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# **The impact of Budgetary Planning on Resource Allocation: Evidence from a Developing Country**

## **Introduction**

Budget and budgetary control constitute important and fundamental management and internal control systems enterprise could use for effective and efficient resource allocation. Budgeting is not only about rolling out a financial plan containing cost and revenue targets to responsibility centers in an organization, but it is also a management tool for planning, control, coordination, motivation, communication, efficiency management and resource allocation (Otley, 1999; Hansen & Van der Stede, 2004; Libby & Lindsay, 2010; Gustaf & Sven, 2016). The role that effective budgeting plays in the management of a business is best understood when it is related to the fundamentals of management. The many existing definitions of business management can be expressed in terms of five major functions: planning, organizing, staffing, directing, and controlling (Drucker, 1955). Management must first plan. The plan is executed by organizing, staffing, and directing operations. To control operations, management must institute appropriate techniques of observation and reporting to determine how actual results compare to plans. The summary of it is that management is about decision making in relation to resource allocation for the achievement of the organizational objectives ((Shields, Deng, and Kato, 2000) and budgeting is one of the main tools which management can rely on to efficiently allocate resources.

Increasingly, firms are constraint as to the amount of resources available to achieve their objective of wealth maximization. Resources in the form of financial and human are limited in supply and enterprises should therefore develop the means of allocating these limited resources efficiently. It is therefore expected that budgeting if carefully implemented can help organizations to efficiently allocate resources. However, budgeting if implemented in isolation can't achieve intended purpose. It is therefore being proposed that budgeting should be linked to other mechanism, i.e. performance management so as to achieve the desire results. According to Al Bento and Lourdes Ferreira White (2006), performance management involves budgeting, performance evaluation, and incentive compensation which are all geared towards resources allocation within an organization.

Generally, the performance of management is partly judged by the efficiency in which key decisions are made including resource allocation. According to Pollitt (2001), financial and performance management systems are tools to achieve the objectives of the resource

management system within which the budgeting and management activities of the organization take place. Therefore, the discussion of integrating financial and performance management systems must begin around the basic objectives of a resource management system. It is therefore estimated that if assessment of the performance of management is linked to achievement of budgetary goals, it will influence the behaviour of management who are the agents of the organization towards the efficient allocation of resources which is the utmost concern of the shareholders – principals. Therefore, performance management plays a mediating role in ensuring that resources are allocated efficiently through the application of budgeting and its behavioral implications.

This study, therefore, proposes that in a well-functioning organizational system, budgeting could be used to efficiently allocate resources. However, the process of allocating resources using budget should be linked to performance management to achieve the needed effect. If this objective is achieved then the interest of principals would have been served leading to a reduction in the potential agency conflict. To this end, the main research question for the study is: Does firms in Ghana allocate resources through the use of budgetary planning?

Agency theory has often been applied to understand and explain the relationship and need for control between different organizational levels. Agency theory helps us to understand the traditional relationship between a principal and an agent. An agency relationship exists when one or more individuals (the principal) hire another individual (the agent) to perform services on their behalf (Jensen & Meckling, 1976). In an organizational context, the principal is often the owner (or alternatively corporate management) while the agent is often defined as the CEO (or alternatively divisional or lower level management).

A simple agency model suggests that, as a result of information asymmetries and self-interest, principals lack reasons to trust their agents and will seek to resolve these concerns by putting in place mechanisms to align the interests of agents with principals and to reduce the scope for information asymmetries and opportunistic behavior (Laffont & Martimort, 2002; ICA, 2005; Meyers, 1996; Fozzard, 2001). There are various mechanisms that may be used to align the interests of agents with principals and to allow principals to measure and control the behavior of their agents and reinforce trust in agents. One of such mechanisms is budgetary planning. Control of agency problems in the decision process is important when the decision managers who initiate and implement important decisions are not the major residual

claimants and, therefore, do not bear a major share of the wealth effects of their decisions (Mills, 1990).

