

Mitigating Procurement Fraud Risk at Universitas Khairun, a Higher Education Institution in Indonesia: A Comprehensive Approach Using the Fraud Pentagon Theory

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Abstract

This study analyses the influence of Procurement Committee Quality, Procurement Environment, Risk Assessment, and Procurement Systems and Procedures on fraud prevention efforts in procuring goods and services at Universitas Khairun. A sample of 57 respondents, consisting of leaders, treasurers, and financial and procurement staff from supplier companies, was used in this research. The analysis was conducted using the multiple linear regression method processed through SPSS version 27.0. The results showed that the Procurement Environment and Procurement System and Procedures significantly influence preventing fraud. In contrast, the Procurement Committee Quality and Risk Assessment had no significant effect. These findings emphasise that creating a conducive procurement environment and improving procurement systems and procedures are key to reducing the risk of fraud at Universitas Khairun. This study provides important contributions for universities and other higher education institutions in designing better procurement policies to minimise fraud.

Keywords: Procurement Committee Quality, Procurement Environment, Risk Assessment, System and Procedures, Procurement of Goods and Services, Universitas Khairun

INTRODUCTION

The procurement of goods and services plays a crucial role in supporting the operations of organisations, particularly in the public sector, including universities. This

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procurement process not only facilitates the execution of academic and administrative tasks but also serves as a vital foundation for meeting the needs of facilities that support the performance of higher education (Tuanakotta, 2018; Suhartono & Jannah, 2021). In Indonesia, the procurement of goods and services is governed by various regulations, such as Presidential Regulation No. 16 of 2018 and Presidential Regulation No. 12 of 2021, which emphasise principles of transparency, efficiency, accountability, and fair competition in every stage of the procurement process (Marbun, 2010; Nurharjanti, 2017). These regulations aim to create effective procurement management, minimise the potential for misuse, and optimise the use of state funds.

However, fraud-related challenges in procuring goods and services remain a serious issue, both in the public and private sectors. Fraud in this context can take various forms, including corruption, asset misappropriation, and financial statement manipulation (Chapter, 2019; Suhartono & Jannah, 2021). According to the annual report by ACFE Indonesia (2019), corruption is the most common form of fraud in Indonesia, followed by asset misappropriation and financial statement manipulation. Fraud in the procurement of goods and services often occurs due to weak internal oversight, a lack of transparency in the tender process, and opportunities exploited by certain parties for personal gain (Wardhani et al., 2021; Setiawan et al., 2020; Irawati & Tjahjono, 2020). These conditions hinder the effectiveness and efficiency of public fund usage and cause significant losses to the state, including in the higher education sector (Danuta, 2017).

Various studies show that fraud in the procurement of goods and services has detrimental effects, not only in Indonesia but globally. The World Bank (2018) reported that billions of public funds worldwide, including Indonesia, are lost due to poor procurement management. Indonesia Corruption Watch (ICW) estimates that one-third of Indonesia's education budget is misused, primarily through improper procurement of goods and services (OECD, 2018; Arifianti et al., 2015). These reports align with global findings, where transparency and accountability are the main challenges in public procurement, particularly in developing countries (Bjorvatn et al., 2018; De Simone et al., 2020). In many developing countries, non-transparent procurement is often associated with collusion and bribery, significantly reducing procurement projects' effectiveness (Rose-Ackerman & Palifka, 2016; Wei, 2017).

If not adequately addressed, fraud in procuring goods and services can be exacerbated by factors such as pressure, opportunity, and rationalisation, as explained by the Fraud Triangle theory by Cressey (1953). The Fraud Pentagon, developed by



Wolfe and Hermanson (2004), adds capability and arrogance as additional factors that strengthen the risk of fraud occurrence (Sorunke, 2016; Dellaportas, 2013). This theory has been widely recognised in international fraud studies as a more comprehensive framework for analysing the causes of fraud, especially in the context of procurement in the public sector (Brazel et al., 2009; Halbouni et al., 2016; Dorminey et al., 2012). In developing countries, this theory helps explain how individuals with specific capabilities can exploit weak systems for personal gain (Zahra et al., 2005).

This study uses the Fraud Pentagon approach to analyse the factors influencing fraud prevention in procuring goods and services at Universitas Khairun. The factors to be examined include the quality of the procurement committee, the procurement environment, risk assessment, and procurement systems and procedures (Supriyanto et al., 2020; Nurharjanti, 2017). Each of these factors is expected to provide deeper insights into how the procurement of goods and services is effectively managed and how fraud risks can be minimised in public universities. While previous studies have discussed fraud in the procurement of goods and services in the public sector, there remains a gap in the literature regarding the application of the Fraud Pentagon theory in higher education, particularly in Indonesia (Setiawan et al., 2020; Brazel et al., 2009).

This research's novelty lies in applying the Fraud Pentagon in the context of goods and services procurement in public universities, which has rarely been explored in previous literature. Additionally, this study will involve goods and services providers as respondents, offering an external perspective that has not been extensively explored in previous studies (Setiawan et al., 2020; Bimawan, 2021). This research will enrich the understanding of critical factors influencing fraud prevention in the procurement of goods and services at Universitas Khairun and provide guidance for other higher education institutions in strengthening their procurement governance.

LITERATURE REVIEW

Fraud Tree

The Fraud Tree is a framework developed by the Association of Certified Fraud Examiners (ACFE) to classify various forms of fraud within organisations. Fraud is generally divided into three main categories: corruption, asset misappropriation, and fraudulent statements (ACFE, 2021; Tuanakotta, 2018). Corruption involves illegal collaboration with external parties to influence decision-making and is often difficult to detect due to the involvement of hidden cooperation. This type of corruption includes

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conflicts of interest, bribery, illegal gratuities, and economic extortion (Chapman & Hall, 2020; Brennan & Solomon, 2021).

