

SOCIAL SCIENCES & HUMANITIES

Journal homepage: http://www.pertanika.upm.edu.my/

The Influence of Management Control System on Good University Governance with Internal Auditor's Role as Mediation

Muktiyanto, Ali* and Hadiwidjaja, D. Rini

Department of Accounting, Faculty of Economics, Universitas Terbuka, Kota Tangerang Selatan, Banten, Post Code 15418, Indonesia

ABSTRACT

The relevance of Management Control System (MCS), Good University Governance (GUG) and internal auditor's role has become crucial in realising excellent service of the university to the community. The effectiveness of the role and relationship of these three factors, particularly in the State University is still limited and relatively partial, whereas the measurement is not broad and not in the alignment system model (fit model). The objective of this study is to prove the role of MCS on GUG with the internal auditor's role as a mediation. Results of the test by using structural equation modelling (SEM) showed that the indicators of each variable valid and reliable. This study proves that the effectiveness of MCS affects the GUG, but the internal auditor's role is not significant. Thus, this study does not support the effectiveness of the MCS role in the achievement of GUG through internal auditor's role. Auditors are still influenced by the old paradigm that is as a watchdog, the representative of the Chairman and not as a catalysator. However, this study confirms the indicators of the effectiveness of MCS, GUG and the role of internal auditors. Based on the findings, the competency of the internal auditors should be improved, especially in time management, communication skills, searching for evidence and explaining recommendations. The results of this research would be more interesting for further study if it were to be re-examined in the context of higher education with different characteristics and ownership status.

ARTICLE INFO

Article history:
Received: 28 December 2015
Accepted: 25 April 2016

E-mail addresses: ali@ut.ac.id (Muktiyanto, Ali), rini@ut.ac.id (Hadiwidjaja, D. Rini) * Corresponding author *Keywords:* Good University Governance, mediation, internal auditor

INTRODUCTION

Service quality of the State University in Indonesia is considered unsatisfying (Sukirman & Sari, 2012). Breakthrough to

overcome this is through the application of good university governance (GUG) (Anggriawan, 2013). GUG can be seen as the application of the fundamental principles of the concept of "good governance" in the system and process of governance at institutions universities through various adjustments to be made based on the values that should be upheld in higher education (Henard & Mitterle, 2010). GUG not, but is also Odhe. GUG is not only administrative actions, but it is also responsible for involving the participation of all university's stakeholders. Therefore, GUG requires a robust system which can ensure that the principles of GUG are implemented correctly. The system is known as the management control system (MCS) functions, and roles escorted and confirmed its effectiveness by the Internal Control Unit (ICU) University. While the critical success factors of the role and function of the ICU is the ability of internal auditors in carrying out the mandate of ICU (Sukirman & Sari, 2012). Thus, the relevance of these three factors (GUG, MCS, and the ability of the internal auditors) has become crucial in realising excellent service of the university to the community.

Tests the effectiveness of the role and relationship of these three factors in particular in the State University are still limited and relatively partial, whereas the measurement is not broad, and not in the alignment system model (fit model). Sukirman and Sari (2012), through the regression test, proved the role of internal auditors on GUG. Puspitarini (2012), in

addition to corroborating the findings of Sukirman and Sari (2012), also demonstrated the positive effects of the ICU unit on GUG. On the other hand, Anggriawan (2013), through a case study in Brawijaya University, evaluated the implementation, challenges and solutions related to the principles of GUG. The measurement of ICU on research, Puspitarini (2012) derived from the internal audit professional standards that included independence, professional ability, scope of work of internal audit, execution of inspection activities and internal audit management. The measurement of the role of internal audit in Sukirman (2011) implicitly departs from the essential functions of the auditor's task is researching, evaluating an accounting system, as well as assessing the management policies implemented. The measurement of GUG is still moving from the implementation of the fundamental principles of GUG, namely, Transparency, Accountability, Responsibility, Independence and Fairness (TARIF).

