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Impact of Financial Pressures on Procurement Fraud of Public National Referral Hospitals in Nairobi County, Kenya

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ABSTRACT

Although public procurement is expected to play a central role in ensuring that hospitals deliver effective and efficient services, this objective has not always been met due to marauding fraudulent practices in the acquisition of medical supplies. The government of Kenya has since adopted a myriad of regulatory and legislative measures to counter public procurement fraud in the health sector, but the problem still persists. Only limited studies have attempted to examine the role of financial pressures in catalyzing procurement fraud among National Referral Hospitals (NRHs) in Kenya. Based on the Fraud Diamond Theory (FDT), this study assessed the effect of perceived financial pressure on procurement fraud in public NRHs. The specific objective of the study was to examine the impact of perceived financial pressures (personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation) on procurement fraud of public NRHs. A quantitative approach and a cross-sectional descriptive survey design were employed. The sample size was made up of 101 procurement and supply chain management personnel drawn randomly across three public NRHs in Nairobi County, Kenya. Data were collected through a structured questionnaire and analyzed using SPSS version 29.0.2. The findings of the correlation and linear regression analysis reveal that perceived financial pressure significantly influences procurement fraud in public NRHs. Specifically, perceived financial pressure explains 26.6% ($R^2 = .266$) of the variance in procurement fraud. The study concludes that procurement and supply chain management officers under financial strain, whether due to personal or professional reasons, are more likely to engage in fraudulent activities as a means of alleviating their financial burdens. The study argues that there is a need for public NRHs to address the financial well-being of their procurement staff to mitigate the risk of fraud. Future research could explore other potential drivers of procurement fraud in different public sector contexts to further generalize these findings.

Keywords — financial pressure, healthcare fraud, national referral hospitals, procurement fraud, public procurement

INTRODUCTION

Procurement fraud is a pervasive challenge in public sector organizations worldwide. The complexity and scale of procurement activities in these organizations create fertile ground for corrupt practices (Johari et al., 2023; Rustiarini et al., 2019). As a form of economic crime, procurement fraud not only drains significant public resources but also undermines the integrity of public institutions, particularly in sectors critical to public welfare, such as healthcare. The susceptibility of the public procurement system to fraud is exacerbated by several factors, including the ambiguity of market prices for specialized goods and services, the discretionary powers exercised by political actors, and the intricate relationships between political, corporate, and bureaucratic stakeholders (Prakasa, 2022; Rustiarini et al., 2019). This vulnerability is particularly pronounced in the healthcare sector,

where the procurement of essential medical supplies and services is often compromised by fraudulent activities, leading to increased costs, reduced quality, and, ultimately, adverse impacts on public health (Jones, 2021).

In Kenya, procurement fraud has emerged as the fastest-growing economic crime and has surpassed traditional forms of corruption such as bribery. The situation is especially dire in Nairobi County, where National Referral Hospitals (NRHs) serve a vast population and are crucial to the country's healthcare system. These institutions, which are at the apex of the healthcare hierarchy, are frequently embroiled in procurement scandals that compromise their ability to provide effective and efficient healthcare services (EACC, 2021). According to the Ethics and Anti-Corruption Commission (EACC) of Kenya, approximately 68% of all corruption cases under investigation during the 2019-2020 financial year were related to public procurement irregularities (EACC, 2021). This statistic underscores the endemic nature of procurement fraud in the country, particularly in the health sector.

Among the various factors that contribute to procurement fraud, perceived financial pressure is a significant catalyst. Perceived financial pressure refers to the financial or non-financial stressors that motivate individuals to engage in fraudulent behavior. It is often categorized into occupational pressure, economic pressure, and social pressure (Iliyasu & Muhammed, 2023; Lyra et al., 2022; Rustiarini et al., 2019). According to the Fraud Diamond Theory (FDT), financial pressure is one of the four critical elements that influence fraudulent actions, alongside opportunity, rationalization, and capability (Christian et al., 2019; Johari et al., 2023). In public procurement, financial pressure can arise from various sources, including inadequate remuneration, personal financial difficulties, and the need to maintain a certain social status. These pressures can compel procurement officials to engage in corrupt practices as a means of alleviating their financial burdens or achieving their personal or professional goals (Rustiarini et al., 2019).

