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The Effect of Preventive Control and Detective Control on the Effectiveness of Budget Implementation with Accountability as a Moderating Variable

Abstract. *The effectiveness of internal control significantly affects the organisation's strategic and operational goals and the completeness and adequacy of accounting and reporting data. Implementing various types of internal control increases the accountability of employees in decision-making and, in general, is one of the directions for improving managerial performance. The article aims to identify and analyse the impact of preventive and detective control on the effectiveness of budget implementation with accountability as a moderating variable. The object of the study is the district government in Sinjai Regency (Indonesia). The sample of this study is 90 respondents; in particular, they are officials of the III and IV echelons of the Government Agency and Regional Government Service in Sinjai Regency. Data collection was carried out using a questionnaire with a 5-point Likert scale. The questionnaire covers 20 indicators, the selection of which was made taking into account previous research on the topic. The methodological basis of the study is the multiple regression analysis (MRA) conducted in the SPSS program (Statistical Package for Social Sciences) version 25. The results of the study show that preventive and detective control has a positive effect on the effectiveness of budget implementation. Accountability as a moderating factor enhances the positive impact of these types of internal controls on the effectiveness of budget implementation in local governments in the Sinjai Regency (Indonesia). The results of this study are a guideline for increasing management efficiency in local government bodies based on the use of various types of internal control.*

Keywords: *effectiveness of budget implementation, accountability, preventive control, detective control, local government bodies.*

Suggested Citation

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Вплив превентивного та детективного контролю на ефективність виконання бюджету з підзвітністю як модеруючою змінною

Анотація. Ефективність внутрішнього контролю суттєво впливає на досягнення стратегічних та операційних цілей організації, а також повноту і адекватність даних обліку та звітності. Впровадження різних типів внутрішнього контролю підвищує підзвітність працівників у прийнятті рішень і, загалом, є одним із напрямків підвищення ефективності праці. Мета даного дослідження - виявити та проаналізувати вплив превентивного та детективного контролю на ефективність виконання бюджету з підзвітністю як модеруючою змінною. Об'єктом дослідження є органи місцевого самоврядування в регентстві Сінджай (Індонезія). Вибірка в цьому дослідженні - 90 респондентів, які є посадовими особами III і IV ешелонів урядового агентства регіону Сінджай та регіональної урядової служби. Збір даних здійснено за допомогою анкети з 5-ти бальною шкалою Лайкерта. Анкета охоплює 20 показників, вибір яких здійснено з врахуванням попередніх досліджень по темі. Методологічною основою дослідження є множинний регресійний аналіз (MRA), проведений у програмі SPSS (Статистичний пакет для соціальних наук) версії 25. Результати дослідження свідчать, що превентивний та детективний контроль позитивно впливають на ефективність виконання бюджету. Підзвітність як модеруючий фактор посилює позитивний вплив цих видів внутрішнього контролю на ефективність виконання бюджету в органах місцевого самоврядування в регентстві Сінджай (Індонезія). Результати цього дослідження є орієнтиром для підвищення ефективності управління в органах місцевого самоврядування на основі використання різноманітних видів внутрішнього контролю.

Ключові слова: ефективність виконання бюджету, підзвітність, превентивний контроль, детективний контроль, органи місцевого самоврядування.

INTRODUCTION

Effective internal control is needed to mitigate the risk of deviation, evaluate the internal control structure and consider preventive and detective controls on an ongoing basis that can help ensure controls function properly to save costs in the long term (Akinleye et al., 2020). Implementing internal control will increase the accountability of an organization in making better decisions because internal control cannot be separated from efforts to improve and improve managerial performance in society (Kewo, 2017).

Implementing the budget requires a control function in ensuring the security of finances and wealth for the central and regional governments (Trofimova et al., 2019). According to agency theory, a conflict or deviation arises due to differences in interests between the community (principal) and the government (agent), which causes monitoring costs due to information asymmetry. Therefore, internal control is carried out to avoid moral hazards.

This study aims to analyze the effect of preventive and detective control on the effectiveness of budget implementation with accountability as a moderating variable. The authors hope that this research will improve effectiveness in budget execution so that the government can carry out accountable internal control by considering preventive and detective control.