This study examined the effects of ICU on GUG using different approaches. First, the effectiveness of ICU was seen deeper through the implementation of MCS within the framework of COSO (Committee of Sponsoring Organisations of the Tread way Commission) made by management as a key partner of ICU. The existence of ICU is essential to ensure the system is implemented by the Directorate. Secondly, the role of internal auditors can be viewed directly from their competence, attitude and professionalism when carrying out

the audit work. Third, the measurement of GUG is not just directly referring to TARIF but rather a result of applying the TARIF itself is an improvement over the university management practices. Fourth, testing structural equation modelling (SEM) within the framework fit as mediation is done by connecting directly ICU with GUG and indirectly connecting these two variables through the role of the internal auditor in one system. This research is expected to provide an overview of ICU's overall performance, as well as strengthen contingency theory as fit and implementation of GUG in Open and Distance Learning Higher Education (ODHE). Thus, this study aims to prove the influence of MCS as a form of ICU effectiveness on GUG, either directly or indirectly, through the role of the internal auditor.

Contingency Theory

Boezerooj (2006) states that one of the theories to explain the relationship between an organisation and its context is the contingency theory. The best way to manage an organisation is through the adoption of a variety of variables such as structure, strategy or policy that fits its contingency. According to Donaldson (2001), the fit is what is needed so that organisations can run effectively.

Drazin and Van de Ven (1985) asserted that fit and the definition of fit that was adopted is critical in the development of contingency theory. Fit can be seen as the compatibility between two or more factors that could have an impact on the studied variables such performance. In the contingency theory, structure or governance, MCS, as well as performance, are related to one another (Porter, 1985; Martin et al., 2005). Furthermore, contingent upon all relevant variables must be explicitly stated and testable (Drazin & Van de Ven, 1985). When they wanted to test the model on the simultaneous relations, it must not only be sufficiently examined the association individually or partially, but it should be tested in a contingency system in order to produce an overall conclusion (Venkatraman & Prescott, 1990).

Fit of organisation and context has positive implications on the performance (Venkatraman & Prescott, 1990). Drazin and Van de Ven (1985) suggested that the system approach is the view intact in the application of the concept of fit. Venkatraman (1989) added that the fit may be present in many forms, one of which is fit as mediation.

Management Control System (MCS)

Sourced from an academic paper of Universitas Terbuka's ICU (2009), in order to achieve organisational goals, the needed MCS includes control system procedures that are tangible and a controlled substance that is intangible in order to monitor and ensure the alignment of all activities of the unit carried out by the organisation to the business strategy and other activities that have been established and recommends corrective actions if there are any irregularities. ICU has a crucial role to ensure MCS with oversight and act as strategic partners. Based on the

COSO Framework, the MCS includes five components: (1) control environment, (2) risk assessment, (3) control activities, (4) information processing and communication, and (5) monitoring.

The role of Internal Auditors

GUG implementation takes the roles of internal auditors in charge of researching, evaluating an accounting system, and assessing the management policies implemented. Internal auditors are one of the professions that supports the realisation of GUG, which has grown to be an important component in improving the effectiveness and efficiency of the University (Sukirman & Sari, 2012). Puspitarini (2012) and Sukirman and Sari (2012) proved the role of internal auditors on the GUG.

Good University Governance

GUG is crucial for a university; Henard and Mitterle (2010) described the Governance of Irish University (2007) as follows:

"A robust system of governance is vital to enable organisations to operate effectively and to discharge their responsibilities as regards transparency and accountability to those they serve. Given their pivotal role in society and national economic and social development, as well as their heavy reliance on public as well as private funding, good governance is of particular importance in the case of the universities."

The basic principles that should be followed in the administration of the higher education institution if it consistently wants to apply the concept of GUG. Application of these principles broadly is placed in almost any context of the problems that occur in the administration of the university.

The better GUG from the standpoint of ICU is when the audit does not find that material and significant findings. However, the focus of ICU's role shifts from watchdog role into the role of a strategic partner and a catalyst. Internal control becomes increasingly powerful and is able to prevent misfit in the application of the principles of GUG.

