



## Performance-based budgeting or budgeting-based performance?

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### ABSTRACT

*Performance Based Budgeting carried out in Indonesian private higher education found lots of constraints. Apart from factors of cultural work, leadership, and negative perceptions of the community academics, obstacles, and budget limitations are big challenges. This study examines field data related challenge of performance-based budgeting in Indonesian private higher education in particular linked with budget limitations. This study uses a quantitative method with an equipped open questionnaire for getting input about the implementation of performance-based budgeting that is recommended in finance management finance in Indonesian private higher education. Respondents were heads of financial management at 213 private universities in Indonesia. Statistical results show that budget limitations have a significant negative effect on performance-based budgeting in terms of performance orientation of -0.824, implementation flexibility of -0.634, and functional approach of -0.654. Furthermore, proposal optimization of performance-based budgeting with challenging Budget limitations are discussed.*

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## Introduction

Indonesian private higher education is a quasi-public service that follows public regulation Government Republic of Indonesia. Based on law no. 17 of 2003 concerning State Finance and Law no. 25 of 2004, the public institution in Indonesia enforces Performance Based Budgeting. This provision is followed by state universities and is slowly being implemented in private universities as part of quasi-public institutions. Handayani et al., (2023) surveyed 390 private higher education in Indonesia and found more than 75.8% of private higher education have enforced a performance-based budgeting system in their finance management.

The effectiveness of college performance based budgeting is positively supported by budget perpetrator perception (Handayani, Pratolo, et al., 2023). Handayani found strong support for budgetary fairness and leadership support in forming positive perceptions of budget actors. Pratolo et al., (2021) found that the role of leadership influences the implementation of performance-based budgeting as found by other researchers (Purwohandoko et al., 2015; Ibrahim et al., 2016 ). Performance-based budgeting is an important part of achieving the vision and mission of higher education. This process involves working together with all elements of higher education. Performance is a common goal that is understood, planned, and financed in the university budget. This process follows the money-function philosophy where performance is obtained from the use of funds according to predetermined goals.

Referring to the Conservation of Resources theory (Hobfoll, 1989) with the basic principle of resource protection being very important, universities have an interest in protecting their resources, both financial resources and human resources, as important subjects that must be performed. Therefore, this relationship exhibits a bidirectional role. In performance-based budgeting, two important, intersecting, and sometimes contradictory things are found, namely performance and budget limitation. Ibrahim et al., (2016) found that higher education performance increases if lecturers and employees feel high support from the organization. Support is reflected in good leadership (Handayani, Pratolo, et al., 2023), system support and supporting tools (Pratolo et al., 2020) and financial support allocated to work units to achieve their goals. This idealism is not necessarily easy to implement in many universities, especially private universities due to budget limitations.

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Budget limitation is a common problem in budgeting with any method. This is a challenge that organizations must solve with strategic planning, cost control, and more efficient use of existing resources. Huang (2008) found that budget limitations caused financial difficulties in Chinese universities, so it was proposed to improve governance. Hermawan & Novita (2021) researched the finances of state universities in Indonesia and found that financial planning challenges were linked to limitations. These limitations impact how money can be allocated and spent. Several studies have found failure in implementing performance-based budgeting due to several factors, including negative perceptions from budget actors (Aliabadi et al., 2019) or lack of leadership (Goddard and Mkasiwa, 2016); (Shahzad et al., 2018). This research examines the implementation of performance-based budgeting by connecting funding limitations and proposes systematic steps to optimize performance-based budgeting, especially in private universities in Indonesia.

## Literature Review

### Performance Based Budgeting

Performance Based Budgeting (UN) according to Hager (2001) is a budget concept with the appropriateness of the output of the expenditure made. When the budget is prepared based on output per unit, it can be defined as a performance-based budget (Schick, 2014). Performance-based budgeting in higher education focuses on achieving higher education performance effectively, efficiently, and on target. Pratolo et al., (2020) discuss the importance of performance-based budgeting in universities considering that universities are public entities that are oriented toward the interests of society. As an educational institution, the main performance of higher education is focused on achieving the goal of producing quality education (Dicker et al., 2019).

Preparing performance-based budgets in higher education includes work programs outlined in planned activities and set targets. Next, each activity is detailed in the budget line item with the amount of funds required. Activities and performance targets are set in a clear time plan for each activity. Lorensius et al., (2021) highlight the importance of evaluation as an important part of achieving performance targets from a predetermined budget. Performance-based budgeting is a financial governance system that helps higher education management achieve predetermined performance targets.

