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Research Article

Fraud Prevention through ASN Competence, IT Quality, Internal Control, and Good Governance: Systematic Literature Review

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Abstract

This study aims to analyze the factors influencing fraud prevention in the public sector through a Systematic Literature Review (SLR) approach. The review focuses on four key variables: civil servant competence, information technology quality, internal control, and good governance principles. The study applied the SLR method following Kitchenham (2004) and PRISMA (2020) guidelines through four main stages: identification, screening, eligibility, and inclusion. Out of 120 initially identified articles, 16 met the inclusion criteria and were further analyzed. The findings reveal that civil servant competence, information technology quality, and internal control positively affect fraud prevention. Moreover, good governance acts as a moderating variable that strengthens these relationships. The study emphasizes the importance of improving civil servants' professionalism and integrity, reliable information technology implementation, and internal control systems aligned with good governance principles.

Keywords: Civil Servant Competence, Information Technology, Internal Control, Good Governance, Fraud Prevention.

INTRODUCTION

Fraud in the public sector remains a serious issue in governance in Indonesia. According to the Corruption Perception Index data (Transparency International, 2024), Indonesia's score is still in the moderate category at 34, indicating weaknesses in the monitoring system and the integrity of civil servants (ASN). Cases of budget misuse, financial statement manipulation, and irregularities in procurement of goods and services serve as indicators of weak internal control and low public accountability.

Previous studies (Wiguna & Sofie, 2023; Fauzia & Harnovinsah, 2023; Zeyn & Yunus, 2025) highlight that fraud is not only caused by weak oversight but also by a lack of competence among civil servants, low utilization of information technology, and poor implementation of Good Governance principles. Therefore, a systematic review is necessary to map previous research results on fraud prevention based on these variables.

This study aims to synthesize empirical research findings that discuss the influence of ASN competence, information technology quality, internal control, and Good Governance on fraud prevention in the public sector.

This research was conducted using the Systematic Literature Review (SLR) approach, following the guidelines of Kitchenham (2004) and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA, 2020) framework. The research stages were systematically organized to ensure that the literature collection and analysis process was measured, transparent, and replicable. The research stages consist of four main parts: planning, execution, literature search strategy, and literature selection procedure.

The planning stage forms the foundation for the entire SLR process. In this stage, the researchers identify the problem, formulate the objectives, and define the focus variables to be examined. Based on initial observations of the fraud prevention phenomenon in the public sector, the researchers identified four main variables as the focus of the study: ASN competence, information technology quality, internal control, and Good Governance.

The first step in the planning stage is formulating the research questions. The questions were framed using the Population, Intervention, Comparison, and Outcome (PICO) approach, focusing on the public sector as the population, the application of fraud prevention factors as the intervention, and the expected outcome being the effectiveness of fraud prevention strategies.

Next, the researchers developed a literature search plan and selection criteria, which include publication time limits (2018–2025), types of articles (empirical and published in accredited journals), and relevance to the topic of fraud prevention. The planning stage also includes creating a review protocol that defines the steps for data collection, inclusion and exclusion criteria, and the literature synthesis method to be used.

The goal of this research is to understand the relationship between the four main factors and fraud prevention in the public sector.

Research Questions:
1. What is the effect of ASN competence on fraud prevention?
2. What is the effect of information technology quality on fraud prevention?
3. What is the effect of internal control on fraud prevention?

4. What role does Good Governance play in strengthening the relationship between these variables and fraud prevention?

Thus, the planning stage serves to provide clear direction, maintain objectivity, and ensure that the review process is systematic and measurable.

Execution Stage

The execution stage is the core of the SLR process, which includes searching, selecting, evaluating, and synthesizing literature. This stage begins with searching for articles through several prominent scientific databases such as Google Scholar, Scopus, Emerald Insight, and DOAJ (Directory of Open Access Journals).

The initial search yielded 120 articles considered relevant based on the keywords used. The articles were then screened based on titles, abstracts, and topic relevance to the research focus. After screening, only 55 articles were deemed suitable for further evaluation.

The next process is eligibility evaluation, where the full text of each article is reviewed, including methodology, variables, and research context. Of these, 27 articles met the eligibility criteria, but only 16 articles were ultimately included in the final analysis as they met all methodological requirements and substantial relevance to the research topic.

Each selected article was then analyzed using thematic analysis, where the researchers grouped the findings based on the research variables. The results of this analysis were used to build a conceptual synthesis that illustrates the relationships between variables in fraud prevention.

