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The Effect of Financial Performance Measures and Non-Financial Performance Measures on Managerial Performance through Clarity of Role as Mediation in Goverment Hospitals

(Goverment Hospitals in West Sumatra, Indonesia)

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Abstract: *This study aims to examine the effect of financial performance measures and non-financial performance on managerial performance through clarity of role as mediation in government-owned hospitals. The object of this research is type A and B hospitals in West Sumatra Province. Data obtained through a questionnaire that has been distributed to lower-level managers at the hospital with the return of the questionnaire reached 87.5%, that was 98 respondents. Data analysis was performed with Partial Least Square with the Smart PLS (Partial Least Square) version 3.3.3 program. The results showed that financial performance measures and non-financial performance measures had a positive effect on role clarity and role clarity had a positive effect on managerial performance. The role clarity plays a role as a mediation between the relationship between financial performance measures and managerial performance and the relationship between non-financial performance measures and managerial performance.*

Keywords: *Financial performance measures, non-financial performance measures, clarity of role, managerial performance, government hospitals.*

1. INTRODUCTION

The development of information technology and the increasingly rapid economic growth have brought growth in various aspects of life, especially business. Based on data from the website of the Ministry of Health of the

Republic of Indonesia, the growth of hospitals in Indonesia from the period 2012-2019 shows that the number of hospitals in Indonesia continues to increase from 2,083 in 2012 to 2,826 in 2019. Based on ownership, the growth of private hospitals is faster than that of goverment hospital. In 2012 the number of private hospitals was 1,195 and increased to 1,790 in 2019. Meanwhile, government hospitals from 888 hospitals in 2012 increased to 1,036 in 2019. The average growth of private hospitals was 6% per year and government-owned hospitals 2% per year.

This condition requires government hospitals to use their resources appropriately and efficiently, and to find new sources of information that can contribute to achieving success. One of the outputs of the information source is a measure of performance. Wargadinata (2017) stated that performance measurement is an important and fundamental part of every organization, both private organizations, public organizations and government agencies.

Research on performance measurement presents the view that organizations need a performance measurement system that is multidimensional and must be available to executives in providing continuous signals about what is most important in daily activities and where it should be directed (Ittner and Lacker 1998; Otley 1999). Kaplan and Norton (1996) stated that performance measurement can be assessed from financial and non-financial aspects. The use of financial performance measures and non-financial performance measures in companies is believed to be able to help top-level managers to understand cross-functional relationships that lead to better and more precise problem solving and decision making (Kihn *et al*., 2010).

Measurement using financial performance measures can show whether the company's strategy that is implemented contributes to an increase in company profits (Mashovic 2018). Tran and Vu (2018) stated that financial performance measures reflect the optimal combination of efficiency and effectiveness. The concern of top management in using financial performance measures causes managers to evaluate the performance of their subordinates using financial measures. The work unit manager will pay attention to financial performance measures in job evaluation (Lau, 2011). Financial performance measurement provides an empirical basis for practicing managers in the non-profit sector to improve organizational capacity, financial health, and performance (Prentice, 2015).

Non-financial performance measurement can be done by taking into account the many dimensions involved in achieving performance. Non-financial performance measures can be used to complement short-term financial performance measurements as indicators of long-term performance (Kaplan and Norton, 1996; Lau, 2011). For example, non-financial performance measurement is customer satisfaction survey, market share measurement, inventory loss rate and employee satisfaction survey.

The use of non-financial performance is very important because organizational success is not only determined by the organization's strategy in using accounting and financial data, but is also influenced by the behavior of individuals in the organization to implement the strategy (Anggriawan, 2017).

Several previous studies related to performance measurement systems as measured by financial and non-financial measures of managerial performance have been conducted, such as research by Burney *et al* (2007) Hall (2008) Lau (2011) and Abdalla (2015). However, the results of research from several literature showed the inconsistency in the effect of the behavior of the performance measurement system as measured by financial and non-financial measures on individual behavior. Research by Burney *et al* (2007), Hall (2008) and Abdalla (2015), cannot explain whether financial performance measures or non-financial performance measures contribute more to performance. This is due to an indirect relationship between the performance measurement system as measured by financial and non-financial aspects of managerial performance. Lau's research (2011) used a *balanced scorecad* perspective which describes financial performance measures and non-financial performance measures using role clarity as a mediating variable.

