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THE EFFECT OF INTERNAL CONTROL ON FRAUD PREVENTION BASED ON THE CAUSE FACTORS (Empirical Study on a Construction Company in Surabaya)

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Abstract: The purpose of this study is to determine the effect of control environment, risk assessment, control activities, information and communication, and monitoring activities on fraud prevention based on the factors causing fraud adopted from the fraud pentagon theory, which consists of pressure, opportunity, rationalization, ability, and arrogance. The population in this study are employees of a construction service company in the city of Surabaya. The sampling technique used in this study is the non-probability sampling method, which means all members of the population are used as the sample in the study. The number of samples used in this study is 57 respondents, who were employees of the company. The data analysis method used in this study is the Structural Equation Modelling (SEM) based on its variant, namely Partial Least Square (PLS), using the smart PLS software version 3.3.5. The results of this study indicate that the control environment, risk assessment, and monitoring activities have positive and significant effect on fraud prevention, but control and information & communication activities have no effect on fraud prevention.

Keywords: internal control, fraud prevention, fraud pentagon

INTRODUCTION

Every business activity is always vulnerable to the risk of fraud. Even though the company already has internal controls, the opportunity for fraud to occur remains and cannot be ruled out, both for government sector companies and private companies (Hamdani et al., 2017). This is due to the possibility that there are still minimal resources to implement effective internal controls within the company, such as the presence of anti-fraud technology that can prevent

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employee errors, and the lack of external supervision that makes the company more vulnerable to the risk of fraud (Omar et al., 2016).

The number of cases of the collapses of large companies like Enron illustrates that fraud is a serious problem. Cases of scandals and the collapses of large companies provide a clear example that employee morale can lead to unhealthy company financial performance (Pamungkas et al., 2018). In the company, some employees are experts using their outward appearance when perpetrating the fraud, such that the company's management finds out about the loss only at a later date. Fraud by employees will cause problems for the company because it can affect operational activities and causes opportunity costs in lost of sales and lost of stock. Fraud not only has a detrimental effect on the company but can also reduce the reputation of the entity (Herlita & Bayunitri, 2021).

A company is chosen by the researchers in order to study and understand this phenomenon. The company is one of the private construction service companies in the city of Surabaya, East Java, which has a B1 (large) qualification. This company usually works on railway infrastructure projects, such as the construction or reparation/improvement of railroads, construction of stations, and other projects. The measure of the company's success is getting a profit from the successful implementation of the project. One of the efforts to achieve this goal is by implementing internal control in the company's operational cycle. The company has several problems in its operational activities, such as cases of corruption in project funds by irresponsible persons. The results of an interview with one of the company's project managers stated that in 2013 there was a corruption case committed by a site manager, who happened to have a brotherly bond with the owner of the company. But after his actions were discovered, the management of the company expelled him from the company. The company also pays a lot of consultants for the smooth running of projects. Management by professionals will tend to be disobedient because they only want to maximize benefit (Venusita & Agustia, 2021).

One of the field implementers also said that at the end of 2020 there was a case of embezzlement of project funds in Makassar by the project manager. "There are still many cases that have not been revealed, almost every project implementation must be fraudulent whether large or small, it's just a matter of

how cleverly it is hidden," said the executor. According to him, one of the causes of fraud is a conspiracy between the project manager and the vendor related to the procurement system and the conspiracy between the project manager and the site manager regarding the payroll system for field workers and lack of intense supervision in the implementation of projects in the field. An example of a small case, in the purchase of workers' consumption, expenses can be claimed without being asked for the original bill, so it is possible to make a fake bill with a larger nominal.

Nawawi (2018) argued that employee fraud on expense claims can occur in various ways such as falsification of gasoline receipts, tolls, accommodation, falsification of mileage information, increase in the purchase price of materials and services from suppliers, falsification of billing documents such as telephone bills and misuse of staff advances for personal use. Ervianto (2017) also conveyed corrupt practices often occur during the process of providing and financing projects, as well as during the project implementation stage. In the process of providing and financing, the corruption that often occurs is in the form of bribes and fraud committed by power holders against the source of funds and project owners. Furthermore, in the procurement and project implementation stage, corrupt practices often occur in the form of conspiracy to win certain tenders, corruption in the preparation of specifications and contract documents accompanied by bribing field supervisors to state that the contractor's work is in accordance with the contract specified specifications.

