The Effectiveness of Investigative Audit: Role of Whistleblowing System in Disclosing Fraud in Yogyakarta, Indonesia

Resha Monica Putri[*], Atiek Sri Purwati, Wita Ramadhanti, Yanuar E. Restianto

Economy and Business Faculty, Jenderal Soedirman University, Central Java, Indonesia

ABSTRACT

This study aims to analyze the whistleblowing system's effect on fraud disclosure with the effectiveness of investigative audits as a mediator. Data collection was conducted by distributing questionnaires to the functional employee of Yogyakarta's Inspectorate comprising auditors and Government Affairs Supervision in the Regions (Pengawas Penyelenggaraan Urusan Pemerintahan di Daerah, P2UPD). Data analysis was conducted using WarpPLS, with research results proving that the whistleblowing system significantly impacts fraud disclosure and the effectiveness of investigative audits. Furthermore, it will prove that the effectiveness of investigative audits significantly affects fraud disclosure and mediates the whistleblowing system's effect on fraud disclosure. The result implies that optimizing the supporting factors in the whistleblowing system and the investigative audit examination process can improve fraud disclosure in Yogyakarta.

KEYWORDS:
Whistleblowing system; investigative audit; fraud; disclosure

*Corresponding Author
  Email: resha0806@gmail.com

INTRODUCTION

Indonesia ranks first in contributing fraud cases among sixteen other countries in the Asia Pacific. This fact was obtained from a survey conducted by an anti-fraud association, the Association of Certified Fraud Examiners (ACFE). According to ACFE, 213 employees or civil servants (Aparatur Sipil Negara, ASN) were recorded as fraudsters, and they predominantly are village officials, which are civil servants (Indonesia Corruption Watch, 2019). Yogyakarta has suffered regional losses due to several corruption cases, which resulted in a staggering financial loss of Rp23.202 billion (Khafid, 2020). These fraud cases took place in both the national and village governments. These findings were discovered in Yogyakarta based on a survey conducted by researchers in the past year, and such acts of fraud take up different forms, starting from budget misappropriation, abuse of authority, negligence in securing assets, disciplinary violations, tender fraud, and illegal school fees. From 2021 to mid-2022, Yogyakarta Provincial Inspectorate has been investigating 27 reports regarding corruption, collusion, and nepotism.

The Inspectorate Office of the Special Region of Yogyakarta uses the Regulation of the Financial and Development Supervisory Agency (Badan Pengawasan Keuangan dan Pembangunan, BPKP) number 17 of 2017 concerning Guidelines for the Management of Activities in the Investigation Sector as a guideline for carrying out audits with specific purpose. Implementation of an audit with a specific purpose or investigative audit at the Inspectorate Office of the Special Region of Yogyakarta based on reports from Law Enforcement Officials (Aparat Penegak Hukum, APH), requests or orders from leaders, and public complaints. The number of fraud cases revealed due to the investigation process shows that the investigative process has a significant role in uncovering fraud. The In-

spectorate in Yogyakarta implements the whistleblowing system by establishing a system on their official website that can be accessible by internal and external parties, especially the public.

As stated by Ulimsyah (2021), implementing whistleblowing can contribute to preventing fraud through forensic audits and investigative audits in West Sulawesi. The effectiveness of whistleblowing systems can certainly prevent fraud from actualizing (Lestari, 2019). Such a statement is consistent with Rahmida (2020), who explains that whistleblowing systems affect the process of fraud detection and investigative audit. In addition, government agencies must develop an internal control system to suppress corruption cases (Restianto, Sudibyo, Qosasi, & Suwarno, 2021). The seriousness of fraud prevention and legal protection can impact whistleblowing intentions (Rizkianti & Purwati, 2020).

Previous research, which is the main reference for this study, includes Anggriawan (2014), who researches the effect of work experience, professional skepticism, and time pressure on the auditor's ability to detect fraud. The results conclude that the auditor's work experience and professional skepticism positively affect the auditor's ability to detect fraud. Furthermore, Hasana (2018) tested the effect of independence, objectivity, professional skepticism, ability, and experience of investigative auditors on the effectiveness of implementing audit procedures in disclosing fraud. In line with Anggriawan (2014), the results state that the ability of investigative auditors and the experience of investigative auditors have a significant positive effect on the effectiveness of implementing audit procedures in disclosing fraud.

