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Determinants of the Intention to Whistleblow as a Means of Mitigating Fraud Risk in Energy Companies: The Moderating Role of Risk Culture

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Abstract

Fraud remains a major governance risk in the energy sector due to complex operations, high transaction values, and multiple parties involved in business processes. This study aimed to examine the effects of opportunity, capability, rationalization, pressure, and risk culture on whistleblowing intention, including the moderating role of risk culture, and to identify the dominant determinant among employees of Indonesian energy companies. A quantitative explanatory design was employed using survey data from 123 valid respondents selected through purposive sampling. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS. The findings showed that opportunity had a positive and significant effect on whistleblowing intention, while pressure also had a significant positive effect. In contrast, capability, rationalization, and risk culture had no significant direct effects. Risk culture also failed to significantly moderate the relationships between the four Whistleblowing Diamond dimensions and whistleblowing intention. The model explained 41.5% of the variance in whistleblowing intention, with opportunity emerging as the most dominant determinant. These results indicate that employees are more likely to report misconduct when reporting channels are accessible, trustworthy, and protected from retaliation. Therefore, energy companies should strengthen whistleblowing mechanisms, transparent follow-up procedures, anti-retaliation protection, and employees' moral responsibility within their organizations.

INTRODUCTION

The energy sector is a strategic industry characterized by complex business operations, large transaction values, and the involvement of multiple parties in operational and procurement processes, resulting in a relatively high exposure to fraud risk. In recent years, several alleged irregularities in the energy sector have drawn public attention, including the alleged crude-oil trading irregularities at (Energi, 2020; Lubis & Mayasari, 2025; The Electricity Supply Business Plan (RUPTL) PT PLN (Persero) 2021-2030, 2021) known as the Petral case (Technoz, 2026), alleged corruption in the procurement of Liquefied Natural Gas (LNG) during 2011–2021 handled by the Corruption Eradication Commission (KPK, 2023), and alleged corruption in the governance of crude oil and refined products within Pertamina's sub-holding and related entities (Kompas.com, 2026). These cases indicate that fraud remains a governance challenge, particularly in industries with high operational risk and business complexity.

Fraud is a principal risk that can generate financial losses, damage organizational reputation, and undermine governance effectiveness. (Cressey, 1953) Fraud Triangle Theory

(Ajzen, 2012) explains that fraud is driven by three elements: pressure, opportunity, and rationalization. Organizations are also required to build a risk culture (Management, 2012) that fosters risk awareness, integrity, open communication, and compliance as part of fraud-risk mitigation efforts (COSO, 2017; COSO & WBCSD, 2018). Consequently, fraud control depends not only on internal control systems but also on individual behavior and organizational culture.

One widely applied mechanism supporting fraud mitigation is the Whistleblowing System (WBS) (Lubis & Mayasari, 2025). ACFE (2024) reports that whistleblowing (Mesmer-Magnus & Viswesvaran, 2005) is one of the primary sources of fraud detection, while Near (Near & Miceli, 1985) and (Miceli et al., 2008) explain that the effectiveness of such a system is strongly influenced by individuals' willingness to report (Examiners, 2024) suspected violations. The importance of WBS is reflected in the reporting channels implemented by several Indonesian energy companies, such as PT Pertamina (Persero), PT Perusahaan Gas Negara Tbk (PGN), and PT Transportasi Gas Indonesia (TGI) (PT Pertamina (Persero), 2026; PT Perusahaan Gas Negara Tbk, 2026; PT Transportasi Gas Indonesia, 2023). This indicates that WBS has become an important part of corporate governance, although its effectiveness remains dependent on individuals' willingness to use the available reporting mechanism.

Regarding reporting behavior, (Latan et al., 2021) developed the Whistleblowing Diamond concept as an extension of the Fraud Triangle Theory by adding the element of capability, so that whistleblowing (Park & Blenkinsopp, 2009) intention is explained by four factors: opportunity, capability, rationalization, and pressure. (Hussaini et al., 2019) show that risk culture plays a role in shaping risk-management (Yasmin et al., 2024) (Hays, 2013) behavior within organizations, while Tripermata et al (Anggraini & Siswanto, 2016). (2022) find that organizational culture can strengthen the effectiveness of whistleblowing in supporting fraud prevention. Understanding (Hopkin, 2018) the relationships among these factors is therefore important as a basis for improving WBS effectiveness and supporting fraud-risk mitigation efforts in energy companies.

