INVEST: Jurnal Inovasi Bisnis dan Akuntansi
Volume 7 No 1 (2026) Page : 469-486

The Role of Whistleblowing Systems and Ethical Culture as Moderation in The Prevention of Financial Reporting Fraud

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ABSTRACT

The purpose of this study was to analyze the consistency of factors that affect the intention of behavior based on The Theory of Planned Behavior with whistleblowing and ethical culture as a variable of moderation in fraud prevention. The sampling method used is purposive sampling. Respondents consisted of 109 finance/accounting managers from 27 state-owned companies in Semarang. Data analysis was done by structural equation modeling (SEM) based on Partial Least Squares (PLS) with SmartPLS 4.0. The novelty of this study, is first, the addition of whistleblowing and ethical culture as moderation variables, which can affect the intention of behavior in fraud prevention. Second, there is an additional one new independent variable, namely moral commitment, can be a driving factor that adds to the accuracy of predictions of one's behavioral intentions. The results showed that behavioral attitudes, subjective norms, behavioral control and moral commitment have a positive and significant effect on the intention of fraud prevention behavior where the value of t count is greater than T table (>1.64) and p-value is smaller than alpha 5% (0.000 < 0.05). As for the moderation variable, the findings suggest that ethical culture can strengthen the influence of behavioral intentions on fraud prevention. However, whistleblowing does not contribute significantly because employees still have difficulty understanding reporting procedures. Therefore, companies need to strengthen whistleblowing systems with collaboration between departments supported by top management, such as regular internal audits, strict anti-fraud policies, building a culture of transparency and integrity and providing secure reporting channels to improve internal controls, as part of fraud prevention. This research provides an academic contribution in understanding the relationship between various factors that drive behavior in fraud prevention efforts in realizing transparent, accountable and integrity financial governance.

Keywords: *Behavioral Attitudes, Subjective Norms, Moral Commitment, Fraud Prevention*

1. Introduction

Financial statements serve as a primary instrument of accountability and communication between management and stakeholders, providing essential information for strategic decision-making and policy formulation. Consequently, financial reporting must comply with established accounting standards and accurately reflect the organization's financial condition. However, financial reporting fraud remains a persistent challenge worldwide, involving intentional misstatements, omissions, or manipulations designed to mislead users of financial statements. Such fraudulent practices undermine organizational credibility, distort economic decision-making, and reduce public trust in corporate governance systems (Gillett & Uddin, 2005).

The issue of financial reporting fraud continues to attract global attention due to its substantial economic consequences. According to the Association of Certified Fraud Examiners (ACFE, 2025), occupational fraud causes organizations to lose approximately 5% of their annual

Submitted : February 15, 2026, Accepted : May 30, 2026, Published: May 30, 2026
e-ISSN (2745-4606), p-ISSN (2745-4614)
http://journal.al-matani.com/index.php/invest/index

revenues, with financial statement fraud representing the least frequent but most costly category of fraud. Empirical evidence further indicates that fraudulent financial reporting is generally associated with management involvement because senior executives possess the authority and opportunity to manipulate accounting information (Gillett & Uddin, 2005). Consistent with the Fraud Triangle Theory, pressure, opportunity, and rationalization remain dominant factors encouraging fraudulent behavior within organizations (Rahman & Jie, 2024).

In Indonesia, financial misconduct remains a serious concern in both public and state-owned institutions. Data from the Central Java Provincial Audit Board (2024) revealed 43 cases of budget misuse between 2018 and 2024, involving 95 suspects and resulting in total state losses of approximately IDR 16.7 billion. Although the number of cases declined in 2023 and 2024, the persistence of such incidents indicates weaknesses in fraud prevention mechanisms, internal control systems, and ethical governance practices. These findings highlight the need for stronger preventive approaches that emphasize organizational integrity, transparency, accountability, and early detection mechanisms.

One important mechanism for preventing fraud is the implementation of an effective whistleblowing system. Whistleblowing allows employees to report unethical or illegal activities and has been recognized as one of the most effective tools for detecting and preventing corporate fraud (Dyck et al., 2010). Research demonstrates that whistleblowers are responsible for uncovering a significant proportion of corporate fraud cases that would otherwise remain hidden from regulators and stakeholders (Dyck et al., 2010). Furthermore, employees' intentions to report wrongdoing are influenced by factors such as reporting channels, organizational support, bystander presence, and the perceived power of wrongdoers (Gao et al., 2015). Nevertheless, many employees remain reluctant to report fraud because of fear of retaliation, discrimination, and negative career consequences (Rehg et al., 2008). Therefore, understanding the behavioral factors that influence whistleblowing and fraud prevention remains an important research agenda.

From a behavioral perspective, the Theory of Planned Behavior (TPB) provides a comprehensive framework for explaining individual intentions and behaviors. TPB posits that attitudes toward behavior, subjective norms, and perceived behavioral control significantly influence behavioral intentions, which subsequently determine actual behavior (Armitage & Conner, 2001). The effectiveness of TPB has been widely validated across various ethical and organizational contexts (Yoon, 2011). In the context of financial reporting fraud, behavioral intention is considered a critical antecedent of fraud prevention behavior because individuals generally evaluate available information and potential consequences before engaging in ethical or unethical actions (Zawawi et al., 2011).