Hypothesis Development

MCS is viewed as one of the variables that determines the college in achieving its objectives. MCS was implemented by ICU to realise GUG (ICU-UT Academic Paper, 2009). Puspitarini (2012) proved that ICU has a positive role in the achievement of GUG. These results confirmed the results of the study by Sukirman and Sari (2012), which established the position of the ICU was derived from the enormous contribution of internal auditors in the achievement of the GUG.

In contrast to the research works by Puspitarini (2012) and Sukirman and Sari (2012), this study tried to look at the measurement of the MCS, GUG, the role of internal auditors in the different dimensions and build the model fit as the mediation. Indeed, the core functions of the ICU itself are to implement internal controls to identify

and measure objectively and independently of the alignment of the implementation of the activity with the plan, policies, rules and regulations, systems for recording and reporting, as well as human resource development system that has been set. Thereby, measuring the effectiveness of ICU correctly is to look at the implementation of elements of internal control exist on the part of the strategic partner ICU. On the contrary, the internal auditor's role can be seen from the ability of internal auditors in carrying out the audit process. The GUG achievement can be seen from the significance and materiality of the audit's findings. The most significant findings of, the better practices of GUG. Based on the thinking and previous studies, the research hypotheses are as follows.

- H1: the MCS has a positive influence on GOV
- H2: the MCS has a positive influence on AUDITOR
- H3: the AUDITOR has a positive influence on GOV
- H4: the MCS has a positive influence on GOV through the AUDITOR
- H5: simultaneous MCS has a significant positive influence on GOV
- H6: form fit as mediation between MCS and governance through the AUDITOR

METHODS

The research method used survey design and testing hypotheses to test the relationships

of all the studied variables. A purposive sampling method was used on 138 strategic business units of ODHE in Indonesia for the internal audit period of 2012-2015. MCS information was obtained from the MCS assessment by the Auditor on the practice of MCS on the audit units. Information on AUDITOR was obtained from the assessment of the chairman of the auditees' units of competence audit team leader. Meanwhile, Good University Governance (GOV) was derived from the findings of the audit. MCS information and AUDITOR are taken through a questionnaire that had been tested for validity and reliability. According Ridgon and Ferguson (1991) and Doll, Xia, and Torkzadeh (1994), as cited in Wijanto (2008), a variable is said to have good validity to construct or variable latent, if t-value of loading factors is greater than the value critical (or t-value> 1.96), and the value of standardised loading factors > 0.70. Meanwhile for reliability, Hair et al. (2007) stated that a construct has an excellent reliability if the value of Construct Reliability (CR) is > 0.70, and the value of Variance Extracted (VE) is > 0.50.

The only exogenous variable in this study is the MCS. MCS indicator refers to the COSO framework that includes: (1) a controlled environment, (2) risk assessment, (3) control activities, (4) information and communication processing, and (5) monitoring. Endogenous variables in this study included two variables (GOV and AUDITOR) as a moderating variable. GOV consists of one indicator is the findings. AUDITOR consists of 8 (eight) indicators:

(1) audit in general, (2) Communication, (3) Control of work (4) Time Management (5) How to find evidence, (6) Explanation of the auditor general condition, (7) explanation of the auditor on the findings, and (8) explanation of the auditor on the recommendations.

The structural model of alignment MCS and GOV in Figure 1 shows the relationship of exogenous latent variables, MCS, on endogenous variables, GOV, through endogenous variables, AUDITOR.

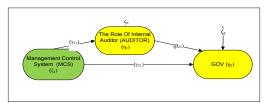


Figure 1. Research Structural Model

Analysis Method

In the SEM, there are three primary relationships among the variables involved, as indicated by the coefficient parameters: (1) the structural effects of endogenous variables on other endogenous variables, denoted by β (beta), (2) a structural effect exogenous variables on endogenous variables, denoted by γ (gamma), and (3) the effect of the measurement of latent variables for unobserved variable or indicator, denoted by λ (lambda). The LISREL Programme (version 8.70) provides this analysis with two types of parameters, namely, the original coefficient value and the standardised value.