Ghana is interesting to the current study because of the recent agency problems being faced by firms both at the public and private sectors. In the public sectors managers of the national resources implement programs and policies not in line with national interest but rather to satisfy personal interest. In the private sector, programs and activities are selected not in line with wealth maximization principle of a firm. Moreover, the country faces resource constraints both at the macro and micro levels. This is mainly due to the level of economic development (i.e. lower middle income) in the country where resources are still being harnessed. Firms are increasing constraint in accessing resource both financial and human for growth and expansion and for that reason there is the need to develop effective means of allocating the limited resources.

Covaleski et al. (2003), emphasized the need for further research that does not simply focus on the direct linear effects of budgeting practices on performance, but argued in favor of a research strategy that examines the effects of budgeting on other intervening variables (e.g. performance management) and then tests for the mediating effects of those variables on behavior in terms of efficient resource allocation. The current paper derives its motivation in part from this line of thinking. This approach addresses the call from Hansen et al. (2003) for more research that does not simply study budgeting in isolation from other organizational practices, but considers budgeting “as part of an organizational package” (Hansen et al., 2003, p. 110).

This study departs from the previous studies (Callahan and Waymire, 2007; Fisher, Maines, Peffer and Sprinkle, 2002; Holmes and Hurley, 2003; Libby and Lindsay, 2010) by linking budgeting, performance management, and resource allocation as a means of dealing with some of the agency problems. The study also departs from the previous studies (Campos and Pradhan, 1996; Likierman, 1998; Neuby, 1997) which concentrated on public sector budgeting, by extending the discussion of budgeting to the private sector organizations and in particular whether firms in Ghana apply budgeting principles in resources allocation.

## **Literature Review and development of hypotheses**

### **Budgetary planning and resource allocation**

According to Meyers (1994), standards for a good budgetary process are as follows: it includes all uses of the organization's financial resources, based on unbiased projections, considers the long-term as well as the near-term, seeks ways of obtaining the most effects for the least costs, does not dominate other important decision processes, completes regular tasks when expected, is understandable without intensive effort, reserves important decisions to legally-appropriate authorities, and adopts policies that match corporate preferences. The resource allocation process is designed to enable executives to make informed decisions, quickly, without major investment in time, money or resources. The resource allocation process aligns the available resources with the organization's mission-critical processes (Rodgers, 2009).

Agency theory posits that the agency relationship and the issues that arise from this, particularly the dilemma that the principal and agent while nominally working toward the same goal may not always share the same interests. An agency relationship arises when one or more principals (e.g. an owner) engage another person as their agent (or steward) to perform a service on their behalf (Mitnick, 1973; Ross, 1972; Jensen & Meckling, 1976; Fama, 1980). Agency theory raises a fundamental problem in organizations—self-interest behavior. Ideally, the systems of budgetary planning and performance management (including people management) introduce the tools, incentive systems and institutional arrangements by which organization seeks to mitigate or minimize these problems and maximize achievement of objectives that align with the interest of principals (Chow, Cooper, and Waller, 1988).

Budgeting, accounting, and audit are all certainly important elements of financial management, but to achieve a definition that will include the full range of “financial” activities which interface with performance management then it is necessary to construe “budgeting” in a broad way – so that it is understood to include the various processes of budget execution/implementation, as well as the “headline” activity of budget-making. Therefore, we will consider “budgeting” to embrace not only monitoring and control activities but also (for example) cash-flow management, purchasing, debt collection, property management and risk management (Pollitt, 2001).

Following the above discussion, we proposed the following hypothesis:

**Hypothesis 1:** There is a positive relationship between budgetary planning and resource allocation.

### **Budgetary Planning and performance management**

A simple agency model suggests that, as a result of information asymmetries and self-interest, principals lack reasons to trust their agents and will seek to resolve these concerns by putting in place mechanisms to align the interests of agents with principals and to reduce the scope for information asymmetries and opportunistic behavior (ICA, 2005). Agents are likely to have different motives to principals. As a result of these differing interests, agents may have an incentive to bias information flows (ICA, 2005). There are various mechanisms that may be used to try to align the interests of agents with principals, for example remuneration packages and incentives for agents can provide an effective mechanism, as can the market for corporate control and hiring and firing by the board of directors. Such mechanisms, however, create potential new agency problems related to the measurement of performance. According to Parulian (2009), Management control system itself consists primarily of a process for monitoring and evaluating performance, while the preconditions specify the reliability and validity with which such comparisons can be made.

