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The Influence of Information Technology Systems and Control Activities on Organizational Performance with Working Culture as Moderating Variable

Abstract. *In Indonesia, regional apparatus organizations are required to perform excellent performance in carrying out their duties and functions. The current environmental situation that is getting more complicated nowadays requires regional apparatus organizations to satisfy various stakeholders' interests. Organizational performance is needed to show the success of a regional organization in achieving its goals. This study aims to analyze the influence of information technology systems and control activities on organizational performance with working culture as a moderating variable. The sample of this study is 90 respondents who are employees of the Regional Apparatus Organization of South Sulawesi Province. Data for the analysis were collected by the questionnaire method during March-May 2022. The partial least squares (PLS) modelling method was chosen for data processing. The study results show that information technology systems and control activities significantly influence organizational performance. At the same time, the work culture moderates the influence of information technology systems and control activities on organizational performance. It was found that the increase in organizational performance is due to the organization's availability of information technology systems and appropriate management activities. So, the increase in organizational performance cannot be separated from the direct or indirect influence of information technology systems and control activities by the working culture in the Regional Apparatus Organization of South Sulawesi Province.*

Keywords: *control activities, working culture, organizational performance, information technology systems, regional apparatus.*

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Вплив систем інформаційних технологій і контрольної діяльності на ефективність організації з культурою праці як посередницькою змінною

Анотація. *В Індонезії організації регіонального апарату зобов'язані відмінно виконувати свої обов'язки та функції. Сучасна екологічна ситуація, яка сьогодні ускладнюється, вимагає від організацій регіонального апарату здатності задовольняти різноманітні інтереси зацікавлених сторін. Ефективність організаціїлежить в основі досягнення цілей їїдіяльності, а тому підлягає системному вивченню. У зв'язку з цим, метою цього дослідження є аналіз впливу систем інформаційних технологій і контрольної діяльності на ефективність організації з культурою праці як модеруючою змінною. Вибірка даного дослідження – 90 респондентів, що є працівниками Регіональної апаратної організації провінції Південне Сулавесі. Дані для дослідження були зібрані методом анкетування протягом березня-травня 2022 року. Для обробки даних обрано метод моделювання шляхом часткових найменших квадратів (PLS). Результати дослідження свідчать, що системи інформаційних технологій і контрольна діяльність мають значний вплив на ефективність організації. При цьому, культура праці пом'якшує вплив систем інформаційних технологій та контрольної діяльності на ефективність організації. Таким чином, доведено, що підвищення ефективності організації відбувається завдяки наявності систем інформаційних технологій та провадженню відповідної управлінської діяльності в організації. Виявлено, що підвищення ефективності організації не можна відокремити від прямого чи опосередкованого впливу систем інформаційних технологій і контрольної діяльності на робочу культуру в організації регіонального апарату провінції Південне Сулавесі.*

Ключові слова: *контрольна діяльність, культура праці, ефективність організації, системи інформаційних технологій, регіональний апарат.*

INTRODUCTION

The problem of regional apparatus organizations performance is still become main attention. There are several problems that occur, especially those that related to problems in managing regional budgets. Minister of Finance Sri Mulyani Indrawati informed several weaknesses that were generally carried out by regional governments in managing their budgets. In average, almost 70% of the budget is still used for the operational needs of the regional government so that people in the regions are less than optimal in receiving the benefits of*Anggaran Pendapatan dan Belanja Daerah* or APBD (the Regional Revenue and Expenditure Budget) because they only enjoy about 30% (Kemenkeu RI, 2019). The reality about the weak condition of regional financial management in Indonesia is one of the main indicators for measuring regional apparatus organizations performance.

Based on data from the summary of regional revenue and expenditure budgets by the Ministry of Finance (2017), it identified that Sulawesi is the region with the second lowest self-reliance ratio after Papua, it is seen from *Pendapatan Asli Daerah* or PAD (the Regional Original Revenue) generated from the region. In piscal perspective, Sulawesihas smaller fiscal space than other regions, which is 13.4%. The Ministry of Finance explained that the form of budget management is not optimal for the agency that manages regional finances in Sulawesi, including in South Sulawesi region. This data is quite interesting phenomenon, considering that if it is seen from APBD budget, Sulawesi is one of the regions with the highest APBD portion compared to other regions at 39.5%, which means that the APBD portion is the budget for apparatus. The improvement in regional spending can be seen by the decrease in the portion of APBD expenditures. If the use of APBD is optimal or small, then the budget can be diverted for other public service needs, not only for the needs of the apparatus. Viewing the high portion of APBD for employees, it turned out that it did not succeed in optimizing employee performance. This can be seen from the small piscal space and the low independence ratio.

