

# The Integration Effect of Technical and Psychological Aspects on Occupational Fraud Disclosure

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## Article History:

Received on 23 December 2025

1<sup>st</sup> Revision on 30 December 2025

2<sup>nd</sup> Revision on 02 January 2026

3<sup>rd</sup> Revision on 07 January 2026

Accepted on 12 January 2026

## Abstract

**Purpose:** This study aims to examine the influence of investigative audits, professional judgment, and whistleblowing systems on occupational fraud disclosure, with the locus of control as a moderator.

**Methodology/approach:** This study uses a quantitative approach with Partial Least Squares (PLS) analysis. Data were collected through questionnaires distributed to internal auditors who attended professional training at Yayasan Pendidikan Islam Al-Azhar (YPIA) in 2025. Data analysis was performed using SmartPLS 4.

**Results:** Investigative audits ( $\beta = 0.332$ ;  $P = 0.000$ ;  $t = 10.294$ ), professional judgment ( $\beta = 0.336$ ;  $P = 0.000$ ;  $t = 10.100$ ), and whistleblowing systems ( $\beta = 0.201$ ;  $P = 0.000$ ;  $t = 6.630$ ) positively affect occupational fraud disclosure. Locus of control strengthens the effect of professional judgment ( $\beta = 0.120$ ;  $P = 0.007$ ;  $t = 2.691$ ) and whistleblowing systems ( $\beta = 0.079$ ;  $P = 0.024$ ;  $t = 2.258$ ) but does not strengthen the effect of investigative audits ( $\beta = 0.056$ ;  $P = 0.117$ ;  $t = 1.568$ ).

**Conclusions:** This study provides a new theoretical contribution by proving that effective disclosure of occupational fraud is not only determined by technical aspects but is also influenced by individual psychological aspects.

**Limitations:** This research is limited to one professional training institution, the sample used is only internal auditors, and only three independent variables are used.

**Contributions:** The findings of this study contribute to the audit literature and can be used by organizations and internal auditors to improve the effectiveness of fraud disclosure.

**Keywords:** *Investigative Audit, Locus of Control, Occupational Fraud Disclosure, Professional Judgment, Whistleblowing System*

**How to Cite:** Fauzan, Z. (2026). The Integration Effect of Technical and Psychological Aspects on Occupational Fraud Disclosure. *Goodwood Akuntansi dan Auditing Reviu*, 4(2), 61-80.

## 1. Introduction

Occupational fraud has become a global issue and is experiencing an increasing trend that causes significant losses in various countries, especially in Southeast Asia (Sofianti, Andriana, & Az-zahra, 2024). Such fraud is generally committed through the abuse of authority or position within an organization to obtain personal or specific group benefits (Setiawan, 2025). Occupational fraud can be classified into a fraud tree consisting of asset misappropriation, financial statement manipulation, and corruption (Bakar, Kamal, & Ishak, 2023). In 2024, the Association of Certified Fraud Examiners (ACFE) found 1,921 cases of occupational fraud in 138 countries, with total losses reaching USD 3.1 billion, or an average of USD 1.682 million per case. Of all these cases, asset misappropriation was the most common form of fraud, accounting for 89% of cases, although with relatively small losses of USD 120,000 per case. Conversely, financial statement manipulation was the least common form of fraud, accounting for 5% of cases, but caused the largest losses of USD 766,000 per case, as a form of fraud that is relatively common, accounting for 48% of cases with losses of USD 200,000 per case. ACFE

findings also show that every year, occupational fraud causes losses to organizations estimated at 5% of their revenue ([ACFE, 2024](#)).

In contrast to the results of the ACFE Global survey, the 2025 Indonesian Fraud Survey reported corruption as the most common form of workplace fraud, accounting for 47.6% of cases, with an average loss of approximately IDR 10 million to IDR 50 billion per case. Next, asset misappropriation was also frequently occurring from fraud, accounting for 40.2% of cases with an average loss of around Rp30 million to Rp500 million per case. Meanwhile, financial statement manipulation was again the least common form of fraud, accounting for 12.2% of cases, but still causing the largest average loss, around Rp100 million to Rp50 billion per case. The ACFE Indonesia survey results also show that government agencies, both central and regional, have the highest incidence of occupational fraud at 26.14% ([ACFE Indonesia, 2025](#)).

Various cases of employment fraud in Indonesia show a pattern like the data. One such case is the corruption case involving PT Pertamina Patra Niaga, committed by Rava Siahaan as President Director through the manipulation of crude oil and refinery products, resulting in state losses of Rp193.7 trillion ([Kompas.com, 2025](#)). In addition, there was a case of asset misappropriation in the form of credit funds committed by Iwan Setiawan Lukminto as the President Commissioner of PT Sitex, where credit funds worth Rp692 billion that should have been allocated as working capital for the company were diverted for personal needs and debt repayment, resulting in losses to the state ([Detiknews, 2025](#)). Another case involves financial statement manipulation carried out by Gibran Huzaifah, the Chief Executive Officer (CEO) of PT Multidaya Teknologi Nusantara (eFishery), by inflating revenue by USD 600 million or around Rp 9.74 trillion and inflating feed machines by 400,000 units, resulting in investor losses of USD 300 million or around Rp 4.87 trillion ([Bloomberg, 2025](#)).

Based on the phenomena described above, it is increasingly clear that auditors play an important role, especially investigative auditors ([Ulfani & Ernawati, 2024](#)). Investigative audits have similar procedures to general audits, but their focus is directed at specific areas that are suspected to be the main sources of fraud ([Siahaan & Suryaningrum, 2024](#)). This mechanism plays an important role in uncovering various forms of fraud that could potentially harm organizations, such as corruption, asset misappropriation, and financial statement manipulation ([Sudarmadi, 2023](#)), through the analysis of transactions, documents, and traces that are unusual or deviate ([Cahyaningsih, Putrie, & Farida, 2025](#)).

Auditors conducting the audit process are required to use their professional judgment to provide a logical assessment ([Noho, Sabaruddin, & Sulhendri, 2021](#)). This assessment is formed through the collective consideration of auditors applied to all aspects of the audit, including audit planning, evidence collection, evidence evaluation, and audit reporting ([Nugrahanti, Lysandra, & Ashari, 2024](#)). To avoid errors that could harm stakeholders, these considerations must be reasonable and based on strong evidence ([Pattinaja, Leatemia, Laitupa, & Putuhena, 2022](#)). This is important because an auditor's assessment indirectly influences the decision-making of interested parties ([Metwalli, Difalla, Aly, & Elguoshy, 2024](#)).

