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The Effect of Auditor's Professional Skepticism and Whistleblowing System on Fraud Detection: Evidence from Indonesian Public Sector Audit

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Abstract

Fraud poses a pervasive and significant threat to organizations globally, with catastrophic consequences ranging from financial losses to reputational damage. This study investigates the roles of auditor professional skepticism and the whistleblowing system in combatting fraud and enhancing detection in investigative audits. Drawing from a comprehensive examination of 56 respondents in the Indonesian Supreme Audit Board, the study evaluates the validity and reliability of key research variables and tests three hypotheses. The findings indicate that, when analyzed individually, auditor professional skepticism does not significantly influence fraud detection. This aligns with prior research, emphasizing potential hindrances such as tight audit schedules and limited understanding of fraud perpetrators' motives. Conversely, the whistleblowing system is found to have a significant and positive impact on fraud detection, with reliable information sourced from insiders aiding in early fraud identification. Moreover, when auditor professional skepticism and the whistleblowing system are combined, they synergistically enhance fraud detection significantly. These insights provide valuable guidance for organizations seeking to bolster their anti-fraud measures, underlining the importance of both elements in effective fraud prevention and detection efforts.

Keywords

Fraud detection, Auditor professional skepticism, Whistleblowing system, Investigative audits, Anti-fraud measures

1. Introduction

Fraud is a pervasive issue that poses a significant threat to organizations worldwide, spanning both the public and private sectors, irrespective of their size or location (Rodgers et al., 2015). Fraudulent activities can lead to catastrophic consequences, including the destruction of governments and businesses (Tuanakotta, 2016). Despite its grave implications, fraud was historically underestimated and overlooked by both public and private entities during the nineteenth century (Silverstone & Davia, 2005). Various terms, such as fraud, theft, abuse of trust, irregularities, white-collar crime, and embezzlement, are used interchangeably to describe fraudulent activities.

The Association of Certified Fraud Examiners (ACFE) defines fraud in the workplace as the intentional or improper use of an organization's resources or assets for personal gain (Golden et al., 2006). Fraud comprises four key elements: the dissemination of false information about a material matter, the knowledge that the statement is false and the intent to ignore the truth, reliance on the false statement by the victim, and the harmful consequences stemming from the false statement (Golden et al., 2006). Globally, three major categories of fraud frequently occur: asset misappropriations, corruption, and financial statement fraud. The financial implications of fraud can be staggering. Research conducted by Wells (2018) on 2,690 fraud cases in 125 countries between January 2016 and October 2017 revealed total losses exceeding USD 7.1 billion. These losses may even be higher when considering indirect costs, such as reputational damage and loss of business following a scandal.

Fraud, including corruption, can be elucidated through the fraud triangle (Cressey, 1950). The theory posits three factors that can lead to fraud: pressure, rationalization, and opportunity (Hooper & Fornelli, 2010). A fourth factor is capability, encompassing an individual's power, capacity, and ability to manage stress, along with their position within an organization (Wolfe & Hermanson, 2004). Addressing fraud and corruption cases necessitates specialized approaches, including forensic or investigative auditing, considered one of the most effective tools for promoting accountability, transparency, and oversight. Forensic accounting services entail the application of specialized knowledge and investigative skills to collect, analyze, and evaluate evidence, as well as interpret and communicate findings for potential use in legal proceedings.

Investigative audits of fraud differ from audits of financial statements in their objectives. While financial statement audits primarily aim to provide reasonable assurance about the absence of material misstatements, investigative audits of fraud focus on making a definitive determination about the presence of fraud, regardless of its materiality (Silverstone & Davia, 2005). Unlike financial statement audits, investigative audits of fraud entail a detailed review of all transactions in accounts where fraud is suspected. In Indonesia, one of the institutions authorized to conduct investigative audits is the Indonesian Supreme Audit Institution (*Badan Pemeriksa Keuangan*/BPK). The BPK is mandated by Law No. 15 of 2006 to conduct various types of audits, including investigative audits, financial audits, and performance audits. Effective and high-quality audits require auditors to possess three crucial attributes: professional skepticism, professional knowledge and experience, and independence and objectivity (Al-taee & Flayyih, 2022).