In addition to whistleblowing systems, ethical culture plays a crucial role in shaping organizational behavior. Ethical culture reflects the shared values, norms, and expectations that guide employee conduct within an organization. Organizational culture influences how individuals perceive ethical issues and respond to opportunities for misconduct (Leung et al., 2005). A strong ethical culture encourages integrity, accountability, and compliance with organizational rules, whereas a weak ethical culture may normalize unethical practices and facilitate fraud. Recent evidence suggests that ethical culture strengthens corporate governance mechanisms and supports whistleblowing effectiveness in preventing financial misconduct (Smaili, 2023). Therefore, ethical culture may function as an important contextual factor that strengthens or weakens the relationship between behavioral intention and fraud prevention behavior.

Despite extensive studies on fraud prevention, several research gaps remain. First, previous studies have primarily examined the direct effects of attitudes, subjective norms, and

perceived behavioral control on behavioral intentions based on the Theory of Planned Behavior (Armitage & Conner, 2001; Yoon, 2011). Second, prior research investigating whistleblowing has predominantly treated whistleblowing as either an independent variable or a dependent variable rather than as a contextual mechanism that moderates the relationship between intention and fraud prevention behavior (Dyck et al., 2010; Gao et al., 2015). Third, studies examining ethical culture have generally focused on its direct influence on ethical decision-making and organizational performance, with limited attention to its moderating role in strengthening fraud prevention behavior (Leung et al., 2005; Smaili, 2023). Furthermore, previous fraud studies have largely emphasized fraud detection using financial statement analysis and fraud models such as the Fraud Triangle or Fraud Hexagon, rather than examining individual behavioral processes underlying fraud prevention (Rahman & Jie, 2024).

Accordingly, this study addresses these gaps by integrating the Theory of Planned Behavior with whistleblowing systems and ethical culture as moderating variables in explaining fraud prevention behavior among financial and accounting managers in state-owned enterprises. The novelty of this study lies in three aspects. First, it extends TPB by incorporating whistleblowing systems and ethical culture as moderators between behavioral intention and fraud prevention behavior. Second, it shifts the focus from fraud detection toward fraud prevention behavior at the individual level. Third, it examines financial and accounting managers in state-owned enterprises, a context that has received limited empirical attention despite its vulnerability to financial misconduct.

The urgency of this research is reflected in the continuing occurrence of financial reporting fraud and budget misuse, which threaten organizational sustainability, public trust, and economic accountability. Understanding the behavioral and organizational factors that encourage fraud prevention is essential for developing effective governance policies and internal control mechanisms. Therefore, the objective of this study is to analyze the influence of attitudes, subjective norms, and perceived behavioral control on behavioral intentions and fraud prevention behavior, as well as to examine the moderating roles of whistleblowing systems and ethical culture in strengthening fraud prevention efforts. The findings are expected to contribute to the development of forensic accounting, organizational behavior, and corporate governance literature while providing practical recommendations for regulators, policymakers, and organizational leaders in promoting transparent, accountable, and ethical financial governance.

2. Literature Review

Theory of Planned Behavior

The Theory of Planned Behavior emphasizes that individual behavior is influenced by intention, which is formed from attitudes, subjective norms, perceived behavioral control, and moral considerations. According to Armitage and Conner (2001), intention is the most immediate determinant of behavior, while attitudes, subjective norms, and perceived behavioral control significantly predict behavioral intentions. In the context of whistleblowing, an individual's intention to report fraud is influenced by a positive attitude toward ethical conduct, social support from colleagues and supervisors, and confidence in the ability to report wrongdoing effectively (Mustafida, 2020). Similarly, Leonard et al. (2004) found that ethical behavioral intentions are strongly associated with perceived behavioral control and individual ethical considerations. Furthermore, Yoon (2011) demonstrated that the Theory of Planned Behavior remains relevant in

explaining ethical decision-making processes across organizational settings. Therefore, TPB provides a suitable theoretical framework for explaining fraud prevention behavior.

Fraud Prevention

Financial statement fraud refers to intentional misstatements, omissions, or manipulations of accounting information aimed at misleading users of financial statements and influencing economic decision-making (Rezaee & Riley, 2010). Such practices may involve falsifying accounting records, altering financial figures, or concealing material information that can result in substantial losses for stakeholders (Persons, 1995). Fraud prevention encompasses policies, procedures, internal controls, ethical standards, training, and monitoring mechanisms designed to reduce opportunities for fraudulent activities. Recent studies continue to show that effective fraud prevention requires strong governance systems and organizational commitment (Rahman & Jie, 2024; Yulianti et al., 2024).

The Effect of Behavioral Attitudes on Fraud Prevention Intentions

Attitude represents an individual's positive or negative evaluation of a particular behavior. According to the Theory of Planned Behavior, individuals who perceive fraud prevention positively are more likely to develop intentions to engage in such behavior (Armitage & Conner, 2001). Positive attitudes toward ethical conduct increase an individual's willingness to avoid fraudulent practices and support fraud prevention initiatives. Similarly, Leonard et al. (2004) found that favorable attitudes toward ethical behavior significantly influence behavioral intentions. Therefore, individuals who possess positive attitudes toward fraud prevention are expected to demonstrate stronger intentions to prevent fraud.