Asset misappropriation, which involves misusing an organisation's assets for personal gain, is one of the most common types of fraud. These types of fraud include larceny (theft of assets), skimming (embezzlement before assets are recorded in the books), and fraudulent disbursements (fictitious expenditures) (Lokanan, 2019; Albrecht et al., 2021; Chapman & Hall, 2020). Fraudulent statements involve falsifying financial reports to conceal the organisation's financial condition. This is typically done through revenue overstatements (inflating revenues or assets) or revenue understatements (underreporting revenues or assets) (Brennan & Solomon, 2021; Lokanan, 2019).

Fraud Pentagon Theory

The Fraud Pentagon theory is an extension of the Fraud Triangle, adding two new elements: capability and arrogance. This theory is more comprehensive in explaining how fraud occurs by including the fraudster's ability to exploit system weaknesses and their arrogance in believing they are immune to internal controls (Wolfe & Hermanson, 2004; Sorunke, 2016; Brennan & Solomon, 2021; Simabur et al., 2023).

Pressure

Pressure is the primary driving factor behind fraud, whether financial pressure, an extravagant lifestyle, or job demands. According to Albrecht et al. (2021), around 90% of fraud cases occur due to financial pressure felt by the perpetrator. Other factors, such as greed and urgent needs, also strongly contribute to why someone engages in fraud (Susanti et al., 2020; Chapman & Hall, 2020). Brennan and McGrath (2020) also emphasise that pressure from personal or professional situations can drive individuals to seek unethical means to meet their financial needs.

Opportunity

An opportunity arises when internal control systems are inadequate or weak. The lower the risk of getting caught, the greater the chance for someone to commit fraud (Robi, 2019; Chapman & Hall, 2020). Cressey (1953) explained that when individuals feel there is an opportunity to avoid detection, they are more likely to engage in fraudulent activities (Brennan & Solomon, 2021; De Simone et al., 2020). Strengthening internal



controls is, therefore, an essential step in minimising the opportunity for fraud (Lokanan, 2019).

Rationalisation

Rationalisation is the process by which perpetrators justify their fraudulent actions on moral grounds. Cressey (1953) explained that individuals are less likely to engage in fraud without moral justification. This rationalisation often takes the form of arguments like “I’m just borrowing the money” or “I deserve more” (Hooper & Pornelli, 2020; Brennan & McGrath, 2020). Recent research shows that rationalisation is often the most challenging element to identify in fraud cases because it is a cognitive process that occurs in the perpetrator's mind (Lokanan, 2019; Brennan & Solomon, 2021).

Capability

Capability refers to an individual's ability to commit fraud without being detected, whether through a deep understanding of the system or technical skills that allow them to exploit weaknesses in internal controls (Purwanto et al., 2017; Brennan & McGrath, 2020). Lokanan (2019) emphasises that individuals in senior positions often possess this capability, where they have greater access to resources and sensitive information.

Arrogance

Arrogance refers to the superior attitude displayed by fraudsters, where they feel that rules and internal controls do not apply to them. Sorunke (2016) states that individuals with high arrogance tend to feel immune to sanctions, making them bolder in committing fraud. Research shows that individuals with significant organisational power, particularly at the senior management level, are more prone to this arrogance (Danuta, 2017; Albrecht et al., 2021; Brennan & Solomon, 2021).

Government Procurement of Goods/Services

The procurement of goods/services in the public sector is strictly regulated, including through Presidential Regulation No. 16 of 2018. This procurement is carried out to support government operations and public services, including educational institutions (Setiawan et al., 2020; Marbun, 2010). Transparent, competitive, and accountable procurement is a fundamental principle that must be applied to prevent fraud (Brennan & McGrath, 2020). Presidential Regulation No. 12 of 2021 also emphasises the importance

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of internal controls and accountability in the procurement process to ensure that every stage is conducted with sound governance principles (Lokanan, 2019; De Simone et al., 2020).

The principles of goods/services procurement include efficiency, effectiveness, and accountability to ensure optimal use of the budget and prevent misuse (Bjorvatn et al., 2018; Chapman & Hall, 2020). In the context of universities, procurement is crucial for supporting operational activities, including quality educational facilities that enhance the learning process (Setiawan et al., 2020; Lokanan, 2019).

Hypothesis Development

Quality of the Procurement Committee about Fraud in Goods/Services Procurement. The procurement committee is a critical element of the goods/services procurement process in government institutions, including universities. This committee selects goods/services providers and ensures that the contracts reflect the institution's interests (Suarsana et al., 2020). The quality of the procurement committee is determined by its members' integrity, competence, independence, and objectivity (Noviana, 2020). Strong integrity within the committee can reduce the likelihood of fraud because transparency and accountability will increase. Conversely, if the procurement committee lacks integrity and competence, opportunities for fraud will arise.

According to the Fraud Pentagon theory developed by Sorunke (2016), capability is a critical factor that enables fraud. If the procurement committee's capability is low, it can create opportunities for individuals or groups to exploit weaknesses in the control system and engage in fraudulent actions. Therefore, a high-quality procurement committee is a deterrent to fraud, as competent members with high integrity can effectively identify and manage fraud risks (Sorunke, 2016; Wolfe & Hermanson, 2004).

