



# Whistleblowing System and Fraud Prevention: A Literature Review

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## **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

## **Article Information**

DOI: 10.9734/AJEBA/2022/v22i1830644

## **Open Peer Review History:**

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/87763>

**Received 17 March 2022**

**Accepted 27 May 2022**

**Published 03 June 2022**

**Review Article**

## **ABSTRACT**

**Aims:** This study examines previous research literature on the effect of the whistleblowing system as a collaborative system on fraud prevention in a company or organization.

**Study Design:** This study reviews the literature on fraud prevention available in various databases.

**Place and Duration of Study:** Samples were taken from 10 accredited journals in Indonesia, publication date of the last 10 years from 2012 to 2021.

**Methodology:** This study is a literature review study carried out in stages: determining the formulation of the problem and research questions using the PICO (Problem, Intervention, Comparison, Outcome) method, searching for articles/publications based on the inclusion and exclusion criteria that have been determined, perform analysis and synthesis of the articles that have been collected.

**Conclusion:** The results of this study indicate that a whistleblowing system is a form of reporting and supervision of an organization or company. There are 4 (four) essential elements in the Whistleblowing System, namely anonymity, independence, accessibility, and follow-up. Whistleblowing System is an effective mechanism for preventing fraud. Its implementation requires the company's commitment to protecting the whistleblower's data, a transparent and responsible reporting mechanism, and evaluating and improving the system. Therefore, companies are advised to implement an effective whistleblowing system to support fraud prevention.

**Keywords:** *Fraud; prevention; whistleblowing system.*

## 1. INTRODUCTION

Fraud is a collection of actions that are not permitted and violate the law marked by an element of intentional fraud [1]. By knowing the various factors that can prevent fraud, the company can take preventive actions to reduce the risk of loss in the future due to the fraud. Actions that can be taken correctly understand an industry's business character, environment, and personnel.

Several essential elements that lead to fraud have been described in several previous studies [2,3,4,5,6]. The pentagon fraud theory explains that the elements that influence the occurrence of fraud are pressure, opportunity, rationalization, competence and arrogance [7,8,9]. Crowe presented this theory in 2011, better known as Crowe's Fraud Pentagon Theory.

Fraud has become a real threat to organizations in both small and large industries. The Indonesian Fraud Survey (SFI) conducted by ACFE in 2019, which is based on the Report to the Nation (RTTN), shows that the most frequent fraud and causes the most significant losses in Indonesia is corruption [10]. The survey found that fraud in the form of corruption is the fraud that has the most significant loss impact [10].

The 2019 Association of Certified Fraud Examiners (ACFE) survey shows that the whistleblowing system (WBS) method is a fraud prevention tool that is widely considered to be very effective as anti-fraud control with a percentage of 22.6% [10]. WBS is a system that manages reporting on all actions or actions that are against the law, regulations and ethics that are reported confidentially, anonymously and independently. This system is used to optimize the participation of all company stakeholders in disclosing violations that occur. WBS is an excellent collaborative system to increase the effectiveness of control over the company.

The development of companies with increasingly complex problems will result in difficulties in supervising the company's operational activities so that there is the potential for fraud to occur. The incidence of fraud within the company indicates that there are problems with the duties and functions of the company that are carried out not by existing regulations which can have an impact on corporate governance. Therefore, it is essential to take fraud prevention measures, one of which is through the whistleblowing system.

Previous research has shown that the whistleblowing system is one factor that influences fraud. Various studies have shown that the whistleblowing system has a positive effect on fraud prevention [11,12,13,14,15, 16,17,18,19,20]. With implementing a sound whistleblowing system in an organization, integrity and openness will be formed to prevent fraud. However, other studies have shown that the whistleblowing system does not affect fraud prevention because there is no data protection and the reporter's identity so it affects employees reporting fraudulent acts [18].

This study aims to determine the effect of the whistleblowing system on fraud prevention. Publications related to the whistleblowing system and fraud prevention with case studies in Indonesia are minimal. Therefore, this study will discuss the correlation of the two variables with various case examples based on publications in Indonesia. This research is expected to provide input to various organizations that the whistleblowing system can be an effective fraud prevention tool to prevent future losses.

The Agency theory proposed by Jensen and Meckling [21] states that an agency relationship is a contract between shareholders as principals and management as agents [21]. In the agency theory, management is a party contracted by the principal to work in the principal's interests. Agency theory focuses on determining the most efficient contract that will form the basis of the relationship between the agent and the principal.

The principal assesses the performance of agents based on their ability to generate significant profits or profits which will directly affect the dividends received by the principal. This advantage is the principal's hope to get a high return on the investment invested in the company. The agent's performance appraisal is based on the profit generated, then the agent may have a conflict of interest for management to be involved in fraud/manipulation to maximize the compensation received [22].