H1: *Attitude toward behavior has a positive effect on the intention to prevent fraud.*

The Effect of Subjective Norms on Fraud Prevention Intentions

Subjective norms refer to perceived social pressure from important individuals or groups regarding whether a behavior should be performed. Social expectations from supervisors, colleagues, and organizational leaders can encourage individuals to act ethically and avoid fraudulent behavior. Leung et al. (2005) argued that cultural and social environments significantly shape individual behavioral intentions. Likewise, Zawawi et al. (2011) found that subjective norms significantly influence intentions related to fraudulent financial reporting. Therefore, stronger social support for ethical behavior is expected to increase intentions to prevent fraud.

H2: *Subjective norms have a positive effect on the intention to prevent fraud.*

The Effect of Perceived Behavioral Control on Fraud Prevention Intentions

Perceived behavioral control refers to an individual's belief regarding their capability to perform a specific behavior. Individuals who believe they possess sufficient resources, authority, and competence to prevent fraud are more likely to develop strong preventive intentions. Armitage and Conner (2001) demonstrated that perceived behavioral control is one of the strongest predictors of behavioral intentions. Similar findings were reported by Leonard et al. (2004) and Yoon (2011), who found that perceived control significantly influences ethical behavioral intentions. Therefore, higher perceived behavioral control is expected to strengthen intentions to prevent fraud.

H3: *Perceived behavioral control has a positive effect on the intention to prevent fraud.*

The Effect of Moral Commitment on Fraud Prevention Intentions

Moral commitment reflects an individual's dedication to ethical principles and professional responsibilities. Individuals with stronger moral commitment are more likely to reject unethical practices and support fraud prevention efforts. Forte (2005) found that moral reasoning significantly influences ethical decision-making among managers. Likewise, Gillett and Uddin (2005) argued that ethical considerations play a critical role in reducing the likelihood of fraudulent financial reporting. Managers with stronger moral commitment are therefore expected to develop stronger intentions to prevent fraud.

H4: *Moral commitment has a positive effect on the intention to prevent fraud.*

The Effect of Intentions on Fraud Prevention Behavior

Behavioral intention is widely recognized as the most direct predictor of actual behavior. According to Armitage and Conner (2001), individuals who possess stronger intentions are more likely to perform the corresponding behavior. In fraud prevention contexts, intentions to behave ethically can influence actual preventive actions. Similar findings were reported by Leonard et al. (2004) and Yoon (2011), who demonstrated that behavioral intentions significantly predict ethical behavior. Therefore, stronger intentions are expected to encourage fraud prevention behavior.

H5: *Intention has a positive effect on individual behavior in fraud prevention.*

The Moderating Effect of Whistleblowing on the Relationship Between Intentions and Fraud Prevention

Whistleblowing systems represent an important organizational mechanism for detecting and preventing fraud. Dyck et al. (2010) demonstrated that whistleblowers play a crucial role in uncovering corporate fraud cases that often remain undetected through traditional control systems. Furthermore, Rehg et al. (2008) found that organizational protection and support influence employees' willingness to report misconduct. Effective whistleblowing systems provide secure reporting channels and reduce fears of retaliation, thereby encouraging individuals to act on their ethical intentions. Therefore, whistleblowing systems are expected to strengthen the relationship between intentions and fraud prevention behavior.

H6: *Whistleblowing moderates the effect of intentions on fraud prevention.*

The Moderating Effect of Ethical Culture on the Relationship Between Intentions and Fraud Prevention

Ethical culture reflects the values, norms, and expectations that guide employee behavior within an organization. Organizations with strong ethical cultures are more likely to encourage ethical conduct and discourage fraudulent behavior. Treviño and Brown (2004) argued that ethical management practices significantly influence organizational ethical behavior. Similarly, Weaver and Treviño (2001) emphasized that ethical compliance systems and organizational fairness contribute to ethical decision-making. Leung et al. (2005) further highlighted the importance of organizational culture in shaping employee behavior. In addition, Pennino (2002) found that ethical reasoning and moral development influence managerial decision-making. Therefore, ethical culture is expected to strengthen the relationship between intentions and fraud prevention behavior.

H7: *Ethical culture moderates the effect of intentions on fraud prevention.*

Model Development

This study developed an empirical research model that describes the relationship between research variables. The empirical Model of the study is presented in Figure 1 :