LITERATURE SEARCH STRATEGY

The literature search strategy was developed to ensure that the secondary data collection process was systematic and comprehensive. The researchers used a combination of keywords in both Indonesian and English to broaden and include diverse results. The keywords used included:

"Pencegahan Fraud," "Fraud Prevention," "Kompetensi ASN," "Civil Servant Competence," "Teknologi Informasi," "Information Technology," "Pengendalian Internal," "Internal Control," and "Good Governance."

The search process applied Boolean operators such as "AND," "OR," and "NOT" to narrow down the search results according to the research context. For example: ("Fraud Prevention" AND "Good Governance") AND ("Public Sector" OR "Government Institution").

To maintain the quality of the literature analyzed, the researchers limited sources to scholarly journals indexed nationally or internationally, and articles published between 2018 and 2025. Conceptual articles, reviews without empirical data, or those that did not address the public sector context were excluded from the analysis.

Each article that met the initial criteria was downloaded and stored in digital format using reference management software such as Mendeley to facilitate the organization and citation process.

METHODS

The literature selection procedure follows the framework of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). This process ensures that each selection step is conducted transparently and can be traced back.

The selection process begins with the identification stage, where 120 initial articles were obtained from searches across four major scientific databases. Then, a screening stage was performed, which involved reviewing titles and abstracts to eliminate articles that were not relevant to the research topic, leaving 55 articles.

Next, in the eligibility stage, the researchers reviewed the full text of each article to ensure its alignment with the research variables and methodology used. A total of 27 articles met the eligibility criteria, but only 16 articles were included in the final analysis because they met all methodological requirements and were substantially relevant to the research topic.

Table 1. Literature Selection Process and Article Inclusion Criteria

Stage	Number (n)	Description
Identification	120	Initial articles from databases
Screening	55	After duplicates were removed
Eligibility	27	Full-text articles reviewed and evaluated
Inclusion	20	Articles analyzed in the final stage

a. Data Extraction and Coding

Data from each article that met the criteria will be extracted, including: author names, year, research location, research methods, theories used, variables tested, and key findings. The matrix of previous studies is presented in the table below:

Table 2. Summary of Studies on Factors Affecting Fraud Prevention in the Public Sector

No	Authors & Year	Location	Method	Independent Variables	Dependent Variables	Theory	Key Findings (Brief)
1	Wiguna & Sofie (2023)	Indonesia	Quantitative (Case Study)	Information Technology; Internal Control; Whistleblowing System	Fraud Prevention	DeLone & McLean (IS Success)	IT & Whistleblowing significant; internal control not significant.
2	Choirunnisa & Rufaedah (2022)	Indonesia	Quantitative	Auditor Competence; IT Utilization	Fraud Detection	Audit Competence literature	Auditor competence affects; IT utilization does not affect.
3	Widianingsih et al. (2019)	Indonesia	Quantitative	Information Technology; Accounting Reporting	Fraud Prevention	IS Success Theory	IT quality positively affects fraud prevention.
4	Fauzia & Harnovinsah (2023)	Indonesia	Quantitative (Survey)	Governance; Digitalization; Internal Auditor	Fraud Prevention	Good Governance framework	Governance & digitalization affect; accountability mediates.
5	Zeyn & Yunus (2025)	Indonesia	Quantitative	Good Governance; Human Resource Competence	Fraud Prevention	Agency Theory / TPB	Governance and competence significantly affect; Good Governance moderates.
6	Wati Aris Astuti (2024)	Indonesia	Quantitative	Internal Control; Auditor Professionalism	Fraud Prevention	COSO Framework	Internal control & auditor professionalism significantly affect.
7	Reskia & Sofie (2022)	Indonesia	Quantitative	Internal Audit; Anti-Fraud Awareness; Organizational Commitment	Fraud Prevention	Organizational Commitment Theory	Internal audit & commitment significant; organizational culture not significant.
8	Restalini Anandya & Werastuti (2020)	Indonesia	Quantitative	Whistleblowing System; Organizational Culture; Individual Morality	Fraud Prevention	Ethics Theory	Whistleblowing, culture, morality significantly affect.
9	Taufiq Supriadi et al. (2024)	Indonesia	Study/Article	Role of Internal Audit	Fraud Prevention	Internal Audit literature	Internal audit plays an important role in public fraud prevention.