Pollitt (2001) proposed a series of processes that are relevant in defining performance management including setting performance objectives and targets for programs, giving managers responsible for each program the freedom to implement processes to achieve these objectives and targets, measuring and reporting the actual level of performance against these objectives and targets, feeding information about the performance level into decisions about future program funding, changes to program content or design and the provision of organizational or individual rewards or penalties.

Following the above discussion, we proposed the following hypothesis:

**Hypothesis 2:** There is a positive relationship between budgetary planning and performance management.

## **Performance management and resource allocation**

In a well-functioning resource management system, financial management and performance management processes will exist using complementary and mutually supporting processes (Otley, 1999). Budgeting, accounting, and audit are all certainly important elements of financial management. Financial management systems aim to aggregate fiscal discipline at the macro level and also for more efficient service delivery. Echoing these objectives, performance management aims for increased efficiency at the micro levels. Financial management seeks to allocate resources in such a way as to concentrate on those programs which are of the highest organizational priority (Pollitt, 2001). In principle, there should be a link between this objective and performance management's aim of improving the quality and effectiveness of programs, to the extent that organizational leaders wish to prioritize programs that work well and achieve the objectives of the organization (Pollitt, 2001). Furthermore, the enhancement of accountability features as a goal for both financial management and performance management. In all these ways, therefore, financial management and performance management would appear to enjoy a shared mission. The vision of mutual interdependence and harmonious comparability between budgeting and performance management will lead to an effective resource allocation system (Pollitt, 2001).

Following the above discussion, we proposed the following hypothesis:

**Hypothesis 3:** Performance management mediates the relationship between budgetary planning and resource allocation.

Following the three (3) hypotheses, we proposed the conceptual model below.

### **INSERT FIGURE 1 ABOUT HERE**

The proposition, therefore, is that an integration of the three constructs, i.e. budgetary planning, resource allocation and performance management can resolve some of the agency problems in the context of an organization– by aligning the interest of principals and agents.

## **Methodology**

The study uses the Structural Equation Modelling (SEM) and, in particular, the variance-based approach to SEM (PLS-SEM). SEM is a second-generation multivariate data analysis method that can test theoretically supported linear and additive causal models (Chin, 1998). The fact that unobservable, hard-to-measure latent variables can be used in SEM makes it

ideal for tackling business research problems like the current study (Wong, 2013). In order to understand whether firms in Ghana allocate resources through the budgetary planning principles, a survey was conducted where managers and budget holders (i.e. top managers responsible of budget preparation, implementation and its review) of publicly listed companies were asked about their experience with the budgeting process and performance management and how it could be used to achieve efficient resource allocation. Survey questionnaires were distributed to graduate students pursuing MBA programs at Ghana Institute of Management and Public Administration (GIMPA). The students were asked to distribute the questionnaires to the executives in their companies who were best qualified to answer the questions. The data gathering process lasted for a period of 5 months and comprised of multiple phases.

The first phase limited the effort to firms mostly in the Greater Accra Metropolitan area of Ghana where most industrial firms are located. This resulted in the receipt of about 180 completed surveys. Follow-ups to those who had not responded resulted in the receipt of an additional 100 questions. Approximately 350 surveys were distributed to 35 firms listed on the Ghana stock exchange comprising a broad spectrum of industries/sectors in Ghana and 80% responded and returned the questionnaire. This represents 280 absolute numbers of individual respondents. The data analysis (discussed later) was based on 210 completed responses, representing a valid response rate of 75%. The sample mixture was considered adequate with 71% of all respondents being top business management executives and budget holders who normally decide on the top level and actively involved in the budgeting process within their respective organizations. Table 1 presents the sample profile of respondents and the industry sectors.

#### **INSERT TABLE 1 ABOUT HERE**

A non-response bias was checked using a small scale posthoc analysis after the actual data collection stage ends, and later compare the results of the two to see if there's any significant difference. The analysis did not disclose any significant differences between early and late respondents. The questionnaire was designed to prevent common method bias. However, we also took steps to test for common method variance (CMV). Specifically, we used Harman's one-factor test which is the most widely used technique by researchers to address the issue of common method variance. The 36.75% variance explained by a single factor shows that the



common method bias was not a major concern in this study (less than 50% cutoff point, Nunnally and Bernstein 1994).