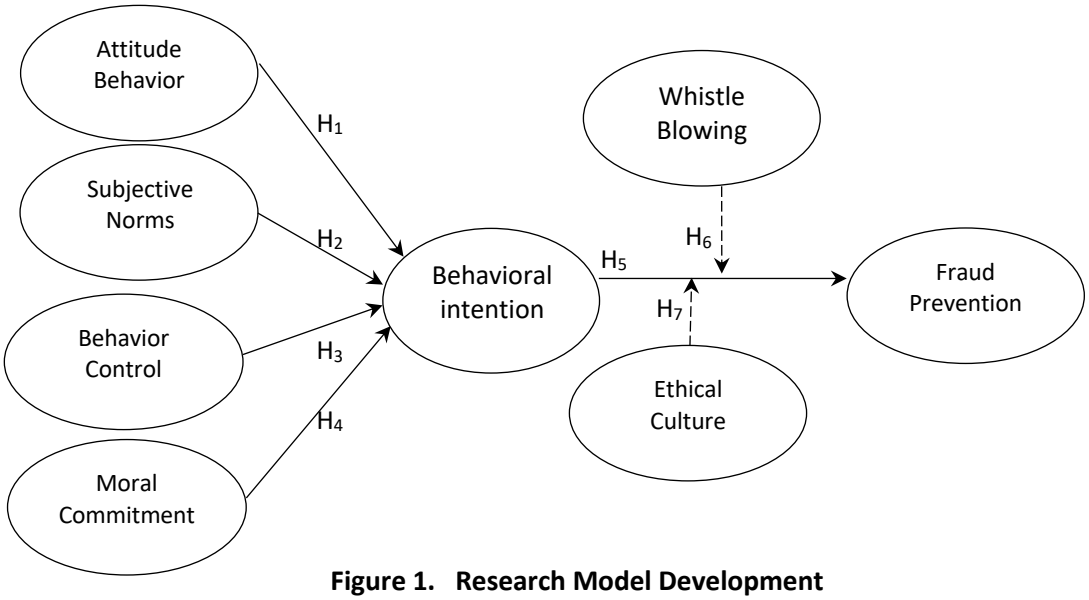

Figure 1. Research Model Development

3. Methods

This study employed a quantitative approach using primary data collected through a structured questionnaire survey. The research was conducted in 27 state-owned enterprises (SOEs) located in Semarang, Indonesia. The selection of SOEs was based on two considerations. First, these organizations are required to implement a whistleblowing system in accordance with Ministerial Regulation No. PER-01/MBU/2021 on Good Corporate Governance and Ministerial Secretary Decree No. SK-16/S.MBU/2022 concerning the assessment and evaluation of governance implementation. Second, despite their strategic role in contributing to national economic growth and state revenue, SOEs continue to face risks of financial misconduct that may result in significant financial losses, making them a relevant setting for examining fraud prevention behavior.

The population comprised financial managers and accounting managers working within the selected SOEs. A purposive sampling technique was applied to ensure that respondents possessed the knowledge and experience necessary to provide reliable information regarding fraud prevention practices. The sampling criteria included: (1) holding a position as a financial manager, accounting manager, or department head at either the middle-management or lower-management level, with direct responsibility for financial reporting activities; and (2) having at least five years of professional experience in financial management or financial statement preparation. Based on these criteria, the respondents were considered capable of providing informed assessments of organizational fraud prevention mechanisms.

Data were collected using a structured questionnaire consisting of measurement items adapted from established instruments. All indicators were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire measured seven

constructs: attitude toward behavior, subjective norms, perceived behavioral control, moral commitment, behavioral intention, whistleblowing system, and ethical culture.

The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0 software. This approach was selected because it is suitable for examining complex structural relationships among latent variables, does not require strict assumptions of multivariate normality, and performs well with relatively small sample sizes. The analysis was conducted in two stages: measurement model evaluation and structural model evaluation. The measurement model was assessed through convergent validity, discriminant validity, and reliability testing. Convergent validity was evaluated using outer loadings and Average Variance Extracted (AVE), while discriminant validity was examined using the Heterotrait–Monotrait Ratio (HTMT). Reliability was assessed through Cronbach's Alpha and Composite Reliability. The structural model evaluation included collinearity assessment using the Variance Inflation Factor (VIF), coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and hypothesis testing through bootstrapping procedures.

4. Results and Discussion

This research starts in July 2025 to December 2025. Respondents in this study were staff and financial/ accounting managers. The number of companies that became the object of research as many as 27 companies that are still active. The total number of questionnaires distributed was 135 copies. Based on 135 copies distributed, there were 26 answers (19.25%) of the questionnaire that were not suitable for use, this is because the questions related to research variables were not completely filled while the questionnaire was fully filled with 109 copies with an effective return rate of 80.75%. A summary of the total spread and return of the questionnaire can be presented in the following table 1 :

Tabel 1. Summary Of Questionnaire

Description	Amount	Percentage
a). Distributed questionnaire	135	100.00%
b). Returned questionnaire	135	100.00%
c). Questionnaires that are not worth using	26	19.25%
d). Questionnaires used and processed	109	80.75%

Source : Processed Primary Data, 2025

The number of samples of 109 respondents can be said to be quite adequate because in accordance with the required number of samples, the questionnaire return rate of 80.75% was also considered very adequate with regard to the sensitive nature of research on behavior (Loch and Conger, 2022). Data respondents can be seen in Table 2, the following :

Table 2. Characteristics Of Respondents

Characteristics	Description	Amount (n)	Percentage (%)
Gender	Male	87	79.81
	Female	22	20.19
Age	25–40 years old	49	44.90
	More than 40 years old	60	55.10
Education Level	Bachelor Degree	77	70.60

Characteristics	Description	Amount (n)	Percentage (%)
	(D3/S1)		
	Master's Degree (S2)	32	29.40
Work Experience	5–10 years	68	62.40
	More than 10 years	41	37.60
Educational Background	Accounting	83	76.10
	Non-Accounting	26	23.90
Employment Level	Lower Managers	42	38.50
	Middle Managers	67	61.50
Total Respondents		**109**	**100.00**

Source : Primary data processed by the authors (2025).

From Table 2 Above, It can be seen that the age distribution of respondents is between 25 and 40 years old, with 49 people (44.90%). This age group is often distinguished by very good technical skills. Criteria in this age group are usually eager to innovate, adopt new procedures and adapt quickly to changes in the work environment. According to education level, 77 people (70.6%) received S1 education, while 32 (29.4%) received S2 education. Meanwhile, 41 people (37.6%) had more than ten years of expertise in their specialty, while 68 (62.4%) had one to ten years of work experience. 83 people (76.1%) have an accounting education background, while 26 (23.9%) are not from accounting education. Furthermore, lower-level managers 42 people (38.5%), and middle-level managers 67, (61.5%).