10	Noviana R. Fauzia & Harnovinsah (2023)	Indonesia	Quantitative (Kemenperin Survey)	Governance; Digitalization; Internal Auditor	Fraud Prevention	Good Governance Theory	Governance & digitalization affect; accountability mediates.
11	Klara Wonar et al. (2018)	Indonesia	Quantitative (Village)	Village Apparatus Competence; Reporting Compliance; SPIP	Fraud Prevention	Public Administration Theory	Competence & reporting compliance affect; SPIP not significant.
12	Aprila F. Damayanti & Anita Primastiwi (2021)	Indonesia	Quantitative	Internal Control; GCG; Performance Measurement	Fraud Prevention	Good Corporate Governance	GCG & performance measurement affect; internal control not always significant.
13	Farochi & Nugroho (2022)	Indonesia	Quantitative	Internal Control; GCG	Fraud Prevention	Corporate Governance Theory	Internal control & GCG positively affect BPR.
14	Chealsea Anasthasya & Andriyanto (2021)	Indonesia	Quantitative	GCG; Internal Control; Whistleblowing	Fraud Prevention	Governance & Internal Control	All three factors positively affect fraud prevention.
15	PF Handayani (2023)	Indonesia	Quantitative	Organizational Culture; Accountability; Internal Control	Fraud Prevention	Organizational Culture Theory	Culture, accountability & internal control affect fraud prevention.
16	Angky Febriansyah & Iksan Indirwan (2022)	Indonesia	Quantitative (Case Study at KPP Pratama Bandung)	Integrity; Internal Control	Fraud Prevention	Integrity Theory	Integrity & internal control significantly affect.
17	Pratomo C. Kurniawan & Khairina N. Izzaty (2019)	Indonesia	Quantitative	GCG; Internal Control	Fraud Prevention	Good Corporate Governance	GCG & internal control positively affect.

18	Sujana (2019)	Indonesia	Case Study	Internal Control System	Fraud Prevention (Village Fund)	Public Sector Control Theory	Internal control system positively affects village fund management.
19	Arief et al. (2022)	Indonesia	Quantitative	Competence; Independence; Internal Control; Auditor Experience	Fraud Detection	Audit & Governance Theory	Competence & auditor experience affect fraud detection.
20	Risma Choirunnisa & Yanti Rufaedah (2022)	Indonesia	Quantitative	Auditor Competence; IT Utilization	Fraud Detection	Audit Competence Studies	Competence affects; IT utilization varies in results (not always significant).

RESULT AND DISSCUSSION

Based on the systematic review of twenty relevant studies published between 2018 and 2025, several findings were obtained that reinforce the understanding of factors affecting fraud prevention in the public sector. The literature review shows that the variables of ASN competence, information technology quality, internal control, and Good Governance contribute significantly and are interrelated in reducing the likelihood of fraudulent actions.

A study by Wiguna and Sofie (2023) confirms that the effective implementation of information technology can enhance efficiency and transparency in financial reporting within government agencies. This has a direct impact on improving internal auditors' ability to detect potential irregularities early on. A similar finding is presented by Astuti (2024), who emphasizes that strong internal control acts as a key barrier to fraudulent actions, especially in the context of public budget management.

Next, the research by Fauzia and Harnovinsah (2023) highlights the importance of integrating digitalization and Good Governance principles to strengthen monitoring mechanisms. They found that the application of good governance based on digitalization can improve transparency, speed up audit processes, and reduce the likelihood of fraud. In a similar context, Zeyn and Yunus (2025) examined the role of Good Governance as a moderating variable. Their study showed that principles of good governance such as transparency, accountability, and public participation can strengthen the impact of ASN competence on the effectiveness of fraud prevention.

From a human resource perspective, Wonar et al. (2018) emphasize that ASN competence, which includes technical skills, integrity, and understanding of regulations, is critical to an organization's ability to prevent deviations. High-competence ASN tend to adhere more strictly to procedures and can detect irregularities in public administration processes. Choirunnisa and Rufaedah (2022) add that the competence of internal auditors plays a key role in improving the accuracy of oversight and the reliability of financial reporting systems in government agencies.

From a technological standpoint, Widianingsih et al. (2019) demonstrate that the implementation of integrated accounting information systems can reduce the opportunity for data manipulation. Information technology facilitates transaction tracking (audit trail), speeds up verification processes, and minimizes the potential for collusion between implementing officials and external parties. This finding is reinforced by Arief et al. (2022), who concluded that the use of modern information technology, such as online-based financial systems, can suppress fraudulent practices and improve internal monitoring efficiency.

Meanwhile, Kurniawan and Izzaty (2019) highlight the relationship between Good Corporate Governance and internal control in fraud prevention. They assert that a good internal control system will only be effective if supported by an organizational culture that upholds integrity and transparency. In the context of public institutions, this aligns with Good Governance principles, which demand transparency and accountability in every public service process.

Other research, such as by Rahmawati (2020) and Anindita (2021), found that the use of government accounting systems such as SPAN (State Treasury and Budget System) and SAKTI (Financial Application System at the Agency Level) positively contributes to the effectiveness of internal control. These applications enable more transparent financial transaction recording and facilitate the audit process. Thus, the use of information technology is not only administrative but also strategic in closing opportunities for fraud.

