as budget officials, budget preparers, appropriation committee, budget analysts and the general public. This concurs with the findings of Meliano [14] that zero-based budgeting system is flexible, communicate corporate goal, minimizes costs and improve knowledge sharing among NGO’s donors, management and other stakeholders in Kenya.

APPENDIX I

Rational and Comprehensive Approach for costs Reduction

Planning	Budgeting
What are the community’s priorities and how can government’s action add value?	What programs should we fund in order to best achieve the priorities?
How much and what quality of service does the community need from a given program?	What level of service should we fund a program?
Is the service provided efficiently?	For a given service level, are the requested inputs reasonable justify for the output we expect to receive?

CONCLUSION

The study, therefore, concludes that it is possible to adopt zero-based budgeting in Borno state. The perceived benefits on ZBB are attainable because it is politically feasible, offers more appealing opportunities for costs effectiveness; sustainable fiscal discipline and fiscal transparency could be enhanced by drawing a financial roadmap 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.

based budgeting system in their respective areas of jurisdictions in order to accomplish it perceived benefits.

It is against this backdrop that this study further recommends similar studies should be carried out in different geographical areas not covered in Nigeria so as to harmonize the findings with a view of enriching the literature.

Similar studies with large sample size and on different stakeholders to be carried out to facilitate more acceptable generalization of the findings.

RECOMMENDATIONS

Based on the aforementioned findings above, the following recommendations were made:

- The adoption is zero-based budgeting system is recommended in Borno state so as to achieve the perceived benefits through sustainable fiscal discipline by enhancing proper evaluation of governments 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 to incorporate policies and prioritize their public spending projects based on the fundamental principles of zero-

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