The firms were limited to the publicly listed companies because these firms usually have agency problems since shareholders (Principals) have vested their interest with managers (Agents) to oversee the affairs of the organization. Besides, these firms normally undertake formal budgetary planning, performance management, and resource allocation processes. In this survey, management level executives and budget holders were asked to rate their experience on a scale representing 3 latent variables, namely budgetary planning, performance management and resource allocation using a 5-point Likert scales [(1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, and (5) strongly agree]. Following (Pollitt, 2001; Meyers, 1996; Seleshi, 1992) the latent constructs budgetary planning was measured by 7 indicators; performance management was measured by 7 indicators and resource allocation was measured by 6 indicators (see Table 2 for details of measures/indicators).

### **INSERT TABLE 2 ABOUT HERE**

The content validity of the survey instrument was checked using pilot testing and domain expert review in order to ensure that the items represent the dimensions of the construct being measured (Straub, Boudreau, and Gefen, 2004).

### **Results**

To apply the PLS-SEM, we had to estimate the minimum sample size that will be used in the study using the G power statistical software ((Faul et.al, 2009). Hair et al (2014) recommended a power of 0.80, median  $f^2 = 0.15$ . The budgetary planning construct has 7 indicators and for that reason, it was used as a benchmark to determine the minimum sample size for the study (seven arrows – see Figure 2). The calculated minimum sample for the study was 153 cases with the actual power of 0.95. However, in order to achieve a more consistent model, we decided to use all the valid dataset.

The application of the PLS-SEM for the data analysis was done using two major steps: the first step involves the analysis of the measurement model in order to ensure reliability and validity. The second involves the analysis of the structural model to establish the relationship between the constructs (Henseler et al., 2009). The SmartPLS 2 was used to run all the

analysis and the probabilities (p values) computations were done using the Microsoft excel t-distribution function.

### ***The Measurement Model Analysis – Quality Criteria***

We examined composite reliability as well as convergent and discriminant validity. Tables 3 and 4 show composite reliabilities, the average variance extracted (AVE), the R-square, Cronbach alpha, squared inter-construct correlations. The first aspect to be observed of the measuring models was the Convergent Validities obtained by the observations of the Average Variance Extracted - (AVEs). Using the Fornell and Larcker (Henseler et al., 2009) criteria, that is, the values of the AVEs should be greater than 0.50 ( $AVE > 0.50$ ). The AVE is the portion of the data that is explained by each one of the constructs, respective to their groups of variables. Therefore, when the AVEs are greater than 0.50 we can say that the model converges to a satisfactory result (Fornell and Larcker, 1981).

#### **INSERT TABLE 3 ABOUT HERE**

The results in Table 3 show all the constructs of the SEM presents an AVE value of  $> 0.50$ . We observed the internal consistency values (Cronbach's Alpha) and the Composite Reliability (CR). The traditional indicator Cronbach's Alpha (CA), is based on the variable inter-correlations. CR is the most fitting to PLS, as it prioritizes the variables according to their reliabilities. CR values of 0.70 and 0.90 are considered satisfactory (Hair et al., 2014). The result in Table 3 demonstrates that the CA and CR values are both adequate.

We also evaluated the Discriminant Validity (DV) of the SEM, which is understood as an indicator that the constructs are independent of one another (Hair et al., 2014), using the square roots of the AVE values of each construct with the Pearson correlations between the constructs (Fornell and Larcker, 1981).

#### **INSERT TABLE 4 ABOUT HERE**

The square roots of the AVEs should be greater than the correlations between the constructs. The results in Table 4 show that the values of the correlation between the constructs are less than the square roots of the AVEs of these same construct. This implies that the model has achieved discriminant validity based on the Fornell and Larcker criterion.

