

Antecedents of Fraud Prevention and Organizational Commitment as a Moderator

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Abstract

In the scope of the hospital business, application systems are essential for operational efficiency, particularly in managing financial transactions. However, these systems must be complemented by robust internal control structures and strong organizational commitment to effectively mitigate fraud risks. This study examines the influence of application systems, internal control structures, and organizational commitment on fraud prevention in hospital settings, with a focus on antecedents of fraud prevention and organizational commitment. This research was conducted at group medical center hospitals using primary data, namely questionnaires filled out by 125 respondents, of which 110 were sampled. The analysis tools used included data quality tests, classical assumption tests, and hypothesis tests, aided by the SPSS version 25 application. The results prove that application systems do not have a significant effect on fraud prevention, whereas internal control structures and organizational commitment do have significant effects. Additionally, organizational commitment fully moderates the effect of application systems on fraud prevention and provides partial moderation for the effect of internal control structures on fraud prevention.

Keywords: application system, internal control structure, organizational commitment, fraud

INTRODUCTION

Fraud is most common in transactions related to material funds (Tuanakota, 2013). Fraud is one of two types of crime that can be eradicated: prevention and detection. According to experts, the fraud that was revealed was only a small part of the fraud in question. Fraud prevention by building an internal control system. Commitment from all parts of the hospital organization is also very necessary to minimize the potential and take advantage of the opportunity to commit fraud. In the scope of hospitals, fraud generally occurs in transactions involving cash transactions, transactions where there is a personal payment by the patient, generally carried out by means of void transactions and then retransactions with different values.

The urgency of this research is underscored by the growing prevalence of financial fraud in healthcare institutions globally. According to the Association of Certified Fraud Examiners (ACFE), healthcare organizations lose approximately 5% of their annual revenues to fraud. In Indonesia, the healthcare sector faces particular vulnerabilities due to rapid digitalization of transaction systems without proportionate strengthening of control mechanisms. This creates significant gaps that can be exploited for fraudulent activities, threatening both organizational sustainability and public trust in healthcare services.

Based on fraud data of Sentra Medika hospital employees from 2021 to 2022, there are total transactions made void worth Rp.798,956,437,-, of the transactions made by the void are paid back worth Rp.640,664,008,- so that the difference between transactions that are losses and fraud is worth Rp.158,292,429,-. Sentra Medika Hospital has used an application system for transaction operations at the hospital, for cashier and billing transactions there is a transaction void module that can be misused and has the potential for fraud.

With the aim of improving Indonesian public health services, Dr. Suherman Widyatomo founded Grupo Hospitalario Sentra Medika. Initially established as Harapan Bunda East Jakarta Hospital in 1984, the Sentra Medika Hospital Group has grown and now manages five class B public hospitals, each with a Plenary Accreditation Certificate of the National Hospital

Accreditation Standard. Sentra Medika Hospital Group (SMHG) provides various types of healthcare as part of the "One Stop Health Care Services" philosophy.

Table 1. Total Value of Void Transactions and Potential Fraud Losses

Void Transactions	Paid Transactions	Potential Losses
IDR 798,956,437	Rp.640.664.008	Rp.158.292.429

Source: Data Fraud of medical center hospital employees 2021-2022

The first factor that affects Fraud Prevention is the application system. Some previous studies have shown mixed results. According to Mufidah (2017), the application system has a significant effect on Fraud Prevention. According to Reza et al. (2021), the Accounting information system has no effect on Fraud Prevention. In the research of Ayu et al. (2020), the Accounting Information system has no effect on Fraud Prevention. In the research of Ubaidillah et al. (2020), the accounting information system has a significant effect on Fraud Prevention. According to Yusni (2022), the e-procurement system has a significant effect on fraud prevention. In a study by Adellia et al. (2022), information systems have no significant effect on Fraud Prevention.