The literature on perceived financial pressure and its impact on fraudulent behavior presents mixed findings. Some studies suggest that financial pressure does not have a significant influence on fraudulent financial reporting, while others indicate that internal and external pressures can drive individuals to commit fraud (Dewi & Anisykurlillah, 2021; Setiawan, 2019; Sukmadilaga et al., 2022). However, much of the existing research on financial pressure and fraud behavior has focused on sectors outside of healthcare, such as banking and finance. There is a notable gap in the literature regarding the role of perceived financial pressure in driving procurement fraud in the healthcare sector, particularly in public institutions in developing countries like Kenya. This gap is critical, given the unique challenges faced by healthcare procurement officials, including the complexity of procurement processes, the high stakes involved in medical supplies and services, and the significant public health implications of procurement fraud (Thomas, 2020).

Given the high prevalence of procurement fraud in Kenya's public health sector and the substantial impact of perceived financial pressure on fraudulent behavior, there is a clear need for further research in this area. Understanding how financial pressures influence the actions of procurement officials in NRHs can provide valuable insights into the drivers of procurement fraud and inform the development of targeted interventions to mitigate this form of economic crime. By addressing the individual-level factors that contribute to procurement fraud, such as perceived financial pressure, policymakers and healthcare administrators can implement more effective strategies to enhance the integrity of the procurement process and improve the delivery of healthcare services in Kenya (Mwihia, 2020).

This study aims to fill the gap in the existing literature by examining the effect of perceived financial pressures on procurement fraud in public NRHs in Nairobi County, Kenya. By focusing on NRHs, the study seeks to provide empirical evidence on the role of financial pressure in driving procurement fraud in the healthcare sector, thereby contributing to the broader understanding of economic crime in public institutions and informing the development of more effective anti-fraud measures.

Specific Objective of the Study

1. To examine the impact of perceived financial pressures (personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation) on procurement fraud of public NRHs in Nairobi County, Kenya

Research Hypothesis

H₀₁: Perceived financial pressures (personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation) have no significant effect on procurement fraud of public NRHs in Nairobi County, Kenya.

LITERATURE REVIEW

This section reviews the previous literature on the relationship between financial pressure and fraud. It also describes the theoretical foundation for the study and presents the conceptual framework for the study.

Perceived Financial Pressure and Procurement Fraud

Under FDT, it is expected that individuals are more likely to engage in fraudulent activities when exposed to financial pressure (Sinebe, 2021). Various situational factors can cause individuals to perceive financial pressure, whether related to their personal experiences or work. Rustiarini et al. (2019) grouped these pressures into three categories, which included occupational pressure, economic pressure, and social pressure. Occupational pressure usually stems from the work environment, and it is the most difficult for an individual to avoid. This type of pressure results from internal processes within the organization or from external parties affiliated with the organization (Sukmadilaga et al., 2022). Internal pressure can originate from the superiors, while external pressure can originate from politicians or external stakeholders who dominate power and have an interest in what the organization does (Rasoli et al., 2023). When pressure stems from the internal structures of the organization, fraudulent activities can be orchestrated by senior executives and pushed from the top to the lower levels through the use of powerful mechanisms such as obedience to authority (Lyra et al., 2022). If the procurement official fails to fulfill the illegal instructions from the senior executive, they risk dismissal from the organization or other adverse consequences (Rustiarini et al., 2019).

External pressure emanates from politicians or other business stakeholders. In this case, the public procurement process is misused through collusion and corrupt dealings for the realization of political objectives (Rustiarini et al., 2019). The bureaucrat, or executive, as the power holder in the financial management process, will interact with politicians, or legislators, when planning the procurement budget. Oftentimes, politicians advocate for increased budget allocations for popular programs to advance their personal political goals, as priority programs receive less political attention. Procurement officials are also exposed to pressure to give contracts to firms where politicians have interests (Sinebe, 2021). The politicians' opportunistic behavior, which is often disguised in discretionary power, will force the bureaucrats to obey illegal instructions, which result in fraudulent actions and behaviors. Finally, it is the elected politicians that have the power to determine the career direction or progress of bureaucrats, including whether they get fired or promoted. In addition to the poor moral tone that those at the top set, the behavior of colleagues can also exert influence over employees' ethical conduct. Often, this causes a situation in which several employees within the organization are involved in fraud (Subiyanto et al., 2022).

The occurrence of fraudulent behavior is also associated with economic pressure. Procurement officials who participate in fraudulent activities often consider that there is no alignment between their remuneration and their work or job roles. As a result, it is common for bureaucrats to accept a lower wage with the expectation that they will receive compensation through fraudulent activities or malpractices (Iliyasu & Muhammed, 2023). They even assume that accepting bribes can help resolve their financial difficulties. Civil servants whose incomes are low or are not commensurate with their responsibilities and positions are more vulnerable to corruption, especially in developing countries. During procurement processes, officials with low income do not hesitate to accept "bribes" or "prizes" for providing confidential information or helping vendors win tenders during the procurement process (Prakasa, 2022). Evidence also shows that individuals can engage in procurement fraud due to difficulties fulfilling luxurious lifestyles and gambling addiction (Lyra et al., 2022).