Based on the author's observations, the company's internal control is still weak. Because the company does not yet have an internal auditor, the company hires a consultant to carry out the supervision and that is also less effective because it is only carried out once a year. Even though in the company a project manager concurrently serves as a special supervisory board, this is not quite right. Supposedly, the project manager should not concurrently be on the company's supervisory board. If held concurrently, it will not run optimally, because the responsibilities of the two roles are different, and it should not be held by only one person because it will lead to fraud. The project manager (PM) position is the company's operational position, while the supervisory board is a non-operational position controlling what the company does only (Mulyadi, 2014).

Improper internal control can cause a company's operational efficiency to be weak, triggering acts of fraud and abuse, both intentional and unintentional.

Research on internal control within the company and also fraud prevention have often been carried out, Marasabessy (2016) stated that the control environment, risk assessment, control activities, information & communication, and monitoring activities influence fraud prevention. Furthermore, Zarlis 's research (2019) also explained that the control environment, risk assessment, control activities, information & communication, and monitoring activities influence fraud prevention. Previous research conducted by Satria (2020) shows that the control environment and risk assessment have a positive influence on fraud prevention. Meanwhile, research conducted by Kundoyono & Amanah (2019) shows that the control environment, risk assessment, control activities, and information & communication do not influence accounting fraud, while monitoring activities influence accounting fraud.

Based on the background exposure, the purpose of this study is to determine the effect of the control environment, risk assessment, control activities, information & communication, and monitoring activities on fraud prevention based on the pentagon fraud theory at a construction company in Surabaya. According to Crowe (2011), the five factors causing fraud is called the fraud pentagon theory, which is a result of the development of the fraud triangle. The five elements that cause fraud in the fraud pentagon include pressure, opportunity, rationalization, competence, and arrogance. Efforts to prevent fraud in a company require effective implementation of internal control (Tuanakotta, 2016). The effective implementation of internal control will minimize the risk of loss to the company due to fraud, whether intentional or unintentional. Internal control can help facilitate supervision and monitoring of the company's operational activities (Iskandar, 2015). In COSO (Committee of Supporting Organization of the Treadway Commission), there are five elements of internal control to be implemented by company management to create effective internal control according to company goals. COSO internal control elements include control environment, risk assessment, control activities, information & communication, and monitoring activities (Rumamby et al., 2021).

The control environment includes compliance with integrity, commitment to competence, implementation of supervisory functions, organizational structure,

participation of the board of commissioners and audit committee, and HR policies (Handoyo & Bayunitri, 2021). When the sub-components in the control environment are carried out in accordance with the provisions, there will likely be no gaps for employees to commit fraud. The better the control environment in the company, the better the prevention of fraud in the company.

H1= The control environment affects fraud prevention.

The aim of risk assessment is to analyze and identify risks that may occur. Company can manage and overcome the risks that will occur by preventive controls, detective controls, and corrective controls (Makikui et al., 2017). The better the risk assessment carried out by the company's management, the better the prevention of fraud in the company will be.

H2= Risk assessment affects fraud prevention.

Control activities can be carried out through policies and procedures (control procedures) such as authorization and approval of transactions and activities, comprehensive and strict documentation, physical control over assets, data, and records through predetermined employees access restrictions, as well as independent inspections (Makikui et al., 2017; Handoyo & Bayunitri, 2021). The better the implementation of control activities within the company, the more effective the prevention of fraud in the company will be.

H3= Control activities affect fraud prevention.

When you want to submit information, you must first check its validity, process it, and convey it appropriately and must be available to be accessed by all members of the organization at every level to carry out their responsibilities properly. Good financial information is by identifying, classic filing each class of transactions, recording all transactions appropriately according to the accounting period, and presenting and disclosing financial statements appropriately (Makikui et al., 2017). The better the information and communication applied by the company, the better the prevention of fraud in the company.

H4=Information and communication affect fraud prevention.

Monitoring activities in performance monitoring can be carried out through periodic assessments, effective supervision, and carrying out separate evaluations on an ongoing basis to ensure that the implementation of internal control within the company functions efficiently (Makikui et al., 2017). The better and more

effective the monitoring activities carried out by the company's management are, the better the prevention of fraud in the company will be.
H5= Monitoring activities affect fraud prevention.

METHOD

This research uses quantitative research methods. The data used in this study are primary. Primary data were obtained from survey activities through distribution of questionnaires to respondents and conducting interviews and observations of the work environment in the company.

Population, Sample, and Sampling Technique

The population in this study are employees at a construction service company in Surabaya. The sampling method used is a non-probability sampling method, which means that all members of the population are the research sample (Sugiyono, 2017). The total number of sample in this study is 57 respondents who were employees of the company.