LITERATURE REVIEW

Agency theory is this theory pioneered by Jensen and Meckling (1976), suggesting that the government (agent) as the holder of the Trust is obliged to present, report, and disclose all activities that are their responsibility to the trustees (principal). In this case, the community has the right to demand accountability.

Preventive control is a control that is carried out to prevent fraud and anticipate before the occurrence of problems that are not desired by management (Afkar, 2016). Management also takes preventive control to avoid non-compliance with directives, policies and procedures (Lacotelli, 2009). Preventive controls are used to prevent the risk of errors, fraud and irregularities in transactions and fraud prevention. Examples of preventive control include segregation of duties, proper authorization and approval, establishing an organizational chart to allocate work to responsible officers, adequate documentation, physical control over assets and constant staff training (Nandom et al., 2019).

Detective control is a control that is carried out to determine whether activity and financing are following the policies and provisions that have been determined. One example of detective control is checking copies of calculations, and preparing bank reconciliations and trial balances every month (Schandl & Foster, 2019).

Effectiveness of budget implementation is the stage where financial activity plans are carried out containing proposed expenditure work in one period from sources of income to finance expenditures in monetary units on time from those that have been determined and carried out by the plans and costs incurred (Eton, 2018). Budget execution problems occur when the targeted beneficiaries' desired outcomes are not achieved. These problems are related to deficit budgeting, delays in budget approval by the legislature and ineffective control by the government legislative body (Olurankinse & Rufus, 2017).

According to Government Regulation No. 71 of 2010 concerning Governmental Accounting Standards, *accountability* is the responsibility to manage data sources and implement policies entrusted to reporting entities in achieving the goals that have been set. Accountability in the context of government

administration cannot be known by the public without the government notifying all information related to the government's interests (Elkha & Wahidawati, 2020).

RESEARCH METHODOLOGY

Research Hypothesis

Taking into account the results of previous studies, the hypotheses of this study are as follows (Figure 1):

H₁: Preventive control has a significant positive effect on the effectiveness of budget implementation;

H₂: Detective control has a significant positive effect on the effectiveness of budget implementation;

H₃: Accountability moderates the effect of preventive control on the effectiveness of budget implementation;

H₄: Accountability mediates the effect of detective control on the effectiveness of budget implementation.

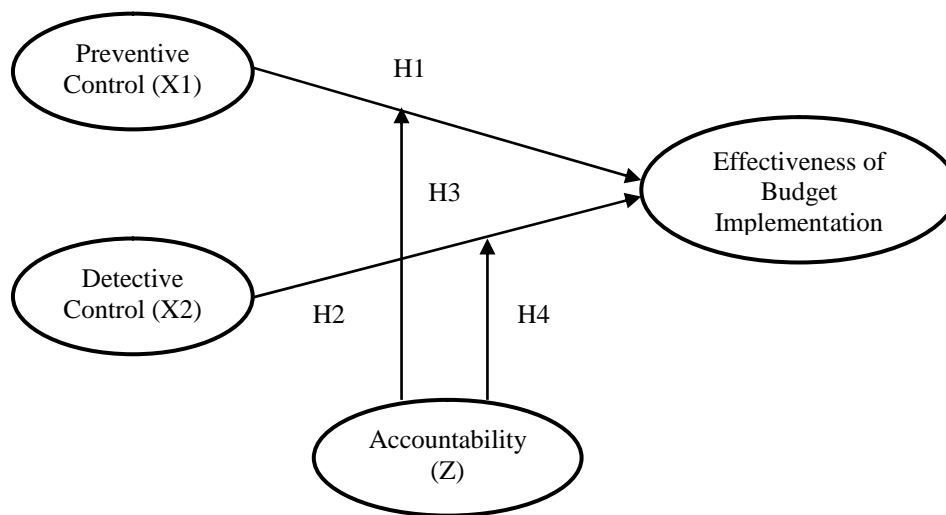


Figure 1. Research Conceptual Framework

Research Methods

This study uses a quantitative approach to test specific theories by examining variables' relationships. The reason for using quantitative research is that this study aims to determine the effect of preventive control and detective control on the effectiveness of budget implementation with accountability as a moderating variable.