The effectiveness of fraud disclosure does not only depend on the role of auditors but is also greatly influenced by the existence of a whistleblowing system ([Priyadi, Hanifah, & Muchlish, 2022](#)). The importance of whistle-blowing systems has been recognized by various international organizations, such as the World Bank, United Nations, Council of Europe, and European Commission ([Paraswansa & Utomo, 2024](#)). This system is an important element in uncovering fraud by providing a reporting mechanism for individuals aware of irregularities ([Su'un & Abduh, 2025](#)). This is supported by the 2024 ACFE survey results, which reported that 43% of fraud cases were successfully detected through whistle-blower reports ([ACFE, 2024](#)). [Hapsari, Syaflan, and Ambarwati \(2023\)](#); [Maulida and Bayunitri \(2021\)](#) in addition to technical aspects such as investigative auditing, professional judgment, and whistleblowing systems, individual psychological aspects such as locus of control also play a supporting role in efforts to uncover or detect fraudulent acts. This is reinforced by a study [Indraswari, Dewi, Pradnyani, and Sumantri \(2024\)](#) that explains that auditors with a strong locus of control tend to be more cautious in conducting investigations carefully. The study [Noho et al. \(2021\)](#) also confirms that auditors with a high locus of control can overcome work environment pressures to make more accurate

assessments. Furthermore, a study [Purbaningrum and Suhartini \(2023\)](#) explains that individuals with a strong locus of control tend to have a higher intention or courage to report fraudulent acts.

Previous studies have examined several technical aspects of fraud disclosure. Some of the technical aspects that has been studied include investigative audit [Abdullah, Bayan, and Hanafie \(2024\)](#); [Cahyaningsih et al. \(2025\)](#) professional judgment [Dianto \(2023\)](#); [Lutfi, Mas'ud, and Rahim \(2023\)](#), whistleblowing system ([Soesanto, Noviyanti, & Purnamasari, 2024](#); [Syafitri & Syafdinal, 2023](#)). The findings of these studies indicate that these three technical aspects have a positive effect on fraud detection. However, findings from previous studies tend to ignore individual psychological aspects, even though aspects such as locus of control can potentially influence the effectiveness of auditors in conducting investigations, support audit assessments, and encourage individuals to report fraud ([Fahrizal, Budiono, Khalid, & Santoso, 2025](#)). Thus, there is a research gap, namely, the lack of integration of technical and psychological aspects in the framework of fraud disclosure. Therefore, this study aims to offer a novel perspective by combining these two aspects into a single research model.

Thus, in uncovering fraudulent practices, internal auditors have a strategic role as the front line in detecting fraud within the organization, given that internal auditors have direct access to the organization's systems, procedures, and financial records. Considering this strategic role, this study focuses on internal auditors and considers psychological aspects, such as individual locus of control, as a supporting dimension in fraud detection. Therefore, this study offers a new perspective (novelty) through the selection of internal auditors participating in professional training at the Internal Audit Education Foundation in 2025.

## **2. Literature Review and Hypotheses Development**

### ***2.1 Attribution Theory***

Theory attribution was first introduced by Fritz Heider in 1958, who stated that the interpretation of individual behavior must be done by considering the source of the cause, whether it originates from within or outside the individual ([Ditya & Jaeni, 2025](#)). Behavior is influenced by internal factors originating from personal control. Meanwhile, behavior is influenced by external factors from the environment or conditions outside the individual ([Anza, Putra, & Sari, 2024](#)). Attribution theory also explains that internal and external factors can determine a person's behavior ([Monica, Sutrisno, & Atmini, 2024](#)). This theory is used to explain the thinking underlying a person's behavior ([Rato, Ardini, & Kurnia, 2023](#)).

### ***2.2 Fraud Hexagon Theory***

The latest theory on fraud is the fraud hexagon theory introduced by Vousinas, which explains the factors that cause fraud, such as stimulus, capability, collusion, opportunity, rationalization, and ego ([Sihombing & Panggulu, 2022](#)). This model is an extension of the previous fraud theory, the fraud triangle theory, which was first introduced by Donald R. Cressey in 1953 and consisted of the factors of pressure, opportunity, and rationalization. It was developed by David T. Wolfe and Dana R. Hermanson into the fraud diamond theory by adding capability ([Wolfe & Hermanson, 2004](#)). It was further developed by Crowe Horwath in 2011 into the fraud pentagon theory by adding arrogance. It was then refined by Vousinas in 2017 by adding collusion ([Novarina & Triyanto, 2022](#)). In this theory, the naming of the components is different from the previous theory, but the components have the same meaning ([Sumbari, Kamaliah, & Fitrioso, 2023](#)).

### ***2.3 Occupational Fraud***

Occupational fraud is fraud that is generally committed through the abuse of authority or position within an organization to obtain personal or group gain ([Setiawan, 2025](#)). Occupational fraud can be classified into a fraud tree consisting of asset misappropriation, financial statement manipulation and corruption. Asset misappropriation is a type of fraud committed by individuals who steal or misuse organizational resources. Financial statement manipulation is a type of fraud in which individuals deliberately make errors or material omissions in an organization's financial statements. Corruption is fraud that includes conflicts of interest, bribery, and extortion ([Bakar et al., 2023](#)).

## **2.4 Investigative Audit**

According to the Indonesian Institute of Certified Public Accountants, an investigative audit is the process of systematically and methodically searching for, discovering, and collecting facts to reveal whether an act has occurred and who committed it, and can be used for litigation purposes ([IAPI SJI, 2021](#)). When linked to the fraud hexagon theory, this theory can be used as a framework to identify and understand the factors that trigger fraud, enabling auditors to design more appropriate examination procedures, collect evidence systematically, and assess fraud risk accurately. According to [Abdullah et al. \(2024\)](#) and [Cahyaningsih et al. \(2025\)](#), investigative audits positively affect fraud disclosure. This is because the investigative audit approach emphasizes in-depth examination, comprehensive evidence analysis, and tracing of unusual transactions, thereby increasing the chances of fraud being detected.

$H_1$  : Investigative audit has a positive effect on occupational fraud

## **2.5 Professional Judgment**

According to Standard Accounting 200, professional judgment is defined as the use of competence acquired through training, knowledge, and audit experience to make appropriate assessments based on existing facts and conditions, guided by audit and accounting principles ([IAPI SA 200, 2021](#)). When linked to attribution theory, this theory can be used as a framework to systematically analyze the causes of other individuals' behavior, enabling auditors to assess available information more accurately and make more appropriate decisions. According to [Dianto \(2023\)](#) and [Lutfi et al. \(2023\)](#), professional judgment positively affects fraud disclosure. This is because the auditor's ability to interpret evidence, evaluate risks, and integrate experience and knowledge enables more accurate identification of indications of fraud.

$H_2$  : Professional judgment has a positive effect on occupational fraud

## **2.6 Whistle-blowing System**

A whistle-blowing system is the reporting of unlawful, immoral, or illegal practices occurring within an organization to the appropriate authorities for follow-up action ([Miceli, Near, & Dworkin, 2008](#)). When linked to attribution theory, this theory can be used as a framework to help understand how individuals assess the causes of others' behavior that is considered to violate company regulations and standard operating procedures, thereby influencing individuals' decisions to report suspected fraud. According to the findings of [Syafitri and Syafdinal \(2023\)](#) and [Soesanto et al. \(2024\)](#), a whistleblowing system has a positive effect on fraud disclosure. This is because the whistle-blowing system serves as a means for employees to report indications of fraud that are difficult to detect through audit procedures, thereby increasing the chances of fraud being uncovered ([Maulida & Bayunitri, 2021](#)).