Various studies have found the importance of performance-based budgets in supporting the achievement of organizational goals. Nia et al., (2022) researched performance-based budgeting in Iranian state universities with a focus on the importance of accountability and transparency. Khaghany (2022) found a significant improvement in the financial performance of Iraq's Kufah University with the transition to performance-based budgeting. Prang (2022) notes the importance of accountability in the implementation of performance-based budgeting in Cambodian higher education and identifies the main drivers of performance-based budgeting. He & Ismail (2023) concluded that performance-based budgeting in China shows a positive influence on university performance and can mediate staff capacity and performance.

Higher education performance-based budgets are identified with three dimensions, namely performance orientation, budget flexibility, and budgets allocated using a functional approach (Hermawan & Novita, 2021). Performance orientation means that budgeting is aimed at achieving measurable higher education goals. Budget flexibility allows work units to determine strategic activities to achieve performance that can be proposed for funding. The third dimension is that all higher education expenditure is allocated using a function approach (money follows function) (Pratolo et al., 2020).

According to the Regulation of the Minister of Finance of the Republic of Indonesia Number 194 of 2013, performance-based budgeting can clearly differentiate between fund allocation and achieved performance (output oriented). Performance orientation in performance-based budgeting states that there are clear organizational goals, work programs are made to focus on organizational goals and there is measurable output (Fitri et al., 2013); (Pratolo et al., 2020); (Hermawan & Novita, 2021). Budget flexibility is the space given to budget managers at both universities and work units to prepare budgets based on their respective work programs. This flexibility needs to be managed so that the budget is not rigid, including that the work program can adjust to implementation conditions. Performance-based budgeting is identical to money follow function, where its function is to finance work programs in accordance with planning which contains: formulation of: (1) input or resources that will be needed; (2) activities to be carried out; (3) the volume of output that will be produced, and (4) the results (outcomes) as indicators of the success of the organization/program (PMK, 2013);(Pratolo et al., 2020).

### Budget Limitations

One of the challenges of implementing a performance-based budget is budget limitations. This condition is common in budgeting where existing funds must be allocated to various organizational needs (Widodo, 2016). This problem often occurs in private universities where most of the funding comes from student tuition fees (Handayani, Sholihin, et al., 2023). This condition can hinder the operationalization of universities in achieving their targets and goals. Meeting routine and operational needs must be met and then funds allocated for educational development. Universities are required to implement the tridharma of education, all of which require large budgets. Therefore, private universities need to have a competent strategy to manage budget limitations to be efficient in achieving optimal performance (Aliabadi et al., 2019).

Many universities in Indonesia implement a system of centralized administration and centralized academics. The process of achieving performance is a joint task of all elements including faculties, study programs, institutions, and higher education technical bureaus.

In performance-based budgeting, work units are given space to take strategic steps in their units that are aligned with the university's goals, in this case requiring a budget for implementation. Problems can then arise if the targets the work unit is burdened with are not commensurate with the budget provided by the university. This can also happen at the university level. Conditions like this often give rise to negative perceptions of budget actors with the term 'budget-based performance' because the work unit then adjusts its performance targets to the available budget. This negative perception can then become an obstacle to achieving performance and implementing performance-based budgeting, as was found by Aliabadi et al. (2019). This research examines empirical data on the implementation of performance-based budgeting in private universities in Indonesia with the challenge of budget limitations, whether this is a significant challenge, or whether the limitations can be effectively overcome using this budgeting model.

Based on the study above, this research formulates the research hypothesis and questions as follows:

1. *Budget limitations have a significant negative effect on performance orientation in performance-based budgeting in private universities in Indonesia.*
2. *Budget limitations have a significant negative effect on flexibility in implementing performance-based budgets in private universities in Indonesia.*
3. *Budget limitations have a significant negative effect on the allocation of function-based budgets in performance-based budgets in private universities in Indonesia.*
4. *How can performance-based budgeting be optimized with limited budgets to improve the performance of private universities in Indonesia?*