Role clarity is defined as the extent to which information is provided regarding how employees are expected to perform their jobs on the clarity of the duties and responsibilities that have been determined in each position in the organizational structure (Bauer and Spencer, 2003; Rizzo *et al*., 1970). Role clarity comes from individual beliefs about expectations and behaviors associated with their job roles (Abdalla, 2015). Higher role clarity helps lead to higher performance in organizations where an employee with role clarity will know what they have to do and what is expected of them (Rizzo *et al*, 1970). Based on previous research, it has been shown that employees with low role clarity will overcome it in the form of efforts to solve problems to avoid sources of stress or use defense mechanisms that distort the reality of the situation. Previous research has also found a significant positive effect between role clarity and job performance (Chenhall and Brownell, 1988; Hall 2008; Lau 2011; Abdallah 2015; Anggriawan 2017). Bray and Brawley (2000) found that the individual's ability to better understand how to perform the formal functions required by his role helps employees to perform better by gaining an understanding of one's responsibilities and accountabilities can help gain more effectiveness in a given role.

According to Abernity and Lilis (2001), hospital organization generally consists of management and service functions. The hospital system is a complex organization involving the role of individuals with different tasks and functions (Abernity and Lilis 2001). To ensure that individual roles are in line with organizational goals, clarity of work rights and responsibilities is needed which is a guide in measuring individual performance (Lau, 2011; Hall, 2008).

Based on this, the researcher aims to examine how the influence of the performance measurement system as measured by financial performance measures and non-financial performance measures mediated by role clarity. The objectives of this study were (1) to analyze the effect of using financial performance measures on role clarity, (2) to analyze the effect of using non-financial performance measures on role clarity, (3) to analyze the effect of role clarity on managerial performance, (4) to analyze the effect of role clarity as a mediator between measures of financial performance and managerial performance, (5) to analyze the effect of role clarity as a mediation between non-financial performance measures and managerial performance.

2. LITERATURE REVIEW

A. Performance Measurement System

According to Kim and Larry (1998), the performance measurement system is the frequency of measuring the performance of managers in organizational units led by quality in the company's operational activities. Based on agency theory, a performance measurement system seeks to meet the needs of different stakeholders of the company organization by creating strategic measures, namely outcome measures and triggers, financial and non-financial measures, and internal and external measures (Anthony and Govindarajan, 2004).

The use of financial and non-financial measures provides a better explanation of the causal relationship between actions, strategies and achievement of goals. In addition, the use of financial performance measures and non-financial performance measures explains various aspects that arise from the relationship between the value chain of organizations and vendors as well as organizations and consumers (Chenhal, 2005). Financial measures describe the financial aspects that are usually attached to accounting data. Non-financial measures provide an overview of the factors that are important in strategic performance that are missing from financial measurement (Ittner et al., 2003).

B. Role Theory

Role theory is a theory that is a combination of various theories, orientations, and scientific disciplines. Role theory is a theory that underlies research in management accounting (Kahn *et al*., 1964). According to role theory (Rizzo *et al*, 1970), role clarity is defined as the extent to which the necessary information is provided and how employees are expected to do their jobs. Clarity of roles plays a role in improving coordination and performance at work (Lau, 2011).

C. Manager Performance

According to Moeheriono (2012) performance is a description of the level of achievement of the implementation of an activity program or policy in realizing the goals, objectives, vision and mission of the organization as outlined in the strategic planning of an organization. Hall (2008) states that managerial performance is a manager's ability to carry out managerial activities such as planning, investigation, coordination, supervision, staffing, negotiation and representation. Mahoney et al., (1963) saw manager performance based on the manager's ability to carry out his managerial duties.