Previous studies support this assumption. Bimawan (2021), Nurharjanti (2017), and Setiawan et al. (2020) found that the quality of the procurement committee negatively impacts the occurrence of fraud in goods/services procurement. This means that the better the quality of the procurement committee, the lower the likelihood of fraud. Based on theoretical foundations and previous research, the following hypothesis can be formulated:

H1: The quality of the procurement committee significantly negatively affects fraud in goods/services procurement.



Procurement Environment about Fraud in Goods/Services Procurement

The procurement environment, both internal and external, plays a vital role in determining the success of the procurement process. The internal environment includes organisational structure, policies, and work culture, while the external environment involves government regulations and market conditions (Larasati & Surtikanti, 2019). An environment that supports transparency, strong internal controls, and regulation compliance can minimise the risk of fraud in goods/services procurement. About the Fraud Pentagon theory, the procurement environment can influence the pressure, opportunity, and rationalisation that trigger fraudulent actions. Pressure on individuals to commit fraud may arise from environmental demands, such as market competition or strict regulations. Opportunities will emerge if internal controls in the procurement environment are weak. At the same time, rationalisation can occur if the organisational culture does not support transparency or if there is a disconnect between formal policies and actual practices (Brennan & Solomon, 2021). Strengthening the procurement environment by implementing adequate internal controls and an ethical work culture can reduce the likelihood of fraud.

Research by Nurharjanti (2017) and Setiawan et al. (2020) supports that a robust procurement environment negatively affects goods/services procurement fraud. Based on this reasoning, the following hypothesis can be formulated: H2: The procurement environment significantly negatively affects goods/services procurement fraud.

Risk Assessment in Relation to Fraud in Goods/Services Procurement

Risk assessment is a vital tool in internal controls that can be used to prevent fraud. This process involves identifying and analysing risks related to goods/services procurement and establishing mitigation measures that can be taken to reduce the likelihood of fraud (Akbar et al., 2019). Practical risk assessment will result in solid, complex controls to bypass, thus reducing the opportunity for fraud. Risk assessment is closely related to opportunity and capability in the Fraud Pentagon theory. Opportunities for fraud arise when risks are not correctly identified or when effective mitigation measures are lacking. An individual's capability to exploit system weaknesses will decrease if risk assessments are conducted thoroughly (Popoola et al., 2016; Sorunke, 2016). Practical risk assessment mitigates pressure and rationalisation by reducing opportunities for fraud and raising awareness of the consequences of fraudulent actions.



Research by Popoola et al. (2016), Nurharjanti (2017), and Setiawan et al. (2020) shows that practical risk assessment negatively affects fraud in goods/services procurement. Based on the theoretical foundation and previous research, the following hypothesis can be formulated: H3: Risk assessment significantly negatively affects goods/services procurement fraud.

Procurement Systems and Procedures in Relation to Fraud in Goods/Services Procurement

Effective systems and procedures guide all parties involved in the procurement process to follow existing regulations and achieve efficient and effective procurement goals. Zulaikha and Hadiprajitno (2016) state that weak internal control systems and inadequate procedures can create opportunities for individuals to commit fraud. On the other hand, solid systems and procedures can prevent fraud by reducing opportunities for abuse and ensuring transparency in the procurement process. In the Fraud Pentagon theory context, sound procurement systems and procedures reduce opportunity and arrogance. Opportunities for fraud will decrease if internal controls are robust and procedures are strictly followed. Additionally, the arrogance of individuals who feel immune to internal controls will diminish if solid systems and procedures are in place (Sorunke, 2016). With effective feedback systems and complaint mechanisms, institutions can prevent potential fraud and increase accountability in procurement.

Previous research by Nurharjanti (2017), Setiawan et al. (2020), and Supriyanto (2022) shows that solid procurement systems and procedures negatively affect fraud in goods/services procurement. Therefore, the following hypothesis can be formulated: H4: Procurement systems and procedures significantly negatively affect goods/services procurement fraud.

METHODOLOGY

Research Type

This study is quantitative research conducted at Universitas Khairun, focusing on the parties involved in procuring goods and services. This study aims to identify the factors influencing fraud in procuring goods and services at Universitas Khairun.



Population and Sample

The population in this study consists of external parties involved in procuring goods and services according to Presidential Regulation No. 16/2018, specifically Goods/Services Providers. The sample was determined using purposive sampling, meaning the respondents selected for this research are samples from the population based on specific criteria (Sugiyono, 2019). The criteria set are as follows:

1. The provider must have participated in the procurement process at Universitas Khairun.
2. Universitas Khairun does not block the provider.

Based on data from the Procurement Service Unit (UKPBJ) from 2020 to 2023, the number of companies participating in the procurement process at Universitas Khairun is 65 companies. Given the relatively small population, the entire population is used as the sample (saturation sampling).

Data Types, Sources, and Data Collection Techniques

This study uses quantitative data obtained from questionnaires given to respondents. The source of data is primary data collected through surveys to measure the influence of the quality of the procurement committee, the quality of providers, the procurement environment, risk assessment, and systems and procedures on the tendency of fraud at Universitas Khairun. Respondents were asked to provide scores based on questions in the questionnaire.

Data Analysis Method

The data analysis process in this study follows a structured approach, beginning with data cleaning to ensure that all responses are complete and valid for analysis. Descriptive statistics are then used to summarise the characteristics of the data, such as the mean and standard deviation of each variable. Next, assumption tests are conducted to check for normality, multicollinearity, heteroscedasticity, and autocorrelation, ensuring the data is suitable for multiple regression analysis. Once these assumptions are confirmed, the multiple regression analysis is carried out using SPSS 27.0 software to assess the impact of the independent variables—quality of the procurement committee, procurement environment, risk assessment, and procurement systems and procedures—on the dependent variable, fraud in goods/services procurement. The results are analysed by examining the regression coefficients, R-squared values, and p-values to

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determine the significance and strength of each variable's influence, followed by a discussion of the findings.