Professional skepticism is particularly critical in fraud investigation audits, surpassing its importance in financial statement audits. Professional skepticism involves a critical assessment

of evidence, constantly questioning its adequacy and accuracy. According to Hurtt (2010), professional skepticism is the foundation of the auditing profession and is closely related to fraud detection. Professional skepticism comprises six key characteristics: a questioning mind, suspension of judgment, pursuit of knowledge, interpersonal understanding, self-esteem, and autonomy (Hurtt, 2010). A high level of professional skepticism enhances an auditor's ability to discern the truth of assertions and improve information retrieval when dealing with potential fraud (Nelson, 2009). The Public Company Accounting Oversight Board emphasizes the importance of professional skepticism in addressing the risk of fraud during audits.

Fraud remains a formidable threat to organizations globally, and its consequences can be devastating. Preventing and detecting fraud are critical objectives for both public and private entities. This study has explored the significance of auditor professional skepticism and the whistleblowing system in combating fraud, and it aims to provide insights into how these factors impact fraud detection in investigative audits.

2. Research Methods

This research was conducted at the Supreme Audit Board of the Republic of Indonesia (*Badan Pemeriksa Keuangan*/BPK). In this study, two main variables were operationalized: the dependent variable, which is the Fraud Detection Rate in Investigative Audit, denoted as "Y," and two independent variables, namely X1, Professional Skepticism of Auditors, and X2, Whistleblowing System. The primary data for this research was collected through a questionnaire distributed directly to investigative auditors from the BPK. The questionnaire employed a Likert scale to gauge responses. Based on the table above, the number of questionnaires distributed was 90 copies, of which 56 were returned and 34 were not returned. It is important to note that all returned questionnaires were completed in their entirety, resulting in 56 fully completed questionnaires available for data processing. By adhering to these rigorous research methodologies, this study aims to ensure the credibility and accuracy of the collected data, ultimately facilitating a comprehensive analysis of the research variables and their relationships.

3. Theoretical Framework and Hypothesis Development

Numerous studies have highlighted the critical role of professional skepticism in enhancing fraud detection (Biksa & Wiratmaja, 2016; Olsen & Gold, 2018). Given the persistent prevalence of fraud cases, nurturing and fortifying auditors' professional skepticism becomes paramount in bolstering fraud detection capabilities. In tandem with professional skepticism, the whistleblowing system emerges as a valuable tool for both preventing and detecting fraud. Whistleblowers serve as essential sentinels in unveiling misconduct, and safeguarding their interests can augment the efficacy of reporting, thus preventing transgressions from escalating into full-blown scandals (Archambeault & Sarah, 2015). Purwanti & Astika (2017) underscore the pivotal role of auditor professional skepticism in significantly enhancing auditors' capacity to detect fraud. Complementing this aspect, Brazel et al. (2016) underscore that auditor professional skepticism significantly influences the effectiveness of conducting investigative audits aimed at uncovering fraud.

The concept of whistleblowing traces its origins back to British police officers using whistles to alert colleagues and the public to ongoing crimes (Dasgupta & Kesharwani, 2010). The whistleblowing system serves as a conduit through which individuals can report instances of fraud or misconduct within organizations. Defined by Al-Haidar (2017) as the disclosure of illicit or inappropriate actions or omissions within an organization by its members to parties capable of rectifying the violations, whistleblowers have the discretion to report violations either internally or externally, contingent upon the severity and nature of the information. External reporting may involve disclosing violations to legal professionals, the media, law enforcement agencies, or other relevant authorities (Lee & Xiao, 2018).

Crucially, the whistleblowing system plays an integral role in fostering an anti-corruption culture, facilitating both the detection and prevention of unethical activities. Often, employees within organizations are uniquely positioned to identify violations, as the early signs of corruption or fraud often necessitate insider information or tips, given the coordinated and concealed nature of these activities by colluding individuals (Nurhidayat & Kusumasari, 2018). Effective implementation of whistleblowing mechanisms can be instrumental in uncovering criminal activities and bolstering fraud detection efforts. Research findings have consistently underscored the profound influence of the whistleblowing system on both fraud detection and prevention (Badzlina et al., 2018; Wahyuni & Nova, 2018). Notably, the whistleblowing system not only upholds the principles of moral ethics but also cultivates integrity within public institutions (Nurhidayat & Kusumasari, 2018).