D. Hypothesis Development

1. Financial Performance Measures and Clarity of Role

Measurement using financial performance measures can show whether the implemented company strategy contributes to an increase in company profits (Mashovic,2018). In case mixe-based service, hospitals are required to carry out health services at competitive prices and adequate service quality (Abdullah, 2014). This condition will cause top level managers to tend to use competitive strategies through cost efficiency and product differentiation. Financial performance measures are used for cost efficiency (Abernethy and Lilis, 2001) and avoiding losses due to the case mix cost package (Yan et al., 2014). Tran and Vu (2018) stated that financial performance measures reflect the optimal combination of efficiency and effectiveness.

Differences in the function of work units within the organization lead to different responsibilities and targets that work units must achieve. Each work unit has work guidelines and rules that explain the duties and responsibilities of managers in that work unit. Guidelines and work rules provide information about what to do and what to avoid by managers. Guidelines and work rules are clarity of roles that provide information and clarity regarding performance measures used as manager evaluations (Lau, 2011).

Role clarity is the belief that employees have about expectations and behavior that must be carried out in accordance with job rules (Hall, 2008). Financial performance measures influence role clarity through increasing clarity of individual roles in achieving organizational goals. Lau's research results (2011) indicate that role clarity is positively related to financial action in evaluating managerial performance.

H$_1$: Financial Performance Measures Have a Positive Effect on Role Clarity

2. The Effect of Non-Financial Performance Measures on Role Clarity

The existence of non-financial performance measurement, subordinates will be aware of their roles and responsibilities as well as what their superiors expect. Collins (1982) arguedthat management accounting systems can be used to inform individuals about what is expected of them in their roles. Using performance measurement can increase the clarity of managers' goals by providing information about strategies that help them to better understand their role in the organization (Bowen and Lawler, 1992; Anggriawan, 2017).

Performance measurement using non-financial measures can facilitate the development of measures that best suit individual work units (Lipe and Salterio, 2000; Meyer, 2002; Arya et al., 2005; Anggriawan, 2017). Research by Hall (2008), Lau (2011) and Anggriawan (2017) shows that non-financial performance measurement is positively related to role clarity.

H$_2$: Non-financial performance measures have a positive effect on role clarity

3. Clarity of Roles and Managerial Performance

The clarity of roles is determined by the existence of clarity of behavior in terms of input from the environment that serves to guide behavior and provide knowledge that the behavior is appropriate (Rizzo et al., 1970). Role clarity tends to influence managerial performance. Managers who face role ambiguity can adopt inefficient or ineffective actions as well as underperform (Kahn et al., 1964). Conversely, managers with role clarity will be more aware of their roles and responsibilities and what their superiors expect. They will know what to aim for, what plans and strategies to adopt and most importantly where to direct their attention, time and effort. This tends to increase its performance performance. Research by Hall (2008), Lau (2011), and Anggriawan (2017) found that role clarity has a positive effect on managerial performance.

H$_3$: Clarity of roles has a positive effect on managerial performance

4. Clarity of Roles, Measures of Financial Performance and Managerial Performance

Assessment of financial performance measures can be used to improve performance if it is accompanied by clarity on the roles that the work unit must play. If it is not accompanied by clarity of roles in the form of clarity of information and clarity of attitudes and actions, managers feel unclear about the work targets they must achieve so that it will interfere with work achievement. In the private sector financial performance measures assessed from earnings and profits are used to determine individual performance incentives. The use of financial measures is widely used in assessing individual work performance because several considerations such as financial performance measures are easier to compare (Lau, 2011). This is not much different in the public sector, efficiency in the use of resources and discipline in the use of the budget to be a concern in managerial performance (Abernety and Lilis, 2001).