The second factor that affects Fraud Prevention is the role of the internal control structure. According to Rima et al. (2022), it is explained that the internal control structure has an effect but is not significant on Fraud Prevention. Based on research by Anggoe and Reskino (2023), it is stated that internal control has a significant effect on fraud prevention. In the research of Kartadjumena and Indriyati (2021), internal control has a significant effect on fraud prevention. According to Mufidah (2017), internal control has a significant effect on Fraud Prevention. In the research of Reza et al. (2021), internal control has a significant effect on Fraud Prevention.

The third factor that affects Fraud Prevention is organizational commitment. Organizational commitment can be interpreted as the agreement or awareness of each organizational structure, in this case it is towards Fraud Prevention. According to Rima et al. (2022), organizational commitment has a significant effect on Fraud Prevention. According to Anggoe and Reskino (2023), organizational commitment has a significant effect on Fraud Prevention. In Yusni's (2022) research, organizational commitment has a significant effect on Fraud Prevention. Organizational commitment can be moderated in Fraud Prevention because the application system and internal control structure are inseparable from the role of each structure in the organization.

The inconsistencies in previous research findings create a significant gap in understanding which factors truly drive effective fraud prevention in healthcare settings. These contradictions suggest that the relationship between technical systems, control mechanisms, and fraud prevention may be more complex than previously understood, potentially influenced by contextual or moderating factors. This research addresses this gap by examining organizational commitment as a critical moderating variable that may explain when and why application systems and internal control structures are effective in preventing fraud. The novelty of this study lies in its integrated framework that examines both technical (application systems, internal controls) and behavioral (organizational commitment) factors simultaneously within the specific context of Indonesian hospital operations—a perspective that has been largely absent in the existing literature.

Based on the critical analysis of existing literature and the identified research gap, several key issues emerge that necessitate investigation. First, hospital application systems, particularly transaction modules, contain inherent vulnerabilities that can be exploited for fraudulent activities, as evidenced by the void transaction manipulation at Sentra Medika Hospital. Second, despite established workflows and hierarchical authority structures within internal control systems, loopholes persist that enable fraud perpetration. Third, the organizational commitment across all organizational levels—including application system users and those responsible for internal control implementation—requires reinforcement to

enhance fraud prevention effectiveness. These interconnected issues highlight the need for a comprehensive examination of how technical controls and behavioral factors interact to prevent fraud in healthcare organizations.

Based on the background of the issues, several key problems are identified at Sentra Medika Hospital. These include vulnerabilities in the hospital application system that allow for user penetration and fraud, loopholes within the internal control structure concerning workflows and tiered authorities, and a need to reinforce the organizational commitment of all involved elements toward fraud prevention. Consequently, this study formulates its central research questions to investigate whether the application system, the internal control structure, and organizational commitment influence fraud prevention at the hospital, and further, whether organizational commitment moderates the influence of both the application system and the internal control structure on fraud prevention.

The objectives of this research directly correspond to these questions, aiming to analyze and prove the effects of the application system, the internal control structure, and organizational commitment on fraud prevention. Furthermore, the study seeks to examine the moderating role of organizational commitment on the influence exerted by both the application system and the internal control structure toward preventing fraud at Sentra Medika Hospital.

The benefits of this research can be divided into two, as follows: (1) Theoretical Benefits: The results of this research can be a reference for future research by modifying several variables, both dependent variables and moderation variables, so that different and broader results and views will be obtained to explore the factors in carrying out Fraud Prevention. (2) Practical Benefits: The results of this research can be a reference for hospital management or the board of directors level in deciding the factors of Fraud Prevention and the results of this research can be a reference in making policies for Fraud Prevention, can evaluate both the application system, internal control structure and organizational commitment.

RESEARCH METHOD

This research employed a quantitative approach with statistical analysis of the data to test the formulated hypotheses and interpret the findings. It examined the causal relationships among independent variables (application systems and internal control structures), the moderator variable (organizational commitment), and the dependent variable (fraud prevention).

The population comprised employees from five hospital branches, totaling 125. Purposive sampling yielded 25 employees per branch, but 15 from the North Minahasa, Bogor, and Cikarang branches were excluded due to their probationary status (less than 3 months of service), resulting in a final sample of 110.