Based on the preceding, this study aims to analyze the whistleblowing system's effect on

fraud disclosure in Yogyakarta with the effectiveness of investigative audits as a mediating variable. Some of the issues discussed in this study include whether the whistleblowing system significantly affects fraud disclosure and the effectiveness of the investigative audit. Also, whether the effectiveness of investigative audit substantially affects fraud disclosure and mediates the effect of the whistleblowing system on fraud disclosure. Previous research has focused on the ability and experience of auditors to uncover fraud. In contrast to this study, the auditor's investigative process acts as an intermediary in uncovering fraud. Reports from the whistleblowing system can strengthen the process of investigating and disclosing fraud.

Literature Review

A whistleblowing system is an act of reporting violations that aims to reveal deviant and unlawful acts (KNKG, 2008). This study uses a whistleblowing system to measure fraud prevention efforts within the organization. This system is closely related to the fraud disclosure variable and the investigative audit as a follow-up to the reported complaint. The fraud disclosure process requires effective measures, supporting evidence, and an appropriate investigation system. An investigative audit is a series of systematic steps to collect evidence of fraud (BPKP, 2017). This study raised the investigative audit variable as a follow-up to complaints made by whistleblowers. The investigative audit influences the disclosure of fraud because the investigation process will analyze lots of concrete evidence to examine the proof.

The fraud variable in this study is related to Fraud Pentagon Theory. Fraud, in this study, means an action that aims to benefit some people by doing something deviant (ACFE, 2019). This study uses the fraud variable to analyze the impact of the whistleblowing system and investigative audit on its disclosure.

A Report to The Nation in 2008 stated that fraud was revealed because of the informal reported information (tips). The information usually comes from whistleblowers, varying from employees at 60% to competitors at 1% (ACFE, 2008).

The Fraud Pentagon theory explains that opportunity, rationalization, pressure, capability, and arrogance are the causes of fraud (Crowe, 2011). The theoretical implication for the investigative audit is auditor's capability should not be affected by the fraud factor. The compliance of employees and auditors, as well as an optimal whistleblowing system, ultimately guarantees the effectiveness of the investigative audit and prevents the impact of the factors driving fraudulent behavior.

The act of whistleblowing in this study is supported by Prosocial Organizational Behavior Theory, which means the behavior in organizations or groups where the individual wants to benefit the organization (Brief & Motowidlo, 1986). This theory describes a person's intention or desire in whistleblowing. Intentions can be the background of a person to have a positive impact on the environment. A whistleblower with Prosocial Behavior will try to comply with the rules and prevent the organization from experiencing losses from deviant actions.

The intention of whistleblowing will be significant with the particular actions. The Planned Behavior Theory can explain that control over a person's behavior and intentions will produce particular actions (Ajzen, 1991). Perceived behavioral control is a person's perception or capacity to regulate behavior. Planned behavior theory can explain the relationship between a person's desire to take deviant actions or obey the rules. Fraud can occur because of the intention and justification of the person. The emergence of positive perceptions is an individual and auditor

factor to obey the rules by doing whistle-blowing and conducting investigative audits. According to the Policeman Theory, an auditor must be responsible for the duties, namely uncovering and proving fraud in the audited company's financial statements. They have the role of being a police officer who is concerned with audit objectives (Hayes et al., 2005). The auditor's role in uncovering fraud is related to this theory. They must focus on disclosing fraud and collecting evidence of fraud. This responsibility is manifested in the investigative audit process to find evidence to uncover fraud.

Hypothesis Development

The whistleblowing system aims to monitor internal violations in the institution. Whistleblowers are reporters of indications of deviant actions. They will feel protected when there are an incentive and structured systems in its implementation. This condition ultimately affects the greater possibility of fraudulent acts disclosure. This study is in line with Hamilah and Sihotang (2020), Sari (2021), also Rokhmawati (2018). Based on the preceding, the first hypothesis is

H1: Adequate whistleblowing system implementation can increase fraud disclosure in Yogyakarta.

In carrying out an investigative audit, the auditor requires evidence to support the disclosure of fraud. A whistleblowing system can provide information and evidence for the investigative audit process. This statement is in line with Ulimsyah (2021), Rahmida (2020), and Abyan (2019). Based on the description mentioned earlier, the second hypothesis in this study is

H2: The whistleblowing system in the Inspectorate Office of the Special Region of Yogyakarta plays a role in increasing the effectiveness of investigative audits.