Operational Definitions of Variables

Dependent Variable: Fraud in Goods/Services Procurement

Fraud in procuring goods and services includes violations or unlawful actions for personal or group gain, which can harm other parties (Tuanakotta, 2018). This variable is measured using 9 items developed from the indicators of the Fraud Pentagon, namely pressure, opportunity, rationalisation, capability, and arrogance (Sorunke, 2016). The measurement scale used is a Likert scale from 1 to 5 (from strongly disagree to agree strongly) (Brennan & McGrath, 2020).

Independent Variables

Quality of the Procurement Committee

The quality of the procurement committee measures the professionalism and integrity of the committee in the procurement process. The indicators used are integrity, competence, objectivity, and independence (Nurharjanti, 2020; Supriyanto, 2022). The measurement uses 8 items on a Likert scale from 1 to 5 (from strongly disagree to agree strongly).

Procurement Environment

The procurement environment includes the working environment where the procurement process is conducted, which can affect task execution (Larasati & Surtikanti, 2019). The indicators used include internal and external environments. The variable is measured using 6 items on a Likert scale from 1 to 5 (Setiawan et al., 2020).

Risk Assessment

Risk assessment is the process of identifying and analysing the risks faced by the organisation in procuring goods/services (Satria, 2020). Measurement is conducted using 5 items with indicators of risk identification and risk analysis and uses a Likert scale from 1 to 5 (Popoola et al., 2016).

Procurement Systems and Procedures



Procurement systems and procedures refer to rules transparently, efficiently, and promptly (Fithriani et al., 2020). Measurement is done using 8 items based on indicators of transparency, economy, efficiency, and timeliness (Lestyowati, 2018), using a Likert scale from 1 to 5.

RESEARCH RESULTS

Overview of the Research Object

Universitas Khairun Ternate, established in 1964, is a higher education institution in North Maluku, offering various academic programs in social sciences, natural sciences, engineering, and humanities. The university continues to grow and adapt to changes over time, improving its facilities and the quality of education. In managing the procurement of goods and services, Universitas Khairun has established the Procurement Service Unit (UKPBJ) to ensure efficiency, transparency, and regulation compliance. UKPBJ plays a crucial role in managing procurement processes, including handling tenders, drafting contracts, evaluating provider performance, and managing budgets, all supporting the university's academic and administrative operations.

Data Description

The research object includes providers who have previously collaborated with Universitas Khairun in procuring goods and services. The author distributed questionnaires from the end of December 2023 to the end of January 2024.

Table 1. Research Respondents

Description	Total	Percentage
Questionnaires distributed	65	100%
Questionnaires returned with complete answers	57	88%
Questionnaires not returned	8	12%
Response Rate	57	88%

Source: Primary data processed by the researcher (2024)

Table 1 shows that out of the 65 questionnaires distributed, 8 were not returned, leaving 57 fully completed questionnaires available for analysis.



Demographic Description of Respondents

The demographic description of respondents provides an overview of their characteristics, measured using a nominal scale and showing the absolute frequency and percentage of respondents' data. This analysis helps to identify and understand the distribution of respondents based on key demographic variables, such as age, gender, occupation, and experience, providing insight into the composition of the sample used in the study. The demographic data allows the researcher to contextualise the findings and ensure that the sample represents the studied population.

Table 2. Respondent Data

Description	Total	Percentage
Job Position:		
Director of the Company	14	25%
Treasurer/Head of Corporate Finance	14	25%
Corporate Finance Staff	12	21%
Procurement Staff for Goods/Services	17	29%
Gender:		
Man	44	77%
Female	13	23%
Education level:		
Master's Degree (S2)	2	4%
Bachelor's Degree (S1)	16	28%
High School (SMA)	39	68%

Source: Primary data processed by the researcher (2024)

Table 2 presents the respondents' data in this study, comprising various positions in the goods/services procurement companies at Universitas Khairun. The majority of respondents are procurement staff (29%), followed by company directors (25%), treasurers or heads of corporate finance (25%), and finance staff (21%). Regarding gender, most respondents are male (77%), while females make up only 23%. Regarding education, the majority of respondents have a high school education (68%), followed by those with a bachelor's degree (28%) and a master's degree (4%). This data reflects the diversity of positions, genders, and education levels among the respondents involved in the procurement process.

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Descriptive Statistics of Variables

Descriptive statistics illustrate the existing conditions (facts) from a study. The results of the descriptive analysis are presented in Table 3, which provides insights into the central tendency (such as mean), variability (such as standard deviation), and frequency distribution for each variable measured in the study. These statistics help to summarise the data and offer an overall view of how the variables behave, including the characteristics of the sample and the relationships between the variables. The table may typically include measures for critical variables such as the quality of the procurement committee, procurement environment, risk assessment, procurement systems and procedures, and fraud in goods/services procurement, alongside their respective means, standard deviations, minimum, and maximum values to give a comprehensive overview of the data.