Although various Indonesian energy companies have implemented WBS as part of strengthening corporate governance, recurring allegations of irregularities indicate that the effectiveness of WBS implementation remains a challenge. Moreover, most prior studies on the effects of the Whistleblowing Diamond elements and risk culture on whistleblowing intention have been conducted in the government, banking, or marketplace sectors, so empirical evidence within Indonesian energy companies remains relatively limited. This study therefore analyzes the effects of the Whistleblowing Diamond elements and risk culture on whistleblowing intention and identifies the most dominant factor influencing whistleblowing intention in Indonesian energy companies. Specifically, this study aims to examine the effects of opportunity, capability, rationalization, and pressure on whistleblowing intention; to examine the direct effect of risk culture on whistleblowing intention; to examine the moderating role of risk culture on the relationships between (Albawwat, 2023) each Whistleblowing Diamond element and whistleblowing intention; and to identify the most dominant determinant of whistleblowing intention among energy-sector employees.

METHOD

Research Design

This study used a quantitative approach (Setiawan et al., 2024) with an explanatory research design, aimed at explaining causal relationships among variables based on the conceptual model formulated (Creswell & Creswell, 2018). The quantitative approach was chosen because the study focuses on measuring latent constructs and testing direct and moderating effects through numerical data analyzed using statistical techniques (Sekaran & Bougie, 2016). Philosophically, this study is situated within the positivism paradigm, which views social phenomena as measurable systematically, objectively, and empirically through standardized research instruments (Neuman, 2014; Sugiyono, 2013) Data were obtained through a structured questionnaire survey, considered appropriate because it can efficiently capture respondents' perceptions in large numbers and supports the testing of relationships among research constructs (Malhotra, 2020). Considering (Wolfe & Hermanson, 2004) that the research model involves several latent constructs measured with reflective indicators, direct relationships, and moderating effects within a single structural model (Kline, 2016), the Structural Equation Modeling–Partial (Chin, 1998) Least Squares (SEM-PLS) approach was selected because it is prediction-oriented and therefore more appropriate than Covariance-Based SEM (CB-SEM), which is generally used to test model fit against an established theory (Hair et al., 2022). Data analysis (Dihartawan et al., 2024) was performed using SmartPLS software.

Population and Sample

The population of this study comprises employees of Indonesian energy-sector companies that have implemented a whistleblowing system (WBS). The energy sector was selected because of its high risk exposure, large operational complexity, high regulatory intensity, and strong governance and internal control requirements for mitigating fraud and operational risk (OECD, 2023). The sampling technique used purposive sampling, with respondent criteria as follows: (1) an active employee of an Indonesian energy-sector company; (2) aware of the existence of WBS in the organization; and (3) having a minimum of one year of tenure, so as to be assumed familiar with the business process, organizational culture, and WBS. The minimum sample size, following the recommendation of Hair et al. (2022), is ten times the largest number of arrows pointing to an endogenous construct. In this research model, the largest number of arrows directed at the endogenous variable (whistleblowing intention) is five, originating from opportunity, capability, rationalization, pressure, and risk culture. Accordingly, the minimum required sample size for this study is 50 respondents.

Variables and Operational Definitions

This study uses exogenous variables consisting of pressure, opportunity, rationalization, capability, and risk culture, with risk culture also serving as a moderating variable, while the main endogenous variable is whistleblowing intention. All variables are measured as reflective latent constructs using indicators adapted from prior research and adjusted to the context of Indonesian energy companies, as summarized in Table 2.

Table 2. Operational Definitions of Research Variables

Variable	Operational Definition	Adapted Source
Opportunity	Individual perception regarding the availability of opportunity, access, safety, and effectiveness of the reporting mechanism to conduct whistleblowing.	Latan et al. (2021)
Capability	Individual perception of ability, courage, competence, and readiness to report violations.	Latan et al. (2021)
Rationalization	Individual moral and cognitive justification that whistleblowing is a correct and acceptable action.	Latan et al. (2021)
Pressure	Moral, social, or organizational pressure that drives individuals to act correctly upon becoming aware of a violation.	Latan et al. (2021)
Risk Culture	Values, norms, behaviors, and organizational practices that foster risk awareness, integrity, open communication, and accountability.	Hussaini et al. (2019)
Whistleblowing Intention	Individual intention, readiness, and tendency to report violations through internal or external channels.	Indriani et al. (2019)

Source: compiled from related prior studies.

Data Collection Technique

Primary data were collected through an online questionnaire survey (Baruch & Holtom, 2008) distributed via a digital platform (Google Forms) to broaden respondent reach across regions and improve data-collection efficiency. Respondent participation was voluntary and anonymous, and the confidentiality of respondent identity was guaranteed, with data used solely for academic purposes.