$H_3$  : Whistleblowing system has a positive effect on occupational fraud

## **2.7 Locus Of Control**

The concept of locus of control was first introduced by psychologist Julian B. Rotter in 1954 as one of the main components of his social learning theory. According to of control refers to a person's belief about their ability to feel in control of the outcome of events in their life ([Fuad, Murni, Safrizal, Salman, and Wahyu \(2025\)](#); [Liny & Purnama, 2024](#)). Based on the research conducted by the researchers, no previous studies have examined the influence of locus of control as a moderating variable in the context of detecting workplace fraud. However, several studies state that the locus of control can increase the effectiveness of technical aspects in uncovering indications of fraud, such as the study [Indraswari et al. \(2024\)](#), which states that auditors with a strong locus of control tend to be encouraged to carry out investigations more carefully. [Noho et al. \(2021\)](#) also confirmed that a strong locus of control can help auditors make more accurate assessments. In addition, a study [Purbaningrum and Suhartini \(2023\)](#) explains that individuals with a strong locus of control tend to report fraud. Thus, the psychological aspect of control is considered relevant as a supporting dimension in fraud disclosure compared to other aspects because it directly reflects an individual's beliefs about an event, thereby better explaining variations in individual behavior in responding to pressure and risks related to fraud disclosure.

$H_4$ : Locus of control strengthens the influence of investigative audit on occupational fraud disclosure

$H_5$ : Locus of control strengthens the influence of professional judgment on occupational fraud disclosure

$H_6$ : Locus of control strengthens the influence of whistleblowing system on occupational fraud disclosure

### 2.8 Conceptual Framework

This study examines the influence of investigative audits, professional judgment, and whistleblowing systems on occupational fraud disclosure, with locus of control as a moderator. Figure 1 presents the conceptual relationship between these variables.

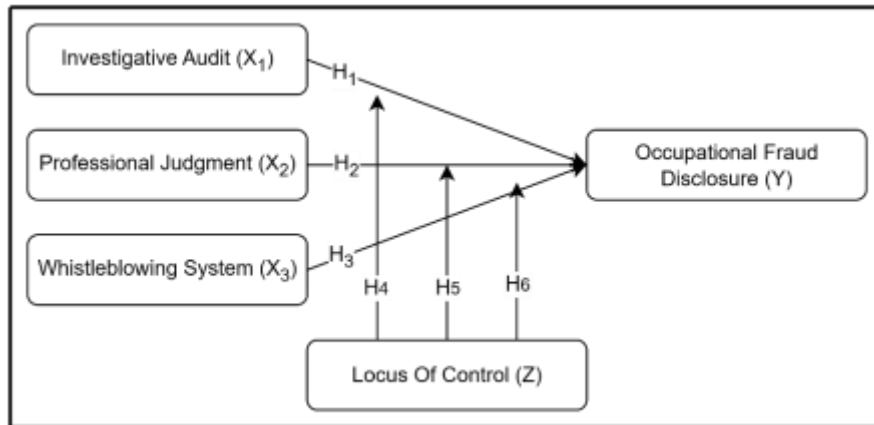


Figure 1. Conceptual framework

## 3. Methodology

### 3.1 Research Design

This study adopts a quantitative approach, which is research based on the positivist paradigm and is used to examine a specific population or sample. Data collection was carried out through research instruments, while data analysis was quantitative in nature with the aim of testing predetermined hypotheses. Meanwhile, the research design adopted is causal associative (causal study), which focuses on testing and analyzing the cause-and-effect relationship between variables to explain a particular phenomenon (Sugiyono, 2023). The selection of a causal associative quantitative approach allows researchers to identify the strength of the relationship between investigative audits, professional judgment, and whistleblowing systems in occupational fraud disclosure, with locus of control as a moderator.

### 3.2 Operational Variables

This study employs investigative audit, professional judgment, and whistleblowing system as independent variables, occupational fraud disclosure as the dependent variable, and locus of control as the moderating variable. The operational definitions of the research variables are presented in Table 1.

Table 1. Operational variables

No	Variables	Dimensions	Statement	Source
1	Investigative Audit ( $X_1$ )	Evidence collection (IA1)	I can recognize indications of fraud in organizational reports or documents.	(I-API SJL, 2021)
		Evidence analysis (IA2)	I employ investigative techniques to systematically analyze evidence of suspected fraud.	
		Evidence evaluation (IA3)	I can assess the authenticity and validity of the evidence of fraud.	
		Reporting results (IA4)	I can compile investigation results reports in a clear and structured manner.	
2	Professional Judgment ( $X_2$ )	Decision Making (PJ1)	I consider all available evidence before making decisions regarding investigations.	(I-API SA 200, 2021)
		Evidence evaluation	I can assess the strengths and	

No	Variables	Dimensions	Statement	Source
		(PJ2)	weaknesses of the evidence of fraud in support of the investigation findings.	
		Risk assessment (PJ3)	I always consider the potential risk of fraud when formulating investigative procedures.	
		Compliance with standards (PJ4)	I can ensure that all investigative decisions comply with the applicable standards.	
3	Whistleblowing System ( $X_3$ )	Quality of Information (WS1)	I assess that the whistle-blowing system report presents information that can be used as a basis for investigation.	(Miceli et al., 2008)
		Relevance of information (WS2)	I feel that the whistleblowing system report provides appropriate information and supports the focus of the investigation.	
		Process efficiency (WS3)	I feel that the existence of a whistleblowing system can accelerate the investigation process.	
		Effectiveness of the system (WS4)	I believe that the whistle-blowing system increases the success rate of uncovering fraud cases.	
4	Occupational Fraud Disclosure ( $Y$ )	Corruption (OFD1)	I can identify indications of corruption, bribery, or gratuities in an organization.	(ACFE, 2024)
		Financial statement manipulation (OFD2)	I can recognize signs of manipulation or fabrication in an organization's financial statements.	
		Asset misappropriation (OFD3)	I can detect indications of misuse or embezzlement of an organization's assets.	
		Other fraud (OFD4)	I can recognize indications of other frauds within an organization that are not included in the fraud tree.	
5	Locus Of Control ( $Z$ )	Internal Control (LOC1-LOC3)	I believe that success in the investigation process is largely determined by my efforts and diligence.	(Rotter, 1966)
			I believe that my competence and experience significantly influence the accuracy of my assessments.	
			I believe that good self-control by whistleblowers can increase the effectiveness of the whistleblowing system.	
		External Control (LOC 4-LOC 6)	I feel that the results of the investigation process are influenced more by conditions beyond my control.	
			I feel that the pressure or directives from my superiors greatly influence my assessment results.	
			I believe that the effectiveness of a whistleblowing system is determined more by organizational policy than by the self-control of whistleblowers.	

### 3.3 Research Data Sources

The data were sourced from primary data obtained through the online distribution of questionnaires to respondents. The questionnaires were distributed from October to November 2025 with the assistance of the Yayasan Pendidikan Islam Al-Azhar (YPIA) Training Manager through a WhatsApp group chat. The research instrument used a 6-point Likert scale, which aimed to enhance the clarity of the research results and encourage respondents to provide more definitive answers to each statement.

#### 3.3.1 Research Population and Sample

The population in this study was internal auditors who participated in training at the Internal Audit Education Foundation in 2025, numbering approximately 600. YPIA was chosen based on its role as a national institution focused on improving human capital quality through education, training, certification, consulting, and research in the field of internal auditing since 1995. Thus, internal auditors who undergo training at the YPIA are considered to have a more comprehensive understanding of fraud disclosure. The sampling technique in this study was purposive, which involved selecting respondents based on a number of criteria in line with the research objectives (Sugiyono, 2023). The criteria used in this study were as follows:

- 1) Having more than two years of work experience as an internal auditor.
- 2) Has held or currently holds the position of a senior auditor.
- 3) Possess an understanding of fraud-disclosure practices.
- 4) Has been or is currently involved in fraud disclosure processes.

