

FRAUD PREVENTION: INFORMATION TECHNOLOGY AND INTERNAL CONTROL PERSPECTIVE

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Abstract

Fraud is a form of disease found in an entity. Fraud causes many material and non-material losses. Therefore fraudulent actions must be prevented for the realization of good university governance. This study aims to examine the effect of information technology and internal control on fraud prevention in universities. The research sample consisted of 90 respondents. The analysis tool used is WARP PLS 6.0. The sampling technique in this study uses convenience sampling. We found that information technology influences internal control, and internal control has an influence on fraud prevention. We also found that information technology affects fraud prevention. Hence, the university has to improve their ability in information technology and internal control. The research contributes to fraud prevention literature by providing valuable insights into internal control systems. Future research should add other variables so that results are more comprehensive.

Keywords: Fraud prevention, information technology, internal control, good university governance

INTRODUCTION

Higher education has a significant role in the development of a nation. Higher education implements various efforts to fulfill its strategic role in order to improve the competitiveness of the nation to face globalization in all fields (DPT DIKTI, 2013). However along with the increasing complexity of the role of higher education and the higher funding managed by each university, various types of fraudulent actions have emerged. These fraudulent acts are in the form of funds misappropriation, abuse of authority, and reporting errors. The National Audit Board in August 2012 reported corruption cases affecting 16 state universities in Indonesia (Zamzami and Timur, 2016).

Cases of irregularities in universities can be caused by inadequate organizational instruments to create accountable and transparent management, and the lack of high commitment from Higher Education managers, as well as lack of internal controls to prevent and detect fraud (Dewi and Apandi, 2012). Therefore, an effective prevention or investigation effort is needed to prevent and detect irregularities in universities. There are several things that can be done to prevent or detect fraud cases, one of which is the creation of good governance in the university environment.

Some elements that must be considered in realizing good governance include internal control, human resources, information technology (Soltani, 2009). Internal control is one of the management methods in monitoring the condition of the company's operational implementation. Furthermore, human resources are the main consideration because resources become a milestone in the development of company progress. Good worker input will have high performance. Next, in the current era of digitalization, the use of technology is crucial. Moreover, information users always want information that is fast and accurate. Research on this matter has been carried out by Olasanmi (2013), Chen (2014), Elder (2015), Oktaviani (2017), and others. However the results of the study still show different results. Hence, this study will examine the influence of information technology and internal control on fraud prevention.

LITERATURE REVIEW

Fraud

According to Cressey (1953), there are three elements that lead to fraud, namely opportunities, pressure and rationalization. According to Arens et al (2014: 354-355) and the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2010) three factors that cause fraudulent financial statements and asset misappropriation known as fraud triangle can be explained as the following: (1) Incentives / pressures, management or other employees have incentives or pressure to commit fraud; (2) Opportunities, situations that provide opportunities

for management or employees to commit fraud; (3) Attitudes / rationalization, the existence of an attitude, character or set of ethical values that allows management or employees to take dishonest actions, or they are in an environment that gives them considerable perception that causes them to justify doing dishonest.

Two main categories of fraud are fraudulent financial statements and asset misappropriation. Fraud in the financial statements is a misstatement or deletion of the amount or disclosure that is intentionally carried out in order to deceive its users. Most cases involve misstatement of the amount reported compared to disclosure. While misuse of assets is embezzlement of assets by employees, as well as theft of office items by employees. Furthermore, fraud can be prevented by making integrated efforts that can reduce the emergence of the causes of fraud (Sudarmo and Yulianto, 2008). Some steps to minimize the emergence of fraud are: 1) minimize opportunities for opportunities (opportunities) to commit fraud; (2) reduce pressure (incentives / pressure) on employees; and (3) eliminating the reasons for making justification / rationalization of fraud committed

Information Technology

Mustafa, et al (2010) stated that information technology includes computers, software, databases, networks, electronic commerce, and other types of technology-related types. Information technology uses computer technology for processing and storage, also functions as a communication technology for dissemination. The application of good information technology can also guarantee the quality of financial statements. This is because the use of information technology can accelerate financial information that is updated in a short time. Hence the better the technology used, the better the quality of financial reports.

Internal Control

Internal control is a policy and procedure designed to provide adequate confidence related to the achievement of management objectives in various categories of categories, namely: (1) reliability of financial statements, (2) efficiency and effectiveness of operations, and (3) compliance with applicable laws and regulations (Arens, 2014: 339). The internal control component designed and implemented by management to provide adequate confidence that control objectives can be achieved. The components of internal control include the control environment, risk assessment, control activities, information and communication, and supervision (COSO, 2013).