### *Structural model Analysis*

The second step of the application of the PLS-SEM deals with the analysis of the structural model. We evaluated the Pearson's coefficients ( $R^2$ ). The  $R^2$  evaluates the portion of the variance of the endogenous variables, which is explained by the structural model. Cohen (1988) suggests that  $R^2 = 2\%$  is classified as having a small effect,  $R^2 = 13\%$  as a medium effect, and  $R^2 = 26\%$  as having a large effect. As can be seen from Table 3, the  $R^2$  values are approximately 11% and 35% for performance management and resource allocation respectively. Relating these estimates to the Cohen criteria, we can see that for the performance management falls within the medium range and resource allocation falls within the large range. Since we were dealing with correlations and linear regressions among the constructs, there was the need to assess if the relationships among the constructs were significant ( $p \leq 0.05$ ).

#### **INSERT FIGURE 2 ABOUT HERE**

The values of the t-test and the p-values are presented in Table 5 and the correlation coefficients are in figure 2.

#### **INSERT TABLE 5 ABOUT HERE**

A careful examination of Table 5 shows that the values of the relations LV – LV are above the referenced value of 1.96. In those cases, the  $H_0$  was rejected and we could say that the correlations and the coefficients of the regression are significant, as they are different than zero for all the hypotheses.

A mediation tests were conducted as part of the analysis since there was a mediating variable (Performance Management) in the model (Figure 1). Hair et.al (2014) indicated that for mediation to be relevant in the model, the direct effect should be significant. First, it was found that Budgetary planning was positively related to Resource allocation ( $\beta = .4212$ ,  $t = 10.49$ ,  $p = .000$ ). Second, it was also found that Budgetary planning was positively associated with Performance management ( $\beta = .4301$ ,  $t = 5.83$ ,  $p = .000$ ). Lastly, results indicated that the mediator (Performance management), was positively associated with Resource allocation ( $\beta = .3140$ ,  $t = 3.35$ ,  $p = .009$ ). Because both a path and b-path were significant, mediation test was conducted using the bootstrapping method with bias-corrected confidence estimates (Preacher and Hayes, 2008). In the present study, the 95% confidence interval of the indirect effects was obtained with 5000 bootstraps resamples (Preacher and Hayes, 2008). The results

of the mediation analysis confirmed the mediating role of Performance management in the relation between budgetary planning and Resource allocation.

**INSERT FIGURE 3 ABOUT HERE**

However, the variance accounted for (VAF) which was given as:

$$PM = \frac{ab}{ab + c'} = \frac{ab}{c}$$

where PM means percentage mediation was about 0.2427 or 24% suggesting partial mediation (Hair et al., 2014). Figure 3 displays the results.

**INSERT TABLE 6 ABOUT HERE**

**Discussions**

Table 6 presents a summary of the hypotheses tested and the results obtained. Budgetary planning is positively related to performance management and resource allocation decisions. Performance management mediates the relationship between budgetary planning and resource allocation. Thus, hypotheses 1, 2, and 3 are all supported. This result is in line with Pollitt (2001) assessment of mechanisms to improve resource planning and allocation by integrating financial and budgetary management with performance management. The results demonstrate that budgeting is a tool for resource allocation within the sample firms; however, performance management has a role to play in that relationship. The results prove that performance management can influence resource allocation in the sample firms. This perhaps is achieved through positive behavioral implications on the part of the corporate managers (agent) since the budget is being used as a performance management tool. Managers recognizing that the budget is being used to evaluate their performance will implement policies and programs that can have positive effect on resource allocation. Therefore, by combining budgeting, resource allocation and performance management in a comprehensive framework, the interest of agents in this case corporate managers will be aligned with corporate owners – shareholders. This fits into the objective of corporate owners (shareholders) who are mainly concern about efficient resource allocation so as to maximize their wealth (Katarina & Inger, 2009).

According to Chow, Cooper, and Waller, (1988), the systems for budgeting and performance management introduce the tools, incentive systems and institutional arrangements by which organizations seek to mitigate or minimize agency problems and maximize the achievement of organizational objectives. The results of the study fit into this proposition since budgetary planning, resource allocation and performance management are positively related and that reason it could be used as tools to align the interest of the principals and agents. This is the expectation for a properly working system and the empirical evidence has established that firms in Ghana show the relation that we would expect in a properly functioning system. Hitherto, the perception has been that firms in Ghana do not allocate resources using budgeting principles.