## **Research and Methodology**

### **Methods, Populations, and Research Instruments**

The research used a survey to collect information related to hypotheses 1-3. Next, the qualitative descriptive method with an open questionnaire collected the opinions of leaders in the financial sector of private universities regarding the budgeting policies carried out to formulate the fourth question. First, the questionnaire was distributed with random probability (Gay&Mills, 2016). The questionnaire was prepared based on theory and research results related to performance-based budgeting (PMK, 2013); (Fitri et al., 2013); (Pratolo et al., 2020); (Hermawan & Novita, 2021); (Handayani, Pratolo, et al., 2023) through a pilot test to see its validity and reliability. The research objects are all private universities in Indonesia that have implemented performance-based budgets. Because the entire population is not known with certainty, the number of respondents was determined by looking at the number of previous research surveys where it was known that there were 390 private universities in Indonesia and found that more than 75.8% of private universities had implemented a performance-based budget system in their financial management. Therefore, the population is determined to be 295 private universities that have implemented performance-based budgeting. The minimum sample size is set accordingly Krejcie & Morgan (1970) namely 165 private universities. Respondents were determined using the following criteria: 1). Leader/vice chancellor/deputy head of higher education finance, 2) Head of Finance Bureau/Head of University finance.

The second hypothesis was tested statistically with Structural Equation Modeling (SEM) using the SmartPLS tool. The validity testing stage with convergent validity produces a loading factor value with a reference value of more than 0.70 (Sholihin & Dwi Ratmono, 2021). Use of alpha coefficient or Cronbach's alpha and composite reliability. For reliability measurements above 0.7 (Haryono, 2017). Next, the structural model was tested using the Goodness of Fit Index (GOFI) criteria with R2 criteria of 0.67 (substantial), 0.33 (moderate), and 0.19 (weak). Hypothesis testing is carried out by looking at the R-squared output, parameter coefficients, and t-statistics. The P-value is obtained by a bootstrapping procedure with a value that is considered significant if the statistical value is greater than 1.96 (significance level 5%) or greater than 1.65 (significance level 10%) for each path relationship (Sholihin & Dwi Ratmono, 2021).

### **Descriptive Statistics, Validity, and Reliability**

The data processing of descriptive statistics and the results of the reliability validity test are presented in Table 1., where the results are no worries about data multicollinearity.

**Table 1:** Descriptive statistics, validity, and reliability

Code	Variables, Indicators, Sub Indicators	Descriptive		Validity		Reliability
		mean	Stand. Dev	Correlation	Sig	Cronbach's Alpha
<b>Y</b>	<b>Performance Base Budgeting (PBB)</b>					
<b>Y1</b>	Performance Oriented	3.19	.914			.841
<b>Y1a</b>	PO1 (clarity of university goals)			.760**	.000	
<b>Y1b</b>	PO2 (clear performance targets)			.784**	.000	
<b>Y1c</b>	PO3 (activities follow goals)			.811**	.000	
<b>Y1d</b>	PO4 (regular measurement)			.735**	.000	
<b>Y1e</b>	PO5 (continuous improvement)			.807**	.000	
<b>Y2</b>	Flexibility Execution	3.10	.840			.850
<b>Y2a</b>	FE1 (Work units are given space to manage the budget)			.667**	.000	
<b>Y2b</b>	FE2 (Work units are given space to determine activities and work programs)			.781**	.000	
<b>Y2c</b>	FE3 (There is a mechanism for changing the budget within the budget period)			.750**	.000	
<b>Y2d</b>	FE4 (agreed budget ceiling)			.814**	.000	
<b>Y2e</b>	FE5 (essential program accommodations)			.819**	.000	
<b>Y2f</b>	FE6 (There is a system that makes budget management easier)			.693**	.000	
<b>Y3</b>	Function Approach	3.05	.910			.843
<b>Y3a</b>	FA1 (Use of funds according to plan)			.737**	.000	
<b>Y3b</b>	FA2 (There are cost standards as a guide)			.848**	.000	
<b>Y3c</b>	FA3 (There is an evaluation of budget use)			.872**	.000	
<b>Y3d</b>	FA4 (Priority scale in the budget)			.831**	.000	
<b>X</b>	<b>Budget Limitations</b>	2.71	.966			.917
	BL1 (Sufficiency of the budget ceiling)			.906**	.000	
	BL2 (Adequacy of cost standards)			.931**	.000	
	BL3 (Adequacy of annual budget ceiling increases)			.923**	.000	
	BL4 (Fully funded work program)			.791**	.000	
	BL5 (budget ceiling compared to workload)			.676**	.000	
	BL6 (The unit cost of higher education follows the government unit price)			.814**	.000	

\*\**. Correlation is significant at the 0.01 level (2-tailed).*

### Model Fit Test

The Model Fit Test is carried out to obtain validation that the model is fit and can proceed to the hypothesis testing stage. From the results of the model test with the R2 value, the result was 0.692, the Q2 value for blindfolding output was 0.604 > 0 and the SMRS value of the algorithm output was 0.088 < 0.10. (Hair et al., 2011); (Haryono, 2017). From this test, it is concluded that the model is fit and can be continued to the next stage.