Although a non-probability method was used, this study determined the minimum sample size using the Slovin formula, which aims to ensure the adequacy of the sample size in statistical analysis. At a 5% error rate, the sample requirement was 240 respondents. This minimum sample size is also in line with the statement in Hair, Black, Babin, and Anderson (2019), where the sample size can be determined by multiplying the number of research indicators by a factor of 5 or 10. In this study, 22 indicators were used; therefore, the required sample size was 220 respondents.

#### 3.3.2 Data Analysis Method

The data were analyzed using SmartPLS version 4 software with a Partial Least Squares (PLS) approach. Stated by Ghozali (2023) and Hair et al. (2019), the stages in data analysis included outer model analysis, inner model analysis, direct effect testing, and moderation effect testing, with all testing criteria referring to the guidelines. Additionally, this study uses a one-tailed test based on a directional hypothesis, where the direction of influence between variables is predetermined based on the theoretical framework used.

## 4. Results and Discussions

### 4.1 Results

#### 4.1.1 Questionnaire Distribution

The online distribution of the questionnaire was assisted by the Training Program Manager by sending a Google Form link to the YPIA training participant group. In total, 336 questionnaires were successfully collected. The questionnaire data are presented in Table 2.

Table 2. Questionnaire type

Questionnaire Type		Questionnaire	Percentage (%)
Valid	Meets Research Criteria	309	91.96
	Does not meet research criteria	27	8.04
	Total	336	100

Table 2 shows that out of a total of 336 questionnaires collected after purposive sampling, 309 questionnaires or 91.96% met the research criteria and could be used in the analysis process. Meanwhile, 27 questionnaires (8.04 %) did not meet the research criteria and were therefore not included in the data analysis process. Therefore, it can be stated that most of the questionnaires received met the study criteria.

#### 4.1.2 Descriptive Statistics

Descriptive statistics were used to analyze the data by describing or depicting the collected data as it is, without intending to draw general conclusions or make generalizations (Sugiyono, 2023). The analysis results are presented in a table containing the mean and standard deviation of each exogenous, moderating, and endogenous variable. The results of the mean and standard deviation calculations for the five variables and their indicators are presented in Table 3.

Table 3. Descriptive statistics results per indicator

<b>Investigative Audit (<math>X_1</math>)</b>	<b>Mean Indicator</b>	<b>Standard Deviation</b>	
AI1	4.178	4.153	0.902
AI2	4.178		0.894
AI3	4.104		0.901
AI4	4.152		0.917
<b>Whistleblowing System (<math>X_2</math>)</b>	<b>Mean Indicator</b>	<b>Standard Deviation</b>	
WS1	4.181	4.135	0.948
WS2	4.087		0.956
WS3	4.123		0.961
WS4	4.149		0.994
<b>Professional Judgment (<math>X_3</math>)</b>	<b>Mean Indicator</b>	<b>Standard Deviation</b>	
PJ1	3.997	4.045	0.908
PJ2	4.042		0.949
PJ3	4.032		0.924
PJ4	4.110		0.921
<b>Occupational Fraud Disclosure (<math>Y</math>)</b>	<b>Mean Indicator</b>	<b>Standard Deviation</b>	
OFD1	3.696	3.689	0.984
OFD2	3.686		1.009
OFD3	3.741		1.026
OFD4	3.631		0.995
<b>Locus Of Control (<math>Z</math>)</b>	<b>Mean Indicator</b>	<b>Standard Deviation</b>	
LOC1	4.757	4.466	0.810
LOC2	4.625		0.886
LOC3	4.799		0.686
LOC4	4.602		0.755
LOC5	4.511		0.831
LOC6	3.502		1.700

#### 4.1.3 Model Analysis

In this study, the PLS measurement model was constructed by linking three exogenous constructs ( $X_1$ - $X_3$ ) to one endogenous construct ( $Y$ ). The model analysis was conducted in stages, which included the evaluation of the measurement model, and the evaluation of the structural model as follows:

##### 4.1.3.1 Outer Model Analysis

The measurement model analysis (outer model) was conducted with the aim of ensuring the measurement model to evaluate the measurement model to ensure that the indicators used were truly capable of representing the latent constructs being measured, both in terms of validity and reliability. The results of data processing using the PLS Algorithm to test the measurement model in this study are presented in Figure 2 below.

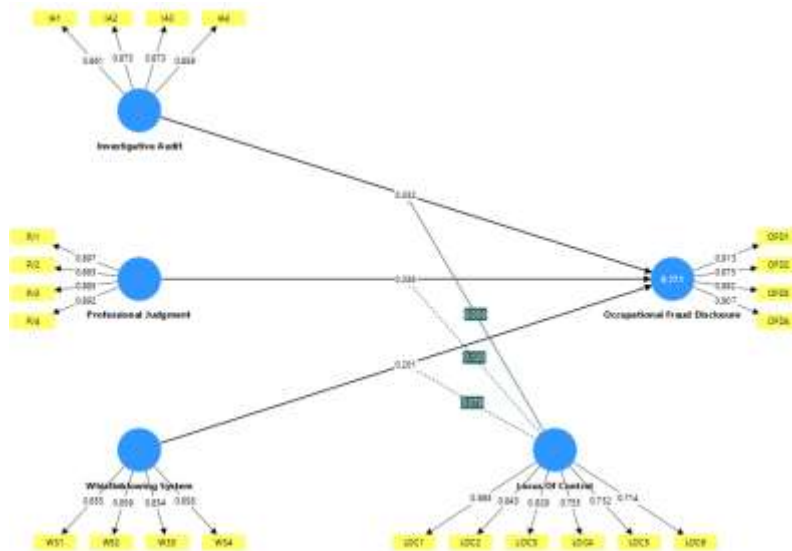


Figure 2. Measurement model test results

Based on Figure 2, the measurement model testing results using the PLS algorithm show the loading factors (indicators) of the five latent constructs and the path values from the exogenous constructs of Investigative Audit, Professional Judgment, Whistleblowing System, and Locus of Control to the endogenous construct of Occupational Fraud Disclosure.

#### 4.1.3.2 Convergent Validity (Assessment of Convergent Validity)

Testing for convergent validity must meet the specified criteria, namely, if the value of a loading factor is  $> 0.7$  and the average variance extracted (AVE) value is  $> 0.5$  (Hair et al., 2019). Table 3 presents the results of the convergent validity for each indicator.