Table 3. Statistic Descriptive

	N	Min	Max	Mean	Std. Deviation
Quality of the Procurement Committee	57	12.00	28.00	19.7368	3.74417
Procurement Environment	57	13.00	29.00	21.5439	4.06233
Risk Assessment	57	7.00	25.00	14.5263	4.21352
Systems and Procedures	57	9.00	43.00	23.5088	8.05810
Procurement Fraud	57	9.00	39.00	23.7018	7.84439
Valid N (listwise)	57				

Source: Primary data processed by the researcher (2024)

The descriptive table illustrates respondents' perceptions of various variables related to procuring goods and services at Universitas Khairun. For the Quality of the Procurement Committee, the minimum score of 12 and maximum of 28 show variation in respondents' assessments, with an average of 19.74 and a standard deviation of 3.74, indicating that overall, the procurement committee is perceived to have pretty good quality. However, there are differences in opinion among respondents. For the Procurement Environment variable, the minimum score of 13 and maximum of 29, with an average of 21.54 and a standard deviation of 4.06, suggest that most respondents perceive the procurement environment as reasonably supportive. However, there is considerable variation in opinion. Risk Assessment has an average of 14.53 with a



standard deviation of 4.21, reflecting diverse perceptions among respondents regarding risk assessment in the procurement process. For Systems and Procedures, the average score is 23.51, with a standard deviation of 8.06, indicating a wide variation in respondents' views on the effectiveness of procurement systems and procedures. Finally, for the Procurement Fraud variable, the average score of 23.70 and a standard deviation of 7.84 show that respondents have varying perceptions regarding the potential for fraud in the procurement process at the university.

Hypothesis Testing

This study examines the impact of the Quality of the Procurement Committee, Procurement Environment, Risk Assessment, and Procurement Systems and Procedures on Procurement Fraud.

Table 4. Results of Multiple Regression Analysis

Model	Beta	t	sig
Constant	-2,465	-0,920	0,362
Quality of the Procurement Committee	-0,042	-0,206	0,837
Procurement Environment	-3,379	2,635	0,011
Risk Assessment	0,040	0,243	0,809
Procurement Systems and Procedures	-0,777	9,700	0,000
R	0,913		
R Square	0,834		
Adj. R Square	0,821		
F-statistic	65,166		
Sig. F	0,000		

Source: Primary data processed by the researcher (2024)

Based on the regression analysis results, two independent variables, Procurement Environment and Procurement Systems and Procedures, significantly affect procurement fraud. The Procurement Environment has a t-value of 2.635 with a significance level of 0.011, indicating a significant impact. At the same time, Procurement Systems and Procedures show a highly significant impact, with a t-value of 9.700 and a significance level of 0.000. On the other hand, the variables Quality of the Procurement Committee



and Risk Assessment do not show significant effects, with significance levels of 0.837 and 0.809, respectively, indicating that these variables do not significantly contribute to fraud in the procurement process at Universitas Khairun. The R Square value of 0.834 indicates that this regression model explains 83.4% of the variation in procurement fraud. This means that 83.4% of the changes in procurement fraud can be explained by the independent variables included in the model (quality of the committee, procurement environment, risk assessment, and procurement systems and procedures). The Adjusted R Square value of 0.821 shows that after adjusting for the number of independent variables and the sample size, the model still explains 82.1% of the variation in fraud.

Additionally, the F-statistic value of 65.166 with a significance level of 0.000 indicates that the model as a whole is significant and can explain the relationship between the independent and dependent variables. This statistically means that the independent variables collectively contribute significantly to predicting procurement fraud.

DISCUSSION OF RESEARCH FINDINGS

The Impact of the Quality of the Procurement Committee on Procurement Fraud

The hypothesis testing results in this study indicate that the Quality of the Procurement Committee does not significantly impact Procurement Fraud. This means that the quality of the committee, as measured by indicators of integrity, competence, objectivity, and independence, does not directly influence the occurrence of fraud in the procurement of goods and services at Universitas Khairun. These findings suggest that even though the procurement committee may possess good quality, fraud can still occur due to other factors beyond the individual quality of committee members. In the goods and services procurement system, a high-quality committee is essential. However, these results indicate that integrity or competence alone is insufficient to prevent fraud if oversight and internal control systems are inadequate. The Fraud Pentagon Theory (Wolfe & Hermanson, 2004) explains that fraud is not solely due to individual weaknesses but also opportunities and external pressures that can open the door to unethical behaviour, even when the committee has high integrity. Sorunke (2016) also adds arrogance as an element that can enable fraud, even in the presence of internal control systems.

In the context of Agency Theory (Jensen & Meckling, 1976), even though the procurement committee acts as an agent that should serve the principal's (university's) interests, hidden conflicts of interest or a lack of solid oversight can trigger opportunistic



behaviour potentially leading to fraud. Agency theory suggests that agents may act in their interest if control mechanisms and incentives are ineffective, indicating that the individual quality of agents (in this case, the committee) alone cannot entirely prevent fraud without broader controls within the procurement system. This study aligns with Satria (2020), who found that the quality of the committee does not influence procurement fraud, indicating that fraud can still occur despite a good committee due to weak oversight, suboptimal internal control, or external pressures enabling fraud. Conversely, this result is inconsistent with several previous studies, such as Bimawan (2021), Nurharjanti (2017), Setiawan et al. (2020), and Supriyanto (2022), which found that high committee quality negatively affects procurement fraud, as good committee quality is believed to reduce fraud occurrences.

The disparity in results can be explained by referring to the procurement structure and environment at Universitas Khairun. Despite the committee's good competence, the likelihood of fraud remains high if oversight and accountability systems are not strengthened. Another contributing factor is external pressure, which is unmeasured in this study, such as outside intervention or unstable market conditions, which may encourage fraud even in environments with competent procurement committees. Therefore, to reduce the likelihood of procurement fraud, it is not only the quality of the committee that needs improvement but also more robust internal control systems, increased transparency, and more effective oversight mechanisms. Well-designed incentive systems and clear task separation are also necessary to prevent agents from engaging in opportunistic behaviour in the procurement process (Jensen & Meckling, 1976).