Procurement officials can also experience social pressure from the surrounding environment. In this case, individuals not only engage in fraudulent behavior to obtain financial benefits, but also to meet the needs of their connections or interests of suppliers, friends, or family members (Rasoli et al., 2023). This is especially the case where personal connections are strong and can influence procurement officials' actions (Prakasa, 2022).

Employees may also be motivated by the need to get higher positions, promotions, or recognitions from certain parties if they fulfill the demands of these parties to win tenders (Prakasa, 2022).

In the previous literature, findings on the relationship between perceived financial pressure and fraud behavior were mixed. On the one hand, some researchers have found that pressure does not have a significant influence on fraudulent financial reporting (Dewi & Anisykurlillah, 2021; Sukmadilaga et al., 2022). On the other hand, some researchers have found that internal or external pressure creates an urge for individuals to engage in the commission of fraudulent acts (Setiawan, 2019; Subiyanto et al., 2022). Ratmono and Frendy (2022) revealed that financial pressure significantly influences both bank managers and bank employees to commit fraud. Widnyana and Widyawati (2022) reported that pressure has a significant negative effect on the potential for financial statement fraud in banking firms listed on the Indonesia Stock Exchange. However, in addition to their lack of focus on procurement fraud, these studies were not based on the health sector in developing countries like Kenya, and they hardly considered the role of moderating variables like forensic accounting.

Theoretical Framework.

This study was carried out within the confines of the Fraud Diamond Theory (FDT). The theory was initially developed by Wolfe and Hermanson (2004), who modified the Fraud Triangle Theory by introducing the capability element in addition to the three elements of pressure, opportunity, and rationalization (Umar, 2023). The theoretical model starts with pressure or motivation, which is deemed a non-shareable problem. Fraudulent behavior results from non-sharable issues, which often vary from one individual to the next (Umar, 2023). According to the theory, the major non-shareable issues that generate pressure include strenuous work relationships, individual failures, reversals, violations of obligations, isolation from other individuals and the need to fit into a certain social class (Umar, 2023). Pressure is further grouped into financial and non-financial (Lyra et al., 2022). On the one hand, financial pressure is caused by personal problems such as divorce, the cost of marriage, medical bills, investment failure, uncontrolled debt, and bankruptcy (Rasoli et al., 2023). On the other hand, non-financial pressure manifests itself in the form of individual egocentric motivations, such as a desire to get a higher job or prestige, obsession with power and lifestyle (Homer, 2020), and fear of losing social status (Rustiarini et al., 2019).

Pressure is then followed by opportunity, which entails a situation in which an individual who has a problem (pressure) can commit fraud without being caught. Individuals will not engage in fraud in the absence of opportunities, even though individuals are under high pressure to engage in fraud. Under opportunity, fraud happens when there are weak legal policies, poor or ineffective internal controls (Handoyo & Bayunitri, 2021), deliberate violations of existing controls by senior managers, and organizational cultures that are conducive to crime (Homer, 2020; Rustiarini et al., 2019).

Rationalization then follows opportunity, and it entails a situation in which the potential fraudster internally justifies fraudulent actions to seem right based on their own personal code of ethics (Handoyo & Bayunitri, 2021). Rationalization is not an afterthought to justify engagement in fraud; it is the actual basis for an individual to engage in fraud. Rationalization plays a pivotal role in informing the motive for committing fraud and is often dropped once the individual has committed the crime. People often try to justify their criminal acts based on different ideologies, such as "most people commit crime when they are in a tight place," "that they are just using organizational resources temporarily, or "I have always done right and it has not worked for me, to hell with it" (Umar, 2023). These beliefs contradict the values of accountability and honesty required in trust-based relationships. According to Kakati and Goswami (2019), opportunity is the main contributor to fraudulent activities that internal perpetrators commit, followed by pressure and rationalization. The findings concurred with those of Handoyo and Bayunitri (2021), which also demonstrated that weak internal controls that create opportunities for unethical conduct are the primary catalysts of fraud at the organizational level.