Badzlina et al. (2018) provides compelling evidence that the establishment of a whistleblowing system significantly impacts the detection of asset misuse fraud. Their research demonstrates that implementing a whistleblowing mechanism plays a pivotal role in uncovering instances of fraudulent misuse of assets within organizations. In parallel, Clyde & Hanifah (2022) underscores the significant influence of whistleblowing on the effectiveness of investigative audits in disclosing fraud instances. These findings affirm that whistleblowing systems enhance the audit process by providing essential information and leads to auditors, thereby aiding in identifying and preventing fraudulent activities.

Moreover, Onyango (2021) makes a valuable contribution by affirming that fostering a culture of whistleblowing within organizations has a positive and significant impact on improving results in forensic audits. This implies that when individuals within an organization are encouraged and feel secure in reporting suspicions of wrongdoing, it can lead to more effective forensic audits and a comprehensive understanding of potential fraud risks.

H1. Auditor's professional skepticism has a significant effect on the level of fraud detection in investigative audits.
H2. The application of the whistleblowing system has a significant effect on the level of fraud detection in investigative audits.
H3. Auditors' professional skepticism and the application of the whistleblowing system simultaneously influence the level of fraud detection in investigative audits.

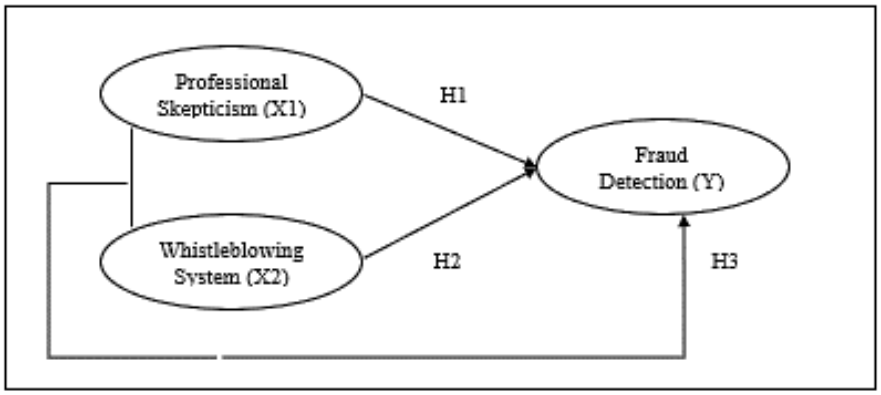

Figure 1. Conceptual Framework

4. Results and Discussion

An instrument can be considered valid if it is capable of accurately and precisely measuring what it is intended to measure or describing the variables under study (Sugiyono, 2018). In this study, validity testing was conducted using the SPSS program, with tests administered to 56 respondents. To evaluate the validity of each item statement, the results were examined by analyzing the correlation table output in the Pearson Correlation total column. These results were then compared with the r-table calculation outcomes in this study, utilizing a significance level of 0.05 for 56 respondents, which is 0.2632. If the r count is greater than the r table value and is positive, the statement is considered valid. Table 1 presents the results of the validity test for each variable.

Table 1. Validity Testing Results

Item	R-count	R-Table	Sig (2-tailed)	Sig	Decision
Professional Skepticism					
Statement 1	0.768	0.2632	0.000	0.05	Valid
Statement 2	0.693	0.2632	0.000	0.05	Valid
Statement 3	0.734	0.2632	0.000	0.05	Valid
Statement 4	0.697	0.2632	0.000	0.05	Valid
Statement 5	0.809	0.2632	0.000	0.05	Valid
Statement 6	0.690	0.2632	0.000	0.05	Valid
Whistleblowing System					
Statement 1	0.693	0.2632	0.000	0.05	Valid
Statement 2	0.864	0.2632	0.000	0.05	Valid
Statement 3	0.736	0.2632	0.000	0.05	Valid
Statement 4	0.647	0.2632	0.000	0.05	Valid
Statement 5	0.775	0.2632	0.000	0.05	Valid
Fraud Detection					
Statement 1	0.900	0.2632	0.000	0.05	Valid
Statement 2	0.927	0.2632	0.000	0.05	Valid

Table 1 presents the results of validity testing for specific statements related to three variables: Professional Skepticism, Whistleblowing System, and Fraud Detection. The r-count column

shows the calculated correlation coefficients for each statement, indicating their relationship with the respective variable. R-Table represents a critical correlation value, with statements surpassing this value considered statistically significant. The Sig (2-tailed) column provides p-values, with smaller values suggesting statistical significance, and Sig indicates whether the statement is statistically significant. In this case, all statements are considered statistically significant (p-value = 0.000), denoted as Valid, signifying their suitability for measuring the intended constructs and their significant correlations with the respective variables.