Operational Variables

a) The exogenous latent variable is an independent variable that is usually represented by the symbol X. The independent variable can affect the dependent variable. In this study there are five exogenous latent variables, as follows:
   X_1 = Control environment
   X_2 = Risk assessment
   X_3 = Control activities
   X_4 = Information and communication
   X_5 = Monitoring activities
b) The endogenous latent variable is a dependent variable that is usually symbolized by the letter Y. The dependent variable is influenced by the independent variable. In this study, fraud prevention (Y) is the endogenous latent variable.

Data Analysis Technique

The data analysis method used in this study is the smartPLS software version 3.3.5. The Partial Least Square (PLS) test is a variant-based Structural Equation Modeling (SEM). SEM (Structural Equation Modeling) is statistical analysis for research that requires simultaneous analysis of all variables and indicators, therefore, PLS is a statistical analysis technique that can be used on models with more than one dependent variable and independent variable. Testing using SmartPLS is by analyzing the measurement model (outer model) and analyzing the structural model (inner model) (Hair et al., 2014).

RESULTS

Outer Model Analysis or Measurement Model

Convergent Validity

Convergent Validity is used to determine how far the indicators of the variables can represent the latent variables used and to prove that there is a relationship with other indicators of the same latent variable. Convergent Validity is assessed by using a loading factor. If the loading factor value of > 0.7, then it can be concluded as valid. However, according to Hair et al., (2014), a loading factor of 0.50 can still be used.

According to Hair et al., (2014) if there is an indicator that has a loading factor of <0.5, then that indicator must be removed from the research model. The results of the outer model testing in this study indicate that almost all indicators have a loading factor of > 0.7. However, there are still two indicators that have loading factor of <0.7 but are still above 0.5; therefore, these indicators can still be used. This shows that the indicators in each constructs have met the convergent validity requirement.

Discriminant Validity

Discriminant validity can be measured by the AVE number. *Average Variance Extracted (*AVE) describes the average variance for each indicator. Based on Table 1 below, it shows that the AVE values are > 0.5, therefore this research model

has met the discriminant validity requirement, which is measured based on the AVE value.

Table 1 AVE Value

Variable	AVE
X1	0.653
X2	0.674
X3	0.709
X4	0.766
X5	0.772
Y	0.644

Source: SmartPLS Output

Composite Reliability

Composite reliability is conducted to measure the true value of the reliability of a latent variable. Composite reliability value of > 0.6 can be concluded as reliable. Based on Table 2 below, it shows that the composite reliability scores for all constructs are > 0.6; therefore, the model fulfils the composite reliability requirement, so it can be concluded that the model has good reliability.

Table 2 Composite Reliability Value

Variable	Composite Reliability
X1	0.929
X2	0.892
X3	0.924
X4	0.907
X5	0.910
Y	0.966

Source: SmartPLS Output

Cronbach's Alpha

Cronbach's alpha must be >0.6 for the model to be deemed reliable. Table 3 below shows that all constructs have Cronbach's alpha scores of >0.6. This indicates that the model has high reliability.

Table 3 Cronbach's Alpha Value

Variable	Cronbach's Alpha
X1	0.911
X2	0.839
X3	0.895
X4	0.847
X5	0.851
Y	0.963

Source: SmartPLS Output

Structural Model Analysis (Inner Model)

Analysis of the structural model (inner model) can be done by examining the R-Square value to measure the level of variation in the transition of exogenous