Test of the Fit of Model to the Data

According Hair et al. (1998) evaluation of the fit of the data to the model is done

through several stages, namely, first Match Overall Model. According to Wijanto (2008) and Ghozali (1998), the purpose of testing the suitability of overall model is to evaluate the general degree of congruence or goodness of fit (GOF) between the data model by using some measure GOF or Goodness of Fit Indices (GOFI) that can be used together or in combination. After ensuring that the suitability of the model and the data, on the whole, is good, the next step is the evaluation or measurement of model fit test. This evaluation is carried out on each construct or model of measurement for the relationship between the latent variable with some observed variables (indicators) separately through the assessment of the validity and reliability of the measurement model.

The structural model includes an examination of the significance of the estimated coefficients. SEM and the LISREL programmes (version 8.70) value coefficients were determined and the value of t-test for each coefficient. By specifying the level of significance (usually $\alpha = 0.05$), each factor representing the hypothesised causal relationships can be tested for statistical significance (if different from zero). The coefficient of zero indicates smaller effect. Increasing the value of the coefficient is associated with the increase in the importance of the relevant variables in a causal relationship. As the overall size of the structural equation, the overall coefficient of determination (R2) was calculated as regression.

If the model fits the data, the model of the initial hypothesis may explain the structural

equation desired. However, if there is a mismatch between the model and the data, the model needs to be modified at the beginning to improve the results for fitness (Hatcher, 1996).

RESULTS AND DISCUSSION

Statistical descriptions indicate on a scale of bad, less, enough and good for all the indicators of the MCS variables in the range enough. Control activities are an indicator that has the lowest average, followed by successively risk assessment, information processing and communication, and monitoring. The indicator control environment has the highest mean value.

On a scale of incompetent, less competent, quite competent and competent for all the indicators of AUDITOR have an average value competent. Competence with the lowest mean value is an indicator of control over the work, followed by consecutive time management and an explanation for the state auditor general, how to look for evidence, explanations on the findings of the auditor, and the auditor's explanation for the recommendations. Indicators that have the highest average value of communication and the conduct of audits in general. On a scale of material, enough material, less material and not material, materiality indicators for the variable GOV findings show a mean value approaching less material.

All the indicators have a standard loading factor of 0.70 and the t-value above 1.96, which means it meets the criteria of validity. MCS, AUDITOR and GUG have

Table 1 Statistic Descriptive of Research Indicators

Indicators	Mean	Min	Max	Standard Deviation	
Management Control System (MCS)					
control environment (X1)	3.13	1	4	0.66	
risk assessment (X2)	3.04	1	4	0.60	
control activities (X3)	3.01	1	4	0.59	
information and communication processing (X4)	3.07	1	4	0.68	
monitoring (X5)	3.09	1	4	0.69	
Role of Internal Auditor (AUDITOR)					
audit implementation in general (Y1)	3.78	2	4	0.44	
communication (Y2)	3.80	2	4	0.42	
control over work (Y3)	3.60	2	4	0.53	
time management (Y4)	3.67	2	4	0.49	
how to look for evidence (Y5)	3.69	2	4	0.51	
explanation for the state auditor general (Y6)	3.67	3	4	0.47	
explanations on the findings of auditors (Y7)	3.70	2	4	0.49	
explanation auditors on recommendation (Y8)	3.73	2	4	0.46	
Good University Governance (GOV):					
materiality findings (GUG)	2.88	1	4	0.90	

constructed reliability that is above 0.70 and variance extracted over 0.50, indicating compliance with the standards of reliability. Results of testing the goodness of fit indicate that the model fits the data.

Overall, in accordance with the structural model built, the model testing results of SEM by using LISREL Programme (version 8.7) are as follows:

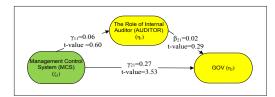


Figure 2. Results of Structural Model Test

In the regression equation, it is written as follows:

Table 2
Measurement Model Estimation Results

1) Partial Effect

2) Indirect Effect

3) Simultaneous Effect

Estimation of the measurement model to see if the indicators used are reflecting each study variable. Table 2 presents the