Non-Response Bias.

Non-response bias testing is carried out to determine whether or not there are differences in characteristics between respondents who are willing to answer and respondents who are not willing to answer the research questionnaire. In this study, respondents were categorized as a group that gave a quick response as many as 64 respondents and 45 respondents were categorized as a group that responded slowly. The results of non-response bias testing with t-tests are presented in the following Table 3 :

Table 3. Non-Response Bias

Latent Variable	***Levebe's test Equal Variance Assummed***				
	F	**Sig.**	**T**	**Df**	**Sig (2-*tailed*)**
Attitude Behavior	12.695	0.001	3.999	109	0.521
Subjective Norms	6.548	0.012	5.361	109	0.811
Behavior Control	0.099	0.754	6.732	109	0.766
Moral Commitment	6.468	0.012	4.868	109	0.325
Behavioral Intentions	1.606	0.208	5.911	109	0.379
Whistleblowing	2.617	0.109	2.199	109	0.587
Ethical Culture	0.024	0.877	3.764	109	0.491

Source : Primary data processed by the authors (2025).

The output results in Table 4, show that the F count levene test ranges from 0.024-12.695. The probability shows greater ($p > 0.05$). Respondents' answers to questionnaire questions have a p-value above 0.05 (p-value > 0.05). Based on the test results, it can be concluded that there is no

difference between respondents in the category who respond quickly and those who respond slowly, so that from the test results it can be concluded that there is no non-response bias.

Measurement Model Evaluation

Convergent Validity

Convergent validity in a reflective measurement model was assessed by examining the outer loading values of each indicator. A reflective indicator is considered acceptable when its loading value exceeds 0.70. This threshold indicates that the indicator contributes substantially to explaining the latent variable.

Table 4. Outer Loading

Indicator	Attitude Behavior	Subjective Norms	Behavior Control	Moral Comitment	Behavioral Intentions	Fraud Prevention	Whistle blowing	Ethical Culture
AB1	0.904							
AB2	0.904							
AB3	0.701							
SN1		0.894						
SN2		0.927						
SN3		0.846						
SN4		0.828						
BC1			0.865					
BC2			0.900					
BC3			0.818					
BC4			0.804					
MC1				0.835				
MC2				0.878				
MC3				0.904				
BI1					0.869			
BI2					0.802			
BI3					0.801			
BI4					0.861			
FP1						0.940		
FP2						0.871		
WBS1							0.760	
WBS2							0.778	
WBS3							0.754	
WBS4							0.812	
WBS5							0.729	
EC1								0.906
EC2								0.902
EC3								0.910

Source : Primary data processed by the authors (2025).

Based on Table 4 above all indicators have a loading values above 0.70, indicating that the measurement model satisfies convergent validity. However, most loading values exceed 0.90. Although high loading values indicate strong indicator reliability, values that are uniformly very high may also suggest possible item redundancy or conceptual overlap among indicators. Therefore, the results indicate strong convergent validity, but they should be interpreted cautiously because several indicators may measure highly similar aspects of the same construct.

Discriminant Validity

Discriminant validity was first assessed using the Fornell–Larcker criterion. In this approach, the square root of the Average Variance Extracted (AVE) for each construct should be higher than its correlation with other constructs.

Table 5. Discriminant Validity Score (Fornell–Larcker Criterion)

	AB (X1)	SN (X2)	BC (X3)	MC (X4)	BI (Y1)	FP (Y2)	WBS (Z1)	EC (Z2)
AB (X1)	0.814							
SN (X2)	0.842	0.833						
BC (X3)	0.833	0.875	0.857					
MC (X4)	0.833	0.897	0.848	0.870				
BI (Y1)	0.805	0.870	0.870	0.873	0.814			
FP (Y2)	0.841	0.825	0.886	0.864	0.825	0.825		
WBS (Z1)	0.889	0.861	0.806	0.810	0.836	0.822	0.767	
EC (Z2)	0.838	0.881	0.848	0.822	0.809	0.805	0.792	0.812

Source : Primary data processed by the authors (2025).

Table 5 shows that diagonal values represent the square root of AVE, while off-diagonal values represent correlations between constructs. Based on the Fornell-Larcker criterion, some diagonal values are close to or lower than some correlations between constructs. This suggests that discriminant validity should not be inferred based solely on the Fornell-Larcker criterion. In this study also assessed the validity of discriminant by using Heterotrait–Monotrait ratio (HTMT), which is considered as a more sensitive criterion to detect discriminant validity problems.

Table 6. HTMT Ratio (Refined and Rationalized)

Construct Relationship	HTMT Value	*Threshold*	*Result*
Attitude Behavior - Behavioral Intentions	0.873	< 0.90	Acceptable
Subjective Norms - Behavioral Intentions	0.854	< 0.90	Acceptable
Behavior Control - Behavioral Intentions	0.845	< 0.90	Acceptable
Moral Commitment - Behavioral Intentions	0.832	< 0.90	Acceptable
Behavioral Intentions - Fraud Prevention	0.833	< 0.90	Acceptable
Whistleblowing - Fraud Prevention	0.921	< 0.90	Not acceptable
Ethical Culture - Fraud Prevention	0.814	< 0.90	Acceptable

Source : Primary data processed by the authors (2025).