Both budgeting and performance management systems share four key objectives although the processes and skills employed to achieve the objectives are likely to be different (Pollitt, 2001; Dandago and Tijjani, 2005): Setting objectives and allocations for organizational actions (e.g. based on input, outputs, and/or outcomes or strategic prioritization); Establishing the types of authorities for carrying out those actions (e.g. centralized, decentralized, devolved, contractual, legal); Determining what information is needed to know if the actions are executed properly (e.g. measurement, information and reporting needs); Rewards and sanctions for performance (e.g. accountability framework, incentive systems). Therefore, in a well-functioning resource management system, budgeting and performance management processes will exist using complementary and mutually supporting processes.

If we compare the above objectives of budgeting and performance management systems, some overlap and mutual reinforcement are immediately apparent. Budgeting systems aim to aggregate fiscal discipline at the macro level and also for more efficient service delivery. Echoing these objectives, performance management aims for increased efficiency at the micro levels. Budgeting seeks to allocate resources in such a way as to concentrate on those programs which are of the highest organizational priority. In principle, there should be a link between this objective and performance management's aim of improving the quality and effectiveness of programs, to the extent that organizational leaders wish to prioritize programs that work well and achieve the objectives of the organization (Pollitt, 2001). The empirical evidence points to this phenomenon of the firms in Ghana.

Budgets are, in addition to implementing incentive systems, a common way of handling the principal–agency challenge and the threat of moral hazard. Budgets allow the principal to

control the agents' use of resources. Removing the budgets is therefore likely to affect the relationship between the principal and the agent. Firms will be successful in resolving agency problem if the budgeting process is linked to performance management in a comprehensive model. The linkage is expected to invoke positive behavioral implications on the part of the managers in relation to resources allocation that fits into the agenda of corporate owners.

In relation to the mediation effect of performance management on the relationship between budgeting and resource allocation proved to be partial mediation. There seems to be other variables other than performance management affecting the relationship between budgeting and resource allocation. Future research on this subject matter could therefore explore those variables.

### **Conclusions, implications and limitations of the study**

Budgeting plays a central role in public and private organizations in the areas of planning and controlling (Tsamenyi, Bennett, & Black, 2004). This study has explored how firms allocate resources with the conclusion that firms in Ghana used budgetary planning in their resource allocation function. The optimal behaviour that is expected in a well-functioning organizational system is being implemented by the sample firms in the study. The study has also established that budgeting and performance management systems are tools to achieve the objectives of the resource management system within the organization. Thus the interplay of budgeting and performance management should lead to efficient allocation of resources. This has the potential to align the interest of principals with that of agents, thereby reducing agency conflict. This integration can install and maintain aggregate financial discipline; allocate resources in accordance with organizational priorities; promote efficiency in the use of budgetary resources to deliver programs and services. The study has established the fact that budgetary planning is not implemented in isolation, but rather linked to performance management to achieve the needed effect in the case of the firms in Ghana.

As a policy implication, this study has established that efficiency revolves around making the possible use of a given set of resources. Therefore, if the objective is to align the interest of the principal and agents, then budgets could be prepared with measurable objectives that tie the agents' interest to that of the principal. This is achieved through positive behavioral changes on the part of the corporate managers towards resources allocation. This is what the integration of budgetary planning, performance management, and resource allocation seeks to

achieve in order to reduce the potential agency issues that are created when ownership and management are separated.

By way of limitation, the data collection was restricted to the firms listed on the Ghana stock exchange. We were, therefore, unable to assess the situation with the non-listed companies and family owned businesses. Future research could, therefore, extend the scope of the data collection and examine both public and private organizations.