Table 3. Results of convergent validity testing

Indicator	Outer Loadings	AVE	Validitas
AI1 ← Investigative Audit	0.861	0,751	Valid
AI2 ← Investigative Audit	0.873		Valid
AI3 ← Investigative Audit	0.873		Valid
AI4 ← Investigative Audit	0.859		Valid
PJ1 ← Professional Judgment	0.897	0,791	Valid
PJ2 ← Professional Judgment	0.883		Valid
PJ3 ← Professional Judgment	0.885		Valid
PJ4 ← Professional Judgment	0.892		Valid
WS1 ← Whistleblowing System	0.855	0,734	Valid
WS2 ← Whistleblowing System	0.859		Valid
WS3 ← Whistleblowing System	0.854		Valid
WS4 ← Whistleblowing System	0.858		Valid
LOC1 ← Locus of Control	0.863	0,631	Valid
LOC2 ← Locus of Control	0.843		Valid
LOC3 ← Locus of Control	0.829		Valid
LOC4 ← Locus of Control	0.755		Valid
LOC5 ← Locus of Control	0.752		Valid
LOC6 ← Locus of Control	0.714		Valid
OFD1 ← Occupational Fraud Disclosure	0.913	0,803	Valid
OFD2 ← Occupational Fraud Disclosure	0.873		Valid
OFD3 ← Occupational Fraud Disclosure	0.892		Valid
OFD4 ← Occupational Fraud Disclosure	0.907		Valid

Based on Table 3, all indicators have met the specified criteria, namely all loading factors have a value > 0.7 and all variables, namely Investigative Audit, Professional Judgment, Whistleblowing System, Locus of Control, and Occupational Fraud Disclosure, have an AVE value > 0.5 with an average AVE of all variables of 0.742; thus, all indicators are declared valid.

#### 4.1.3.3 Discriminant Validity (Assessment of Discriminant Validity)

Discriminant validity testing based on the Heterotrait-Monotrait Ratio (HTMT) must meet the established criteria to be accepted, namely, if the HTMT value between latent constructs is < 0.85 (Hair et al., 2019). The HTMT values between the latent constructs generated in the measurement model test are shown in Table 5.

Table 4. Heterotrait Monotrait Ratio (HTMT) for discriminant validity

Construct	IA	LOC	OFD	PJ	WS	LOC x PJ	LOC x WS	LOC x IA
Investigative Audit								
Locus of Control	0.239							
Occupational Fraud Disclosure	0.743	0.565						
Professional Judgment	0.617	0.204	0.730					
Whistleblowing System	0.472	0.204	0.603	0.488				
Locus of Control × Professional Judgment	0.021	0.073	0.18	0.043	0.009			
Locus of Control × Whistleblowing System	0.048	0.044	0.134	0.02	0.085	0.442		
Locus of Control × Investigative Audit	0.036	0.049	0.125	0.048	0.042	0.532	0.378	

Based on Table 5, the results of the discriminant validity test using the Heterotrait Monotrait Ratio (HTMT) show that all correlations between latent constructs have an HTMT value < 0.85. Thus, all latent constructs can be said to have good discrimination values and do not experience measurement overlap.

#### 4.1.3.4 Internal Consistency Reliability

This study used composite reliability and Cronbach's alpha values to ensure the reliability of each latent construct. The recommended values for obtaining reliable internal consistency are composite reliability and Cronbach's alpha > 0.7 (Hair et al., 2019). Table 6 presents the results of the internal consistency reliability testing.

Table 5. Internal consistency reliability values

Variable	Cronbach's alpha	Composite reliability (rho a)	Composite reliability (rho c)	Reliability
Investigative Audit	0.889	0.890	0.923	Reliable
Professional Judgment	0.912	0.912	0.938	Reliable
Whistleblowing System	0.879	0.880	0.917	Reliable
Locus Of Control	0.883	0.899	0.911	Reliable
Occupational Fraud Disclosure	0.918	0.922	0.942	Reliable

The results of internal consistency reliability in Table 6 above show that the five latent constructs, namely Investigative Audit, Professional Judgment, Whistleblowing System, Locus of Control, and Occupational Fraud Disclosure, have composite reliability values > 0.7 and Cronbach's alpha > 0.7. Thus, all latent constructs were declared reliable and suitable for analysis in the next stage.

#### 4.1.3.5 Inner Model Analysis

Structural model analysis (inner model) was conducted to evaluate the structural model to assess the strength and direction of influence between constructs and the overall predictive ability of the model (Ghozali, 2023). Hypothesis testing in this study was based on the relationship between exogenous and endogenous latent constructs, as well as the relationship between exogenous latent constructs, considering the percentage of variance model as follows:

Table 6. Adjusted R-Square value of endogenous constructs

Endogenous Construcs	R-square	R-square adjusted	Description
Occupational Fraud Disclosure	0.771	0.766	Strong

The value of Adjusted R-Square can be interpreted as indicating that the model formed is strong (0.75), moderate (0.50), or weak (0.25) in terms of the amount of variance in the construct that can be explained by the model (Ghozali, 2023). In Table 7, the adjusted R-squared value of 0.771 in the endogenous construct of Occupational Fraud Disclosure shows that the four exogenous constructs of Investigative Audit, Professional Judgment, and Whistleblowing System strongly explain 77.1% of the variance in Occupational Fraud Disclosure. The next test was conducted to assess the level of substantive influence of the exogenous construct on the endogenous construct using the F-squared value. The strength of this influence is classified into three categories: small influence (0.02), medium influence (0.15), and large influence (0.35) (Ghozali, 2023). Table 8 shows the results of the F-square value for each exogenous construct.

Table 7. Effect size testing of exogenous constructs (F-Square)

Exogenous Construct	Occupational Fraud Disclosure	Magnitude of Influence
Investigative Audit	0.308	Medium
Professional Judgment	0.313	Medium
Whistleblowing System	0.134	Small
Locus of Control	0.471	Large

In Table 8, the F-squared calculation shows that each exogenous construct has a different level of influence on Occupational Fraud Disclosure. Investigative Audit had a value of 0.308, and Professional Judgment had a value of 0.313, both of which were in the medium category. Meanwhile, the Whistleblowing System has a value of 0.134, which is small. Meanwhile, Locus shows a value of 0.471, making it the construct with the greatest influence in explaining Occupational Fraud Disclosure. The next structural model evaluation was conducted by examining the Q-Square value to assess the model's ability to predict observed values and the accuracy of the generated parameter estimates. Q-squared (Redundancy) values of 0.02, 0.25, and 0.50 indicate low, moderate, and high levels of predictive relevance, respectively (Ghozali, 2023). Table 9 presents the results of the Q-square values for the endogenous constructs.

Table 8. Q-Square values

Endogenous Construct	Q <sup>2</sup> predict	RMSE	MAE
Occupational Fraud Disclosure	0.751	0.502	0.381

Table 9 shows that the Q<sup>2</sup>predict value is 0.751, which is above 0.50, meaning that the model has high predictive relevance to the Occupational Fraud Disclosure construct. Additionally, the relatively small RMSE (0.502) and MAE (0.381) values indicate a low level of prediction errors. Thus, the model can be said to have good and reliable predictive capabilities. The next test was conducted by examining the Variance Inflation Factor (VIF) value in the structural model to ensure that there was no multicollinearity between exogenous constructs that could affect the stability of the path coefficient estimates. An exogenous construct is considered free from multicollinearity if the VIF value is < 5 (Ghozali, 2023). Table 10 shows the results of the inner VIF values for each exogenous construct.