Table 2. Population and Research Sample

No.	Criterion	Sample
1	Employee Cashier and Finance of Depok Branch Hospital	25
2	Employee Cashier and Finance of Bogor Branch Hospital	20
3	Cashier and Finance Employee of East Jakarta Branch Hospital	25
4	Cashier and Finance Employee of Cikarang Branch Hospital	20
5	Cashier and Finance Employee of Manado Branch Hospital	20
Total Population		125
Population is not eligible		(15)
Number of Research Samples		110

Source: Sample data

The type of data in this study is primary data collected through questionnaires distributed to respondents. Secondary data is in the form of transaction documentation records in one year as well as interviews from each organizational structure involved in the transaction.

The variables in this study consist of: (1) Independent Variable: Application System (X1) which is measured through indicators of hardware, software, procedures, human resource ability, and databases in processing reports. Internal Control Structure (X2) which is measured through control environment indicators, risk assessment, control activities, information and communication, and monitoring. (2) Moderator Variable: Organizational Commitment (Z) which is measured through three dimensions, namely affective commitment, continuous commitment, and normative commitment. (3) Dependent Variables: Fraud Prevention (Y) measured through indicators reduces situational pressure, reduces the chance of fraud, and reduces the justification for committing fraud. All variables were measured using a Likert scale of 1-5.

The data analysis method uses Moderated Regression Analysis (MRA) using the SPSS 25.0 Application. The stages of analysis include: (1) Descriptive Statistics to provide an overview of the research data. (2) Data Quality Test includes validity test and reliability test. (3) The Classical Assumption Test includes a multicollinearity test and a heteroscedasticity test. (4) The Hypothesis test uses the t-test to test the partial influence of each independent variable on the dependent variable with regression equations: $Y = a + B1X1 + B2X2 + B3X3 + B1X1*M + B2X2*M + e$

RESULTS AND DISCUSSION

Characteristics of Respondents

Respondents in this study were employees at the East Jakarta branch hospital with 25 respondents, Depok branch with 25 respondents, Bogor with 20 respondents, Cikarang with 20 respondents and North Minahasa with 20 respondents, with outpatient cashier staff positions, inpatient billing and finance, with permanent employee status and contract employees who have been for more than one year. Most respondents were female (65%), aged 26-35 years (48%), and had a working period of 1-5 years (52%).

Table 3. Respondent Characteristics

Category	Sum	Percentage
Male Gender	39	35%
Female Gender	71	65%
Total	110	100%

Source: Primary data processed, 2024

Descriptive Statistical Results

Based on the results of descriptive statistics, the application system variable had the lowest value of 33 and the highest value of 50, with an average of 41.79 and a standard deviation of 3,739. The internal control structure variable had the lowest value of 35 and the highest value of 47 with an average of 40.35 and a standard deviation of 2,297. The organizational commitment variable had the lowest value of 16 and the highest value of 25 with an average value of 20.43 and a standard deviation of 2,360. The Fraud Prevention variable has the lowest value of 20 and the highest value of 30 with an average value of 25.70 and a standard deviation of 2,360.

Table 4. Descriptive Statistics

Variable	N	Min	Max	Mean
Application System	110	33	50	41.79
SPI	110	35	47	40.35
Organizational Commitment	110	16	25	20.43
Fraud Prevention	110	20	30	25.70

Source: SPSS data processing results, 2024

Data Quality Test Results

The results of the validity test showed that all statement items in the questionnaire had a significance value of < 0.05 , so all items were declared valid. From the results of the validity test of the application system variables (SA) of 10 indicators, all of them can be declared valid. The internal control structure (SPI) variables of the 10 indicators can all be declared valid. The organizational commitment (KO) variables of the 6 indicators can all be declared valid. The Fraud Prevention (PF) variable of the 6 indicators can all be declared valid.