The Impact of the Procurement Environment on Procurement Fraud

The hypothesis testing results indicate that the Procurement Environment significantly negatively impacts Procurement Fraud. This finding suggests that the better the procurement environment, the lower the fraud level in the goods and services procurement process at Universitas Khairun. A conducive procurement environment, both internally and externally, creates conditions that reduce the opportunity for fraud. A robust internal environment with effective internal control systems, transparent procedures, and clear, consistent policies creates an environment challenging to manipulate by individuals or groups wishing to commit fraud. When the procurement system emphasises ethics and integrity, employees adopt these values, leading to more

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ethical behaviour in line with organisational standards. A healthy internal environment can minimise fraud, as explained by the Fraud Pentagon Theory (Sorunke, 2016), where weaknesses greatly influence opportunities for fraud in internal control systems.

From an external perspective, strict regulations, adequate supervision from regulatory bodies, and pressure from stakeholders such as the media, civil society, and non-governmental organisations (NGOs) add additional pressure, forcing organisations to carry out procurement processes more cautiously and transparently. An external environment that is intolerant of corruption or fraud reduces the organisation's opportunity to commit violations without facing sanctions. Institutional Theory (DiMaggio & Powell, 1983) also supports these findings, stating that organisations operate within a broader environment that demands compliance with ethical and legal norms. Organisations with high transparency and accountability pressures are likelier to implement policies preventing fraud.

In this study, the finding that the procurement environment significantly negatively impacts fraud is supported by previous studies, such as Nurharjanti (2017) and Setiawan et al. (2020), which found that a good procurement environment significantly reduces fraud. Conversely, this result contradicts Larasati's (2019) statement that the procurement environment does not affect procurement fraud. The difference may be due to variations in the research context, including differences in procurement systems, regulations, and oversight in different environments. These findings show that creating and maintaining a healthy procurement environment—internally, with solid controls, and externally, with strict regulations—is critical to reducing fraud risks in goods and services procurement. Increasing transparency, accountability, and oversight at the organisational level and from external parties can be essential in creating an environment that supports fraud prevention in procurement.

The Impact of Risk Assessment on Procurement Fraud

The hypothesis testing results indicate that Risk Assessment does not significantly impact Procurement Fraud at Universitas Khairun. This finding suggests that although risk assessment is conducted, it does not significantly prevent fraud in the procurement process. One possible reason for this result is potential deficiencies in the risk identification process. If risk identification is not thorough or accurate, some fraud risks may go undetected, preventing the organisation from taking the necessary preventive



actions. Limitations in the expertise or resources available to perform practical risk assessments may also contribute.

Additionally, inaccurate risk analysis can lead to a failure to prevent fraud. An analysis that does not cover all aspects of risk or accurately assesses emerging threats may leave the organisation unprepared to anticipate fraud. For instance, if risk analysis is not based on appropriate models, such as Agency Theory (Jensen & Meckling, 1976) or the Fraud Pentagon Theory (Wolfe & Hermanson, 2004), which emphasise opportunity, motivation, oversight, and rationalisation in fraud, the risk assessment may not be accurate enough to capture potential risks. This study contrasts with previous findings, such as those by Nurharjanti (2017), Popoola et al. (2016), Satria (2020), and Setiawan et al. (2020), which state that risk assessment affects procurement fraud. The difference may be due to varying contexts or different implementations of risk assessment across organisations. At Universitas Khairun, this result indicates that while risk assessment may have been performed, it is insufficient to reduce fraud risk in procurement without support from other aspects, such as adequate resources, accurate analysis, and a conducive organisational culture.

The Impact of Procurement Systems and Procedures on Procurement Fraud

The hypothesis testing results show that Procurement Systems and Procedures significantly negatively impact Procurement Fraud. This means that the better and more effective the procurement systems and procedures implemented, the lower the likelihood of fraud in goods and services procurement. This finding reinforces that good governance in the procurement process plays a vital role in mitigating fraud risk. According to Internal Control Theory, a transparent procurement system creates greater accountability and reduces information asymmetry. When each step in the procurement process can be monitored and audited by relevant stakeholders, the opportunity to commit fraud becomes more challenging. Transparency in procurement systems ensures that fraudulent activities are more easily detected and that perpetrators face a higher risk of sanctions. Thus, transparency is critical to creating a clean and accountable procurement environment.

Additionally, efficiency and cost savings in procurement systems closely relate to the principles of Agency Theory (Jensen & Meckling, 1976), where optimal resource control can reduce waste and create more accurate allocation. Procedures designed to achieve maximum results with minimal costs reduce the space for fraud and allow saved



funds to be reallocated to strengthen internal controls and audits, ultimately reducing the likelihood of fraud. Efficiency also eliminates opportunities for those seeking to manipulate the procurement system for personal gain. Furthermore, timeliness in procurement procedures plays a vital role in suppressing potential fraud. Based on Rational Choice Theory, the opportunity to commit fraud decreases when there is certainty in strict schedules and consistent procedures. When the procurement process proceeds according to the established timeline, the space for manipulation in prolonged or irregular processes is significantly reduced. Timeliness increases predictability, closing loopholes for fraudsters who often exploit uncertainty or confusion in the procurement process to conceal fraud.