Table 9. Multicollinearity test of exogenous constructs (Inner VIF)

Exogenous Construct	VIF
Investigative Audit → Occupational Fraud Disclosure	1,562
Locus of Control → Occupational Fraud Disclosure	1,081
Professional Judgment → Occupational Fraud Detection	1,576
Whistleblowing System → Occupational Fraud Disclosure	1,327
Locus of Control× Investigative Audit → Occupational Fraud Disclosure	1,467
Locus of Control× Professional Judgment → Occupational Fraud Disclosure	1,558
Locus of Control× Whistleblowing System → Occupational Fraud Disclosure	1,301

Table 10 shows that each exogenous construct has a Variance Inflation Factor (VIF) value of < 5. The Investigative Audit construct has a VIF value of 1.562, Professional Judgment has a VIF value of 1.576, Whistleblowing System has a VIF value of 1.327, and the Locus of Control interaction construct has VIF values of 1.467, 1.558, and 1.301, respectively. Thus, the model can be said to be free from multicollinearity issues.

#### 4.1.4 Model Significance with Bootstrapping

To analyze and determine the significance of the structural model in this study, a bootstrapping procedure was used, which involves forming an empirical distribution through the process of resampling research data (Ghozali, 2023). The results of the data are shown in Figure 3.

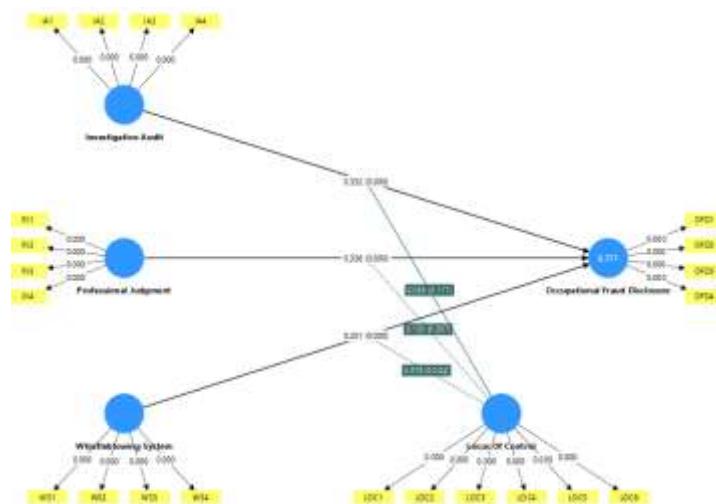


Figure 3. Structural models with bootstrapping

Figure 3 shows that the results of the bootstrapping method statistically indicate that the path coefficient values of the correlations between each latent construct at a 5% significance level have a significant effect. Next, the results of the significance test were further analyzed to test the research hypotheses, which included testing the direct and moderating effects as follows:

##### 4.1.4.1 Direct Effect Test

Based on the formulation of the hypotheses that have been developed, hypothesis testing in this study was conducted by referring to the results of path coefficient estimates in the structural model. The significance of the direct effect was evaluated based on the t-statistic and P-value, with the testing criteria being that the hypothesis was accepted if the P-value <  $\alpha$  (0.05) and the t-statistic > t-table (1.65) (Ghozali, 2023). The direct test results are presented in Table 11.

Table 10. Results of direct effect testing

Construct Relationship	Direct Effect		
	Original samples	T-statistics	P-values (1-tailed)
IA → OFD	0.332	10.294	0.000
PJ → OFD	0.336	10.100	0.000
WS → OFD	0.201	6,630	0.000

Table 11 shows that the results of the direct influence test can be described as follows:

- 1) Based on the original sample value as a coefficient of 0.332 with a p-value (0.000) <  $\alpha$  (0.05) and a t-statistic of 10.294 > t-table 1.65, it can be concluded that investigative audits have a positive effect on Occupational Fraud Disclosure.
- 2) Based on the original sample value as a coefficient of 0.336 with a p-value (0.000) <  $\alpha$  (0.05) and a t-statistic of 10.100 > t-table 1.65, it can be concluded that Professional Judgment has a positive effect on Occupational Fraud Disclosure.
- 3) Based on the original sample value as a coefficient of 0.201 with a p-value (0.000) <  $\alpha$  (0.05) and a t-statistic of 6.630 > t-table 1.65, it can be concluded that the Whistleblowing System has a positive effect on Occupational Fraud Disclosure.

#### 4.1.4.2 Moderation Effect Test

The moderation effect test in this study was conducted by forming an interaction construct (interaction term) that represents the multiplication of the exogenous variable and the moderator variable. The significance of the moderation effect was evaluated based on a p-value <  $\alpha$  (0.05) and a t-statistic > t-table (1.65) (Ghozali, 2023). The results of the moderation effect test are presented in Table 12.

Table 11. Result of the moderating effect test

Construct Relationship	Direct Effect		
	Original samples	T-statistics	P-values (1-tailed)
LOC × IA → OFD	0.056	1.568	0.117
LOC × PJ → OFD	0.120	2.691	0.007
LOC × WS → OFD	0.079	2.258	0.024

Table 12 shows that the results of the influence test with the moderating effect can be described as follows:

- 1) Based on the original sample value as a coefficient of 0.056 with a p-value (0.117) >  $\alpha$  (0.05) and a t-statistic of 1.568 < t-table 1.65, it can be concluded that Locus cannot strengthen the effect of Investigative Audit on occupational fraud disclosure.
- 2) Based on the original sample value as a coefficient of 0.120 with a p-value (0.007) <  $\alpha$  (0.05) and a t-statistic of 2.691 > t-table 1.65, it can be concluded that the Locus can strengthen the effect of Professional Judgment on Occupational Fraud Disclosure.
- 3) Based on the original sample value as a coefficient of 0.079 with a p-value (0.024) <  $\alpha$  (0.05) and a T-statistic of 2.258 > t-table 1.65, it can be concluded that the Locus can strengthen the influence of the Whistleblowing System on occupational fraud disclosure.

#### 4.1.5 Hypothesis Testing

Based on the results of the direct effect and moderating effect tests that has been conducted, Table 13 presents a summary of the acceptance or rejection of each hypothesis that has been formulated.

Table 12. Hypothesis test results

Hypotheses	Construct Relationship	Predictions	Direct Effect			Conclusions
			Original samples	T-statistics	P-values (1-Tailed)	
$H_1$	IA → OFD	Positive	0.332	10.294	0.000	$H_1$ Accepted

$H_2$	PJ $\rightarrow$ OFD	Positive	0.336	10.100	0.000	$H_2$ Accepted
$H_3$	WS $\rightarrow$ OFD	Positive	0.201	6.630	0.000	$H_3$ Accepted
$H_4$	LOC $\times$ IA $\rightarrow$ OFD	Strengthening	0.056	1.568	0.117	$H_4$ Rejected
$H_5$	LOC $\times$ PJ $\rightarrow$ OFD	Strengthening	0.120	2.691	0.007	$H_5$ Accepted
$H_6$	LOC $\times$ WS $\rightarrow$ OFD	Strengthening	0.079	2.258	0.024	$H_6$ Accepted

Table 13 shows that the results of hypothesis testing, both directly and moderating effects, can be described as follows:

- 1)  $H_1$ : The effect of Investigative Audit (IA) on Occupational Fraud Disclosure (OFD)  
The direct effect of the exogenous construct IA on the endogenous construct OFD has an original sample value as a coefficient of 0.332 with a p-value (0.000)  $<$   $\alpha$  (0.05) and a t-statistics of 10.294  $>$  t-table 1.65. This indicates that the first hypothesis is accepted, namely that Investigative Audit has a positive effect on Occupational Fraud Disclosure.
- 2)  $H_2$ : The effect of Professional Judgment (PJ) on Occupational Fraud Disclosure (OFD)  
The direct effect of the exogenous construct PJ on the endogenous construct OFD has an original sample value as a coefficient of 0.336 with a p-value (0.000)  $<$   $\alpha$  (0.05) and a t-statistic of 10.100  $>$  t-table 1.65. This indicates that the second hypothesis is accepted, namely that Professional Judgment has a positive effect on Occupational Fraud Disclosure.
- 3)  $H_3$ : The effect of the Whistleblowing System (WS) on the Occupational Fraud Disclosure (OFD)  
The direct effect of the exogenous construct WS on the endogenous construct OFD has an original sample value as a coefficient of 0.201 with a p-value (0.000)  $<$   $\alpha$  (0.05) and a t-statistic of 6.630  $>$  t-table 1.65. This indicates that the third hypothesis is accepted, namely that the Whistleblowing System has a positive effect on Occupational Fraud Disclosure.
- 4)  $H_4$ : The effect of Locus of Control (LOC) and Investigative Audit (IA) on Occupational Fraud Disclosure (OFD)  
The interaction effect of LOC and IA on OFD in the moderation effect test results has an original sample value as a coefficient of 0.056 with a p-value (0.117)  $>$   $\alpha$  (0.05) and a t-statistics of 1.568  $<$  t-table 1.65. This indicates that the fourth hypothesis is rejected, meaning that Locus cannot strengthen the effect of Investigative Audit on Occupational Fraud Disclosure.
- 5)  $H_5$ : The Effect of Locus of Control (LOC) and Professional Judgment (PJ) on Occupational Fraud Disclosure (OFD)  
The effect of the interaction between LOC and PJ on OFD in the moderation effect test results has an original sample value as a coefficient of 0.120 with a p-value (0.007)  $<$   $\alpha$  (0.05) and a t-statistic of 2.691  $>$  t-table 1.65. This indicates that the fifth hypothesis is accepted, namely that the Locus can strengthen the effect of Professional Judgment on Occupational Fraud Disclosure.
- 6)  $H_6$ : The effect of Locus of Control (LOC) and Whistleblowing System (WS) on Occupational Fraud Disclosure (OFD)  
The interaction effect of LOC and WS on OFD in the moderation effect test results has an original sample value as a coefficient of 0.079 with a p-value (0.024)  $<$   $\alpha$  (0.05) and a t-statistic of 2.258  $>$  t-table 1.65. This indicates that the sixth hypothesis is accepted, namely that the Locus can strengthen the effect of the Whistleblowing System on occupational fraud disclosure.

## 4.2 Discussion

### 4.2.1 The Influence of Investigative Audit on Occupational Fraud Disclosure

Table 13 shows that investigative audit has a P-value of 0.000  $<$  0.05 and a t-statistic of 10.294  $>$  t-table 1.65 with a coefficient value of 0.332, which means that investigative audit has a positive effect on occupational fraud disclosure. These results indicate that the more effective the implementation of investigative audits, the higher the organization's ability to detect and prove occupational fraud. The results of this study also confirm the role of fraud hexagon theory in explaining that investigative audits can limit the factors of opportunity, capability, collusion, ego, and rationalization as the main conditions for fraud to occur. Investigative audits can directly reduce opportunities because strict and evidence-based examination procedures reduce the gaps for committing and concealing fraud. In contrast, increased supervision and the probability of fraud detection can reduce ego and rationalization, as

perpetrators realize that their actions are more easily detected and proven. Furthermore, the results of this study are in line with the findings of research conducted by [Cahyaningsih et al. \(2025\)](#) and [Abdullah et al. \(2024\)](#), who found that investigative audits have a positive effect on fraud disclosure. By conducting investigative audits in a systematic and structured manner, organizations can improve the effectiveness of the process of identifying, collecting evidence, and proving fraud, thereby increasing the likelihood of uncovering fraudulent practices.

#### *4.2.2 The Influence of Professional Judgment on Occupational Fraud Disclosure*

Table 13 shows the results of the hypothesis test, indicating that professional judgment has a p-value of  $0.000 < 0.05$  and a t-statistic of  $10.100 > t\text{-table } 1.65$  with a coefficient value of 0.336, which means that professional judgment has a positive effect on occupational fraud disclosure. These results indicate that the higher the quality of professional judgment of auditors, the greater their ability to detect complex and covert patterns of fraud. The results of this study also confirm the role of attribution theory in explaining how the auditor's attribution process affects the quality of professional judgment in assessing evidence and detecting indications of fraud.

Auditors with good professional judgment are better able to accurately attribute indications of fraud, that is, to distinguish whether an anomaly occurred due to situational factors (procedural errors) or dispositional factors (individuals' intent and behavior). This accurate attribution ability makes auditors more professionally skeptical and more objective in evaluating behavior and evidence, thereby increasing the accuracy of detecting and uncovering occupational fraud. Furthermore, the results of this study are in line with the findings of research conducted by [Dianto \(2023\)](#) and [Lutfi et al. \(2023\)](#), who found that professional judgment has a positive influence on fraud detection. The quality of auditors' professional judgment in analyzing evidence, assessing risks, and making audit decisions plays an important role in increasing fraud detection effectiveness.

#### *4.2.3 The Influence of Whistleblowing System on Occupational Fraud Disclosure*

Table 13 shows that the hypothesis test results indicate that the POF whistleblowing system has a P-value of  $0.000 < 0.05$  and a t-statistic of  $6.630 > t\text{-table } 1.65$  with a coefficient value of 0.201, which means that the whistleblowing system has a positive effect on the disclosure of occupational fraud. These results indicate that the better the implementation of a whistle-blowing system in an organization, the greater the chance of quickly uncovering fraudulent practices. The results of this study also confirm the role of attribution theory in explaining that an individual's decision to utilize the whistleblowing system is influenced by the process of attribution to the perpetrator's intent.

An effective whistleblowing system encourages individuals within an organization to make internal attributions to the deviant behavior they observe, namely, by viewing fraud as an act that stems from the perpetrator's personal factors (such as intent and morality) and not solely because of situational pressure. This condition reinforces the perception that fraud perpetrators have control over their actions, thereby increasing employees' sense of responsibility to report violations they encounter. Furthermore, the results of this study are in line with the findings of research conducted by [Syafitri and Syafdinal \(2023\)](#) and [Soesanto et al. \(2024\)](#) who found that a whistleblowing system has a positive effect on fraud disclosure. The existence of a violation reporting system can increase the probability of detecting occupational fraud, so that the potential for fraud can be detected earlier, and its impact minimized.