A variable is considered reliable when its response to the statement is consistently consistent. Statistically reliable or not, a measuring instrument can be seen through the reliability coefficient. Reliability in this study was performed by Cronbach's Alpha statistical tests using the SPSS program. If the Cronbach's Alpha value> 0.60, then the whole statement is declared reliable. Table 2 displays the reliability test results for each variable.

Table 2. Reliability Testing Results

Variable	Cronbach's Alpha	N of Items
Professional Skepticism	0.824	6
Whistleblowing System	0.774	5
Fraud Detection	0.798	2

Based on Table 2, the reliability test conducted on the statement items confirmed their validity. The test resulted in Cronbach's Alpha coefficients of 0.824 for auditor's professional skepticism, 0.774 for the whistleblowing system, and 0.798 for fraud detection. All variables exhibited a Cronbach's Alpha coefficient > 0.60, indicating the reliability of the statements within these variables. Consequently, all questionnaire items can be confidently utilized in research measurements.

Table 3. Partial Test Results

Coefficients						
Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**[a]
		B	*Std. Error*	*Beta*		
1	*(Constant)*	1.778	0.091		19.507	0.000
	Professional Skepticism	-0.106	0.069	-0.172	-1.542	0.129
	Whistleblowing System	-0.231	0.044	-0.584	-5.222	0.000
a. Dependent Variable: Fraud Detection						

Based on the partial test results presented in Table 3, the following analyses can be derived. Firstly, concerning the effect of Professional Auditor Skepticism on Fraud Detection, the first hypothesis (H1) is rejected. The significance value (Sig.) for auditor's professional skepticism, as shown in Table 4.27, is 0.129, exceeding the confidence level of 0.05 (0.129 > 0.05). Consequently, it can be inferred that the independent variable X1, representing auditor's professional skepticism, does not exert a statistically significant partial influence on the

dependent variable (Y), fraud detection. This result leads to the acceptance of H1, which states that "partially, professional skepticism of auditors has no significant effect on the level of fraud detection in investigative audits."

Secondly, regarding the effect of the Whistleblowing Detection Fraud System, the second hypothesis (H2) is accepted. The whistleblowing system variables exhibit a significance value (Sig.) of 0.000, which is notably smaller than the confidence level of 0.05 (0.000 < 0.05), signifying statistical significance. Consequently, the independent variable X2, representing the whistleblowing system, is found to have a statistically significant partial effect on the dependent variable (Y), Fraud detection. This outcome leads to the acceptance of H2, indicating that "partially, the application of the whistleblowing system has a significant influence on the level of fraud detection in investigative audits."

Table 4. Simultaneous Test Results (Statistical Test F)

ANOVA[a]						
Model		**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1	Regression	0.013	2	0.007	22.124	0. 000[b]
	Residual	0.016	53	0.000		
	Total	0.029	55			
a. Dependent Variable: Fraud Detection						
b. Predictors: (Constant), Professional Skepticism, Whistleblowing System						

Based on the results presented in Table 4, which are the outcomes of the F statistical test, it is evident that the significance value (Sig.) stands at 0.000, considerably smaller than the confidence level of 0.05 (0.000 < 0.05). Additionally, the calculated F value of 22.124 surpasses the F table value (22.124 > 3.17). Therefore, the combined influence of the independent variables, namely auditor skepticism and the whistleblowing system, is deemed statistically significant regarding the dependent variable, which is the detection of fraud. Consequently, hypothesis H3 is accepted, affirming that "simultaneously, the auditor's professional skepticism and the application of the whistleblowing system have a significant effect on the level of fraud detection in investigative audits."

