



The Effect of Risk Management, Governance and Information System on Technological Efficiency for the Inpatient Services in the Indonesian Hospital

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Abstract: *The hospital is one of the health care institutions supported by medical personnel and non-medical personnel to provide services to the community. The increase in hospitals' number is expected to be in line with the increase in medical and non-medical personnel in hospitals. However, the increase in resources has almost doubled compared to the increase in the number of hospitals in Indonesia. This can indicate that the hospital current conditions are less efficient. To identify the condition of the hospital's level of efficiency, it can be done using the Stochastic Frontier Analysis (SFA) method. This analysis is based on the production function involving various input and output factors. Various types of inputs and outputs that can be considered for inclusion in the analysis model. The purpose of this study is to identify the effect of risk management factors, governance, information management on the efficiency of inpatients. The results from this study, governance is the most dominant factor in determining the level of efficiency of inpatient services, then followed by risk management factors. Thus, to improve the efficiency of inpatient services the main priority can be directed to better hospital governance. spacing. Author Profile must be in Font Size 8, with single line spacing. Fore more details, please download TEMPLATE HELP FILE from the website.*

Keywords : *Efficiency, Risk Management, Governance, Information System, Technological, Hospital.*

I. INTRODUCTION

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II. PROCEDURE FOR PAPER SUBMISSION

Risk management

Defining risk in this study is very important. Many researchers have defined and described the meaning of risk. Risk is a loss experienced by an institution because an unknown event will occur in the future where risks can be measured and minimized (Manurung, 2018). While according to the Big Indonesian Dictionary, the risk is all the possibilities that will occur and can harm the company.

The process of measuring risk can be carried out qualitatively or quantitatively in accordance with the results of risk identification to estimate the opportunities and impacts of a risk. According to an Enterprise Risk Management (ERM) survey, the global financial crisis is the main reason for risk management to be important. The focus of management is needed to consider the risks that will occur and management strategies to deal with risks whose purpose is to make the best decisions from existing conditions. Management is responsible for knowing the risks that will occur, to align the company's strategy with those risks. The challenge faced by management is a way of balancing a company's risk with the benefits received by the company. The director must know the part of a business process to add company value and at a certain point, the company is prone to risk (Tricker, 2015).

Governance Management

Corporate governance is the process of implementing power within an entity. This includes the overall activities of the company in maintaining relationships with shareholders, employees, external auditors, the government, and other parties related to the company. The root of the problem of corporate governance is the number of dominant entrepreneurs with unrealistic expectations that lead to failure, even embezzlement.

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The company's desire to seek profits sometimes deviates from applicable legal regulations. This is certainly contrary to the wishes of the government as a rule maker. For this reason, there is a need for a good and correct legal procedure for managing a company. Along with the growing public awareness of the importance of corporate governance, the concepts and principles of corporate governance are developed so that they become relevant to each entity that exists. The policies and procedures of corporate governance have been implemented by charity, education, sports and the medical industry, professional institutions, corporations, government and so on (Tricker, 2015).

Information Management

Information is a collection of facts about a matter or topic. Information becomes an important thing for an institution or organization, where information is a resource for the institution (Detlor, 2010). The information has different properties from data, where data is a raw fact about something. The data collected is used as an information, where information is a collection of facts that are processed into meaningful and can be used by an institution. The information must also be managed properly through a process called information management.

Research Methodology

This research uses quantitative methods. Quantitative methods are research methods that are based on a positivist philosophy, sampling techniques are generally carried out randomly, data collection uses research instruments, and data analysis to test predetermined hypotheses (Now and Bougie, 2016).

The data used is hospital data obtained from page data from the Ministry of Health of the Republic of Indonesia. Collecting data period for the related variable is One Shot Cross-Sectional, i.e. research conducted by using data that only taken once in a given period to answer the research questions or research hypotheses (Rochaety, Tresnati, & Latief, 2007). Sampling was not carried out in this study but used data from the population of all hospitals in Indonesia in 2018.

Data analysis was carried out through the Cobb-Douglas production function estimation (Coelli, 2005). Significant input variables entered the model for further estimation. After that, using the Stochastic Frontier Analysis Method, estimation of technical efficiency is carried out. The estimation of the efficiency of the technique is then regressed on management variables (Coelli, 2005).

III. CONCLUSION

A. Result

The following is the result of the analysis using multiple linear regression method for regressing management variable as the independent variable and the technological efficiency as the dependent variable.