Research Instrument

The main research instrument was a structured questionnaire using a four-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree), considered effective for measuring attitudes, perceptions, opinions, and behavioral tendencies (Likert, 1932). The four-point scale was used to reduce respondents' tendency to select a neutral midpoint and to encourage more decisive responses; this modification does (Ng & Feldman, 2009) not affect analytical suitability because SEM-PLS can be applied to various measurement-scale formats provided that reliability and validity criteria are met (Hair et al., 2022). Each construct was originally measured with four reflective indicators adapted from Latan et al(Akmal Hamdan Rusydi, 2022). (2021) for the Whistleblowing Diamond dimensions (coded OPP1–OPP4 for opportunity, CAP1–CAP4 for capability, RAT1–RAT4 for rationalization, and PRE1–PRE4 for pressure), from Hussaini et al. (2019) for risk culture (RCU1–RCU4), and from (Indriani et al., 2019) for whistleblowing intention (WBI1–WBI4), adjusted to the energy-sector context (Singleton & Singleton, 2010).

Data Analysis Technique

Data analysis followed the standard SEM-PLS procedure, beginning with descriptive analysis of respondent characteristics, followed by evaluation of the measurement model (outer model), evaluation of the structural model (inner model), moderation testing, and hypothesis testing using the bootstrapping procedure (Sarstedt et al., 2022). Convergent validity was assessed using outer loading values, with an indicator considered valid if its loading is at least

0.70 (Hair et al., 2022). Discriminant validity was assessed using the Fornell-Larcker criterion, cross loading, and Average Variance Extracted (AVE), with an AVE value greater than 0.50 indicating adequate validity. Reliability was assessed using Cronbach's alpha and composite reliability, with a threshold value greater than 0.70. The structural model was evaluated using the coefficient of determination (R^2), interpreted as substantial (0.75), moderate (0.50), or weak (0.25), and effect size (f^2), interpreted as small (0.02), medium (0.15), or large (0.35) following (Cohen, 1988). The moderating role of risk culture was tested by comparing the direct effect size with the moderated effect size for each Whistleblowing Diamond element. Hypothesis testing was performed using the bootstrapping procedure in SmartPLS, with a relationship considered significant if the t-statistic exceeds 1.645 (one-tailed test) and the p-value is below 0.05, at a 5% significance level (Hair et al., 2022).

RESULTS AND DISCUSSION

Respondent Characteristics

Of the 161 questionnaires distributed, 124 responses were obtained, representing a response rate of 77.02%. One respondent was excluded because they were not an active employee of an energy-sector company (Standardization, 2018, 2021), resulting in 123 valid responses used for further analysis. This response rate is considerably higher than the average organizational-research response rate of 52.7% reported by Baruch and Holtom (2008), and the resulting sample size exceeds the minimum requirement of 50 respondents recommended by Hair et al. (2022) for SEM-PLS analysis. The characteristics of the 123 respondents are summarized in Table 3.

Table 3. Respondent Characteristics (n = 123)

Description	Category	Percentage
Gender	Male	79.84%
	Female	20.16%
Age	< 25 years	0.00%
	25–34 years	25.00%
	35–44 years	63.71%
	45–54 years	10.48%
	> 55 years	0.81%
Education	Senior high school	0.00%
	Diploma	4.84%
	Bachelor's degree	67.74%
	Master's degree	27.42%
	Doctoral degree	0.00%
Employment status	Active employee	99.19%
	Not active	0.81%
Tenure	< 1 year	0.00%
	1–5 years	5.65%
	6–10 years	22.58%
	11–15 years	47.58%
	> 15 years	24.19%
Position level	Staff	27.42%

Description	Category	Percentage
	Supervisor / Senior Staff	56.45%
	Manager	13.71%
	General Manager / VP	1.61%
	Director	0.81%
Aware of WBS	Yes	100.00%
	No	0.00%
Attended WBS socialization	Yes	90.32%
	No	9.68%

Source: primary data processed (2026).

The respondent profile shows that the sample is dominated by male employees (79.84%) aged 35–44 years (63.71%), holding a bachelor's degree (67.74%), with 11–15 years of tenure (47.58%), and occupying Supervisor/Senior Staff positions (56.45%). All respondents were aware of the existence of WBS in their organization, and 90.32% had attended WBS socialization activities, indicating that the sample has adequate exposure to the whistleblowing policy and reporting mechanism to provide informed responses to the research instrument.