The HTMT results presented in Table 6 show that these findings are consistent with the high inter-construct correlations observed in the Fornell-Larcker analysis. Subsequent studies are recommended to refine the measurement items or reduce the redundancy of the indicators to increase the validity of the discriminant construct.

Construct Reliability and Validity

The reliability of the construction was assessed using alpha Cronbach, Composite reliability and AVE. A construction is considered reliable when cronbach's alpha and composite reliability exceed 0.70, while convergent validity is supported when AVE > 0.50.

Table 7. Convergent Validity and Internal Consistency Reliability

Variable	AVE	*Composite Reliability* (CR)	*Cronbach's alpha*
Attitude Behavior	0.836	0.878	0.788
Subjective Norms	0.874	0.929	0.897
Behavior Control	0.847	0.911	0.869
Moral Commitment	0.872	0.906	0.843
Behavioral Intentions	0.833	0.864	0.764
Fraud Prevention	0.906	0.938	0.868
Whistleblowing	0.767	0.877	0.825
Ethical Culture	0.906	0.932	0.891

Source : Primary data processed by the authors (2025).

Based on the Output in Table 7. shows the values of Convergent Validity and internal consistency Reliability. All variables in this research model, has a high level of reliability. This is shown by the value of Composite Reliability and Cronbachs alpha for all variables above 0.70. Thus this value indicates that each indicator is high has internal consistency.

Coefficient of Determination

Table 8. Coefficient of Determination

Endogenous Variable	*R-Square*	*Adjusted R-Square*	*Q-Squared*
Behavioral Intentions	0.730	0.805	0,683
Fraud Prevention	0.856	0.740	0,765

Source : Primary data processed by the authors (2025).

In Table 8 obtained by the value of the R-square of the variable FP of 0.730, it shows that the variation of the variable FP can be explained by 73.0% with variations of BI, WBS, and EC. The remaining 27.0% can be explained by other variables outside the model. The percentage of R-squared variable FP which is classified as medium at 85.6% indicates that the research model is a good model. Furthermore, the value of the R-square of the variable IP is 0.856, it shows that the variable intention behavior (BI) can be explained by the variable attitude behavior (AB), nforma subjective (SN), behavioral control (BC) and moral commitment (MC) of 85.6%. The remaining 14.4% can be explained by other variables outside the model. The high percentage of R-squared variable IP of 85.6% indicates that the research model is good. Related to the Q-squared value used to assess the predictive validity or relevance of an exogenous latent variable to an endogenous variable. A model with predictive validity must have a Q-Squared value greater than zero. In Table 9. shows the value of Q-squared has a validity value of 0.683; 0.765 which is greater than zero.

Multicollinearity Assessment

To assess potential multicollinearity among predictor constructs, the Variance Inflation Factor (VIF) was examined. VIF values below < 5 indicate that multicollinearity is not a serious concern.

Table 9. Collinearity Statistics (VIF)

Construct Relationship	VIF Value	*Threshold*
Attitude Behavior - Behavioral Intentions	3.87	< 5
Subjective Norms - Behavioral Intentions	3.70	< 5
Behavior Control - Behavioral Intentions	3.39	< 5
Moral Commitment - Behavioral Intentions	2.86	< 5
Behavioral Intentions - Fraud Prevention	2.74	< 5
Whistleblowing - Fraud Prevention	2.88	< 5
Ethical Culture - Fraud Prevention	3.63	< 5

Source : Primary data processed by the authors (2025).

The results of testing the value of full collinearity of VIFs showed a value smaller than 5 on all variables, so it was concluded to be free from vertical problems, lateral multicolinearity and general method bias.

Hypothesis Testing : Direct Effect

Hypothesis testing and the relationship between variables can be seen from the results of the path coefficient in the model in Table 10 below :

Table 10. Direct Effect (Sig. 5% one-tailed)

Relationship	Sample estimate (ß)	STDEV	T-stat	P-Value
Attitude Behavior → Behavioral Intentions	0.250	0.126	3.999	0.000
Subjective Norms → Behavioral Intentions	0.343	0.124	5.361	0.000
Behavior Control → Behavioral Intentions	0.321	0.071	6.732	0.000
Moral Commitment → Behavioral Intentions	0.311	0.110	4.868	0.000
Behavioral Intentions → Fraud Prevention	0.367	0.104	5.911	0.000

Source : Primary data processed by the authors (2025).

The test results showed that the attitude of behavior has a positive and significant effect on the intention of behavior (ß = 0.250; t = 3.999; p = 0.000). Subjective norms have a positive and significant effect on the intention of behavior (ß = 0.343; t = 5.361; p = 0.000). Behavioral control has a positive and significant effect on the intention of the behavior (ß = 0.321; t = 6.732; p = 0.000). Intention moral commitment has a positive and significant effect on the intention of behavior (ß = 0.311; t = 4.868; p = 0.000). Behavioral intentions have a positive and significant effect on fraud prevention (ß = 0.367; t = 5.911; p = 0.000).

Moderation Analysis

Moderation analysis was conducted to determine whether Whistleblowing System can moderate the relationship between behavioral intention and fraud prevention and whether Ethical Culture can moderate the relationship between behavioral intention and Fraud Prevention, which is presented in Table 11 below :

Table 11. Results of Hypothesis Testing for Moderation Effects

Relationship	Sample estimate (ß)	STDEV	T-stat	P-Value
Behavioral Intentions → Whistleblowing → Fraud Prevention	-0.292	0.084	2.199	0.000
Behavioral Intentions → Ethical Culture → Fraud Prevention	0.276	0.069	3.794	0.000

Source : Primary data processed by the authors (2025).