From the phenomenon of regional budgets explains that there is still low performance and productivity in South Sulawesi regional apparatus organization scope. This performance declining is caused by many thingscertainly, including the use of information technology. South Sulawesi regional apparatus organization in running and managing various government operations cannot be separated from the use of information technology, the problem is that many regional apparatus organization employees over the age of 30 do not really understand the effectiveness and usefulness of information technology. The employee is still trapped in a conventional work culture.

Control activity is one of internal control form. The Committee of Sponsoring Organization of the Treadway Commission (COSO) explains that control

activities are actions (generally described in policies, procedures and standards) that help management mitigate risks to ensure the achievement of a goal. Control activities may be preventive or detective and can be carried out at all levels of the organization (Saputra et al., 2017). A study from Satia and Kartini (2022) also found that there is a relationship between control systems and local government performance.

The current performance of regional apparatus organizationemployees cannot be separated from the use of information technology which also changes the conventional working culture to a digital one, so working culture indirectly affects how employees perform in the use of information technology and the achievement of the organization's ultimate goals.

LITERATURE RIVIEW

Atribution Theory

Attribution theory is a social psychological theory that explores how to interpret events and behavior and how to attribute the events and behavior cause (Andove et al., 2019). Attribution theory applies the use of control variables which consist of two components, which are the place of internal control and the place of external control. The place of internal control is the feeling experienced by a person that he is able to influence personally on his performance and behavior through his abilities, skills, and efforts. While the place of external control is the feeling experienced by a person that his behavior is influenced by factors beyond his control (Graham and Taylor, 2016).

Technology Acceptance Model (TAM)

The technology acceptance model is the most widely used technology adoption and model. This model was introduced in Theory of Reasoned Action (TRA) by Davis et al. (1989). The use of TAM as a basic theory in information technology research is to explain what indicators can determine the level of technology acceptance and aims to explain how the behavior of technology end use. Another purpose of the concept is to provide a basis for analyzing the influence of external factors on user beliefs, attitudes and goals (Sayekti and Turnta, 2016).

Information Technology

Information Technology (IT) is a subsystem or system that becomes part of an information system that is formed with the aim of providing optimal benefits. Information systems have 6 components or parts and one of the components of an information system is technology or information technology. Computer systems are also information technology used in information systems. Information technology can be any technology that can produce information, including computer technology and telecommunications technology (Jogiyanto, 2009).

Control Activity

Control activity according to COSO (Committee of Sponsoring Organization of Treadway Commission) are actions (generally described in policies, procedures and standards) that help management mitigate risks to ensure the achievement of objectives. Control activities may be preventive or detective and can be carried out at all levels of the organization (Saputra et al., 2017). Trung (2020) control activities were born from the accounting and auditing fields. Internal control activities were originally conceived as a form of accounting control.

Working Culture

Culture is closely related to values and the environment that lead to the meaning and philosophy of life, which will influence attitudes and behavior in the workplace. Culture is the result of life experiences, habits, and the selection process (accept or reject) of the norms that exist in a society, interacting or placing itself in the middle of a certain work environment (Idrus, 2013).

Organizational Performance

Tomal and Jones in Bashaer and Singh (2016) define organizational performance as the actual result or output of an organization measured against the organization's intended output. Byremo in Suryani (2018) organizational performance is the final result that achieved in financial performance, market performance, operational performance and employee performance.

RESEARCH METHODOLOGY

Research hypothesis

This study is based on the following hypothesis (Figure 1).

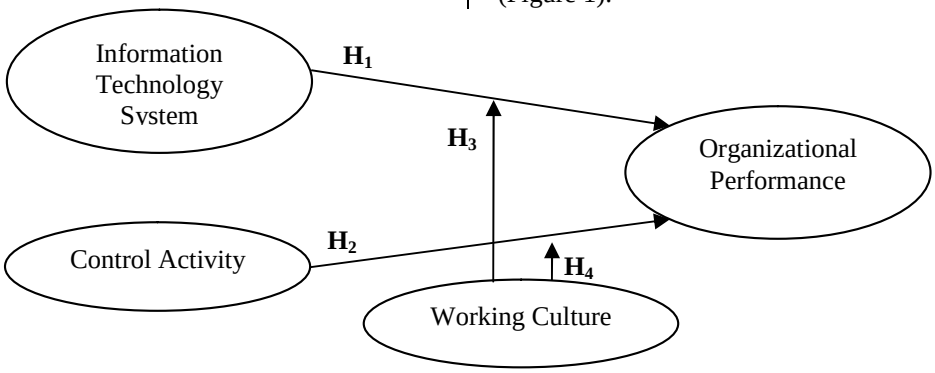

Figure 1. **Research Framework**

H_1: Information technology system has a positive and significant influence on organizational performance.