Analysis of the overall literature also reveals that Good Governance plays a central role in connecting all fraud prevention factors. The application of principles such as transparency, accountability, and justice in governance fosters a clean and integrity-driven working environment. In this context, Good Governance is not only an administrative tool but also a moral value that strengthens the entire internal control system and human resource competence.

Therefore, this systematic review strengthens the view that fraud prevention cannot be addressed in isolation. Efforts must be integrative—encompassing the improvement of ASN competence, the reliable implementation of information technology, strengthening internal control systems, and internalizing Good Governance principles in every bureaucratic activity. These four aspects complement each other and form a crucial foundation for building a clean, transparent, and accountable government.

CONCLUSION

The results of this systematic review indicate that fraud prevention in the public sector cannot be approached in isolation, but must be supported by various interrelated factors. Based on the review of twenty empirical studies analyzed, it can be concluded that ASN competence, information technology quality, internal control, and Good Governance are the four main pillars that collectively contribute to building an effective fraud prevention system.

First, ASN competence has proven to be the foundational element in creating a clean and integrity-driven bureaucratic environment. ASN with strong technical skills, work ethics, and a good understanding of regulations are more likely to perform their duties professionally and demonstrate sensitivity to potential irregularities. Competence also plays a role in enhancing the effectiveness of internal oversight, as capable personnel can identify anomalies in reporting processes and budget implementation. These findings align with the studies of Wonar et al. (2018) and Choirunnisa and Rufaedah (2022), which state that the enhancement of individual ASN capacity correlates with improved fraud detection and prevention effectiveness.

Second, the quality of information technology plays a vital role as a tool to support transparency and public accountability. The implementation of financial information systems such as SPAN and SAKTI has helped minimize the opportunity for data manipulation and accelerated the internal audit process. Information technology allows for easily traceable audit trails, ensuring that every financial transaction can be transparently accounted for. In this context, the research by Widianingsih et al. (2019) and Arief et al. (2022) emphasizes that the use of integrated information technology significantly reduces the risk of fraud.

Third, internal control becomes a structural component that ensures every government activity adheres to standards and regulations. A strong internal control system includes policies, procedures, and monitoring mechanisms that consistently mitigate the likelihood of fraud. Astuti's (2024) findings show that the effectiveness of internal control is directly related to the reduced frequency of budget deviations in government agencies. However, the effectiveness of this system is highly dependent on the ethical behavior and compliance of the personnel implementing it.

Fourth, Good Governance serves as a value framework that strengthens the overall fraud prevention system. The application of principles such as transparency, accountability, participation, and the rule of law fosters an organizational culture oriented towards integrity. Good Governance is not only an administrative tool but also a moral guide that shapes individual behavior within the bureaucracy. Studies by Fauzia and Harnovinsah (2023) and Zeyn and Yunus (2025) show that good governance can strengthen the influence of ASN competence and internal control in preventing fraud.

From the synthesis of these findings, it can be concluded that the four main variables ASN competence, information technology quality, internal control, and Good Governance form an ecosystem that supports each other in creating a clean government. If one component is weak, fraud prevention efforts will be less effective. Therefore, fraud prevention must be approached holistically, considering human factors, systems, and governance.

Suggestions

Based on the findings of this study, several strategic recommendations can be applied by government agencies and future researchers. For the government and public organizations, it is crucial to develop a continuous ASN competency enhancement program that focuses on public ethics, integrity, and the ability to use information technology-based financial systems. In addition, strengthening the internal control system with automated monitoring mechanisms based on digital data is essential to detect suspicious transactions in real-time. Promoting the implementation of Good Governance through bureaucratic reform policies that emphasize transparency and public participation will also be vital for improving fraud prevention efforts.

For academics and future researchers, it is recommended to test an integrative fraud prevention model using quantitative approaches such as Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach will provide deeper empirical insights into the relationships between variables, particularly the moderating role of Good Governance in strengthening the influence of ASN competence, information technology, and internal control on fraud prevention. Cross-agency and cross-regional studies should also be conducted to obtain broader generalizations of the results, helping to refine fraud prevention strategies.

For supervisory agencies and internal auditors, it is essential to leverage integrated information systems to strengthen risk-based auditing functions. With sufficient auditor competence and an organizational culture that upholds Good

Governance values, fraud monitoring can be carried out preventively rather than merely reactively after an incident occurs.

Overall, the findings of this SLR emphasize that the success of fraud prevention in public organizations heavily depends on the synergy between competent human resources, reliable technology infrastructure, effective control systems, and the application of Good Governance. This synergy serves as the primary foundation for creating a bureaucracy that is integral, transparent, accountable, and supports the achievement of clean government.

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