The findings suggest that for the moderation variable, whistleblowing can moderate the relationship between behavioral intentions to fraud prevention. in a negative direction. This means that whistleblowing weakens the effect of behavioral intentions on fraud prevention (⑧=-0.292; t = 2.199; p = 0.000). Meanwhile, for the moderation variable, ethical culture can moderate the relationship between behavioral intentions towards fraud prevention with a positive direction. This means that ethical culture reinforces the influence of behavioral intentions on fraud prevention (ß = 0.276; t = 3.794; p = 0.000). In other words, these findings show that whistelblowing and ethical culture as moderation variables have an important role that serves to prevent fraud.

Discussion

The Effect of Attitude on Fraud Prevention Intentions

The findings indicate that attitude has a positive and significant effect on fraud prevention intentions. This result supports the Theory of Planned Behavior (TPB), which posits that individuals are more likely to form intentions toward a behavior when they evaluate that behavior positively (Ajzen, 1991). Managers who perceive fraud prevention as beneficial, ethical, and necessary for organizational sustainability are more likely to develop strong intentions to prevent fraudulent activities. This finding is consistent with the meta-analysis conducted by Armitage and Conner (2001), which demonstrated that attitude is one of the strongest predictors of behavioral intention. Similarly, Leonard et al. (2004) found that favorable attitudes toward ethical behavior significantly increase individuals' intentions to engage in ethical actions. In the context of financial reporting, managers who recognize the negative consequences of fraud for stakeholders, organizational reputation, and financial sustainability tend to exhibit stronger intentions to support fraud prevention initiatives.

The Effect of Subjective Norms on Fraud Prevention Intentions

The results reveal that subjective norms positively and significantly influence fraud prevention intentions. This finding is consistent with TPB, which argues that perceived social pressure from important referent groups influences an individual's behavioral intentions (Ajzen, 1991; Ajzen, 2006). In organizational settings, managers are influenced by expectations from superiors, colleagues, regulators, and corporate governance mechanisms. Strong organizational norms that discourage unethical conduct encourage managers to develop stronger intentions to prevent fraud. This finding supports the study of Zawawi et al. (2011), which reported that subjective norms significantly affect behavioral intentions related to fraudulent financial reporting. Furthermore, Leung et al. (2005) emphasized that organizational and cultural environments play

an important role in shaping individual behavior. Therefore, organizations that consistently communicate ethical expectations and enforce organizational norms are more likely to foster fraud prevention intentions among managers.

The Effect of Perceived Behavioral Control on Fraud Prevention Intentions

The findings show that perceived behavioral control has a positive and significant effect on fraud prevention intentions. According to TPB, perceived behavioral control reflects an individual's belief regarding their capability and opportunity to perform a specific behavior (Ajzen, 1991). Managers who feel capable of detecting irregularities, implementing internal controls, and reporting suspicious activities are more likely to develop intentions to prevent fraud. This result is consistent with the findings of Armitage and Conner (2001), who identified perceived behavioral control as a significant determinant of behavioral intentions. Likewise, Leonard et al. (2004) and Yoon (2011) found that individuals with higher levels of perceived control demonstrate stronger intentions to engage in ethical behavior. In this study, managers appear to possess sufficient authority, knowledge, and resources to support fraud prevention efforts, thereby strengthening their behavioral intentions.

The Effect of Moral Commitment on Fraud Prevention Intentions

The results indicate that moral commitment positively and significantly affects fraud prevention intentions. This finding suggests that managers with stronger ethical principles and moral responsibility are more likely to develop intentions to prevent fraudulent behavior. Moral commitment encourages individuals to prioritize organizational interests, integrity, and professional values over personal gain. This finding is consistent with Forte (2005), who argued that moral reasoning significantly influences ethical decision-making among managers. Similarly, Pennino (2002) found that higher levels of moral development contribute to ethical managerial behavior. Furthermore, Gillett and Uddin (2005) emphasized that ethical considerations reduce the likelihood of fraudulent financial reporting. Therefore, managers with strong moral commitment are more likely to demonstrate intentions that support fraud prevention.

The Effect of Intentions on Fraud Prevention Behavior

The findings demonstrate that behavioral intention significantly influences fraud prevention behavior. This result is consistent with TPB, which identifies intention as the most immediate predictor of actual behavior (Ajzen, 1991). Individuals who possess strong intentions to act ethically are more likely to translate those intentions into actual fraud prevention actions. The findings are also consistent with Armitage and Conner (2001), whose meta-analysis confirmed the substantial relationship between intention and behavior. Similarly, Leonard et al. (2004) and Yoon (2011) found that behavioral intentions significantly predict ethical actions across various organizational contexts. Therefore, managers with stronger intentions to prevent fraud are more likely to engage in activities such as monitoring compliance, strengthening internal controls, and ensuring accurate financial reporting.