An investigative audit is a series of processes to find evidence and analyze findings for fraud disclosure. Fraud is detrimental and harms the organization. The investigative audit system can act as a step to uncover fraud that occurred. The effectiveness of fraud disclosure is influenced by the audit investigation conducted by the auditor. This statement is in line with Syahputra and Urumsah (2019), Andriani, Rahmawati, and Kasran (2020), also Rahmida (2020). Based on the preceding description, the third hypothesis in this study is established as follows:

H3: An effective investigative audit can increase fraud disclosure in Yogyakarta

In implementing an investigative audit, an auditor must review the initial information. It will determine whether the information is worthy of being followed up to the next step. The information obtained can come from whistleblowers. The information from whistleblowers with supporting evidence can help to determine hypotheses and plan the investigations. The mediating variable is an intermediary variable called a mediator or intervening (Baron & Kenny, 1986). The model is when the independent variable influences the mediator variable, and subsequently, the mediator variable affects the dependent variable. The fourth hypothesis in this study is

H4: The effectiveness of the investigative audit mediates the effect of the whistleblowing system on fraud disclosure.

RESEARCH METHOD

This study collects primary data by distributing questionnaires and using the purposive sampling method to the target respondents. The respondents are auditors and Supervisors for the Implementation of Government Affairs in the Regions (Pengawas Penyelenggaraan Urusan Pemerintahan di Daerah, P2UPD) at Kulon Progo Regional Inspectorate, Bantul

Regional Inspectorate, Sleman Regional Inspectorate, and Yogyakarta Provincial Inspectorate with a target of 151 respondents. The collected data was then analyzed using WarpPLS.

The questionnaire was taken from several previous studies and modified according to the needs and research objectives. The indicator for measuring the effectiveness of the whistleblowing system uses indicators in Rahmida's research (2020). The effectiveness of investigative audits is analyzed by testing the effect of investigative techniques and implementation guidelines according to the indicators used by Hasana (2018). Meanwhile, indicators for measuring fraud disclosure variables use references from Anggriawan (2014). These indicators are outlined in a questionnaire and measured using a Likert Scale.

The analysis phase using WarpPLS consists of several steps. The first is path designing by making the construct in model form. The model consists of the outer and inner models. The constructs are the three variables: the whistleblowing system, the effectiveness of investigative audits, and fraud disclosure. The next step is to examine the reliability and validity. This phase is measured by looking at the convergent validity to analyze the value of the loading factor, P-Value, Average Variance Extracted

(AVE), and Cronbach's alpha to test the reliability. The value in every construct in each variable will describe the validity and reliability of the variables. Model revision is carried out to ensure valid and reliable variables can be accepted for research.

A revision model is created in this study by eliminating the value that is still not valid and reliable so that the model can be accepted to be analyzed. The Goodness of Fit (GoF) value is tested by the structural test phase, especially in the fit modal and quality indices (Henseler & Sarstedt, 2013). This value will describe the influence between the variables. Lastly, testing a direct or indirect effect carried out through the path coefficient by looking at beta coefficient and the P-value.

RESULT AND DISCUSSION

This study collected 111 questionnaires, of 151 targets, and processed further for validity and reliability tests. Construct validity tests included convergent and discriminant validity tests. The criteria are a loading factor value higher than 0.05 and a P-value less than 0.005 (Chin, 1998). Based on the validity and reliability tests (Appendix 2), several indicators of the whistleblowing system (X1) and fraud disclosure (X3) variables had a P-value of more than 0.005. While the AVE
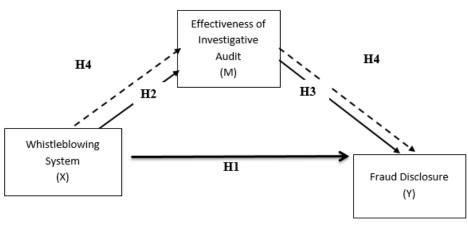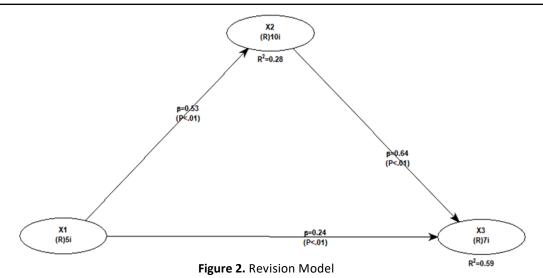

Figure 1. Research Framework

Figure 2. Revision Model

value for X1, X2 (effectiveness of investigative audit), and X3, respectively, are 0.349, 0.488, and 0.397. So this model has passed the convergent validity test. It is necessary to modify the model that does not meet the criteria.