Although fraud may occur due to the availability of pressure, opportunity, and rationalization as projected by the Fraud Triangle Theory, individuals who are motivated to engage in fraudulent practices not only need opportunities but must also have the capability to exploit available fraud opportunities (Rustiarini et al., 2019). Therefore, capability is an individual factor that each potential fraud perpetrator must possess for fraud to occur (Aripin et al., 2022). Individuals in higher positions have higher chances of being involved in fraudulent actions

(Homer, 2020). The concept of capability defines six things that allow individuals to engage in fraudulent actions. These aspects include important positions or functions, intellectual capacity, immunity to guilt and stress, confidence or ego, effective misrepresentation, and coercive ability (Lyra et al., 2022). The empirical test results that Wolfe and Hermanson (2004) used in examining fraud cases over the past 15 years demonstrate that fraudulent activities, especially those with large sums of money, will not occur if the perpetrator lacks the right capabilities (Aripin et al., 2022).

The FDT takes into account various pressures, including financial and personal, acknowledging that fraud can be influenced by a broader organizational and social context. The theory provides a broader understanding of fraud by considering organizational culture, industry norms, and societal factors. It is designed specifically for fraud and presents a more tailored and directly applicable approach for understanding and preventing fraudulent activities. Despite the fact that FDT explicitly outlines four interconnected components: pressure, opportunity, rationalization, and capability, this article is only based on perceived financial pressure.

Conceptual Framework.

As demonstrated in Figure 1, the dependent variable was procurement fraud in public NRHs. The measures for this variable included biased supplier selection; over-payments or false payments; unjustified elimination or reduction of competition; corrupt contract negotiation and management; and bid rigging by vendors. Perceived financial pressure was the primary independent variable. It was measured in terms of Likert-type items. The sub-variables for this variable included personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation. It was expected that perceived financial pressure would positively influence the incidence of different types of procurement fraud in public NRHs in Nairobi County, Kenya.

Perceived Financial Pressure (X)

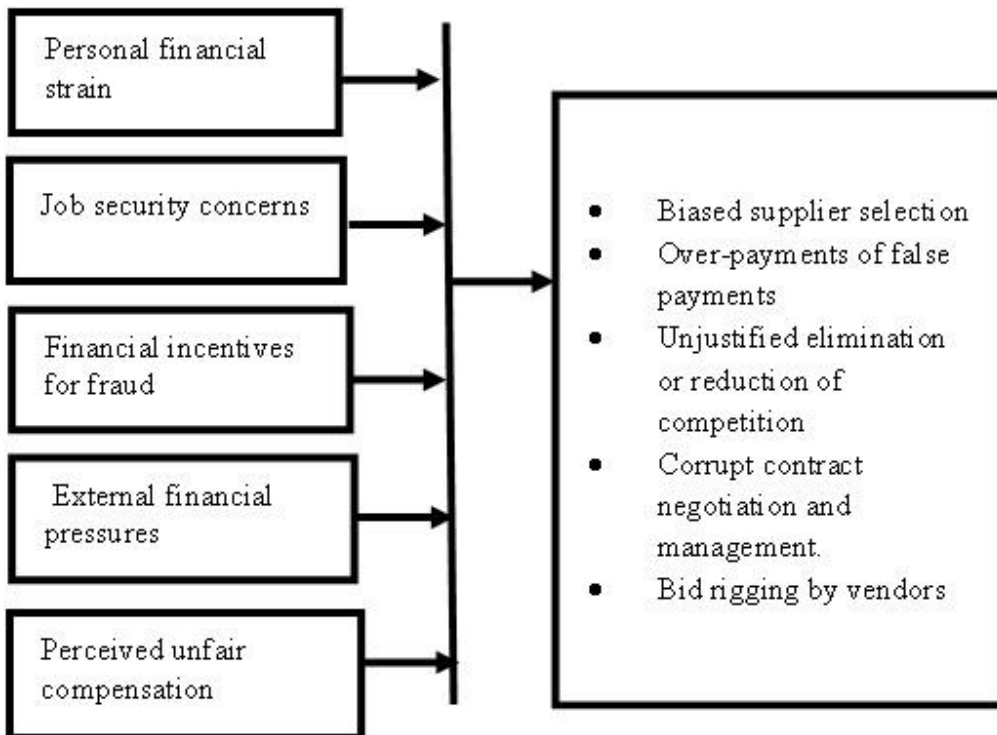


Figure 1. Conceptual framework for perceived financial pressure and procurement fraud.

METHODOLOGY

This section details the methodology adopted to conduct the study. It covers the design, study participants, sampling process, data collection, and analysis.