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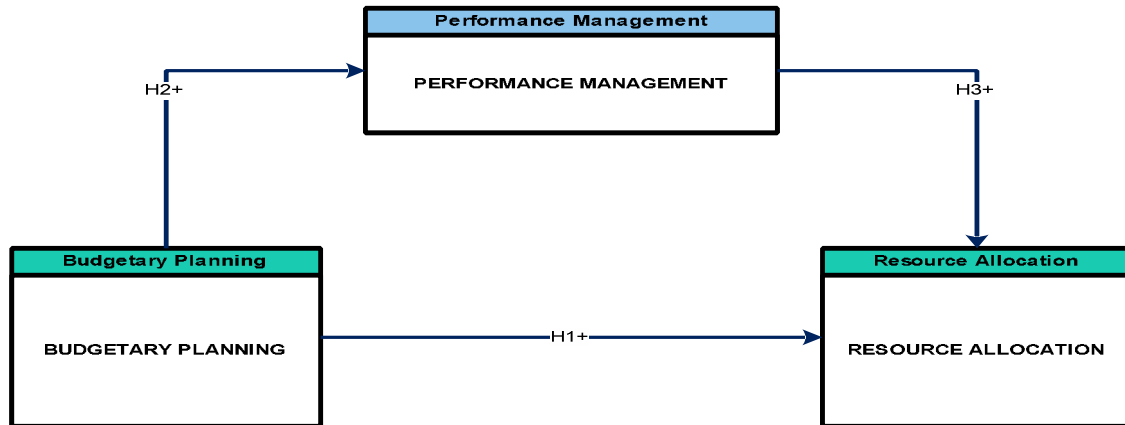
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**Figure 1: Conceptual Model and Hypotheses**



**Table 1 Industrial Sector Classification**

Industry Sector					
	Industrial Sector	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agro Processing	30	14.0	14.0	14.0
	Banking	25	12.0	12.0	26.0
	Manufacturing	68	32.0	32.0	58.0
	Mining/Exploration	22	10.0	10.0	68.0
	Oil Marketing	21	10.0	10.0	78.0
	Service	33	16.0	16.0	94.0
	Technology	11	6.0	6.0	100.0
	<b>Total</b>	<b>210</b>	<b>100.0</b>	<b>100.0</b>	

**Table 2: Constructs and their measurement**

CONSTRUCTS	Measures/Indicator
<b>Budgetary Planning</b>	
Budget_1	your company's budgets are informed by the long term strategic objectives
Budget_2	Budgets are prepared to qualify different areas of operations in your organization
Budget_3	Budget goals of my company are clear and specific
Budget_4	Budgets are means of allocating resources in the organization
Budget_5	your organization calculate the difference between actual performance and budgeted performance
Budget_6	There is feedback control system in your company's budget
Budget_7	Staffs are involved or participated in the budget setting in your company
<b>Performance Management</b>	
PerfManag1	Setting performance objectives and targets for programs
PerfManag2	Giving managers responsible for each program the freedom to implement processes to achieve these objectives and targets
PerfManag3	Measuring and reporting the actual level of performance against these objectives and targets
PerfManag4	Feeding information about the performance level into decisions about future program
PerfManag5	Provision of organizational or individual rewards or penalties for achieving/failing to achieve their targets?
PerfManag6	Providing information ex-post review
<b>Resource Allocation</b>	
ResAlloc1	My organization has resource constraints
ResAlloc2	Resources are allocated during the budgeting process
ResAlloc3	Costs benefits analysis are employed in resource allocation in the budgeting process
ResAlloc4	Organization's resources are allocated efficiently though the use of budgets