Revision of the model is carried out by eliminating indicators that do not meet the criteria so that in subsequent testing, indicators in each variable can meet the standards of validity and reliability tests. The revision model can be seen in Figure 2.

All items in the revision model demonstrate that the P-value has a value of less than 0.05 and the loading factor value of more than 0.05. This indicates a correlation between the indicator and the latent variable. The AVE of X1 variables is 0.579, X2 0.568, and X3 0.551. The three variables have an AVE of more than 0.5, so this model has passed the

convergent validity test. The influence between variables is accepted because the Cronbach Alpha and composite reliability values reach 0.6 (Hair, Black, Babin, Anderson, & Tatham, 2006). The GoF value in this study indicates that the independent variable in the model can explain the dependent variable by 49.5% and will be tested in the structural model test. The next step is to assess the structural model using a path coefficient or inner model that shows the significance level. The result is shown in Table 1.

Hypothesis 1 states that the whistleblowing system significantly influences fraud disclosure. Based on the statistical tests, the beta coefficient value is 0.24, which is positive, and the P-value is 0.001. This indicates that there is a direct influence between the two variables. In conclusion, the first hypothesis in this study is accepted. The results also elucidated that the existence of a whistleblow-

Table 1. *Path Coefficient* Result

Hypotheses	Beta	P	Result
Whistleblowing system on fraud disclosure (H1)	0.24	*0.001	Accepted
Whistleblowing system on the effectiveness of investigative audit (H2)	0.53	*0.001	Accepted
Effectiveness of investigative audit on fraud disclosure (H3)	0.64	*0.001	Accepted
Effectiveness of investigative audit on whistleblowing system and fraud disclosure (H4)	0.57	*0.001	Accepted

ing system can significantly affect fraud disclosure in Yogyakarta.

This study proves that the whistleblowing system significantly affects fraud disclosure in the Inspectorate Office of the Special Region of Yogyakarta. Fraud disclosure is an act or attempts to reveal fraud by collecting various supporting evidence and information. The results are suitable with the conclusions stated by Hamilah and Sihotang (2020), Sari (2021), also Rokhmawati (2018). The whistleblowing system significantly affects fraud disclosure and is in line with prosocial organizational behavior theory, which explains that a person's actions towards the organization aim to improve mutual welfare (Brief & Motowidlo, 1986). Individuals carrying out whistleblowing behavior to uncover a deviation from the existence of these actions will have a positive impact and benefit the organization's welfare.

The theory of planned behavior also aligns with the research results regarding the significant influence between the whistleblowing system and fraud disclosure. This theory explains that an action taken by a person comes from the individual's intentions and perceptions of the behavioral control they have (Ajzen, 2005). The relationship between a person's desire and perception of whistleblowing, which has a positive impact, will significantly affect fraud disclosure. This is related to the increasing number of individuals who take whistleblowing actions. An employee will obey the rules based on the desire to report deviant actions that significantly impact fraud disclosure.

The Yogyakarta Provincial Inspectorate, Sleman Regional Inspectorate, Bantul Regional Inspectorate, and Kulon Progo Regional Inspectorate have implemented a whistleblowing system that supports the oversight function. However, based on the analysis of the questionnaire results, it is known that the incentive system for reporters still needs to be improved. In addition, support is needed in the form of the availability of extensive reporting access to the internal Inspectorate and external parties. Complaints reported by whistleblowers have been followed up to the investigative stage, and there has been employee awareness of the importance of the whistleblowing system to uncover fraud in Yogyakarta.

Hypothesis 2 explains that the whistleblowing system significantly affects the effectiveness of the investigative audit. Based on the statistical tests, the beta coefficient value is 0.53, which is positive, and the P-value is 0.001. This indicates a direct influence between the two variables. In conclusion, the second hypothesis in this study is accepted.