Implementing robust procurement systems and procedures directly contributes to reducing incidents of fraud in goods and services procurement. Transparent, efficient, economical, and timely procedures create an environment less conducive to fraudulent behaviour. This study is consistent with research by Nurharjanti (2017), Setiawan et al. (2020), and Supriyanto (2022), which also found that sound systems and procedures significantly help reduce fraud in goods and services procurement.

CONCLUSION

The conclusion of this study indicates that procurement systems and procedures have a significant impact on reducing procurement fraud at Universitas Khairun. Statistical test results show that the better the systems and procedures implemented, the lower the likelihood of fraud, as reflected by the significant beta values, high t-values, and significance levels approaching zero. The high R Square value also indicates that the variables in this model can explain most of the variation in procurement fraud. However, other variables, such as the quality of the procurement committee and risk assessment, did not significantly influence fraud, suggesting that further study or improvement in these areas is needed.

Several limitations were identified in this research, including the possibility that the Fraud Pentagon Theory did not comprehensively capture some aspects of fraud and the study's focus on Universitas Khairun, which has unique characteristics that may not be generalisable to other institutions. Additionally, the data relied on respondents' perceptions and available documentation, which may introduce bias or omit important information. Future research should integrate other theoretical frameworks, such as Control Theory or Agency Theory, to provide additional perspectives on fraud prevention



and detection. Cross-institutional studies across multiple universities or organisations can also be conducted to enhance the generalizability of these findings. More diverse data collection methods, such as in-depth interviews and audited financial data, would be crucial for providing a more comprehensive and objective view. Longitudinal studies tracking policy changes and procurement systems over time could offer insights into the dynamics and effectiveness of fraud prevention in a broader context. Practically, universities should consider increasing fraud awareness training for staff to strengthen their ability to detect and prevent fraud in the future.

REFERENCES

- Bimawan, F. (2021). Faktor-Faktor Yang Mempengaruhi Fraud Pengadaan Barang Dan Jasa di Kota Semarang. *Serat Acitya - Jurnal Ilmiah UNTAG Semarang*, 2(2), 114–123.
- Brazel, J. F., Jones, K. L., & Zimbelman, M. F. (2009). Using nonfinancial measures to assess fraud risk. *Journal of Accounting Research*, 47(5), 1135–1166. <https://doi.org/10.1111/j.1475-679X.2009.00347.x>
- Chapter, A. I. (2019). *Survei Fraud Indonesia 2019*. ACFE Indonesia.
- Cressey, D. R. (1953). *Other People's Money: A Study in the Social Psychology of Embezzlement*. Glencoe: Free Press.
- Dorminey, J. W., Fleming, A. S., Kranacher, M. J., & Riley, R. A. (2012). The Evolution of Fraud Theory. *Issues in Accounting Education*, 27(2), 555–579. <https://doi.org/10.2308/iace-50131>
- Fithriani, N., Pituringsih, E., & Firmansyah, M. (2020). Pengaruh Karakteristik Organisasi, Kesesuaian Kompensasi, Penilaian Risiko dan Budaya Etis terhadap Fraud Pengadaan Barang/Jasa. *E-Jurnal Akuntansi*, 30(7), 1843. <https://doi.org/10.24843/eja.2020.v30.i07.p17>
- Halbouni, S. S., Obeid, N., & Garbou, A. M. (2016). Corporate governance and information technology in fraud prevention and detection: Evidence from the UAE. *Managerial Auditing Journal*, 31(6/7), 589–628. <https://doi.org/10.1108/MAJ-02-2015-1163>
- Ghozali, I. (2018). *Aplikasi Analisis Multivariate Dengan Program SPSS 25 (8th ed.)*. UNDIP.



- Larasati, Y. S., & Surtikanti. (2019). Analisis Faktor-Faktor Yang Berpengaruh Terhadap Fraud Pengadaan Barang Jasa Didalam Proses Pengadaan Barang dan Jasa. Jurnal JAFTA, 1(1), 31–43. <http://journal.maranatha.edu/Jafta>
- Lestyowati, J. (2018). Analisis Permasalahan E-Purchasing Dalam Pengadaan Barang Dan Jasa Satuan Kerja. Simposium Nasional Keuangan Negara.
- Neva, S., & Amyar, F. (2021). Pengaruh Fraud Diamond dan Gonettheory Terhadap Academic Fraud. JAS-PT (Jurnal Analisis Sistem Pendidikan Tinggi Indonesia), 5(1), 41. <https://doi.org/10.36339/jaspt.v5i1.408>
- Noviana, N. (2020). Pengadaan Barang/Jasa pada Badan Layanan Umum. Jurist-Diction, 3(2), 587. <https://doi.org/10.20473/jd.v3i2.18206>
- Nurharjanjti, N. N. (2020). Peranan Panitia Pengadaan Barang/Jasa Dalam Mengurangi Fraud Di Perguruan Tinggi (Studi Kualitatif). Seminar Nasional: The 3rd Call For Syariah.
- Nurharjanti, N. N. (2017). Faktor-Faktor yang Berhubungan dengan Fraud Pengadaan Barang/Jasa di Lembaga Publik. Jurnal Akuntansi Dan Investasi, 18(2). <https://doi.org/10.18196/jai.180284>
- OECD. (2018). Survei Ekonomi OECD INDONESIA 2018. <https://www.oecd.org/economy/surveys/Indonesia-2018-OECD-economic-survey-overview-Bahasa.pdf>
- Peraturan Presiden. (2021). Peraturan Presiden Republik Indonesia Nomor 12 Tahun 2021 Tentang Perubahan Atas Peraturan Presiden Nomor 16 Tahun 2018 Tentang Pengadaan Barang/Jasa Pemerintah.
- Popoola, O. M. J., Ahmad, A. B. C., Samsudin, R. S., Salleh, K., & Babatunde, D. A. (2016). Accountants' Capability Requirements for Fraud Prevention and Detection in Nigeria. International Journal of Economics and Financial Issues |, 6(S4), 1–10. <http://www.econjournals.com>
- Purwanto, E., Mulyadi, J., & Anwar, C. (2017). Kajian Konsep Diamond Fraud Theory... Kajian Konsep Diamond Fraud Theory Dalam Menunjang Efektivitas Pengadaan Barang/Jasa Di Pemerintah Kota Bogor. Jurnal Manajemen Indonesia, 17(3), 149–162.
- Satria, M. R. (2020). Pengaruh Lingkungan Pengendalian dan Penilaian Risiko terhadap Pencegahan Kecurangan pada PSTNT Batan Bandung. Jurnal Akuntansi Dan Keuangan, 7(2). <http://ejournal.bsi.ac.id/ejurnal/index.php/moneter>