This type of research uses a descriptive method with a quantitative approach, meaning that the research carried out emphasizes the analysis of numbers or numerical data. The type of data used is primary data (Sugiyono, 2017). The data in this study were collected by distributing a questionnaire with a Likert scale.

The object of this research is the local government of the Sinjai Regency. This sampling technique uses a purposive sampling method where sampling from the population is based on specific criteria or based on certain criteria or based on research objectives (Sugiyono, 2014). The sample of this research is 90 respondents in Local

Governments' Agencies, i.e. echelon III and IV officials at the Sinjai Regency Government Agency and Regional Government Service.

The research tool is a questionnaire that contains 20 indicators. Indicators from (Government Regulation No. 60 of 2008) are accepted and adjusted to measure preventive control. Indicators from (Ministry of Finance Regulation No. 152 of 2011) are used to measure detective control. Indicators from (Arif, 2018) were adapted and used to measure the effectiveness of budget implementation. Indicators from (Nuraini, 2018) were adapted and used to measure accountability. The authors use a questionnaire with a 5-point Likert scale.

Data Analysis

In this study, the authors use the data analysis method using the SPSS (Statistical Package for Social Science) program. This study used Cronbach for reliability testing and descriptive statistical analysis to analyze the characteristics of respondents, and the structural model was analyzed using SPSS 25.

RESULTS AND DISCUSSION**Validity Test**

Table 1

Variable	Item	R Count	R Table	State.
Preventive Control (X1)	X1.1	0,513	0,211	Valid
	X1.2	0,757	0,211	Valid
	X1.3	0,707	0,211	Valid
	X1.4	0,658	0,211	Valid
	X1.5	0,600	0,211	Valid
	X1.6	0,567	0,211	Valid
	X1.7	0,508	0,211	Valid
Detective Control (X2)	X2.1	0,836	0,211	Valid
	X2.2	0,810	0,211	Valid
	X2.3	0,745	0,211	Valid
Effectiveness of Budget Implementation (Y)	Y1	0,671	0,211	Valid
	Y2	0,647	0,211	Valid
	Y3	0,782	0,211	Valid
	Y4	0,634	0,211	Valid
	Y5	0,650	0,211	Valid
	Y6	0,615	0,211	Valid
Accountability (Z)	Z1	0,602	0,211	Valid
	Z2	0,782	0,211	Valid
	Z3	0,762	0,211	Valid
	Z4	0,722	0,211	Valid
	Z5	0,678	0,211	Valid

From the table above, it can be seen that the results of the validity test for all variables, Preventive control, detective control, effectiveness of budget implementation and accountability all resulted in the value of r arithmetic $>$ r table, namely 0.211. The correlation between the scores of each question item on the total score of the variables showed significant results (5%). So that each question item on the research construct variable is valid.

Reliability Test

Reliability test is used to determine the extent to which the measurement results remain consistent when performed twice or more on the same symptoms using the same measuring instrument. The reliability test has a Cronbach Alpha value $>$ 0.60 (Sekaran, 2016). The test results using SPSS 25 show the Cronbach alpha values for the variables studied (Table 2).

Table 2

Variable	Standard Cronbach Alpha	Cronbach's Alpha	Description
Preventive Control (X1)	0,60	0,732	Reliable
Detective Control (X2)	0,60	0,714	Reliable
Effectiveness of Budget Implementation (Y)	0,60	0,750	Reliable
Accountability (Z)	0,60	0,738	Reliable

Classical Assumption Test

In this study, the analysis was carried out with two regression models. Regression I is used to analyze the effect of preventive control and detective control on the effectiveness of budget implementation and regression II to analyze the effect of preventive control and detective control on the effectiveness of budget implementation

which is moderated by accountability. In this study, all classical assumption tests were normally and linearly distributed and did not deviate.

Hypothesis Test

Hypothesis test using multiple regression analysis by looking at the level of significance of each.