The results align with the conclusions stated by Ulimsyah (2021), Rahmida (2020), and Abyan (2019). An investigative audit is an examination process by an auditor carried out due to alleged irregularities by employees (among others detected through a whistleblowing system) that aims to collect evidence of alleged fraudulent acts (BPKP, 2017). The whistleblowing report can be helpful as the initial information for auditors in the investigative planning phase, including the review and analysis of initial information, can help the auditor in the examination process to determine the initial hypothesis regarding the alleged fraud. When the auditor is collecting the evidence and designing the investigation step, they can think critically to find supporting evidence, which will affect the effectiveness of the investigative audit.

The auditor will analyze and collect the evidence methodically to evaluate, collect supporting evidence and conclude hypotheses regarding fraud. The evidence can take the form of reports or other supporting documents (BPKP, 2017). The auditor is respon-

sible to collects the evidence of fraud in the investigation. This condition is in line with the policeman theory that an auditor can play a role like a police officer who focuses on investigating fraud. This responsibility can be perceived that initial information can affect the effectiveness of an investigative audit because the auditor can analyze and start planning the investigation base on incoming information.

Hypothesis 3 describes that the effectiveness of investigative audits significantly influences fraud disclosure. Based on the statistical tests, the beta coefficient value is 0.64, which is positive, and the P-value is 0.001, indicating a direct influence between the two variables. In conclusion, the third hypothesis in this study is accepted, the effectiveness of investigative audits can significantly affect fraud disclosure in Yogyakarta. Further, the analysis result also proves that the effectiveness of investigative audits significantly affects fraud disclosure. The results are in correspondence with the conclusions stated by Syahputra and Urumsah (2019), Andriani et al. (2020), also Rahmida (2020). Every investigative audit step, from pre-planning, planning, implementation, and reporting of results, can be a factor in the effectiveness of the investigation. The pentagon theory states that one factor influencing fraud is the emergence of opportunities created by the organizational environment (Crowe, 2011). The factor that can narrow the opportunity for perpetrators is by conducting an effective investigation. Effective implementation will reduce the opportunity and capability for perpetrators to commit fraud. An effective investigative audit process will make fraud perpetrators aware that the opportunities to hide their fraudulent actions are getting smaller. This condition ultimately supports efforts to collect evidence and impacts disclosing fraudulent acts. The results of the questionnaire analysis show that the auditors in the four Inspectorates have carried out a standardized investigation process and have always collected valid evidence to prove the hypothesis. These efforts can achieve audit objectives and support the effectiveness of the investigation to disclose fraudulent acts in Yogyakarta.

Hypothesis 4 states the indirect effect between the whistleblowing system and fraud disclosure through the effectiveness of investigative audits. The data shows that the beta coefficient is 0.57 with a P-value of 0.001. Because the P-value is higher than 0.05, there is a significant indirect relationship between the whistleblowing system and fraud disclosure. In conclusion, the fourth hypothesis in this study is accepted, the effective investigative audits could mediate the role of the whistleblowing system in fraud disclosure in Yogyakarta.

The results of this study prove that there is a significant indirect relationship between the whistleblowing system and the fraud disclosure facilitated by the effectiveness of the investigative audit. The whistleblowing system is a system that aims to provide a platform for whistleblowers to report fraudulent acts committed by employees (KNKG, 2008). Because the information should have supporting evidence to be valid, the whistleblower's incoming report consideration can take time. Therefore, to ensure the occurrence of fraud, an investigation process is needed at the investigative audit process to collect evidence of fraud. It can be effective when the initial and supporting evidence is complete to plan the investigation strategy.

The effectiveness of investigative audits that mediate and facilitate the effectiveness of the whistleblowing system on fraud disclosure is related to the Planned Behavior Theory, which explains a person's actions based on positive intentions and the consequences of the actions taken. Employees of the Inspectorate office and the Yogyakarta Special Re-

gion Government who desire to eradicate fraud will behave and obey the rules. They will report if there are irregularities or deviations. The same thing will be done by the auditor who conducts the investigation process of the reported information. Auditors who intend to behave compliantly will try to carry out the investigation steps effectively. The auditor will investigate by applying investigative techniques and focus on finding fraud that has occurred. This theory illustrates that the employee's intention to carry out whistleblowing can be optimal when facilitated by the auditor's actions and perspectives in the investigative audit process. The desire and a positive perspective on the importance of the investigative process will impact the effective investigation so that this condition significantly affects the fraud disclosure.