Design

This study adopted a cross-sectional descriptive survey since relationships between the independent and dependent variables were examined. According to Ghauri et al. (2020), the focus of a descriptive cross-sectional survey is on answering the what, when, and how questions at a point in time. According to Pandey and Pandey (2021), surveys are not only economical, but they also enable researchers to understand the attitudes and opinions of respondents. Using a cross-sectional descriptive survey, the researcher collected data across public NRHs, tested the hypotheses developed, and quantified the projected influence of perceived financial pressure on procurement fraud incidence.

Participants

This study targeted the four public NRHs located in Nairobi County, Kenya. For confidentiality reasons, detailed information about the specific institutions has been omitted to protect the identity of the participants. Due to the sophisticated nature of their procurement systems, these facilities are particularly vulnerable to procurement fraud. Because one of these hospitals only specializes in the provision of curative, rehabilitative, promotive, and preventive spine case services, unlike the rest of the facilities that offer general healthcare services, it was not considered for this study. The choice of public NRHs is informed by the fact that these facilities serve as centers of excellence and provide complex health care services that require more complex technology and highly skilled personnel. Due to their complex supplies and procurement systems, these facilities are highly vulnerable to procurement fraud (Gichuki, 2021). Also, the study only targeted these hospitals due to the often intensified and competitive procurement activities in Nairobi County. Because Nairobi County has a higher concentration of public NRHs compared to other counties, focusing on it allowed for a more comprehensive study. Since the study gathered data regarding an individual-level driver of procurement fraud in hospitals, the participants comprised a total of 315 procurement officers and supply chain management personnel stationed at the primary branches of the selected public NRHs within Nairobi County, Kenya. Procurement officers have also been used by other researchers to explain the intensity of fraudulent practices in procurement in public and private organizations (Ngovi, 2019).

Sampling Procedure

The sample size determination formula for this study was adopted from Cochran (1977) using the formula provided below:

$$n_0 = \frac{Z^2 p(1-p)}{(e)^2}$$

Where: n_0 = ideal sample size, Z = desired confidence level (95%) or Z value (95% or 1.96), e = desired level of precision or margin of error (5% or 0.05), and p = estimated proportion of procurement staff members (0.5 to calculate the maximum sample size). When the values in the above equation are substituted, the sample size was:

$$n_0 = \frac{1.96^2 0.5(1-0.5)}{(0.05)^2}$$

$n_0 = 385$ procurement staff officers

However, the total study population (N) in this study (315 procurement staff members) was known and $n_0 > N \times 0.05$. In this case, Cochran's correction formula provided below was used to determine the actual sample size for the study. The formula is as follows:

$$n_1 = \frac{n_0}{1 + (n_0 - 1)/N}$$

Therefore,

$$n_1 = \frac{385}{1 + (385 - 1)/315}$$

$n_1 = 173$ procurement and supply chain officers

A sample size for procurement and supply chain staff members from each of the selected three NRHs was then determined using stratified random sampling. The summary of the final sample size is provided in Table I.

Table I. Summary of Sample Size

NRHs	Target Population	Sample Size
Hospital A	111	$111/315 * 173 = 61$
Hospital B	98	$98/315 * 173 = 54$
Hospital C	106	$106/315 * 173 = 58$
Total	315	173

All the Directors of Public Procurement, Senior Deputy Directors of Public Procurement, Deputy Directors of Public Procurement, Senior Assistant Directors of Public Procurement, and Assistant Directors of Public Procurement in each of the three hospitals were included in the study purposively because of their small number and seniority in their procurement departments.

Data Collection

A structured questionnaire was used in collecting data from procurement and supply chain staff members. At the time of this study, there was no valid and reliable instrument used to measure the variables in this study. As a result, the instrument used for data collection was researcher-developed. The structured questionnaire contained closed-ended questions that required definite responses relating to the variables under study. Respondents were required to indicate their level of disagreement or agreement with the statements that reflected the hospital’s position by ticking accordingly using the key: 5 = Always, 4 = Very Often, 3 = Sometimes, 2 = Rarely, and 1 = Never. Likert-type questions enabled the researcher to quantitatively utilize the statistics for interpreting data with ease. The questionnaire administration was through drop-and-pick. A pilot study was conducted before the actual study to determine the reliability of the questionnaire items developed using Cronbach’s Coefficient. According to Barbera et al. (2020), a Cronbach’s alpha. The results of the pilot study showed that the coefficient for procurement fraud was 0.931 and 0.841 for perceived financial pressure. This indicated that the structured questionnaire was reliable (Ghuri et al., 2020). Construct validity was also tested by conducting factor analysis and the results showed that the factor communalities loadings ranged from 0.437 to 0.721. As a result, they were all approved for inclusion in the data analysis since their factor loading communalities values were more than 0.4.