Descriptive Statistics of Research Variables

Descriptive statistics for each indicator, based on responses from all 123 respondents on the four-point Likert scale, are summarized in Table 4.

Table 4. Descriptive Statistics of Research Variables

Variable	Indicator	Mean	Std. Dev.
Opportunity	OPP1	3.66	0.58
	OPP2	3.44	0.67
	OPP3	3.13	0.65
	OPP4	2.92	0.71
Capability	CAP1	3.21	0.73
	CAP2	3.44	0.65
	CAP3	3.32	0.60
	CAP4	2.74	0.82
Rationalization	RAT1	3.37	0.69
	RAT2	3.37	0.65
	RAT3	2.28	0.76
	RAT4	3.41	0.66
Pressure	PRE1	2.75	0.72
	PRE2	3.23	0.56
	PRE3	3.26	0.66
	PRE4	3.23	0.62
Risk Culture	RCU1	2.98	0.63
	RCU2	3.14	0.55
	RCU3	3.20	0.68

Variable	Indicator	Mean	Std. Dev.
	RCU4	3.10	0.77
Whistleblowing Intention	WBI1	3.34	0.63
	WBI2	2.72	0.83
	WBI3	3.21	0.60
	WBI4	3.12	0.68

Source: primary data processed (2026).

Overall, respondents show a positive tendency toward the availability of reporting opportunities (highest for OPP1, mean = 3.66) but relative caution regarding protection from retaliation (OPP4, mean = 2.92). For Pressure, indicators reflecting moral obligation and personal responsibility (PRE2–PRE4) score higher than the item reflecting social pressure (PRE1, mean = 2.75). For Rationalization, RAT3, concerning willingness to disregard personal consequences, records the lowest mean (2.28), while general moral acceptance of whistleblowing (RAT4) is the highest (3.41). For Whistleblowing Intention, the intention to report through internal or supervisory channels (WBI1, WBI3, WBI4) is consistently higher than the intention to report to an external authority (WBI2, mean = 2.72), suggesting that respondents prefer internal reporting channels.

Measurement Model (Outer Model) Evaluation

The initial algorithm calculation shows that seven indicators — PRE1, CAP4, RAT3, RAT4, RCU1, RCU4, and WBI2 — have outer loading values below the ideal threshold of 0.70 (Hair et al., 2022), so their contribution to representing the latent construct is considered suboptimal. These indicators were therefore eliminated from the model, as summarized in Table 5.

Table 5. Eliminated Indicators

Construct	Code	Indicator	Status
Capability	CAP4	Readiness to face potential retaliation after reporting a violation.	Eliminated
Rationalization	RAT3	Not considering the personal consequences of reporting a violation.	Eliminated
Rationalization	RAT4	Reporting a violation is not a bad action.	Eliminated
Pressure	PRE1	Feeling social pressure to do the right thing upon learning of a violation.	Eliminated
Risk Culture	RCU1	The board and senior management consistently model integrity through their behavior and actions.	Eliminated
Risk Culture	RCU4	Training programs are available to develop risk-management competence and open communication.	Eliminated
Whistleblowing Intention	WBI2	Intention to report a violation to an external authority when necessary.	Eliminated

Source: primary data processed (2026).

The elimination of these seven indicators did not occur randomly but reflected a consistent empirical pattern: most of the eliminated indicators represent aspects strongly influenced by individual experience (Guzzo et al., 2022), social relationships in the workplace,

perceptions of leadership, exposure to risk-culture training, or preference for a particular reporting channel, whereas the retained indicators represent experiences more uniformly shared across respondents, such as ease of using the WBS, moral obligation to report, effectiveness of the internal reporting mechanism, and clarity of consequences for violations. After elimination, each construct retained at least two indicators, which remains acceptable for reflective construct estimation (Hair et al., 2022). The refined model was then used for outer- and inner-model evaluation (Hofstede, 2011), with the resulting outer loading values presented in Table 6.

Table 6. Final Outer Loading Values

Construct	Indicator	Outer Loading
Opportunity	OPP1	0.764
	OPP2	0.811
	OPP3	0.803
	OPP4	0.768
Capability	CAP1	0.766
	CAP2	0.865
	CAP3	0.904
Rationalization	RAT1	0.882
	RAT2	0.958
Pressure	PRE2	0.915
	PRE3	0.834
	PRE4	0.919
Risk Culture	RCU2	0.858
	RCU3	0.885
Whistleblowing Intention	WBI1	0.782
	WBI3	0.926
	WBI4	0.796

Source: primary data processed (2026).