Another theory that deciphers the result is the prosocial organizational behavior theory. This theory explains the positive behavior of a person to benefit the organization (Brief & Motowidlo, 1986). Whistleblowing behavior carried out by employees is a manifestation of positive actions that advantage the organization, especially the sustainability of the organization. Auditors who carry out the investigative process effectively are the positive actions to benefit the organization. The effectiveness of the investigative audit facilitates the effect of the whistleblowing system in revealing fraud following the Baron and Kenny theory (1986). This theory defines a mediator variable as the variable that affects the influence of the relationship between the independent and the dependent variable. The model is when the designed hypothesis states that the independent variable affects the mediator variable, which after that affects the dependent variable.

The analysis result explained that the existence of initial information or complaints that come through the whistleblowing system could support the investigation process. In-coming reports become an invaluable source of information for the auditor to analyze and collect evidence to reveal the truth of fraud. These conditions are supported by internal employees of the Inspectorate who are aware of the anti-fraud culture and willing to report suspected fraud occurred. In addition, auditors at the Office of the Inspectorate of the Special Region of Yogyakarta always follow up on complaints regarding fraud cases and carry out the investigation process with the applicable standards so that the fraud that occurred in Yogyakarta can be revealed.

CONCLUSION

Based on the results of this study, it can be concluded that whistleblowing systems significantly affect fraud disclosure and increase effective investigative audits. The inspectorate in Yogyakarta employs this system as their anti-fraud control to provide a platform for society to report irregularities. The result confirms that the effectiveness of investigative audits in Yogyakarta affects fraud disclosure. This entails that the investigation can achieve its objectives. Overall, all three variables influence one another, particularly the effective investigative audit that mediates the influence between the whistleblowing system and fraud disclosure in Yogyakarta.

The Inspectorate can increase fraud disclosure by enhancing the role of the whistleblowing system. The Inspectorate can also increase the awareness and understanding of their employees regarding ethics and responsibility to report fraud and irregularities, which can affect the fraud disclosure in Yogyakarta. Furthermore, the Inspectorate can also improve the development of the whistleblowing system by creating an incentive arrangement that ensures the safety and confidentiality of the whistleblower, in addi-

tion to developing a more methodical reporting flow. An effective investigative audit can be improved by optimizing the investigative audit examination step. Such can be undertaken by applying audit techniques that support the auditors in collecting evidence of fraud and developing investigative procedures that focus on the process. The auditors in the inspectorate can also be more understanding and prudent in concluding the investigative planning phase.

In the Inspectorate Office of Yogyakarta, the whistleblowing system can be improved by increasing the effectiveness of investigative audits. It is done by optimizing the pre-planning step of the investigative audit, as it is crucial for determining allegations, planning the investigation, and developing investigative procedures that focus on the implementation phase to gather evidence and analyze the modus operandi. The auditors in Inspectorate can analyze the completeness of incoming reports from the whistleblowing system, both internally and externally. In addition, the ease of access for reporters and speed of follow-up by the authorities must also be improved.

There are still some areas for improvement in this study regarding the targeted respondents and the use of the interview method, so that the analysis can truly describe the application of the system by looking at the results and direct impacts on the research variables. This study employs three main variables, therefore expectantly similar research in the future might add other variables, such as auditor capabilities.

REFERENCES

Abyan, D. (2019). *Pengaruh kemampuan auditor dan whistleblowing system terhadap efektivitas audit investigatif (survey pada auditor Badan Pengawasan Keuangan dan Pembangunan Provinsi Jawa Barat).* (Thesis). Pasundan University, West Java, Indonesia. Retrieved from http://repository.unpas.ac.id/41520/

ACFE. (2008). *Report to the Nation.* Retrieved from https://www.acfe.com/-/media/files/acfe/pdfs/2008-rttn.ashx

ACFE Indonesia Chapter. (2019). Survei *Fraud Indonesia 2019.* Retrieved from https://www.acfe.com

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Desicion Process, 50*(2), 179-211. DOI: 10.1016/0749-5978(91)90020-T

Ajzen, I. (2005). Laws of human behavior: Symmetry, compatibility, and attitude-behavior correspondence. *Multivariate Research Strategies,* 3-19.