Analysis

A Pearson correlation analysis was conducted to establish the direction and strength of a relationship between the independent variable and the dependent variable. Simple linear regression was used to test the hypothesis for the study. The regression model was as shown below:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where: Y= composite score of procurement fraud incidence; β_0 = y intercept/constant; β_1 = Regression constant for perceived pressure; and X_1 = Score of perceived financial pressure. Coefficient of determination (R^2) was used to determine the variance in procurement fraud incidence due to perceived pressure, F – Test was used to assess the overall significance of the simple regression model, and β assessed the contribution of perceived pressure to the significance of the model. Before running the linear regression model, linearity and multicollinearity assessments were conducted to test the normality of the data and prevent the realization of misleading or spurious results. For the linearity test, the data points in the scatter plot were tightly clustered

around the regression line, especially in the upper right section of the graph, suggesting a positive linear relationship between the variables. In the multicollinearity diagnostic analysis, the test confirmed that multicollinearity was not an issue, since the tolerance and VIF values for the perceived financial pressure was 0.622 and 1.607, respectively and fell within the recommended range of 1-3 (Pandey & Pandey, 2021).

RESULT

The study sought to examine the effect of perceived financial pressure on procurement fraud among public NRHs in Nairobi County, Kenya. Out of 173 questionnaires distributed to procurement and supply chain officers drawn from three public NRHs in Nairobi County, Kenya, a total of total of 119 questionnaires were returned for analysis and 101 were used after the disqualification of 18 questionnaires due to incompleteness or omissions and other errors identified in data cleansing and verification process. Out of 101 respondents, 55 were male (54.5%) and 46 were female (45.5%). Respondents were distributed across four age groups, which include 21-30 years (19.8%), 31-40 years (29.7%), 41-50 years (28.7%), and over 50 years (21.8%). In terms of education, 8.9% of the respondents had a high school education, 14.9% had some college education, 38.6% held a bachelor degree, 22.8% had a master degree, and 14.9% possessed a PhD. Respondents' designations ranged from entry-level procurement officers to senior roles such as the Director of Public Procurement, with a fairly even distribution across different levels of seniority.

Correlation between Perceived Financial Pressure and Procurement Fraud

The results in Table II indicate a significant positive correlation between perceived financial pressure and procurement fraud among public NRHs. The Pearson correlation coefficient ($r = .516, p < .001$) suggests a positive, moderate, and statistically significant relationship between the two variables. This finding confirms that as perceived financial pressures increase, the likelihood of procurement fraud also increases in NRHs.

Table II. Correlation between Perceived Financial Pressure and Procurement Fraud

		Perceived Financial Pressure	Procurement Fraud
Perceived Financial Pressure	Pearson Correlation	1	.516**
	Sig. (2-tailed)		<.001
	N	101	101
Procurement Fraud	Pearson Correlation	.516**	1
	Sig. (2-tailed)	<.001	
	N	101	101
** . Correlation is significant at the 0.01 level (2-tailed).			

Also, Pearson correlation analysis test was conducted between perceived financial pressure sub-variables and procurement fraud. The findings in Table III indicate that most of the financial pressure sub-variables as evaluated by procurement and supply chain officers in public NRHs are positively correlated with procurement fraud. The highest correlation was found between the perception of personal financial gain influencing decision-making during procurement processes and procurement fraud ($r = .327, p < .001$), although this correlation was low. This suggests that personal financial incentives significantly affect procurement decisions. Similarly, concerns about compensation not being commensurate with responsibilities also show a low positive correlation with procurement fraud ($r = .323, p = .001$). Also, the ability to meet personal and professional financial obligations lowly and positively correlates with procurement fraud ($r = .314, p = .001$). Uncertainty about job stability in the procurement department was also positively associated with procurement fraud, although to a

negligible extent ($r = .292, p = .003$). However, external financial factors such as personal debts or family financial needs showed a weaker and non-significant correlation ($r = .178, p = .075$). These findings suggest that internal perceptions of financial inadequacy and job instability are lowly and positively associated with higher risks of fraudulent behavior in procurement activities.