Indicators	Estimates value	t-value*	
MCS			
control activities (X3)	0.55	14.27	
risk assessment (X2)	0.56	14.04	
information and communication processing (X4)	0.56	11.87	
monitoring (X5)	0.59	12.39	
control environment (X1)	0.63	14.93	
AUDITOR			
time management (Y4)	0.24	5.64	
Communication (Y2)	0.31	8.41	
how to look for evidence (Y5)	0.32	7.16	
explanation auditors on recommendation (Y8)	0.32	7.83	
audit implementation in general (Y1)	0.33		
explanation for the state auditor general (Y6)	0.34	8.32	
explanations on the findings of auditors (Y7)	0.37	8.74	
control over work (Y3)	0.37	7.90	
Good University Governance (GOV)			
materiality findings (GUG)	1.00		
*Significant level α=1%.			

estimation results for the indicators of the variables.

Table 2 shows that all indicators significantly reflect each study variable (α = 1%). The successive estimated values of MCS from lowest to highest are control activities, risk assessment, information processing and communication, monitoring, and control environment. As has been stated earlier on, the MCS practices are a reflection of the effectiveness of internal control units. It appears that the control activities, risk assessment, information processing and communication are the indicators that should be improved, given the fact that control environment and monitoring are already well.

AUDITOR consecutives to the estimated value of the lowest to the highest are time management, communication, how to look for evidence, explanations on the recommendation of auditors, and audit implementation; in general, the report for the state auditor general, auditor explanations on the findings and control over the work. Four indicators of weakness of auditors should improve the ability of the auditor to complete the time audit management, communication with the auditee, how to find supporting evidence and explanation of the auditor's findings. However, overall, the auditors are deemed as mastering audit work.

Based on the mean value, it appears that GUG ODHE should be improved because it is still in the range of up to a good enough yet. The findings indicate that the material is a necessary strategic step in developing GUG ODHE. The overall results confirm that the indicators developed by each study variable can be used to determine the significant factors of the MCS variables, the roles of Internal Auditor and GUG.

The effect of MCS on GUG

MCS affects the ODHE's governance with estimated value=0.27 and t-value=3.53, which means significant at $\alpha = 1\%$. The better the management control practices, the better governance of ODHE. These results support the findings of Puspitarini (2012) and Sukirman and Sari (2012). If viewed from $R^2 = 9.2\%$, it appears that the overall effect of MCS on GUG is very small. Other than MCS, there are more variables affecting GUG. However, these results provide enough evidence to show MCS contributes to the improvement of ODHE's GUG. In order to improve ODHE's GUG, MCS indicators that should be enhanced are control activity and management based on risk. Thus, H1 (the management control system has a positive influence on governance) is supported.

The effects of MCS on the Role of Internal Auditors

The effect of MCS, as a reflection of ICU on the role of the internal auditor, is not significant at $\alpha = 1$, 5, or 10%; the estimated value of 0.06 and t-value = 0.60. These results do not support the findings of Puspitarini (2012) and Sukirman and Sari (2012). On the other hand, the findings of this study are quite interesting as it gives

one real strength of ICU, i.e. the competence of internal auditors. An apprenticeship learning process that has been developed for ICU has not been optimal raising all the parameters of the auditors' competence. Moreover, ICU has not been able to improve the effectiveness of the internal auditors' competence, especially in the management of time to complete the audit, communication with the auditees, how to find supporting evidence and explanation of the auditor's findings. It takes special training on time management, especially discipline, in keeping the schedule of audits in the audit programme. Way, style and content of communications to the auditee before, during and after the audit need to be improved. Confirmation of the auditee confirms that the auditee sometimes does not understand the intent of the auditors on the message being communicated. Similarly, when searching for supporting evidence, the auditees are uncomfortable and the explanation of the auditor's findings may not provide sufficient opportunity for the auditees to confirm and argue. Thus, H2 (management control system has a positive influence on the internal auditor's role) is not supported.