H_4:Role clarity mediates the relationship between financial performance measurement systems and managerial performance

5. Clarity of Roles, Measures of Non-Financial Performance and Managerial Performance

The goal of non-financial performance measures is to analyze more detailed and specific measures such as evaluating quality, customer satisfaction or work productivity (Itner, Larcker and Rajan 1997). So that non-financial performance measures are widely used in first-level managers (Maksoud et.al 2005). Non-financial performance measures are used by top level management to understand customer satisfaction and understand the relationships between parts of the organization, consumers and vendors (Chenhal, 2007). Non-financial performance measures are used in the evaluation of performance achievement, clearer information is needed to understand these non-financial performance measures because the characteristics of non-financial performance measures are more specific and qualitative (Ittner, Lacker and Rajan, 1997). Non-financial performance measures can improve performance if accompanied by clarity of roles in the form of clarity of information and clarity of actions that managers must take. If it is not accompanied by clarity of roles as clarity of information and clarity of actions, it will be difficult for managers to use non-financial measures in job evaluations that interfere with performance achievement.

Research conducted by Burney and Widener (2007) shows role clarity fully mediates the relationship between job-relevant information and manager performance. Research by Hall (2008) and Abdalla (2015) shows clarity of role plays a role as mediator of the relationship between a comprehensive management control system and managerial performance. Likewise, research by Lau (2011), Dasrita (2015) and Anggriawan (2017) found the results of role clarity have a mediating effect on the relationship between non-financial measures and managerial performance.

H_5:Role clarity mediates the relationship between financial performance measurement systems and managerial performance

3. RESEARCH METHODOLOGY

Population and Sample

The population in this study were lower-level managers (equivalent to district head or head) at government-owned hospitals. Based on data from the PPSDM Health Information Human Resources Agency, in West Sumatra Province there were 22 government-owned hospitals with types A, B, C and D. The sample in this study focused on hospitals in West Sumatra Province with types A and B. Based on PERMENKES No. 1045/MENKES/PER/XI/2006 regarding guidelines for hospital organization, type A and B hospitals have a more complex organizational structure and have more lower level managers than other types. In West Sumatra Province, there were 6 types A and B hospitals.

Data Collection Technique

Data collection was carried out by delivering questionnaires to government-owned hospitals type A and B in West Sumatra. The total number of questionnaires distributed was 112 questionnaires and 98 questionnaires were returned.

Variable Measurement

The variable for measuring financial performance used 4 question items that used in Lau's research (2011), namely (1) the ability to reach a predetermined budget (2) the ability to reach a better income and expenditure budget (3) the ability to reach the budget through reducing costs and increasing income and (4) ability to reduce adverse budget. The scale used is 1-7 Likert scale.

Non-financial performance measurement variables use the balanced scorecard instrument that used by Kaplan and Norton (1996), which consists of three measurement aspects, namely customer satisfaction, learning and growth and business processes. Customer statification used measurements adapted from the 2001 Ellingsons and Wambsganss research, namely: (1) service quality, (2) timeliness and (3) reputation. Learning and growth uses measurements adapted from Lau's research (2011), namely: (1) employee satisfaction (2) trained employees and (3) technology adoption. Business processes use measurements adapted from the research of Ellingsons and Wambsganss (2001), namely: (1) innovation (2) completion of work on time (3) efficient use of resources (4) good working relationships (5) feedback from service users. The scale used is 1-7 Likert scale.

Managerial performance variables used instruments from Lau (2011) which consists of 8 items, namely planning, investigating, coordinating, evaluating, supervision staffing, negotiation, repressing and performance self. The scale used is 1-7 Likert scale.

The role clarity variable used instruments from Lau (2011) which consists of 6 indicators, namely: (1) work authority, (2) job responsibilities (3) leadership expectations (4) planning goals and objectives (5) division of work time (6)) Clarity of job description. The scale used is 1-7 Likert scale.

4. DATA ANALYIS

Data Analysis Method

In this study, data analysis used the Partial Least Square (PLS) approach using the SmartPLS 3.3.3 software. The test is carried out in 2 stages, namely the outer model and the inner model.