## Results and Discussion

The results of statistical testing of the hypothesis are displayed in Table 2. It shows a significant negative relationship between performance-based budgeting and the performance-oriented dimension of  $-.824$ , the flexibility execution dimension of  $-.634$ , and the functional approach of  $-.654$ . All of them meet the significance figure of  $.000$  so the hypothesis is accepted. Complete data is presented in Table 2 below:

**Table 2:** Research Model Regression Results

Connection	Original Sample	P-value	T-value	Results
Budget Limitation → Performance Oriented PBB	-.824	.000	3.961	Accepted
Budget Limitation → Flexibility Execution PBB	-.634	.000	2.311	Accepted
Budget Limitation → PBB Function Approach	-.654	.000	2.421	Accepted

\* p-value < 0.05 and the T value > 1.96 = sig

Research results show limitations in budget Still considered challenges and obstacles in enforcement of Performance Based Budgeting. Studies find that limitations budget limit work units oriented towards established performance targets. Several look that performance target should followed with the magnitude allocated budget.

From the aspect of flexibility implementation budget, respondents say that Limited funds make it difficult To move and innovate in reach performance. This problem is part of the challenge of the need for good planning for budget actors. Much of the information obtained from open questionnaires complained that the performance budget system was too 'rigid'. This is because it is seen by researchers as a challenge to higher education culture to carry out good and measurable planning. Planning of universities is derivative from main planning and development, plan strategic operations and details are outlined in planning annually. Furthermore, This plan becomes a reference in the preparation budget. Obedience in carrying out work unit and college planning will be one key success of Performance Based Budgeting.

Furthermore, budget limitations are associated with function-based budgeting. Good planning is planning that is easy to implement and can cover various possibilities in the future. Often unnecessary expenses become a burden on work units and universities due to inadequate planning. Immature planning also often causes budgeting to be misdirected and not focused on goals. Returning to the purpose of implementing a performance budget, it is hoped that budget actors will be careful in using funds so that they comply with their functions. Limited funds should be a reminder to be more careful and focused, but this research found the opposite.

Summarizing input from the open questionnaire, we propose several things that can be considered seriously to minimize the challenge of limited funds so that performance-based budgets effectively support the performance of private universities:

- i. Formulation objective with clear, every detail The stages are understood clearly to all elements linked and monitored its achievement from time to time. At college high in Indonesian translated as plan parent development, plan strategic and planning clear operations Good achievements nor step strategic. This must be understood and become a joint task and measured consistently.
- ii. Strong leadership support in private higher education, and consistent leadership to achieve the vision and mission of private higher education. Strong leadership directs all elements and work units consistent in the achievement of the organization's objectives.
- iii. A strong, independent, and regular internal control unit evaluates each stage of work unit performance achievement. In a budget implementation, it is not only the evaluation of the accountability of financial reports that must continue to be audited but the effectiveness of each budgeted activity must be evaluated. This matter prevents budget No appropriate target, no based function, and waste budget other.
- iv. Finally, an integrated information system that connects achievement data as a source of fast and accurate information as a basis for decision-making.

## Conclusions

This research finds that budget limitations have a significant negative effect on the implementation of performance-based budgets. This has become a concern for higher education policy makers to try to change the mindset of budget managers so that budget limitations will not become a major obstacle in performance-based budgeting. Clarity of mutually understood goals, good planning, leadership and strong systems as well as well-functioning internal control units are recommended for attention by private universities that have limited budgets.

It is important to carry out integrated research related to performance-based budgeting in more depth by looking at other inhibiting and supporting factors, apart from budget limitations. Future research can look at other indicators such as size, age, and accreditation of private universities so that recommendations can be given more precisely at various levels of private universities.

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