Good internal control is better able to prevent fraud compared to the findings obtained by auditors. Weak internal controls are the main cause of fraud. The essence of an effective

internal control lies in the attitude of management. If top management believes that control is very important, employees in their organization will feel that and respond to the controls enforced. Conversely, if people in the organization believe that control is not an important concern for top management, then it is almost certain that the objectives of management control will not be achieved effectively (Oguda et al, 2015)

Furthermore, in PP No. 60 of 2008 Article 3 paragraph 1 also explained that the constituent elements of the Internal Control System (SPI) include: a). Control environment, b). Risk Assessment, c). Control Activities, d). Information and Communication, and e). Monitoring Internal Control. Therefore, if the better the internal control, the financial statements produced are of high quality. Based on theoretical studies that have been conducted, this research has the following hypothesis

H1: Information technology influences internal control

H2: Internal controls influences fraud prevention

H3: Information technology influences fraud prevention

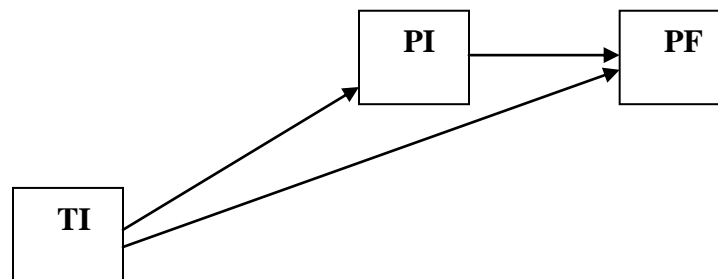


Figure 1. Theoretical Thinking Framework

RESEARCH METHOD

Population & Sample

Population is the whole object of the research under study (Arikunto, 2006). The population in this descriptive study was employees of Universitas Negeri Semarang, Indonesia. The sampling technique in this study uses convenience sampling, which is a collection of information from members of the population that are easily obtained and able to provide that information (Sekaran, 2006). The number of research samples amounted to 90 respondents.

Research Variables

Information Technology

Information technology is a technology facility that is used in supporting the activities of universities, especially those related to finance and accounting. Indicators of this variable include the use of computers / laptops and internet networks. This variable is measured using a likert scale that is 1 to never be done, up to 5 which means it is always done.

Internal Control

Internal control is the steps taken by management in controlling every activity for the achievement of goals. The indicators used in this control variable consist of: control environment; risk assessment; control activities; information and communication, monitoring. This variable is measured using a likert scale that is 1 to never have internal control, up to 5, which means that internal control is always done.

Fraud Prevention

Fraud prevention is how university management implements several steps in an effort to prevent fraud. Indicators of this variable include creating a climate of honesty, openness and mutual assistance; honest recruitment process; fraud awareness; positive work environment; clear code of ethics, easy to understand and obey; assistance program for employees who have difficulties; sanctions against all forms of fraud. This variable is measured using a likert scale that is 1 to never be done, up to 5 which means it is always done

Data Analysis

This research applies instrument testing with validity and reliability testing techniques. Whereas for testing hypotheses using Structural Equation Modeling (SEM) PLS analysis. The test equipment used is the SmartPLS 6.0 computer program which is a multivariate statistical technique that combines factor analysis and regression analysis, aimed at examining various relationships between variables in a model, between indicators and constructs and between constructs and constructs (Latan, 2012).

RESULTS

Based on these data it can be concluded that the model is fit because the APC ARS, and AARS values are 0.446, 0.399 and 0.390 respectively at 5%. The AVIF value of 1.577 is less than 5 which indicates that there is no multicollinearity in the model.

Table 1. Model Fit and Quality Indices

	Value	P-Value	Criteria	Conclusion
Average path coefficient (APC)	0.446	$p < 0,001$	$p < 0,05$	Model Fit
Average R-squared (ARS)	0,399	$p < 0,001$	$p < 0,05$	Model Fit
Average adjusted R-squared (AARS)	0,390	$p < 0,001$	$p < 0,05$	Model Fit
Average block VIF (AVIF)	1,577	-	Accepted ≤ 5 Ideal $\leq 3,3$	Ideal
Average full collinearity VIF (AFVIF)	1,690	-	Accepted ≤ 5 Ideal $\leq 3,3$	Ideal
Tenenhaus GoF (GoF)	0.485	-	Small ≥ 0.1 Medium ≥ 0.25 Large ≥ 0.36	Large
Sympson's paradox ratio (SPR)	1,000	-	Accepted $\geq 0,7$ Ideal = 1	Ideal
R-squared contribution ratio (RSCR)	1,000	-	Accepted $\geq 0,9$ Ideal = 1	Ideal
Statistical suppression ratio (SSR)	1,000	-	Accepted $\geq 0,7$	Accepted
Nonlinear bivariate causality direction ratio (NLBCDR)	1,000	-	Accepted $\geq 0,7$	Accepted

The results of hypothesis testing with reference to the path coefficients and P values show that first, the influence of information technology (TI) on internal control (PI) is 0.616 and this is significant at 5% because the value of p value < 0.001 is less than 0.05. Second, the results show that the influence of information technology (ti) on fraud prevention (pf) is 0.370 and this is significant at 5% because the p value < 0.001 is less than 0.05. Third, the influence of internal control (pi) on fraud prevention (pf) is 0.370 and this is significant at 5% because the p value < 0.001 is less than 0.05.