Table III. Correlation Between Financial Pressure Sub-Variables and Procurement Fraud

Sub-Variables		Procurement Fraud
Procurement Fraud	Pearson Correlation	1
	Sig. (2-tailed)	
	N	101
I often find it challenging to meet my personal and professional financial obligations with my current income.	Pearson Correlation	.314**
	Sig. (2-tailed)	.001
	N	101
I feel uncertain about the stability of my job in the procurement department	Pearson Correlation	.292**
	Sig. (2-tailed)	.003
	N	101
The perception of personal financial gain influences decision-making during procurement processes.	Pearson Correlation	.327**
	Sig. (2-tailed)	<.001
	N	101
External financial factors, such as personal debts or family financial needs, impact my decision-making in procurement.	Pearson Correlation	.178
	Sig. (2-tailed)	.075
	N	101
I believe my current compensation is not commensurate with the responsibilities I have in the procurement department.	Pearson Correlation	.323**
	Sig. (2-tailed)	.001
	N	101
** . Correlation is significant at the 0.01 level (2-tailed).		
* . Correlation is significant at the 0.05 level (2-tailed).		

Regression Analysis and Hypothesis Testing for Perceived Financial Pressure

A hypothesis was developed and tested using the gathered data to examine the effect of perceived financial pressure on procurement fraud among public NRHs in Nairobi County, Kenya. The null hypothesis was that:

H₀₁: Perceived financial pressures (personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation) have no significant effect on procurement fraud of public NRHs in Nairobi County, Kenya.

The results of the simple linear regression analysis presented in Table IV indicated that perceived financial pressure significantly affects the incidence of procurement fraud. The R² was .266, suggesting that approximately 26.6% of the variance in procurement fraud can be explained by perceived financial pressure. The F-test value of 35.895 was significant (p < .001), indicating that the model as a whole was statistically significant. The unstandardized regression coefficient for perceived financial pressure (β = .550, t = 5.991, p < .001) indicated that when all factors are held constant, a one-unit increase in perceived financial pressure increases the predicted incidence of procurement fraud by 0.550 units. Based on these results, the model became; Y = 0.550X₁, when Y was the composite score of procurement fraud incidence and X₁ was the core of perceived financial pressure. Based on this findings, the null hypothesis that perceived financial pressure has no significant effect on procurement fraud among public NRHs was rejected in favor of the alternative hypothesis.

Table IV. Linear Regression Results for Perceived Financial Pressure

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.516 ^a	0.266	0.259	0.631		
ANOVA ^a						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	14.292	1	14.292	35.895	<.001 ^b
	Residual	39.418	99	0.398		
	Total	53.71	100			
Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.1	0.26		4.234	<.001
	Perceived Financial Pressure	0.55	0.092	0.516	5.991	<.001

^aDependent Variable: Perceived Financial Pressure

^bPredictors: (Constant), Perceived Financial Pressure

DISCUSSION

The study examined the effect of perceived financial pressures on procurement fraud among public national

referral hospitals in Nairobi County, Kenya. Perceived financial pressures were measured using personal financial strain, job security concerns, financial incentives for fraud, external financial pressures, and perceived unfair compensation. Pearson correlation results revealed that perceived financial pressure had a moderate to strong positive, and significant effect on procurement fraud incidence in NRHs, ($r = .516$; $p < .001$). The perception of personal financial gain influencing decision-making during procurement processes and procurement fraud ($r = .327$, $p < .001$), concerns about compensation not being commensurate with responsibilities ($r = .323$, $p = .001$), the ability to meet personal and professional financial obligations ($r = .314$, $p = .001$), and uncertainty about job stability in the procurement department ($r = .292$, $p = .003$) were the specific perceived pressure sub-variables whose correlation with procurement fraud were statistically significant.

Linear regression results revealed that perceived financial pressure significantly and positively affects the incidence of procurement fraud among public NRHs. Particularly, the R^2 was .266, suggesting that about 26.6% of the variance in procurement fraud was explained by perceived financial pressure. Furthermore, the unstandardized regression coefficient for perceived financial pressure ($\beta = .550$, $t = 5.991$, $p < .001$) indicated that when all factors were held constant, a one-unit increase in perceived financial pressure increased the predicted incidence of procurement fraud by 0.550 units. Due to these findings, the null hypothesis that perceived financial pressure has no significant effect on procurement fraud was rejected in favor of the alternative hypothesis.