The results of the reliability test showed that all variables had a Cronbach's Alpha value > 0.60 , so all variables were declared reliable. The results of the reliability tests for Application Systems (0.847), Internal Control Structure (0.832), Organizational Commitment (0.791), and Fraud Prevention (0.858) all had values greater than 0.60 which means that all variables on the questionnaire are trustworthy.

Classical Assumption Test Results

The results of the multicollinearity test showed that the tolerance variable value of the application system was $0.847 > 0.1$, the tolerance variable value of the internal control structure was $0.849 > 0.1$, and the tolerance variable value of organizational commitment was $0.998 > 0.1$, so it can be said that multicollinearity did not occur. The VIF value of the application system is 1,180, the internal control structure is 1,178, and the organizational commitment is 1,002 all of the VIF values of the variable < 10 so it can be said that there is no multicollinearity. The results of the heteroscedasticity test using scatterplots show that the distribution of the data is spread and does not form a certain pattern, so that it can be declared free of heteroscedasticity.

Hypothesis Test Results

The results of regression analysis with Moderated Regression Analysis (MRA) are presented in the following table:

Table 5. Hypothesis Test Results (t-Test)

Hypothesis	Coefficient	t count	Sig.	Result
H1: SA \rightarrow PF	-0.632	-1.175	0.243	Rejected
H2: SPI \rightarrow PF	1.233	2.275	0.025	Accepted
H3: KO \rightarrow PF	0.289	2.431	0.017	Accepted
H4: SA*KO \rightarrow PF	0.048	1.752	0.08	Accepted
H5: SPI*KO \rightarrow PF	0.054	1.928	0.056	Accepted

Source: Primary data processed with SPSS, 2024

From the table above, the regression equation is as follows: $Y = -0.075 + (-0.632)X_1 + 1.233X_2 + 0.289X_3 + 0.048X_1*M + 0.054X_2*M$. The value of the negative constant shows the negative influence of the independent variable. The coefficient of -0.632 (X_1) means that if variable X_1 increases by one unit, then Y decreases by 63.2%. The coefficient of 1.233 (X_2) means that if variable X_2 increases by one unit, Y will increase by 123.3%. The coefficient of 0.289 (X_3) means that if the variable X_3 increases by one unit, Y will increase by 28.9%.

Discussion

The Influence of Application Systems on Fraud Prevention

Based on the results of the above hypothesis, it is known that the t-value of -1.175 is smaller than the t-value of the table 1.982 with a df of 106, a coefficient of 5% and a significance value of 0.243 greater than 0.05, so it can be said that the influence of the application system on Fraud Prevention is statistically insignificant and insignificant. The results of the test mean that the application system has not been able to be a factor in preventing fraud. Based on the results of interviews with several heads of the financial division of each hospital's branches, it was stated that the application system in transaction operations was helpful to make it easier for officers to carry out transactions. Hardware, software, and the ability of human resources to operate application systems have the highest index, according to questionnaire indicators. The results of this study are in line with previous research, namely Reza et al. (2021) and Putri et al. (2020) stated that the application system does not have a significant effect on Fraud Prevention.

The Influence of Internal Control Structures on Fraud Prevention

Based on the results of the above hypothesis, it is known that the calculated t-value of 2.275 is greater than the t-value of the table 1.982 with a df of 108, a coefficient of 5% and a significance value of 0.025 is less than 0.05, so it can be said that the influence of the internal control structure on fraud prevention is statistically significant on fraud prevention. The results of the test mean that the internal control structure is an important factor in the Fraud Prevention process. Based on the results of interviews with several heads of finance divisions regarding the important role of the internal control structure in efforts to prevent the potential occurrence of Fraud, it is said that the internal control structure is very important, especially in the implementation of standard operating procedures that become guidelines for every organization in the hospital in carrying out duties and work, as well as the approval level policy made to limit and prevent the potential occurrence of Fraud. Tiered monitoring of each organizational structure is also an important role. These results are in accordance with previous research, namely Soleman et al. (2013), Mufidah (2017), Agyemang (2020), Kartadjuma et al. (2021), Yusni (2022), Novitasari et al. (2022), Adellia et al. (2022), Anggoe et al. (2023) which stated that the internal control structure has a significant effect on Fraud Prevention.