H_2: Control activity has a positive and significant influence on organizational performance.

H_3: Information Technology System has a positive and significant influence on organizational performance which is moderated by working culture.

H_4 Control activity has a positive and significant

influence on organizational performance which is moderated by working culture.

Research Sample

The data collection was carried out on employees of the South Sulawesi Province Regional Apparatus Organization as many as 90 employees. The research was conducted from March-May 2022 with quantitative methods.

The sampling technique that applied in this study is purposive sampling, which is the sampling technique that used by researchers if the researchershave certain considerations in taking the sample (Sugiyono, 2014). Considerations for selecting research samples based on the following criteria.

1. Head of Division/Head of Regional Apparatus Organization
2. Secretary for Regional Apparatus Organization
3. Other state employees who have understanding about this research.

The research instrument that used is questionnaires that contain 35 questions, 4 questions on information technology systems, 7 questions on control activities, 11 questions on organizational performance and 13 questions on work culture. In order to collect primary data, the writer used questionnaires with Likert scale.

Questionnaire data were analyzed using the Structural Equation Modeling (SEM) Partial Least Square (PLS) program.

RESULTS AND DISCUSSION

Validity Test

Each research variable indicator has an outer loading value > 0.7. However, it appears that there are still some indicators that have an outer loading value of < 0.7. According to Chin as quoted by Imam Ghozali, the outer loading value between 0.5 and 0.6 is considered sufficient to meet the convergent validity requirements.

Table 1

Validity Tets

Latent Variables (Constructs)	Indicators	Outer Loading	Caption
Information Technology System (X_1)	X1.1	0.674	Valid
	X1.2	0.819	Valid
	X1.3	0.784	Valid
	X1.4	0.857	Valid
Control Activity (X_2)	X2.1	0.609	Valid
	X2.2	0.636	Valid
	X3.3	0.822	Valid
	X4.4	0.632	Valid
	X5.5	0.593	Valid
	X6.6	0.517	Valid
	X6.7	0.653	Valid
Organizational Performance (Y)	Y1	0,691	Valid
	Y2	0.637	Valid
	Y3	0.771	Valid
	Y4	0.696	Valid
	Y5	0.670	Valid
	Y6	0.568	Valid
	Y7	0.724	Valid
	Y8	0.825	Valid
	Y9	0.819	Valid
	Y10	0.861	Valid
	Y11	0.880	Valid
Working Culture (Z)	Z1	0.723	Valid
	Z2	0.598	Valid
	Z3	0.720	Valid
	Z4	0.816	Valid
	Z5	0.771	Valid
	Z6	0.552	Valid
	Z7	0.560	Valid
	Z8	0.665	Valid
	Z9	0.732	Valid
	Z10	0.616	Valid
	Z11	0.772	Valid
	Z12	0.723	Valid
	Z13	0.640	Valid

Reiability Test

The reliability Measurement of internal consistency in the PLS-SEM study uses the recommended values to obtain reliable internal consistency, which is composite reliability 0.6 and Cronbach's alpha 0.6.

Table 2

Reliability Tets

Latent Variables (Constructs)	*Cronbach's Alpha*	*Composite Reliability*	AVE	Caption
Information Technology System (X1)	0,796	0,886	0,618	Reliable
Control Activity (X2)	0,760	0,829	0,414	Reliable
Organizational Performance (Y)	0,918	0,931	0,557	Reliable
Working Culture (Z)	0,906	0,920	0,474	Reliable

Hypothesis Test

Hartono and Abdillah (2014) state that a research concept and model cannot be tested in a relational and causal relationship prediction model if it has not passed the purification stage in the measurement model. The measurement model was used to test the construct validity and instrument reliability.