Outer Model Testing

Table 1.
Loading Factor Value and AVE Value

Variable	Indi-cator	Loading Factor	Cut Value	AVE	Cut Value	Vali-dity
Financial Performance Measures	KK1	0.893	0.7	0.811	0.5	Valid
	KK2	0.9	0.7			Valid
	KK3	0.924	0.7			Valid
	KK4	0.884	0.7			Valid
Managerial Performance	KM1	0.717	0.7	0.773	0.5	Valid
	KM2	0.882	0.7			Valid
	KM3	0.927	0.7			Valid
	KM4	0.928	0.7			Valid
	KM5	0.919	0.7			Valid
	KM6	0.855	0.7			Valid
	KM7	0.832	0.7			Valid
	KM8	0.918	0.7			Valid
	KM9	0.914	0.7			Valid
Non-Financial Performance Measures	KNK1	0.926	0.7	0.812	0.5	Valid
	KNK10	0.872	0.7			Valid
	KNK11	0.898	0.7			Valid
	KNK2	0.928	0.7			Valid
	KNK3	0.915	0.7			Valid
	KNK4	0.947	0.7			Valid
	KNK5	0.891	0.7			Valid
	KNK6	0.943	0.7			Valid
	KNK7	0.752	0.7			Valid

	KNK8	0.926	0.7			Valid
	KNK9	0.899	0.7			Valid
Clarity of Role	KP1	0.758	0.7	0.75	0.5	Valid
	KP2	0.876	0.7			Valid
	KP3	0.936	0.7			Valid
	KP4	0.894	0.7			Valid
	KP5	0.921	0.7			Valid
	KP6	0.798	0.7			Valid

Based on the results of the PLS analysis in the table above, the AVE value of all constructs, both dimensions and variables, has exceeded 0.5 which indicates that all indicators in each construct have met the required convergent validity criteria.

Ineer Model Testing

Table 2
R-Square

	R Square	R Square Adjustment
KM	0.744	0.256
KP	0.629	0.371

Based on the data in the table, the adjusted R quare value of the role clarity variable (KP) was 0.629, this showed that the effect of financial performance measures and non-financial performance measures on role clarity is 62.9%, while the remaining 37.1% variance clarity the role was influenced by other factors outside of financial performance and non-financial performance.

In the managerial performance variable (KM), the adjusted R square value obtained is 0.744, this showed that the contribution of the role, financial performance and non-financial performance variables to managerial performance is 74.4%, while the remaining 25.6% managerial performance variance was influenced by other factors beyond role clarity, financial performance measures and non-financial performance measures.

Hypothesis Testing Results

Table 3
Direct Effect Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KK->KP	0.580	0.577	0.043	13.534
KNK->KP	0.446	0.449	0.049	9.113
KP->KM	0.770	0.763	0.061	12.588

1. Financial performance measures have a positive effect on role clarity

The path coefficient value of the relationship between financial performance and role clarity (KK-KP) was 0.580 and the t-statistic value is 13.534. This value was greater than the standard t-statistic value, which is> 1.65. It can be concluded that financial performance measures have a positive effect on role clarity. The results of this study support the research results of Burney and Widener (2007) Hall (2008) and Lau (2011). The results of this study are the same as Lau's research (2011) which states that there is a positive influence between financial performance measures and role clarity.

The use of a case mix in government hospitals can cause financial risk factors. This will encourage the hospital to increase efficiency and use financial performance measures. Research conducted by Albernethy and Lilis (2001) proves that the strategy used by government hospital management in implementing case mix in Australia can be oriented towards increasing efficiency and using financial measures.

2. Non-financial performance measures have a positive effect on role clarity

The path coefficient value of the relationship between the measurement of non-financial performance and role clarity (KNK-KP) is 0.446 and the t-statistic value is 9,113. This value is greater than the standard t-statistic value, which is> 1.65. It can be concluded that non-financial performance measures have a positive effect on role clarity. The results of this study support previous research which shows a positive influence between the relationship between non-financial measures and the clarity of the roles of Hall 2008, Lau 2011 and Anggriawan 2017.