The effects of the Role of Internal Auditor on GUG

The effects of the role of internal auditors on ODHE's GUG are not significant at α = 1%, 5%, or 10%; the estimated value of 0.02 and t-value = 0.29. These results do not support the findings of Puspitarini

(2012) and Sukirman and Sari (2012). ICU internal auditor competence has not been able to improve ODHE's GUG. Descriptive statistics show that ODHE's GUG is anywhere near enough, but it is not because of the internal auditor's role, if any role is minuscule and insignificant. Auditor is yet to fully apply the paradigm consultant and catalyst and still implement the paradigm watchdog who tends to find many findings but has not had a significant impact on improved governance of the auditee. Thus, a refresher needs to be done to improve the auditor's understanding of the paradigm as a consultant and a catalyst whose output is short-term and longterm solutions for improving governance. Thereby, H3 (the role of the internal auditor has a positive effect on governance) is not supported.

The effect of MCS on GUG through the Role of Internal Auditor

The indirect effect of MCS on ODHE's GUG, through the role of the internal auditor, is not significant to the estimated value=0.00 and the t-value=0.26. These results do not support the findings by Puspitarini (2012) and Sukirman and Sari (2012) which also confirmed the test results for H2 and H3. These findings provide an important signal that immediately enhances the role of internal auditors in increased ODHE's GUG, through increased competence, especially in time management, communication with the auditee, how to find supporting evidence and explanation of the auditor's findings.

Thus, H4 (system management control has a positive effect on governance through the internal auditor's role) is also not supported.

The Simultaneous Effect of MCS on Good University Governance

The MCS simultaneous effect against GUG is significant at $\alpha = 1\%$, with the estimated value = 0.27 and t-value = 3.55 and $R^2 = 9.10\%$. The results proved that MCS has a dominant role in influencing ODHE's GUG. There are other variables beyond MCS, which play a role in improving the governance of around 91%. Thus, this study supports the evidence presented in part by Puspitarini (2012) and Sukirman and Sari (2012) in relation to the influence of MCS on GUG. Therefore, H5 (simultaneously, management control systems has a significant positive effect on governance) is supported.

Fit Model as a Mediation

One goal of this research is to build a model fit as a mediation. The direct effect of MCS on GUG is significant on $\alpha = 1\%$, with the estimated value=0.27 and t-value = 3.53 (H1). While the effect of MCS on governance through the internal auditor's role is not significant at $\alpha = 1\%$, 5% and 10%, with the estimated value =0.00 and t-value = 0.26 (H4). As H4 is insignificant and H1 is significant, then fit as a mediation is not formed. Thus, based on the results obtained by Puspitarini (2012) and Sukirman and Sari (2012), H6 (fit forms as a mediation between management system

control and governance through the internal auditor's role) is not supported.

These results provide a strong enough message to the ICU that needs a big step and systematic to the role of internal auditors so as to provide a significant impact on the improvement of ODHE's GUG through increasing the capacity or competence of an internal auditor. Increasing the role of internal auditors is becoming important and urgent, given the results of the audit ICU and GUG be part of the management's performance measurement indicators. Besides, internal auditor also become the foundation for increasing the ICU effectiveness of proven ICU effectiveness that can increase ODHE's GUG.

CONCLUSION

Based on the results of hypothesis testing, it can be concluded that MCS, as a form of effectiveness of ICU, affects ODHE's GUG, both directly and simultaneously. Nonetheless, the influence of the role of internal auditors in the improvement of governance has not appeared, either directly or indirectly, in model fit as a mediation. Internal auditor's competence in time management when conducting an audit, communications with auditors, how to search for evidence, and explanation on their recommendation to the part that causes the internal auditor's role has not been attained.

The model developed could prove the influence of MCS on GUG by around 9%. MCS indicators should be optimised so that their role in governance leads to greater control activities, risk-based management,

as well as information and communication processes. Beyond that, besides MCS, there are other variables that affect the governance, both in the external and internal environment.

Among the limitations of this study is that the work was conducted in a strategic business unit from one institution alone. In addition, the respondents who filled the instrument were from one side only, i.e. the auditees were top leaders and those in the top management. Similarly, the internal auditor's competence is taken only from the head of the audit team when the internal auditor could also include members of the audit team. Therefore, further research needs to be done to expand the research on the corporate level, the auditees being surveyed, including those who are directly related during audit, as well as the internal auditors surveyed, including members of the audit team.

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