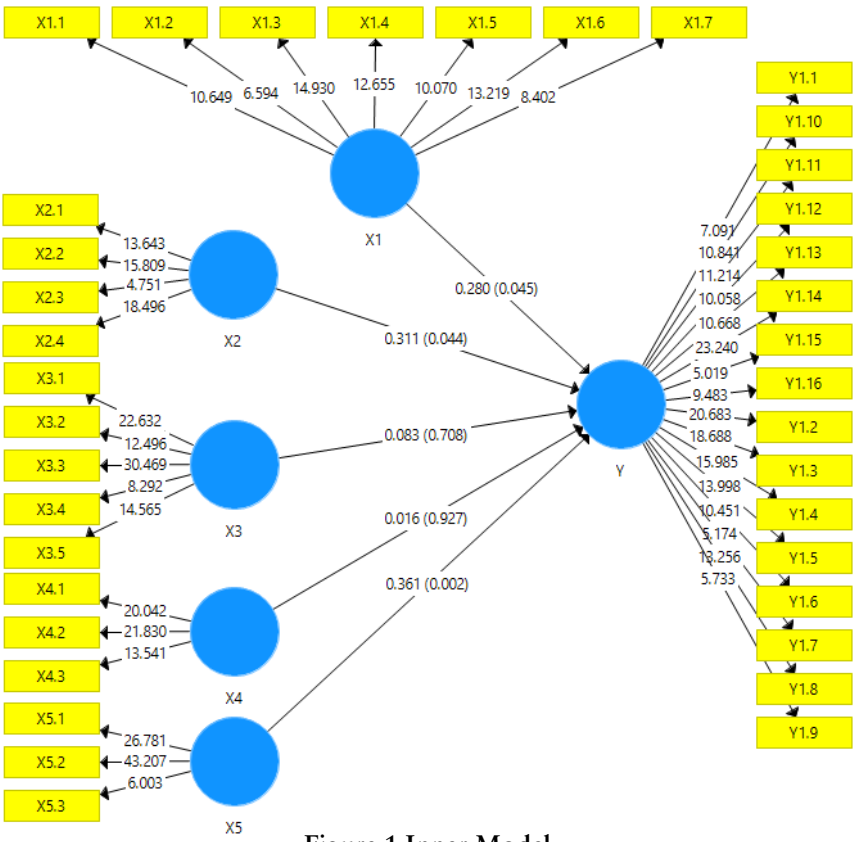

Figure 1 Inner Model
Source: SmartPLS Output

constructs to endogenous constructs. Next, the Q-Square Predictive Relevance test is conducted by examining the Q-Square numbers to see how well the observation value is. After that, a path coefficient test is carried out to calculate the significance value of latent variables in the structural model as seen from the P-value.

R-Square Test

The R-Square test is conducted to determine the proportion of the effect of endogenous constructs on the exogenous constructs. This test is used to predict whether the model is strong, moderate, or bad. Table 4 shows the R-Square value of the endogenous latent variable to be 0.834. From these results, it can be interpreted that the model is substantial (strong) because the R-Square value is more than 0.75. This illustrates the large percentage of the influence of the control environment (X_1), risk assessment (X_2), control activities (X_3), information & communication (X_4), and monitoring activities (X_5) on fraud prevention (Y), which is 83.4%. The remaining 16,6% is influenced by other factors.

Table 4 R-Square Value

Dependent Variable	R-Square
Y	0.834

Source: SmartPLS Output

Q-Square Predictive Relevance Test

The Q-Square Predictive Relevance test examines the Q-Square (Q^2) value and the observation value is determined using the blindfolding method. If the value of $Q^2 > 0$, it can be concluded that the model has a good observation value. On the contrary, if the value of $Q^2 \leq 0$ then it can be concluded that the observed value is not good (Hair et al., 2014). Based on table 5, the Q^2 value of the endogenous variable is 0.476, which means that the model has a good observation value because the Q^2 value is more than 0.

Table 5 Mark Q-Square (Q^2)

Dependent Variable	Q-Square (Q^2)
Y	0.476

Source: SmartPLS Output

Path Coefficients Test

The path coefficient test is carried out to determine whether the relationship between the exogenous variables and the endogenous variable are positive or negative, and also to measure the significance of an exogenous variable on the endogenous variable in the structural model, which is tested by bootstrapping technique. The hypothesis can be accepted if the T-Statistics value is > 1.96 and the P-Value are < 0.05 and vice versa.

Table 6 Path Coefficient Results

Relationship between Variables	Original Sample Estimate	Sample Mean	Standard Deviation	T-Statistics	P-Values
X1 -> Y	0.280	0.287	0.139	2.010	0.045
X2 -> Y	0.311	0.301	0.154	2.019	0.044
X3 -> Y	0.083	0.101	0.221	0.375	0.708
X4 -> Y	0.016	0.018	0.175	0.092	0.927
X5 -> Y	0.361	0.340	0.117	3,077	0.002

Source: SmartPLS Output

Table 6 displays the results of hypothesis testing using the path coefficient test. The control environment variable (X_1) has a positive effect on fraud prevention (Y) with a P-Value of 0.045. The risk assessment variable (X_2) has a positive influence on fraud prevention (Y) with a P-Value of 0.044. The control activity variable (X_3) has no effect on fraud prevention (Y) with a P-Value of 0.708. The information & communication variable (X_4) has no effect on fraud prevention (Y) with a P-Value of 0.927. The monitoring activity variable (X_5) has a positive influence on fraud prevention (Y) with a P-Value of 0.002.