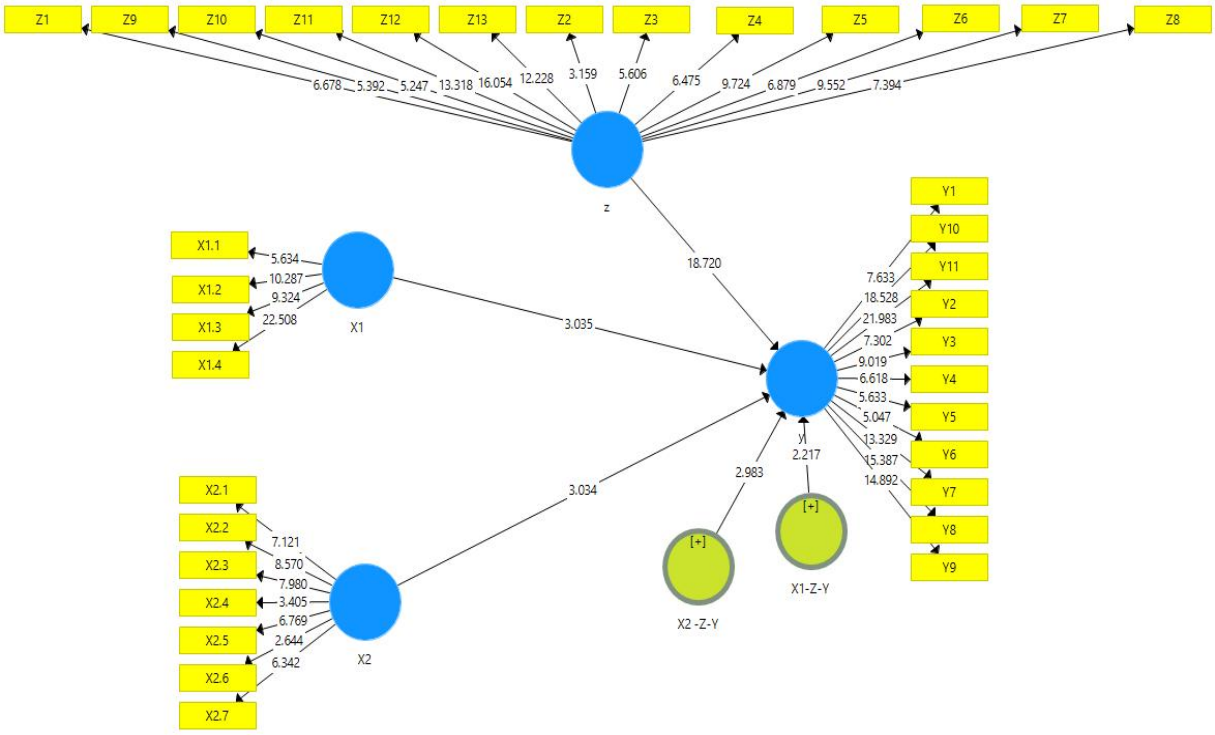

Figure 2. **Hypothesis Test Result**

In the picture above, it can be seen that each indicator of the research variable has an outer loading value of > 0.7. However, it appears that there are still some indicators that have an outer loading value of < 0.7. According to Chin as quoted by Imam Ghozali, the outer loading value between 0.5 - 0.6 is considered sufficient to meet the requirements.

Model Fit

The use of organizational performance that is moderated by working culture, which are the results of the examination and assessment of the criteria for Goodness of Fit (GoF) has a loading factor above 0.7 so it is feasible to be maintained. This means that each question from each respondent has a feasibility as a benchmark for the variables studied. So that testing for the next model does not need to be carried out, because it has met the requirements of the next test.