The Effect of Preventive Control and Detective Control on Effectiveness of Budget Implementation Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5,266	1,985		2,652	,010
1 Preventive control	,149	,073	,173	2,029	,046
Detective Control	,717	,112	,468	6,392	,000
Accountability	,340	0,77	,369	4,416	,000

F : 44,332

Sig. : 0,000

R : 0,785

R Square : 0,616

Adjusted R Square : 0,602

Table 4

The Effect of Preventive Control and Detective Control on Effectiveness of Budget Implementation with Accountability as Moderating Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	56,735	17,469		3,248	,002
1 Preventive Control	-,697	,391	-,810	-1,783	,078
Detective Control	-1,412	,980	-,922	-1,440	,154
Accountability	-1,914	,763	-2,075	-2,508	,014
X1_Z_Y	,037	,018	1,860	2,076	,041
X2_Z_Y	,093	,044	2,160	2,108	,038

a. Dependent Variable: Effectiveness of Budget Implementation

F : 30,552

R : 0,808

R Square : 0,653

Adjusted R Square : 0,632

The score of Adjusted R square of the dependent variable of budget implementation effectiveness is 0.602, meaning that 60.2% of the variable effectiveness of budget implementation can be explained from two independent variables, namely preventive control and detective control. For the amount of Adjusted R Square on the dependent variable, the effectiveness of budget implementation moderated by accountability is 0.632, meaning that 63.2% of the variation in the effectiveness of budget implementation moderated by accountability can be explained by independent variables, namely preventive control and detective control. While the remaining 39.8% for the effectiveness of budget implementation and 36.8% for the effectiveness of budget implementation moderated by accountability is explained by other causes outside the model.

The results of the ANOVA test or F test show that the number is 44,332 with a p-value of 0.000 for the effectiveness of budget implementation and 30,552 with a p-value of 0.000 for the effectiveness of budget implementation moderated by accountability. This shows that the independent variables in this study can be used to predict the dependent variable.

Testing the four hypotheses can be seen from the coefficient value and p value (significant t) of each independent variable. If the value is positive, there is a positive relationship, and vice versa. If the p-value is smaller than the alpha level used, the alternative hypothesis in this study is 95%, which means tolerating a maximum deviation level of 5%. For this test authors used the SPSS software program.

Hypothesis 1 states that preventive control affects the effectiveness of budget implementation. Table 3 shows that preventive control has a value of = 0.046 with a regression coefficient of 0.173, so hypothesis 1 is accepted, meaning that the preventive control factor has a significant positive effect on the effectiveness of budget implementation.

Hypothesis 2 states that detective control affects the effectiveness of budget implementation. Table 3 shows detective control has a value of = 0.000 with a regression coefficient of 0.468, so hypothesis 2 is accepted, meaning that the detective control factor has a significant positive effect on the effectiveness of budget implementation.

Hypothesis 3 states that accountability moderates the relationship between preventive control and the effectiveness of budget implementation. Table 4 shows that the moderation of accountability between preventive control has a value of = 0.041 with a regression coefficient of 1.860, so hypothesis 3 is accepted, meaning that the moderating factor of accountability between preventive control can moderate the effectiveness of budget implementation.

Hypothesis 4 states that accountability moderates the relationship between detective control and effectiveness of budget implementation. Table 4 shows that the moderation of accountability between preventive control has a value of = 0.038 with a regression coefficient of 2.160, so that hypothesis 4 is accepted, meaning that the moderating factor of accountability between detective controls can moderate the effectiveness of budget implementation.

CONCLUSIONS

The results of the study show that preventive and detective control has a positive effect on the effectiveness of budget implementation. Therefore, introducing such types of internal control as preventive and detective control increases the quality indicators of budget implementation in local government bodies. This shows the importance of internal control as an integral management tool.

Accountability as a moderating factor enhances the positive impact of these types of internal controls on the effectiveness of budget implementation in local governments in the Sinjai Regency. Accountability eliminates employees' time and effort on distracting activities and other unproductive behaviour. When a manager makes people accountable for their actions, he effectively teaches them to value their work. Accountability can increase Government Agency team members' skills and confidence when done right.

The results of this study are a guideline for increasing management efficiency in local government bodies based on the use of various types of internal control.

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