The Moderating Effect of the Whistleblowing System on the Relationship Between Behavioral Intentions and Fraud Prevention

The findings reveal that the whistleblowing system weakens the relationship between behavioral intentions and fraud prevention behavior. This result suggests that although managers possess strong intentions to prevent fraud, the existing whistleblowing mechanisms may not be

sufficiently effective in translating those intentions into actual behavior. One possible explanation is the persistent fear of retaliation, career consequences, and social exclusion associated with reporting wrongdoing. Rehg et al. (2008) found that retaliation remains one of the most significant barriers preventing employees from reporting misconduct. Similarly, Gao et al. (2015) demonstrated that whistleblowing intentions are influenced by reporting channels, organizational support, and the perceived power of wrongdoers.

This finding contrasts with the ideal role of whistleblowing systems as an effective fraud prevention mechanism. Dyck et al. (2010) argued that whistleblowers are among the most important sources of fraud detection in organizations. However, the effectiveness of whistleblowing systems depends not only on the existence of reporting channels but also on employee trust in the protection mechanisms provided by the organization. Therefore, the weakening effect identified in this study may indicate that employees remain hesitant to utilize the whistleblowing system despite having strong intentions to prevent fraud. Strengthening legal protection, anonymity guarantees, and management support may therefore be necessary to improve the effectiveness of whistleblowing systems.

The Moderating Effect of Ethical Culture on the Relationship Between Behavioral Intentions and Fraud Prevention

The findings indicate that ethical culture strengthens the relationship between behavioral intentions and fraud prevention behavior. This result suggests that managers with strong intentions are more likely to engage in fraud prevention activities when they operate within an organization characterized by strong ethical values, ethical leadership, and clear behavioral expectations. Ethical culture creates an environment in which ethical behavior is rewarded and unethical conduct is discouraged.

This finding supports the arguments of Weaver and Treviño (2001), who emphasized the importance of ethics and compliance systems in shaping organizational behavior. Likewise, Treviño and Brown (2004) argued that ethical leadership and organizational values play a crucial role in promoting ethical conduct. Leung et al. (2005) further highlighted that organizational culture significantly influences employee behavior and decision-making processes. More recently, Smaili (2023) demonstrated that ethical culture strengthens corporate governance mechanisms and contributes to preventing financial misconduct. Therefore, ethical culture functions as a reinforcing mechanism that transforms positive intentions into actual fraud prevention behavior. Organizations seeking to reduce financial reporting fraud should therefore invest in ethical leadership, ethics training, codes of conduct, and consistent enforcement of ethical standards.

5. Conclusion

This study examined the influence of attitude, subjective norms, perceived behavioral control, and moral commitment on fraud prevention intentions, as well as the moderating roles of whistleblowing systems and ethical culture in the relationship between behavioral intentions and fraud prevention behavior among managers of state-owned enterprises in Semarang City. The findings demonstrate that attitude, subjective norms, perceived behavioral control, and moral commitment significantly and positively influence managers' intentions to prevent fraud. Furthermore, behavioral intention was found to significantly influence actual fraud prevention behavior. These findings support the Theory of Planned Behavior, indicating that fraud prevention

behavior is largely driven by individual cognitive and moral factors that shape behavioral intentions.

The results further reveal that ethical culture strengthens the relationship between behavioral intentions and fraud prevention behavior. This finding highlights the importance of organizational values, integrity, accountability, and ethical leadership in encouraging managers to translate their intentions into actual preventive actions. A strong ethical culture serves as an internal governance mechanism that reinforces compliance, reduces opportunities for misconduct, and promotes transparent and accountable financial reporting practices. Consequently, organizations that consistently implement ethical standards and cultivate ethical awareness among employees are more likely to achieve effective fraud prevention outcomes.

In contrast, the whistleblowing system was found to weaken the relationship between behavioral intentions and fraud prevention behavior. This finding suggests that the existence of a formal reporting mechanism alone is insufficient to encourage individuals to report suspected fraud. Concerns regarding retaliation, limited trust in reporting protection mechanisms, and inadequate organizational support may discourage employees from utilizing whistleblowing channels. Therefore, organizations need to strengthen whistleblower protection policies, improve reporting procedures, and foster a supportive reporting climate to enhance the effectiveness of whistleblowing systems as a fraud prevention mechanism.

From a practical perspective, the findings imply that organizations should not rely solely on formal control systems but should also prioritize the development of a strong ethical culture. Continuous ethics training, effective internal controls, transparent reporting mechanisms, and visible commitment from top management are essential to creating an environment that supports fraud prevention. The integration of ethical culture and governance mechanisms can contribute to sustainable organizational integrity and improved financial accountability.

This study is not without limitations. First, the research was conducted only in state-owned enterprises located in Semarang City, which may limit the generalizability of the findings to other sectors or regions. Second, the study relied on self-reported questionnaire data, which may be subject to social desirability bias. Third, the research focused primarily on behavioral and organizational factors, without considering other potential determinants such as organizational justice, leadership style, fraud awareness, technological controls, or regulatory enforcement.

Future studies are encouraged to expand the research scope by involving respondents from private companies, government institutions, and other industries to improve external validity. Future research may also examine additional moderating or mediating variables, such as organizational justice, ethical leadership, fraud awareness, internal control effectiveness, and digital whistleblowing mechanisms. Furthermore, longitudinal and mixed-method approaches are recommended to provide a deeper understanding of how ethical culture and whistleblowing systems influence fraud prevention behavior over time. Such studies would contribute to a more comprehensive understanding of fraud prevention strategies and strengthen the development of governance practices that support transparency, accountability, and organizational sustainability.

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