The management authorized to manage the company's finances has a personal interest in maximizing their profits by committing fraud. The most often used to commit fraud or manipulation are fraud in recording fictitious income, hiding information related to liabilities or expenses, and inflating reported assets [22]. Fraudulent actions in financial statements committed by agents, if left unnoticed by the principal, can adversely affect the company's finances [23].

With an economical approach using agency theory, the occurrence of fraud determines extrinsic motivation to minimize individuals not being involved in manipulative behavior [24]. The principal seeks to increase management awareness so that management seeks to prevent fraud in financial statements. By incorporating an element of evaluation by the principal through corporate control, the potential for fraud can be minimized [24].

Signal theory was first developed by Spence (1973) to explain behavior in the labor market. This theory explains the behavior of two parties when they access different information. Signal theory explains the actions taken by the signaler to influence the behavior of the signal receiver (Ghozali, 2020). Information obtained by individuals and companies is very influential in the decision-making process for personal, business and government interests.

Donald R Cressey (1953) developed a model that influences the dimensions of the fraud triangle by showing that in some situations it leads to a better risk assessment [4]. Fraud can be generated from pressure, opportunity, and rationalization. Furthermore, the fraud triangle developed into a fraud diamond. Fraud diamond is the view put forward by Wolfe and Hermanson [25]. Fraud diamond is developing the fraud triangle model by adding one fraud driving factor, namely capability [25]. There are six capabilities is committing fraud in the fraud diamond: position, intelligence/smart, strong ego and belief, coercion (coercion), lying effectively and consistently, and stress [25].

Fraud diamond developed into a fraud pentagon. Crowe Horwath coined the Pentagon Fraud Theory in 2011 which developed the fraud triangle model (Cressey, 1953). The elements in the fraud pentagon consist of arrogance, competence or capability, pressure, opportunity, and rationalization [26]. Perpetrators carry out at least 70% of fraud by combining pressure with arrogance and greed. Arrogance is an attitude of superiority and greed that must be directed and corrected. This trait can trigger fraud because individuals believe that they will not be known if they commit fraud and believe that they will not get sanctions if there are sanctions [27].

Fraud is an act of intentional deceit that can take the form of embezzlement of assets, embezzlement of information, concealment of facts, or corruption [20]. The types of fraud

include corruption, misappropriation of assets and fraudulent reports [28,10]. In developing an effective fraud prevention strategy, organizations must pay attention to several things, including 1) internal and external environmental conditions, 2) the complexity of business activities, 3) the potential, types, and risks of fraud, 4) the adequacy of the required resources [29].

Whistleblowing attempts to disclose or report violations and fraud or unlawful actions in the company/organization where the employee works [30]. Whistleblowing can occur because of a conflict between employee loyalty and the protection of public interests [20]. A whistleblower discloses/reports violations and fraud from the employee's organization [30]. A whistleblowing system is not only a means of reporting but also a form of administrative supervision [14]. There are 4 (four) elements that make the whistleblowing system effective, namely: anonymity, independence, accessibility, and follow-up [31].

## 2. RESEARCH METHODS

This study is a literature review study carried out in stages: (1) determining the formulation of the problem and research questions using the PICO (Problem, Intervention, Comparison, Outcome) method, (2) searching for articles/publications based on the inclusion and exclusion criteria that have been determined, (3) perform analysis and synthesis of the articles that have been collected. This literature review is based on various published studies, which will be evaluated using electronic search strategies from different databases on the Web of Science, Scopus, and manual searches on Google Scholar.

Searching various databases using several keywords such as "fraud", "prevention", "fraud", "corruption", "Whistleblowing", "Whistleblowing system", and "violation reporting system". Articles were included in this study if they met the following inclusion criteria: (1) reported as a publication or report and written in Indonesian or English, (2) previous research was qualitative or quantitative research or literature review, (3) focused on the process and factors related to fraud prevention, and (4) publication date of the last 10 years from 2012 to 2021. The study does not include pre-printed articles, opinions, and comments. The author analyzes the complete article from each article title in the next stage. The author tries to find full-text articles through various databases. However, if the full text

cannot be found, the author tries to send a request for the full article to the correspondence author's email directly. Only studies that meet the inclusion and exclusion criteria and find the full text will be extracted and included.

Ten articles were selected after screening using inclusion and exclusion criteria. Data analysis was carried out by content analysis using a matrix table. The matrix is used to compare the research subjects, the place/location of the study, the outcomes used, and research results that show the relationship between the whistleblowing system and fraud.

### 3. RESULTS AND DISCUSSION

Ten articles were analyzed using the matrix presented in Table 1, which presents the variables studied in each article. All articles used a cross-sectional or cross-sectional study design and multiple regression methods to analyze the data. Of the 10 articles analyzed, five studies were conducted in Bali Province, two were conducted in West Java Province, and one was conducted in East Java, South Sulawesi, and Riau Provinces.