Andriani., Rahmawati., & Kasran, M. (2020). *Pengaruh akuntansi forensik dan audit investigasi terhadap pengungkapan fraud (studi pada kantor BPKP di Kota Makassar).* (Thesis). Universitas Muhammadiyah Palopo, South Sulawesi, Indonesia. Retrieved from http://repository.umpalopo.ac.id/392/

Anggriawan, E. F. (2014). Pengaruh pengalaman kerja, skeptisme profesional dan tekanan wantu terhadap kemampuan auditor dalam mendeteksi fraud (studi empiris pada Kantor Akuntan Publik di DIY). *Jurnal Nominal, 3*(2), 101-116. DOI: 10.21831/nominal.v3i2.2697

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

BPK RI. (2017). BPK Regulation Number 1 Year 2017 concerning State Financial Audit Standards (Peraturan BPK RI Nomor 1 Tahun 2017 tentang Standar Pemeriksaan Keuangan Negara). Re-

trieved from https://www.bpk.go.id/page/standar-pemeriksaan-keuangan – negara

BPKP. (2017). BPKP Regulation Number 17 Year 2017 concerning Guidelines for Management of Investigations (Peraturan BPKP RI Nomor 17 tahun 2017 tentang Pedoman Pengelolaan Bidang Investigasi). Retrieved from https://www.bpkp.go.id/public/upload/unit/investigasi/files

Brief, A., & Motowidlo, S. J. (1986). Prosocial organizational behaviors. *The Academy of Management Review, 11*(4), 710-725.

Chin, W. W. (1998). The partial least squares approach for structural equation modeling. in G. A. Marcoulides (Ed.). Modern methods for business research (pp.295-236). London: Lawrence Erlbaum Associates.

Crowe, H. (2011). *IIA Practice Guide: Fraud and Internal Audit.* Retrieved from http://aiba-us.org/wpcontent/uploads/2011/04/2010 0922AIBAFraud.pdf.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Hamilah., & Sihotang, K. F. (2020). The influence of internal auditors, internal control systems, whistleblowing systems, and organizational commitment to fake prevention (fraud). *Palarch's Journal of Archaeology of Egypt/Egyptology, 17*(6), 7119-7131.

Hasana. (2018). *Pengaruh sikap auditor forensik, kemampuan dan pengalaman auditor investigatif terhadap efektivitas pelaksanaan prosedur audit dalam pengungkapan fraud.* (Master's Thesis). Universitas Islam Indonesia, Yogyakarta, Indonesia. Retrieved from https://dspace.uii.ac.id/handle/123456789/ 6573

Hayes, R., Dassen, R., Schilder, A., & Wallage, P. (2005). Principles of auditing: An introduction to international standards of auditing. (Second Ed.). Harlow: Pearson Prentice Hall.

Henseler, J., & Sarstedt, M. (2013). Goodness-of-fit indices for partial least squares path modeling. *Computational Statistic, 28*, 565-580.

Indonesia Corruption Watch. (2019). *Laporan akhir tahun ICW 2019.* Retrieved from https://antikorupsi.org/id/article/laporan-akhir-tahun-icw-2019

Khafid, S. (2020, December). Selama 2020, Nilai Korupsi di DIY Capai Rp23 Miliar Lebih. Harian Jogja. Retrieved from https://jogjapolitan.harianjogja.com/

KNKG. (2008). *Pedoman Sistem Pelaporan Pelanggaran - SPP (Whistleblowing System).* Jakarta: Komite Nasional Kebijakan Governance.

Rahmida, M. (2020). *Pengaruh whistleblowing system terhadap efektivitas audit forensik dan audit investigasi dalam mendeteksi fraud dengan moderasi gender dan pengalaman.* (Master's Thesis). Universitas Islam Indonesia, Yogyakarta, Indonesia. Retrieved from https://dspace.uii.ac.id/handle/123456789/20670

Restianto, Y. E., Sudibyo, Y. A., Qosasi, A., & Suwarno. (2021). The implementation of Benford's law to detect indications of corruption patterns in government institutions. *Jurnal Tata Kelola dan Akuntabilitas Keuangan Negara, 7*(2), 131-149. DOI: 10.28986/jtaken.v7i2.740

Rizkianti, K. M., & Purwati, A. S. (2020). Factors affecting intention on whistleblowing with anonymous reporting as moderating variable. *International Journal of Accounting, Tax, and Business, 1*(1), 1-14.