#### *4.2.4 The Influence of Locus of Control in Moderating the Relationship Between Investigative Audit and Occupational Fraud Disclosure*

Table 13 shows that the hypothesis testing results indicate that the interaction between locus of control and investigative audits has a p-value of  $0.117 > 0.05$  and a t-statistic of  $1.568 < t\text{-table } 1.65$  with a coefficient value of 0.056, which means that locus of control cannot strengthen the influence of investigative audits on occupational fraud disclosure. This result indicates that the effectiveness of investigative audits in uncovering fraud is not always influenced by auditors' psychological factors but is determined more by the implementation of the technical audit mechanisms themselves. Furthermore, this finding contradicts the statement by [Indraswari et al. \(2024\)](#), who state that auditors with a strong locus of control tend to be more encouraged to conduct investigative audits carefully and produce more

reliable reports. This difference shows that individual psychological factors, such as the locus of control, do not necessarily play a direct role in strengthening the implementation of investigative audits in the fraud disclosure process. This may be due to the scope of investigative audits that places greater emphasis on the application of audit procedures, compliance with SJI guidelines, and the use of investigation techniques in finding and collecting fraud evidence, so that the room for auditors' psychological factors to influence investigation results becomes relatively limited. Thus, this research provides a new theoretical contribution by affirming that in the implementation of a highly regulated investigative audit, technical audit mechanisms have more influence than auditors' psychological factors.

#### *4.2.5 The Influence of Locus of Control in Moderating the Relationship between Professional Judgment and Occupational Fraud Disclosure*

Table 13 shows that the hypothesis testing results indicate that the interaction between the locus of control and professional judgment has a p-value of  $0.007 < 0.05$  and a t-statistic of  $2.691 > t\text{-table } 1.65$ , with a coefficient value of 0.120. This implies that the locus of control can strengthen the influence of professional judgment on occupational fraud disclosure. This result indicates that auditors with a strong internal locus of control tend to demonstrate a higher ability to apply their professional judgment. Furthermore, this research finding is consistent with the statement by [Noho et al. \(2021\)](#), which states that an auditor with a high locus of control can overcome stress and work environment pressures through self-control, thereby improving the quality of assessments to be made.

This indicates that auditors with a strong internal locus of control tend to have a higher level of responsibility, are more critical in evaluating audit evidence, and have resilience to various forms of external pressure, thus being able to produce more objective and accurate assessments in the fraud disclosure process. This condition shows that individual psychological factors play an important role in improving the quality of auditors' professional judgment, especially in high-risk and highly uncertain situations. Thus, this study provides a new theoretical contribution by proving that the application of auditors' professional judgment is not solely determined by technical competence but is also influenced by psychological factors that play a role in improving the quality of audit assessments.

#### *4.2.6 The Influence of Locus of Control in Moderating the Relationship Between Whistleblowing System on Occupational Fraud Disclosure*

Table 13 shows that the hypothesis test results indicate that the interaction between locus of control and whistleblowing systems has a p-value of  $0.024 < 0.05$  and a t-statistic of  $2.258 > t\text{-table } 1.65$  with a coefficient value of 0.079. This means that the locus of control can strengthen the influence of the whistleblowing system on occupational fraud disclosure. These results indicate that the stronger an individual's internal locus of control, the higher their intention to report fraud through the whistleblowing system. In addition, the results of this study are in line with the statement [Purbaningrum and Suhartini \(2023\)](#), which states that individuals with a strong locus of control tend to have a higher intention or courage to report indications of fraudulent acts.

This statement indicates that individuals' belief in their ability to control the consequences of their actions plays a role in shaping a more proactive attitude and a higher sense of moral responsibility in reporting fraudulent practices in the workplace. Additionally, the perception that the results of one's actions are within one's control encourages individuals to be more courageous in facing pressure and potential negativity, thereby supporting continuous efforts to expose fraud. Thus, the results of this study provide a new theoretical contribution by proving that the effectiveness of a whistle-blowing system is not only determined by the quality of the reporting mechanisms available, but is also influenced by individual psychological factors that play a role in increasing the intention and courage to report fraudulent practices.

## **5. Conclusions**

### **5.1 Conclusion**

Based on the results of the data testing and the discussion described above, several conclusions can be formulated. First, the study shows that investigative audits have a positive effect on Occupational Fraud Disclosure, with a significant  $\beta$  value of 0.332,  $P = 0.000$ , and  $t = 10.294$ . Similarly, Professional Judgment was found to have a positive influence on Occupational Fraud Disclosure, with a  $\beta$  value of 0.336,  $P = 0.000$ , and  $t = 10.100$ . Furthermore, the study indicates that the Whistleblowing System (WBS) has a positive effect on fraud disclosure, as evidenced by a  $\beta$  value of 0.201,  $P = 0.000$ , and  $t = 6.630$ . However, the study also found that Locus does not strengthen the impact of investigative audits on Occupational Fraud Disclosure, with a  $\beta$  value of 0.056,  $P = 0.117$ , and  $t = 1.568$ . On the other hand, Locus was found to strengthen the influence of Professional Judgment on Occupational Fraud Disclosure, as shown by a  $\beta$  value of 0.120,  $P = 0.007$ , and  $t = 2.691$ . Lastly, the study confirms that Locus also strengthens the impact of the Whistleblowing System on Occupational Fraud Disclosure, with a  $\beta$  value of 0.079,  $P = 0.024$ , and  $t = 2.258$ . These findings underscore the significant role of investigative audits, professional judgment, and the whistleblowing system in promoting fraud disclosure, as well as the important moderating effect of locus in certain areas.

### **5.2 Research Limitations**

This study has several limitations that should be considered and addressed in future research. First, the coefficient of determination value of 0.771 indicates that the research model explains 77.1% of the variation in occupational fraud disclosure, leaving 22.9% influenced by factors not covered in the model. Therefore, future research could explore additional variables that may better account for the remaining unexplained variation. Second, the population used in this study is limited to internal auditors who attended training at a single professional training institution, YPIA. As a result, the findings may not be generalizable to internal auditors trained at other institutions, suggesting that future studies should include a more diverse group of auditors from various training programs. Lastly, the sample used in this study consists solely of internal auditors, which may not fully represent the broader range of auditors across different sectors. Future research could expand the sample to include auditors from various industries or organizations to ensure a more comprehensive understanding of the factors affecting fraud disclosure across different professional backgrounds.

### **2.3 Suggestions and Directions for Future Research**

Based on these limitations, several recommendations for improvement can be made for future research. First, future studies should consider adding other relevant variables, such as forensic audits or professional skepticism, which could provide a more comprehensive understanding of the factors influencing occupational fraud disclosure. Additionally, future research could replace the current variables with others like organizational culture or Good Corporate Governance (GCG), both of which could serve as independent variables or even new moderators. These variables may provide deeper insights into the complex relationships at play. Second, future research should expand the population and sample by involving multiple training institutions, such as the Indonesian Internal Auditor Professional Certification Institute and the Indonesian Internal Auditor Professional Institute, to ensure the findings are more generalizable. Additionally, including auditors with international certifications, such as Certified Internal Auditors (CIA), could broaden the scope and provide insights from a global perspective.

## **Acknowledgement**

The researcher sincerely thanks the supervising lecturer for the guidance and knowledge provided during the research process. In addition, the researcher would like to thank the Internal Audit Education Foundation for the permission granted during the data collection process, as well as all respondents who were willing to take the time to participate in this study. Finally, the researcher would like to express their deepest gratitude to their family and partner for their prayers and support throughout the completion of this study.

## Author Contributions

ZF conceptualized and designed the study, as well as contributed to data collection and analysis. ZF was responsible for the development of the theoretical framework and the final approval of the manuscript. The research design, data collection, and literature review were supported by the research team from the University of Muhammadiyah Jakarta. The authors also contributed to drafting and revising the manuscript. All authors approved the final version of the manuscript.

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