The content analysis results in this study show that out of 10 articles, nine articles show the positive influence of the whistleblowing system on fraud prevention. At the same time, only one article shows that the implementation of the whistleblowing system does not affect fraud prevention.

Previous studies have shown a relationship between the whistleblowing system and fraud prevention, as presented in Table 1 [11,12,13,14, 15,16,17,18,19,20]. Whistleblowing attempts to disclose or report violations and fraud or unlawful actions in the company/organization where the employee works [30]. Whistleblowing can occur because of a conflict between employee loyalty and the protection of public interests [20]. A whistleblower discloses/reports violations and fraud from the employee's organization [30]. The Whistleblowing System (WBS) is designed regarding the criteria for reported fraud, including 5W+1H, the follow-up to reports, rewards and protection for the whistleblower, and penalties/sanctions for the reported party [30]. The Whistleblowing System is not only a means of reporting but also a form of administrative supervision [14].

**Table 1. Literature review on Fraud prevention and Whistleblowing System**

Number	Author	Location and Respondents	Conclusion
1	Wahyuni & Nova [19]	Bengkalis (33 respondents)	Whistleblowing system and apparatus competence affect fraud prevention. Organizational commitment related to the whistleblower's data protection policy, an evident and responsible reporting mechanism, and evaluation and follow-up are very influential in implementing the whistleblowing system to prevent fraud.
2	Wardana, Sujana & Wahyuni [20]	Buleleng (69 respondents)	Whistleblowing system arises when there is a conflict between loyalty and protection of public interests. Internal control, whistleblowing system, and morality positively affect fraud prevention.
3	Gaurina, Purnamawati, Atmadja [12]	Bali Hai Cruises (72 respondents)	Employee perceptions of ethics and the whistleblowing system positively affect fraud prevention.
4	Islamiyah, Made, Sari [13]	Malang (99 respondents)	Human Resource Competence, morality, internal control systems, and whistleblowing systems positively affect fraud prevention. Reporting through the whistleblowing system is very effective in minimizing or eliminating fraud committed by internal parties.
5	Maulida, Bayunitri [15]	Bandung (30 respondents)	Whistleblowing system affects fraud prevention by 54.3%. The whistleblowing system is an essential medium for preventing

Number	Author	Location and Respondens	Conclusion
			fraud. An effective whistleblowing system will encourage employees and the public to be bolder in reporting fraudulent acts. A whistleblowing system can also change a "silent" culture into an "honest and open" culture. The study results indicate that more respondents' fraud results were detected through reporting or information from fellow employees than information from the auditor's findings.
6	Jayanti, Suardana [14]	Denpasar City (108 respondents)	Human Resource Competence, sound morality, a whistleblowing system, and a robust internal control system positively affect fraud prevention.
7	Sari, Nurwanah [17]	Makassar City (31 respondents)	Internal control, implementation of a whistleblowing system, and asymmetric information affect fraud prevention. The whistleblowing system works effectively because of organizational support.
8	Sujana, Suardikha, Laksmi [18]	Denpasar City (97 respondents)	Human Resource Competence and the internal control system affect fraud prevention, but the implementation of the whistleblowing system does not affect fraud prevention. This may be due to the absence of an adequate whistleblowing system for the protection of whistleblowers related to fraud, thus affecting the security of the reporter and the reporter's concern about dealing with the law in reporting indications of fraud.
9	Puryati, Febriani [16]	Bandung (62 respondents)	Fraud prevention can be done by building reliable internal controls and improving the whistleblowing system for all parties in the organization.
10	Agusyani, Sujana, Wahyuni [11]	Buleleng Regency (90 respondents)	The application of the whistleblowing system and the competence of Human Resources in an organization affects fraud prevention.

A study showed different results that the whistleblowing system did not affect fraud prevention [18]. This has happened because the whistleblowing system has not been appropriately implemented. Hence, there is no protection for whistleblowers in reporting fraud or corruption, and public concerns about dealing with the law related to reporting fraud [18].

#### 4. CONCLUSION, LIMITATIONS, AND SUGGESTIONS

##### 4.1 Conclusion

This literature review study shows that the Whistleblowing System positively affects fraud prevention. The Whistleblowing System is an effective mechanism for preventing fraud, which requires the company's commitment to protecting

the whistleblower's data, a transparent and responsible reporting mechanism, and evaluating and improving the system.

##### 4.2 Limitations

The limitation of this research is that the research location based on the previous article is limited to case studies in Indonesia, and the focus of business in this literature review is not specific. Therefore, to support fraud prevention, companies are advised to implement an effective whistleblowing system.

##### 4.3 Suggestions

Suggestions for further research regarding the relationship between the whistleblowing system

and fraud are expected to focus on the same line of business, for example in the banking sector, plantation sector, health sector and so on, as well as adding different data processing methods in order to add references for further research.

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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