**Table 3: R-Square, Convergent Validity, Discriminant Validity and Reliability**

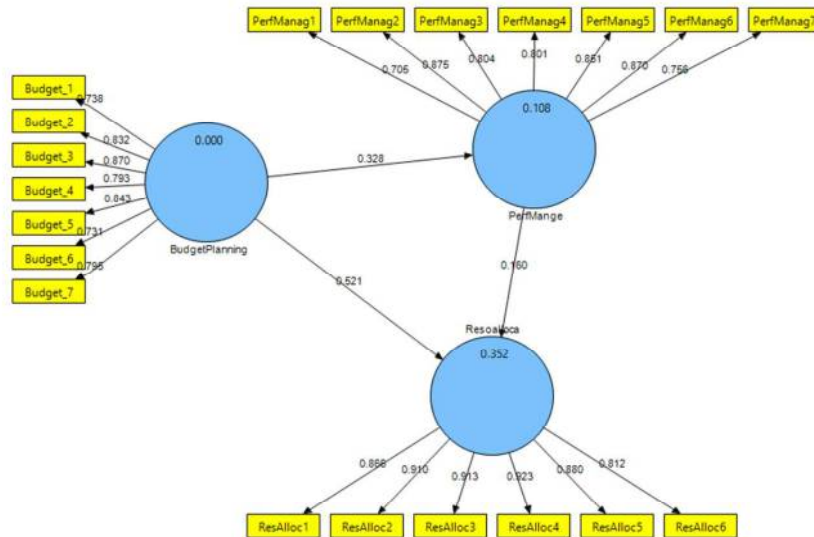
Constructs	Average Variance Extracted (AVE)	Composite Reliability (CR)	R Square	Cronbachs Alpha (CA)
BudgetPlanning	0.6431	0.9263	-	0.9067
PerfMange	0.6576	0.9304	0.1076	0.9121
Resoalloca	0.783	0.9558	0.3516	0.9442

**Table 4: Values of the correlations between LV and square roots of the AVE values in the main diagonal (Fornell-Larcker criterion)**

Constructs	BudgetPlanning	PerfMange	Resoalloca
BudgetPlanning	<b>0.802</b>		
PerfMange	0.328	<b>0.811</b>	
Resoalloca	0.573	0.331	<b>0.885</b>

**Note: The bold numbers on the diagonal are the square root of the AVEs.**

**Figure 2: PLS-SEM Model output (Both Measurement and Structural/Path Model)**

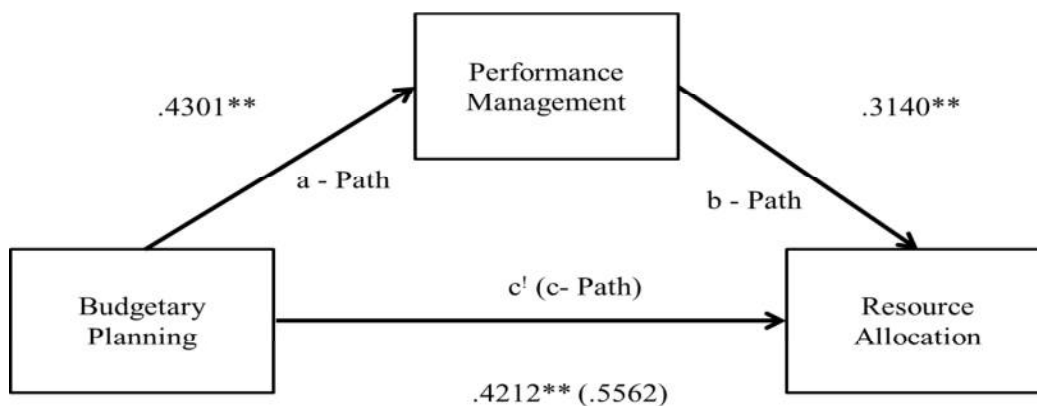


**Table 5: SEM with the values of the t tests and Probabilities (p-values)**

Constructs	Original Sample	Sample Mean	Standard Deviation	Standard Error	T Statistics	Pvalues
BudgetPlanning -> PerfMange	0.328	0.3304	0.0701	0.0701	4.6794***	0.000
BudgetPlanning -> Resoaloca	0.5208	0.5231	0.0521	0.0521	9.9968***	0.000
PerfMange -> Resoaloca	0.1602	0.1622	0.0563	0.0563	2.8466***	0.005

\*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01

**Figure 3: Indirect effect of budgetary planning on resource allocation through performance management.**



**Note: \*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01**

**Table 6: Summary of Hypotheses Testing Results**

Hypothesis	Exogenous variable	Path	Endogenous variable	Path Estimate	P- value	Supported?
H1	BudgetPlanning	→	Resource Allocation	0.328***	0.000	Yes
H2	BudgetPlanning	→	PerfManagement	0.5208***	0.000	Yes
H3	PerfManagement	→	Resource Allocation	0.1602***	0.005	Yes

**\*p < 0.1; \*\*p < 0.05; \*\*\*p < 0.01**

**The impact of Budgetary Planning on Resource Allocation: Evidence from a Developing Country**

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