- Setiawan, K. R. B., Sujana, E., & Wahyuni, M. A. (2020). Faktor-Faktor Yang Mempengaruhi Procurement Fraud Di Instansi Pemerintahan (Studi Kasus Pada Dinas-Dinas Di Kabupaten Buleleng). *VJRA*, 9(1).
- Sorunke, O. (2016). Personal Ethics and Fraudster Motivation: The Missing Link in Fraud Triangle and Fraud Diamond Theories. *International Journal of Academic Research in Business and Social Sciences*, 6(2). <https://doi.org/10.6007/ijarbss/v6-i2/2020>
- Simabur, L. A., Effendi, M., Suhandoko, A. D. J., & Zainuddin, Z. (2023). Peran Moderasi Religiusitas Terhadap Hubungan Antara Dimensi Fraud Pentagon Dengan Kecurangan Akademik. *Owner: Riset dan Jurnal Akuntansi*, 7(4), 2823-2835.
- Suarsana, I. K., Sugiantiningsih, A. A. P., & Umbas, R. (2020). Implementasi Peraturan Presiden Nomor 16 Tahun 2018 Tentang pengadaan Barang Dan Jasa Pemerintah. *Jurnal Ilmu Sosial Dan Ilmu Politik*, 1(2), 177–189. <https://e-journal.stispolwb.ac.id>
- Sugiyono. (2019). *Metode Penelitian Kuantitatif Kualitatif dan R&D (Kedua)*. Alfabeta.
- Suhartono, & Jannah, R. (2021). Menelaah Dampak Penerapan Akuntansi Forensik Dalam Mendeteksi Fraud Pengadaan Barang/Jasa Padasektor Publik. *Jurnal Akuntansi STIE Muhammadiyah Palopo*, 07(02). <https://doi.org/http://dx.doi.org/10.35906/ja001.v7i2.735>
- Sujarweni, W. (2015). *Metodologi Penelitian - Bisnis dan Ekonomi*. In *Metodologi Penelitian*. PT. Pustaka Baru.
- Supriyanto, D. (2022). Faktor-faktor yang Mempengaruhi Fraud Pengadaan Barang Jasa pada Pengadaan Barang dan Jasa: Penilaian Risiko, E-Procurement, Sistem dan Prosedur. *Jurnal Ekonomi Manajemen Sistem Informasi (JEMSI)*, 4(2), 131–141. <https://doi.org/10.31933/jemsi.v4i2>
- Susanti, S., Lestari, D., & Takidah, E. (2019). The influence of pressure, opportunity and rationalisation on academic fraud of vocational students. *Universal Journal of Educational Research*, 7(9), 2016–2022. <https://doi.org/10.13189/ujer.2019.070918>
- Tuanakotta, T. M. (2018). *Akuntansi Forensik dan Audit Investigatif*. Salemba Empat.
- Undang-Undang. (2012). *Undang-Undang Republik Indonesia Nomor 12 Tahun 2012 Tentang Pendidikan Tinggi*.
- Undang-Undang. (2008). *Undang-Undang Republik Indonesia Nomor 14 Tahun 2008 Tentang Keterbukaan Informasi Publik*.



- Undang-Undang. (2020). Undang-Undang Republik Indonesia Nomor 11 Tahun 2020 Tentang Cipta Kerja.
- Utami, D. P. W., & Purnamasari, D. I. (2021). The impact of ethics and fraud pentagon theory on academic fraud behaviour. *Journal of Business and Information Systems* (e-ISSN: 2685-2543), 3(1), 49–59. <https://doi.org/10.36067/jbis.v3i1.88>
- Wardhani, I. I., Pratami, A., & Pratama, I. (2021). E-Procurement sebagai Upaya Fraud Pengadaan Barang Jasa terhadap Pengadaan Barang dan Jasa di Unit Layanan Pengadaan Provinsi Sumatera Utara. *JURNAL AKUNTANSI DAN BISNIS : Jurnal Program Studi Akuntansi*, 7(2), 126–139. <https://doi.org/10.31289/jab.v7i2.5293>
- Wolfe, D. T., & Hermanson, D. R. (2004). The Fraud Diamond: Considering the Four Elements of Fraud. *The CPA Journal*, 74(12), 38–42.
- Zulaikha, Z., & Hadiprajitno, P. T. B. (2016). Faktor-Faktor Yang Memengaruhi Procurement Fraud: Sebuah Kajian Dari Perspektif Persepsian Auditor Eksternal. *Jurnal Akuntansi Dan Keuangan Indonesia*, 13(2), 194–220. <https://doi.org/10.21002/jaki.2016.11>