DISCUSSION

The results of the first hypothesis testing show that the control environment variable (X_1) has a positive influence on fraud prevention. This means that the better the control environment, the better the prevention of fraud in the company will be. The results of this study are consistent with the research by Marasabessy (2016); Zarlis (2019) and Satria (2020) which showed that control

environment variable has a positive influence on fraud prevention. The control environment is the most basic part of other control elements. The sub-components in the control environment are compliance with integrity, commitment to competence, implementation of supervisory functions, organizational structure, participation of the board of commissioners and audit committee, and HR policies. Based on the results of the research, a good control environment can help prevent fraud.

The results of testing the second hypothesis indicate that the risk assessment variable (X_2) has a positive influence on fraud prevention. This means that the better the risk assessment, the better the prevention of fraud in the company will be. The results of this study are consistent with the research conducted by Marasabessy (2016); Zarlis (2019) and Satria (2020), which showed that the risk assessment variable has a positive influence on fraud prevention. The company's management can overcome risks that will occur by carrying out preventive, detective, and corrective controls. If the control is carried out effectively, it will reduce the possibility of risk that will occur, therefore, it can help prevent or inhibit employees from committing fraud.

The results of testing the third hypothesis indicate that the control activity variable (X_3) does not affect fraud prevention (Y). The results of this study are not in line with the research by Marasabessy (2016) and Zarlis (2019), which showed that control activities influence fraud prevention. However, the results of this study are consistent with the research by Kundoyono & Amanah (2019), which stated that control activities do not affect fraud prevention. Control activities are elements of internal control that have the greatest task in preventing fraud, but control activities are not fully responsible for the occurrence of fraudulent actions. This can happen because in the company there is no clear separation of duties and responsibilities or there is still a double job in the supervisory section, namely the project manager who also doubles as the supervisory board. Therefore, control activities within the company have not been effective. Fraud behavior can indeed be prevented by the implementation of effective control activity, but it does not guarantee that such fraud will never occur.

The results of testing the fourth hypothesis show that the information & communication variable (X_4) does not affect fraud prevention (Y). The results of

this study are not in line with the research by Marasabessy (2016) and Zarlis (2019), which showed that information and communication influence fraud prevention. However, the results of this study are in line with the research conducted by Kundoyono & Amanah (2019), which stated that information & communication do not affect fraud prevention. This can happen because the financial information the company submitted is not valid or relevant. After all, the record of transactions is not commensurate with the actual nominal. This incident is still related to control activities that have not been effective because there are still double jobs in the supervisory department, so due to the lack of supervision, manipulation of financial information occurs. Fraud can indeed be minimized by implementing an effective information & communication system in the company. However, effective information & communication cannot guarantee that fraudulent behavior will never occur because fraud can be committed by more than one person. In doing so, individuals or a group of people require information & communication.

The results of testing the fifth hypothesis indicate that the monitoring activity variable (X_5) has a positive influence on fraud prevention. This means that if the risk assessment gets better, then the prevention of fraud in the company will also be better. The results of this study are consistent with the research by Marasabessy (2016) and Zarlis (2019), which stated that monitoring activities variable has a positive influence on fraud prevention. Monitoring activities carried out periodically and followed by continuous evaluation can prevent fraud. In addition, from the evaluation results, the company may find deficiencies that need to be corrected for future purposes. Effective monitoring activities can suppress the occurrence of fraud.

Conclusion

This study concludes that the control environment, risk assessment, and monitoring activities have positive influence on fraud prevention. This suggests that the better the control environment, risk assessment, and monitoring activities, the better the prevention of internal fraud. This means that an effective control environment, risk assessment, and monitoring activities can prevent fraud in the company. Meanwhile, control and information & communication activities

do not affect fraud prevention. This result indicates that well-implemented control and information & communication activities may not necessarily suppress fraud within the company.

Limitations and Suggestions

This study has several limitations. Firstly, the company identity and the respondent's identity are disguised due to the sensitivity of the topic. Second, this study only focuses on one company; the results of this study may not be able to be generalized to other companies, due to the different characteristics of the business, work environment, and practices in different companies.

Suggestions for related companies are to further improve control activities by making a clear separation of duties and responsibilities, especially in the supervisory section, so that there is no double role for the company's project manager, which causes less effective control activities within the company and also results in manipulation of company financial information. Supposedly, the project manager should not concurrently be on the supervisory board. If it has to be concurrent, it will not run optimally, because the responsibilities of the two are different, and it should not be held by only one person because it will lead to fraud.

Suggestions for further research are that it is hoped that the results of this study can be applied to companies engaged in other fields. In addition, future research can also develop variables other than the control environment, risk assessment, monitoring activities, information & communication, and control activities, or the fraud pentagon theory. Future research can consider other variables such as using the fraud hexagon theory as an endogenous variable.

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