The Influence of Organizational Commitment on Fraud Prevention

Based on the results of the above hypothesis, it is known that the t-value of 2.431 is greater than the t-value of the table 1.982 with a df of 108, a coefficient of 5% and a significance value of 0.017 is less than 0.05, so it can be said that the influence of organizational commitment to Fraud Prevention is statistically significant in Fraud Prevention. The results of the test mean that the role of organizational commitment is one of the important factors in the process of preventing potential fraud. Based on the results of the interview with the head of the finance division, the role of the organization in supporting the prevention of potential fraud is very important because in the hospital organization, the commitment of each organization is needed to ensure that fraud will not occur. The indicator that has a high score is in normative commitment, namely the responsibility of each organization in carrying out the tasks that are supposed to be. The results of this study are in accordance with the results of previous research by Salim et al. (2016), Rima et al. (2018), Ida Ayu et al. (2021), Yusni (2022), Novitasari et al. (2022), Anggoe et al. (2023), stating that organizational commitment has a significant effect on Fraud Prevention.

The Role of Organizational Commitment Moderation in Application Systems

Based on the results of the hypothesis above, the significance value of 0.08 is smaller than 0.10, which means that the organization's commitment is full moderation, meaning that there is no other moderator other than the organization's commitment. From the results of the test, it can also be interpreted that organizational commitment plays an important role in

encouraging the influence of the application system in Fraud Prevention. Based on the results of the interview with the head of the hospital's finance division, organizational commitment is important to ensure running the application system to prevent the potential for fraud. The results of this study are also in accordance with the previous research, Salim et al. (2016) which stated that organizational commitment as a moderation variable has a significant effect on moderating the influence of the application system on Fraud Prevention.

The Role of Organizational Commitment Moderation in Internal Control Structures

Based on the results of the hypothesis above, the Significant value of 0.056 is less than 0.10, which means that the commitment of the organization of moderation is partial of moderation, which means that there are other moderation in addition to the organization's commitment, such as professional ethics, awards, employee performance, and others. Based on the results of the interview with the head of the finance division regarding the role of organizational commitment in implementing the internal control structure is very important because in running hospital operations, the role of the organization is to ensure that the internal control structure runs properly and is complied with. The results of this study are in accordance with previous research, namely, Novitasari et al. (2022) which stated that organizational commitment can moderate the internal control structure for Fraud Prevention.

CONCLUSION

Based on data processing and discussion, it can be concluded that the application system does not have a significant effect on Fraud Prevention at the hospital medical center hospital group which means that the application system cannot be a factor in preventing fraud, the application system in transaction operations is helpful to make it easier for officers to carry out transactions. The internal control structure has a significant effect on Fraud Prevention, which means that the internal control structure is an important factor in the Fraud Prevention process, especially in the implementation of standard operating procedures that are guidelines for every organization in the hospital in carrying out duties and work, as well as the approval level policy made to limit and prevent the potential for Fraud. Tiered monitoring of each organizational structure is also an important role. Organizational commitment has a significant effect on Fraud Prevention which means that the role of organizational commitment is one of the important factors in the process of preventing potential fraud, the commitment of every organization is needed to ensure that Fraud will not occur. The influence of organizational commitment in moderating the application system in full moderation to Fraud Prevention can be interpreted as the organization's commitment plays an important role in encouraging the influence of the application system in Fraud Prevention. The influence of organizational commitment in moderating the internal control structure to Fraud Prevention is partially moderated, which means that there are other moderators besides organizational commitments such as professional ethics, awards, and employee performance. It is recommended to improve the quality of the application system in hospitals so that each organization in the hospital can run and understand every module or rule in the application system. For further research, it can be done by replacing the moderation variable that can encourage the influence of the dependent variables in this previous research such as professional ethics, awards, employee performance, employee welfare in the influence on fraud prevention.

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