Table 1. The Analysis of Variance of the Multiple Linear Regression of Management Variable on The Technological Efficiency

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.15	3	0.383	8.589	.000 ^b
Residual	49.11	1100	0.045		

Total	50.26	1103			
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a. Dependent Variable: efficiency_of_inpatients

b. Predictors: (Constant), information_management, governance_management, risk_management

The results obtained based on data processing with multiple linear regression models showed that the F statistic value was 8,589 (p-value = 0,000). This shows that simultaneously the information management, governance, and risk management factors significantly influence the technological efficiency of the inpatient services. Thus the test will be continued with the t-test to test the regression coefficient partially. Table 2 presents the partial t-test for each coefficient of the independent variables i.e. Risk Management, Governance and Management Information System.

Table 2. The t-test for Testing the Individual Coefficient of the Independent Variable

Model	Unstandardized Coefficients		Standardized Coefficients	t	p-value
	B	Std. Error	Beta		
(Constant)	0.247	0.045		5.544	0
risk_management	0.014	0.008	0.084	1.818	0.069
governance_management	0.012	0.003	0.115	3.619	0
information_management	-0.004	0.008	-0.025	-0.55	0.583

a. Dependent Variable: efficiency_of_inpatients

The results of the t-test show that of the three factors tested, 2 factors namely risk management and governance have a significant influence on the level of efficiency of inpatient services. While information system management factors have no significant effect. This is indicated by the risk management coefficient of 1.818 (p-value = 0.069) and the governance coefficient of 3.619 (p-value = 0.000). Among the three factors tested, governance is the most dominant factor in determining the level of efficiency of inpatient services, then followed by risk management factors. Thus, the focus of management in hospital management, the main concern so that can be directed to the management of good hospital governance.

Governance is a system that regulates and controls the relationship between management and all parties related to the organization regarding their rights and obligations, which aims to create added value for all interested parties. The standard systems and procedures set by the hospital will make it easier for doctors, nurses, and all hospital human resources to provide services to inpatients efficiently. Good governance will improve hospital performance through the creation of a better decision-making process by all parties involved in the hospital. Governance will also improve the operational efficiency of hospitals and can further improve services to interested parties (stakeholders), especially inpatients.

Governance can also make it easier to obtain cheaper and more flexible funding that will ultimately increase the value of the hospital (corporate value). This is along with the benefits of governance towards the organization stated by Komara (2012). The results of previous studies, which link efficiency with governance, support the results of this study. The research includes research from Brav et al (2010) and Valsan (2011) which show that governance has a significant influence on the efficiency of inpatient services.

Risk management is a process of identifying, analyzing, evaluating, controlling, and trying to avoid and minimize actions that result in harm and harm to patients. This indicates that for inpatient services, the level of risk management needs to be increased so that services inpatient care can be more efficient.

Information management is the collection, storage, dissemination, filing and destruction of information that aims to obtain data accurately and consistently, produce useful information from raw data, store information safely and can be accessed for its useful life, and support communication and make decisions effectively (Sihombing, 2015). This is not directly related to hospital services for inpatients. Information systems are only a supporting factor in the back office. Inpatients are not directly related to the information system in question.

B. Conclusion

Based on the results of data analysis, it turns out that only governance and risk management have a significant effect on the level of technical efficiency of inpatient services. While information system management factors do not have a significant effect on the level of efficiency of inpatient services. Among the three factors tested, governance is the most dominant factor in determining the level of efficiency of inpatient services, then followed by risk management factors. Thus, to improve the efficiency of inpatient services, the main priority can be directed to better hospital governance.

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Yuli Ani, born in Lampung on April 23, 1989, completed her undergraduate education at Bina Nusantara University in the field of computer science and management in 2007 - 2012 and holds a degree in economics and a computer degree. During his undergraduate years, he worked as a promotion team in corporate marketing communications at Binus Corporate, besides also being a management laboratory assistant. Thesis raised in research S1 research on digital management dashboards in the ministries of cooperatives and SMEs that applies to all of Indonesia. In 2012 - 2014, continued his Masters degree in Management with finance at Bina Nusantara University and earned a master's degree in management. The thesis raised in S2 research is the analysis of the factors that influence the price of gold in Indonesia in order for decisions to be taken by investors. Then in 2016 began to enter the doctoral program in management research at the bina nusantara university. Started working in 2012 at Bina Nusantara as a teacher and assistant laboratory coordinator for Management. Then in 2013 he was appointed as the head of the business management laboratory of the Bina Nusantara University. Become a lecturer starting in 2014 by teaching business statistics, business mathematics, and business quantitative analysis.