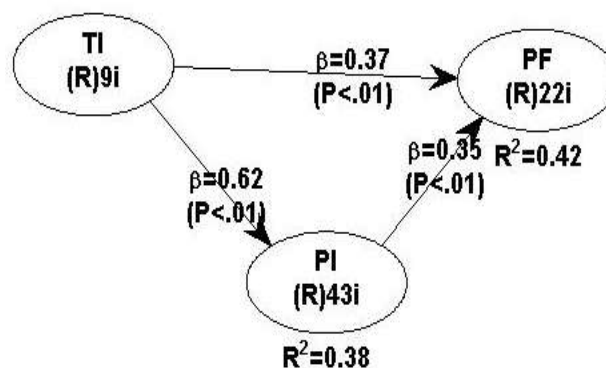


Figure 2. Hypothesis Testing Model

The Influence of Information Technology on Internal Control

The results of the analysis show that the value of the influence of information technology on internal control is 0.616 and this is significant at 5% because the p value < 0.001 is smaller than

0.05. Therefore information technology influences internal control. This is in line with Lie et al (2012) that IT weaknesses will make management predictions inaccurate and weaken the entity's internal control. Furthermore, Chen (2014) states that information technology has a large influence on the effectiveness of internal control.

Technology is an important factor in the development of an organization. The increasingly rapid development of the times demands better management of organizations. The development of technology is able to improve the internal control of an entity, for example the use of an accounting system application in an organization is able to facilitate management to supervise and control financial management. Furthermore, the online inventory recording system will assist management in controlling inventory stock. Internal control becomes very important for the sustainability of an entity. Many factors influence the internal control processes in organizations such as information technology, human resource capabilities, and leadership commitment

The Influence of Information Technology on Prevention of Fraud

The results of testing the hypothesis shows the influence of information technology (ti) on the prevention of fraud (pf) is 0.370 and the p value <0.001 is less than 0.05. So that information technology influences fraud prevention. Information technology is important in fraud prevention. Through reliable information technology, company management will be able to take strategic decisions for the future of the company, especially to avoid fraud. This is consistent with the opinion of Devaraj and Kholi (2003) that information technology has a significant role for the future of the company. Furthermore, Wilkinson and Cerullo (1997) stated that good information technology will provide accurate information and this can minimize fraud. In line with Elder et al (2013) states that sophisticated information technology in entities is able to assist management in segregating employee duties so that opportunities for asset misappropriation can be minimized. Advanced information technology can be realized by management with the use of accounting applications that are able to assist entities in business management. One example is e-procurement, an information technology system used to procure goods. So far this system is considered the best to minimize fraud in the procurement of goods (Oktaviani, 2017). In addition, according to Olasanmi (2013) stated that the use of CAATs or e-audit systems is able to overcome fraud risk and this is believed to be able to detect the possibility of fraud that will occur.

Information technology has two sides of the blade. On the one hand if the information technology that is owned is sophisticated and good, it will be able to facilitate the work of the entity in preventing fraud. However, on the other hand technology is also able to become a

boomerang for the entity concerned if the system is broken into by irresponsible persons so that there are some problems such as company secrets that are read by competitors, published customer data in general, error systems that can interfere with the performance of other parts. Therefore, information technology is able to prevent fraud, but management must also be able to do manual prevention if there is an error in the system. Some ways to prevent error systems are manual recording as data backup, proper employee selection, and always screening people entering the company.

The Influence of Internal Control on Fraud Prevention

The test results show that the effect of internal control (pi) on fraud prevention (pf) is 0.370 and this is significant at 5% because the p value <0.001 is less than 0.05. Hence, internal control affects fraud prevention. This result contrasts with Usman et al (2015) showing that internal control variables have no effect on fraud prevention. However, the results of this study in harmony with Gusnardi (2008) stated that internal control has a positive effect on fraud prevention. Internal control is the main key in preventing fraud. If the entity has good internal control, the fraud that occurs in the management of the entity can be minimized. Furthermore, Oguda et al (2015) stated that internal control is important in achieving company goals. The operational process of the company can run smoothly if internal controls between divisions are good and synergize. Next, the use of the system in internal control is needed to suppress nepotism and prevent fraud (Saleh, 2016). The internal control system is able to provide convenience for managers in conducting overall supervision. This system will make it easier for management to check parts per section comprehensively. Therefore, company management must emphasize attention to internal control. Good internal control can minimize all forms of irregularities that will occur in an entity.

CONCLUSION

This study shows that the first information technology affects internal control. Second, internal control has an influence on fraud prevention. Third, information technology influences fraud prevention. This research provides an important contribution to organizational managers in realizing good governance and being able to minimize fraud. Hence, the university has to improve the sophistication of information technology and always improve internal control system. However, this study has a limited sample of research that only focuses on a university. Future research is expected to be able to expand the research sample and add other variables in order to obtain more comprehensive results.

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