The use of non-financial measures by level managers will influence lower level managers to use non-financial measures in performance appraisals. The use of non-financial performance measures by superiors will assist subordinates in understanding the objectives in implementing health services. Non-financial measures can provide information that can help improve managers' understanding of their job roles (Simon, 2000). Non-financial measures help in understanding the processes in the organization in the form of information needed by management (Chenhal and Langfield-Smith, 2007).

3. Clarity of Roles Has a Positive Effect on Managerial Performance

The path coefficient value of the relationship between role clarity and managerial performance (KP-KM) is 0.770 and the t-statistic value is 12.558. This value is greater than the standard t-statistic value, which is> 1.65. It can be concluded that role clarity has a positive and significant effect on managerial performance. The results of this study support the results of previous studies, namely Hall (2008), Lau (2011), and Anggriawan (2017). Previous research has found that role clarity has a positive influence on managerial performance.

4. Role Clarity Mediates The Relationship between Financial Performance Measurement Systems and Managerial Performance

Table 4. Indirect and Direct Effect Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KK->KP->KM	0.446	0.441	0.053	8.358
KK->KM	0.109	0.114	0.049	2.210

The table shows the results of the path coefficient value of 0.446 and the t-statistic value of 8.358 for the relationship between the indirect effect of financial performance measures and managerial performance. The path coefficient value between the direct effect of financial performance and managerial performance is 0.109 and the t-statistic is 2.210. The results of the analysis show that the role clarity variable is proven to partially mediate the effect of financial performance measures with role clarity.

The results of this study support the results of previous studies. Research by Hall (2008) and Abdalla (2015) shows clarity of role plays a role as mediator of the relationship between a comprehensive management control system and managerial performance. Likewise, Lau's research (2011) found that role clarity has a mediating effect on the relationship between financial measures and managerial performance.

5. Role Clarity Mediates the Relationship between Non-financial Performance Measurement Systems and Managerial Performance

Table 5
Indirect and Direct Effect Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KNK->KP->KM	0.343	0.342	0.041	8.433
KNK->KM	0.129	0.131	0.044	0.964

Table 5 shows the results of the path coefficient value of 0.343 and the t-statistic value of 8.433 for the relationship between the indirect effect of non-financial performance measures and managerial performance. The path coefficient value between the direct effect of non-financial performance and managerial performance is 0.129 and the t-statistic is 0.964. The results of the analysis show that the role clarity variable is proven to fully mediate between non-financial performance measures and managerial performance. The t-statistic value of the direct effect between non-financial performance and managerial performance <1.96. The results of this study support research conducted by Burney and Widener (2007), Hall

(2008), Lau (2011) and Anggriawan (2017). The use of non-financial measures for performance evaluation is related to managerial performance through the indirect effect of role clarity (2011).

5. CONCLUSION

This study investigates issues related to the influence of financial and non-financial performance measures on managerial performance with clarity of role as mediation in government-owned hospitals. This study is based on the responses of 98 lower-level managers of government hospitals in West Sumatra. The results of the study show:

1. Based on statistical results, financial performance measures and non-performance have a positive effect on managerial performance. The existence of financial and non-financial performance measures can provide information that can help managers improve their understanding of their job roles.
2. Based on the statistical results, role clarity has a positive effect on managerial performance. The existence of a high understanding of the objectives of a job can provide information that is relevant to improving managerial performance. Roles and job objectives are aspects of role clarity, thus managers who have high role clarity will produce better managerial performance.
3. Based on statistical results, role clarity can mediate the relationship between financial performance measures and non-financial performance on managerial performance. The role clarity partially mediates the relationship between financial performance and managerial performance. The role clarity fully mediates the relationship between non-financial performance and managerial performance.

Research Limitations and Suggestions

There are a number of limitations to this study. First, the sample taken is only lower-level managers. Therefore, it is unclear whether our results can be generalized to managers at the level for strategic business units. Second, this research only takes government-owned hospitals, in the future it is hoped that it can conduct research on private hospitals. Third, this study uses only one mediating variable, namely clarity of role, which is included in this study. Other possible mediating variables such as fairness, interpersonal trust, motivation, satisfaction and commitment.

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