Based on the results of the conducted statistical tests, it is evident that auditor professional skepticism, when examined in isolation, does not exert a significant influence on the detection of fraud in investigative audits. These findings align with previous research conducted by Purba (2017) and Samir (2019), both of which concluded that auditor professional skepticism lacks a significant impact on fraud detection. However, it's worth noting that these results do not directly support or contradict the findings of Biksa & Wiratmaja (2016), who suggested that auditor professional skepticism positively affects fraud detection. This conclusion is drawn from the partial test of auditor professional skepticism, which yielded a significance value (Sig.) of 0.129, surpassing the confidence level of 0.05 (0.129 > 0.05), leading to the rejection of H1.

Furthermore, professional skepticism, as outlined by Hurtt (2010), encompasses six characteristics, including a questioning mind, a suspension of judgment, a search for knowledge, interpersonal understanding, self-esteem, and autonomy. These characteristics guide auditors in the examination of evidence, emphasizing the importance of seeking and thoroughly evaluating

sufficient evidence before forming conclusions. However, the effective application of professional skepticism may be hindered by factors such as tight audit deadlines, a lack of understanding regarding the intentions and goals of individuals involved in fraud, and incorrect actions taken based on acquired information.

Regarding the whistleblowing system, the results of statistical tests indicate that it does have a partial and significant influence on fraud detection in investigative audits. These findings are consistent with research conducted by Clyde & Hanifah (2022) and Panjaitan (2018), both of which affirmed the positive and significant impact of whistleblowing on improving forensic audit outcomes. This conclusion is supported by the partial test of the whistleblowing system variable, which yielded a significance value (Sig.) of 0.000, falling below the confidence level of 0.05 ($0.000 < 0.05$), leading to the acceptance of H2.

The whistleblowing system serves as a mechanism for individuals to report instances of fraud or violations (Wahyuni and Nova, 2018). Detecting early signs of corruption or fraud often requires insights from insiders, as these activities tend to be well-organized and concealed. The implementation of a whistleblowing system streamlines the process of reporting fraud or violations, allowing for prompt action before issues escalate. Moreover, the information obtained through this system is deemed reliable, originating from individuals with firsthand knowledge of fraud or violations, including the individuals involved. Consequently, the whistleblowing system contributes significantly to the detection of fraud in investigative audits, aligning with the principles of both detection and prevention within an anti-corruption culture (Nurhidayat & Kusumasari, 2018).

Lastly, the combined influence of auditor professional skepticism and the whistleblowing system on fraud detection in investigative audits was examined. The results of the simultaneous test (F statistical test) revealed a significance value (Sig.) of 0.000, well below the confidence level of 0.05 ($0.000 < 0.05$), along with a calculated F value of 22.124, surpassing the F table value ($22.124 > 3.17$). These findings led to the acceptance of H3, signifying that the simultaneous application of auditor professional skepticism and the whistleblowing system holds a significant influence on fraud detection. When both elements are used jointly, the information obtained through the whistleblowing system becomes a reliable source for auditors, who further process and investigate it alongside additional relevant information. Auditors also apply their professional skepticism in processing this information and conducting fraud investigations, thereby enhancing the detection of fraud in a more effective and efficient manner.

5. Conclusion

The research provides valuable insights into the relationship between auditor professional skepticism, the whistleblowing system, and fraud detection in investigative audits. The findings indicate that when auditor professional skepticism is considered in isolation, it does not have a significant impact on the detection of fraud. This aligns with previous research and highlights potential challenges, such as tight audit deadlines and a lack of understanding of fraud perpetrators' intentions, that may hinder the effective application of professional skepticism. On the other hand, the study emphasizes the critical role of the whistleblowing system in enhancing fraud detection. Implementing this system streamlines the reporting of fraud and violations, providing auditors with reliable information from insiders who have firsthand knowledge of such

activities. When auditor professional skepticism and the whistleblowing system are combined, their joint influence is found to be statistically significant in improving fraud detection. This underscores the importance of leveraging both elements in investigative audits to enhance the efficiency and effectiveness of fraud detection processes. Overall, this research contributes to our understanding of how these factors work together to prevent and detect fraud in organizations, offering valuable insights for auditors, policymakers, and organizations striving to strengthen their anti-fraud measures.

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