These findings align with the those of the previous studies. Some researchers have established that internal or external pressure creates an urge for individuals to engage in the commission of fraudulent acts (Setiawan, 2019; Subiyanto et al., 2022). Also, Ratmono and Frendy (2022) revealed that financial pressure significantly influences both bank managers and bank employees to commit fraud. These results can also be explained by the FDT, which emphasizes that financial pressures, both personal and professional, are significant motivators for fraudulent behavior (Sinebe, 2021; Rustiarini et al., 2019; Christian et al., 2019). However, unlike the current study that found the correlation between financial pressure and fraud to be positive, Widnyana and Widyawati (2022) reported that pressure has a significant negative effect on the potential for financial statement fraud in banking firms. The current findings also contradict those of other studies that found that pressure does not have a significant influence on fraudulent financial reporting (Dewi & Anisykurlillah, 2021; Sukmadilaga et al., 2022). This discrepancy might be due to the contextual differences, as these studies were not conducted in the healthcare sector or in developing countries like Kenya, where financial pressures are more acute and can have a more direct impact on procurement decisions.

It is evident from the results of this study that financial pressure, particularly when linked with inadequate compensation and job insecurity, significantly contributes to procurement fraud in the healthcare sector. This finding resonates with the FDT's assertion that pressure is a critical element in understanding fraud. Furthermore, the results challenge the notion presented by some scholars that financial pressure is less significant, suggesting instead that its impact may vary depending on the sector and the specific financial dynamics at play. Therefore, perceived financial pressure is a crucial factor that should not be overlooked when addressing procurement fraud, particularly in high-stakes environments like NRHs. While previous studies have offered mixed results regarding the role of financial pressure in fraud, the present study provides robust evidence that in contexts where financial strain is significant, it can be a powerful motivator for fraudulent activity.

LIMITATIONS

This section discusses some of the shortcomings that may have had an influence on the results of this study. One of the primary limitations was the reluctance of some respondents, especially those in senior positions, to disclose critical information about the operations of their procurement processes. To mitigate this challenge, the researcher implemented a robust informed consent process that involved reassuring respondents of the confidentiality of their contributions and emphasized that the study was solely for academic purposes. Also, efforts were made to build rapport with the respondents and clearly explain the importance of their participation, which helped to reduce instances of non-response and incomplete data.

Another key limitation of the study was its focus NRHs in Nairobi County, Kenya, which may affect the generalizability of the findings. While these institutions are important components of Kenya's healthcare system,

the results may not be applicable to other regions or types of healthcare facilities, such as private hospitals or lower-tier public hospitals. To mitigate this limitation, the study carefully selected the NRHs in Nairobi County, which are among the largest and most resource-intensive hospitals in Kenya. However, the researcher acknowledges the need for further research in other settings to validate these findings across diverse contexts.

The reliance on self-reported data from procurement officers also presents a limitation, as this method is inherently subject to response biases, such as social desirability bias. Respondents might have underreported or over-reported certain behaviors to align with perceived expectations. To mitigate this, the researcher assured respondents of anonymity and confidentiality, thereby encouraging more honest and accurate responses. The use of structured questionnaires with well-defined questions also helped to minimize ambiguity and reduce the likelihood of biased responses.

CONCLUSIONS AND RECOMMENDATIONS

This section provides the conclusion drawn from the study and delineates practical recommendations, policy suggestions, and directions for future research. The study concludes that procurement officers under financial strain, whether due to personal or professional reasons, are more likely to engage in fraudulent activities as a means of alleviating their financial burdens. This underscores the need for public NRHs to address the financial well-being of their employees to mitigate the risk of fraud. Public NRHs should implement comprehensive employee assistance programs that address both financial and emotional well-being. These programs could include financial counseling, stress management workshops, and support for employees facing financial difficulties. Also, procurement officers should be adequately compensated, with regular reviews to ensure their salaries are commensurate with their responsibilities and the cost of living.

This study relied on the FDT to examine the effect of financial pressure on procurement fraud. Although this theory proposes four main variables that influence the occurrence of fraud, such as perceived financial pressure, fraud opportunity, rationalization, and capability, this study only examined the effect of financial pressure. Future research should explore the remaining factors that may influence procurement fraud, and include others like organizational culture, arrogance, collusion, technological advancements, leadership style, and the role of external stakeholders. Moreover, a longitudinal study could provide deeper insights into how the adoption of forensic accounting practices affects the long-term incidence of procurement fraud. Further studies should also be conducted in other regions and sectors to validate the findings of this study and enhance their generalizability. Lastly, the current study gathered data from a single department in each hospital, which may limit the robustness of the findings. Future research should consider gathering data from multiple respondents within each organization, including senior management, to provide a more comprehensive understanding of the drivers of procurement fraud. Additionally, future studies could explore the perceptions of other stakeholders, such as external auditors and regulatory bodies, to gain a broader perspective on the issue.

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