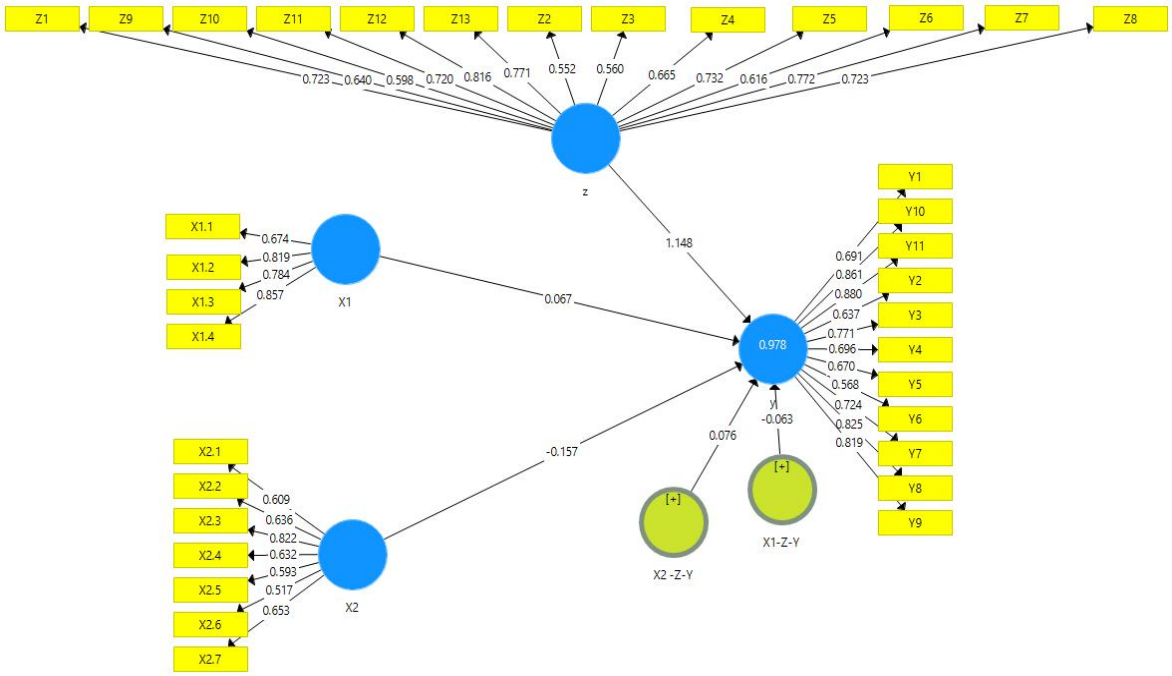

Figure 3. **Variable Model with algorithm**

After creating the variable model, the next step is verifying the convergent validity of the AVE value. The AVE value (Average Variance Extracted) is a value that measures the level of variance captured by the construct compared to the level of measurement error, for a standard value of 0.7 is considered very good. On the other hand, the standard 0.5 is acceptable.

Table 3

Average variance extracted

Variables	Average variance extracted (AVE)
Information Technology System (X1)	0,618
Control Activity (X2)	0,414
Organizational Performance (Y)	0,557
Working Culture (Z)	0,474

The results of the AVE test identify that all variables meet the standard of convergent validity.

Hypothesis Test

There are also two tests for hypothesis testing, that are the direct influence test and the indirect influence test.

Table 4

Direct Influence Test

Hypothesis	Relation	Hope	Original Sample	Sample Mean	t-Couont	P-Value	Conclusion
H_1	Information Technology System→ Organizational Performance	(+)	0.067	0.070	3.035	0.003	H_1 Accepted
H_2	Control Activity→ Organizational Performance	(+)	0.153	0.0152	2.217	0.003	H_2 Accepted

The direct influence of exogenous constructs, which is information technology systems on endogenous constructs of organizational performance (H_1), has a sample mean value of 0.070 with a t-count of 3.035 (> 1.64) and p-value of 0.003 (< 0.05). It shows that Hypothesis 1 is accepted, which means that information technology systems have a positive influence on organizational performance.

The direct influence of control activities exogenous construct on the endogenous construct of organizational performance (H_2) has sample mean value of 0.0152 with a t-count of 2.217 (> 1.64) and a p-value of 0.003 (< 0.05). It shows that Hypothesis 2 is accepted, which means that control activities have positive influence on organizational performance.

Table 5

Indirect Influence Test

Hypothesis	Relation	Hope	Original Sample	Sample Mean	t-Count	P-Value	Conclusion
H_3	Technology Information System* Working Culture→ Organizational Performance	(+)	0.063	0.065	2.217	0.027	H_4 Accepted
H_4	Control Activity* Working Culture→ Organizational Performace	(+)	0.076	0.077	2.983	0.003	H_5 Accepted

The influence of information technology systems on organizational performance (H_3) on the results of the moderating influence test has a sample mean value of 0.065 with t-count of 2.217 (<1.64) and p-value of 0.027 (> 0.05). It shows that hypothesis 3 is accepted, which means that working culture moderates the influence of information technology systems on organizational performance.

The influence of control activities on organizational performance (H_4) which is moderated by work culture on the results of the moderating influence test has a sample mean value of 0.077 with a t-count of 2.983 (> 1.64) and a p-value of 0.003 (< 0.05). It shows that hypothesis 4 is accepted, which means that work culture moderates the influence of control activities on organizational performance.

CONCLUSIONS

This study identifies that information technology systems have an influence on organizational performance. The results of this study indicate that the increase in organizational performance is due to the availability of information technology systems in the regional apparatus of South Sulawesi Province.

Control activity influences on organizational performance. The results of this study indicate that the increase in organizational performance is due to proper management activities in the organization of the South Sulawesi Province Regional Apparatus.

Information technology system influences on organizational performance which is moderated by working culture. The results of this study indicate that improving organizational performance cannot be separated from the direct influence of the information technology system and also the indirect influence of work culture in the Regional Apparatus Organization of South Sulawesi Province.

Control activity influences on organizational performance which is moderated by working culture. The results of this study indicate that the increasing in organizational performance cannot be separated from the direct influence of the control activity system and also the indirect influence of work culture in the Regional Apparatus of South Sulawesi Province.

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