Rokhmawati, N. D. (2018). *Hubungan kemampuan auditor, skeptisme profesional auditor dan whistleblower dengan efektivitas pelaksanaan audit investigatif dalam pengungkapan*

kecurangan pada BPKP Perwakilan Provinsi Jawa Timur. (Thesis). Universitas Sunan Ampel, East Java, Indonesia. Retrieved from http://digilib.uinsby.ac.id/25486/

Sari, D. (2021). Professionalism auditor and whistleblowing system against fake prevention (case study at PT. KAI Bandung). *Review of International Geographical Education (RIGEO), 11*(3), 1284-1292. DOI:10.48047/rigeo.11.3.119

Syahputra, B. E., & Urumsah, D. (2019). Deteksi fraud melalui audit pemerintahan yang efektif: analisis multi-grup gender dan pengalaman. *Jurnal Akuntansi dan Binsis, 19*(1), 31-42. DOI: 10.20961/jab.v19i1.319

Ulimsyah, U. (2021). Whistleblowing's effectiveness in preventing fraud through forensic audit and investigative audit. *Point of View Research Accounting and Auditing, 2*(1), 81-91.

APPENDICES

Appendix 1. Loading factor and P-value of Revision Model

Variable	Indicator	Loading Factor	P-value
WBS (X1)	X11	0.816	<0.001*
	X12	0.665	<0.001*
	X13	0.676	<0.001*
	X14	0.767	<0.001*
	X15	0.860	<0.001*
AI (X2)	X21	0.654	<0.001*
	X22	0.843	<0.001*
	X23	0.761	<0.001*
	X24	0.705	<0.001*
	X25	0.642	<0.001*
	X26	0.678	<0.001*
	X27	0.785	<0.001*
	X28	0.861	<0.001*
	X29	0.795	<0.001*
	X210	0.774	<0.001*
PF (X3)	X31	0.846	<0.001*
	X32	0.699	<0.001*
	X33	0.758	<0.001*
	X34	0.778	<0.001*
	X35	0.715	<0.001*
	X36	0.660	<0.001*
	X37	0.727	<0.001*
	X38	0.727	<0.001*

Appendix 2. Loading factor and P-value of Original Model

Variable	Indicator	Loading Factor	P value
WBS (X1)	X11	0.782	<0.001*
	X12	-0.076	0.208
	X13	0.642	<0.001*
	X14	0.466	<0.001*
	X15	0.699	<0.001*
	X16	0.789	<0.001*
	X17	0.783	<0.001*
	X18	0.183	0.023
	X19	0.369	<0.001*
AI (X2)	X21	0.691	<0.001*
	X22	0.849	<0.001*
	X23	-0.353	<0.001*
	X24	0.731	<0.001*
	X25	0.691	<0.001*
	X26	0.617	<0.001*
	X27	0.662	<0.001*
	X28	-0.361	<0.001*
	X29	0.751	<0.001*
	X210	0.867	<0.001*
	X211	0.806	<0.001*
	X212	0.780	<0.001*
PF (X3)	X31	0.849	<0.001*
	X32	0.671	<0.001*
	X33	-0.164	0.037
	X34	0.764	<0.001*
	X35	0.336	<0.001*
	X36	0.780	<0.001*
	X37	-0.103	0.133
	X38	0.700	<0.001*
	X39	0.643	<0.001*
	X310	0.746	<0.001*

Appendix 3. Model fit and quality indices

Variable	Value	P	Note	Result
APC	0.468	<0.001	Accepted P < 0.05	Accepted
ARS	0.432	<0.001	Accepted P < 0.05	Accepted
AARS	0.425	<0.001	Accepted P < 0.05	Accepted
AVIF	1.200		Accepted ≤ 5; Ideal <=3.3	Accepted, Ideal
AFVIF	1.744		Accepted ≤ 5; Ideal <=3.3	Accepted, Ideal
GoF	0.495		Accepted if small >=0.1; medium >=0.25; large >=0.36	Accepted, large
SPR	1.000		Accepted if ≥ 0.7; Ideal = 1	Accepted
RSCR	1.000		Accepted if ≥ 0.9; Ideal = 1	Accepted
SSR	1.000		Accepted if ≥ 0.7	Accepted
NLBCDR	1.000		Accepted if ≥ 0.7	Accepted