All indicators in the final model have an outer loading above 0.70, indicating good convergent validity (Hair et al., 2022). Discriminant validity was subsequently assessed using the Fornell-Larcker criterion (Table 7) and the Average Variance Extracted (Table 8).

Table 7. Fornell-Larcker Criterion

	CAP	OPP	PRE	RAT	RCU	WBI
CAP	0.847					
OPP	0.667	0.787				
PRE	0.725	0.565	0.890			
RAT	0.692	0.614	0.615	0.921		
RCU	0.361	0.458	0.329	0.426	0.872	
WBI	0.368	0.517	0.420	0.268	0.310	0.837

Source: primary data processed (2026).

Table 8. Average Variance Extracted (AVE)

Construct	AVE
CAP	0.717
OPP	0.619
PRE	0.792
RAT	0.849
RCU	0.570
WBI	0.623

Source: primary data processed (2026).

The square root of AVE for every construct exceeds its correlation with other constructs, every indicator loads highest on its intended construct (cross loading), and every AVE value exceeds the 0.50 threshold. Together, these results confirm adequate discriminant validity for all constructs (Hair et al., 2022). Reliability was then assessed using Cronbach's alpha and composite reliability, as shown in Table 9.

Table 9. Reliability Test

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)
CAP	0.809	0.884	0.883
OPP	0.795	0.798	0.867
PRE	0.871	0.906	0.919
RAT	0.830	0.962	0.918
RCU	0.762	0.857	0.840
WBI	0.798	0.845	0.867

Source: primary data processed (2026).

All constructs record Cronbach's alpha and composite reliability values above 0.70, indicating good internal consistency (Hair et al., 2022). All constructs are therefore considered reliable and suitable for structural-model evaluation.

Structural Model (Inner Model) Evaluation

The coefficient of determination (R^2) for whistleblowing intention is presented in Table 10.

Table 10. R-Square

Construct	R-square	R-square adjusted
WBI	0.415	0.369

Source: primary data processed (2026).

The R^2 value of 0.415 indicates that opportunity, capability, pressure, rationalization, risk culture, and their moderating interactions jointly explain 41.5% of the variance in whistleblowing intention, a moderate predictive level (Hair et al., 2022), while the remaining 58.5% is explained by factors outside the research model. The contribution of each exogenous variable, measured through effect size (f^2), is presented in Table 11.

Table 11. Effect Size (f^2)

Variable	f^2 on WBI
CAP	0.000
OPP	0.119
PRE	0.068
RAT	0.014
RCU	0.005
RCU × OPP	0.023
RCU × CAP	0.018
RCU × RAT	0.052
RCU × PRE	0.013

Source: primary data processed (2026).

Opportunity records the largest f^2 (0.119), the highest contribution among all exogenous variables, although still within Cohen's (1988) small-effect category, followed by pressure (0.068). Rationalization, risk culture, and capability record smaller values of 0.014, 0.005, and 0.000, respectively, while the moderating interactions range from 0.013 to 0.052, all within the small-effect category.

Moderation Test

The moderating role of risk culture was evaluated by comparing the direct effect size of each Whistleblowing Diamond element with its moderated effect size, as summarized in Table 12.

Table 12. Direct vs. Moderated Effect Size (f^2)

Variable	Direct f^2	Moderated f^2 (× Risk Culture)
CAP	0.000	0.018
OPP	0.119	0.023
PRE	0.068	0.013
RAT	0.014	0.052

Source: primary data processed (2026).

The interaction between risk culture and capability (0.018) and between risk culture and rationalization (0.052) exceeds the respective direct effect sizes of capability (0.000) and rationalization (0.014), indicating a tendency for risk culture to strengthen these two relationships. Conversely, the interaction between risk culture and opportunity (0.023) and between risk culture and pressure (0.013) is smaller than the respective direct effect sizes of opportunity (0.119) and pressure (0.068), indicating a tendency for risk culture to weaken these two relationships. None of these moderating tendencies, however, reach statistical significance, as shown in the hypothesis-testing results below.

Hypothesis Testing

Hypothesis testing was performed using the bootstrapping procedure in SmartPLS at a 5% significance level with a one-tailed test, where a hypothesis is supported if the t-statistic exceeds 1.645 and the p-value is below 0.05 (Hair et al., 2022). The results are presented in Table 13.

Table 13. Hypothesis Testing Results

Hypothesis	Relationship	T-statistics	P-values	Result
H1	OPP → WBI	1.957	0.025	Supported
H2	CAP → WBI	0.038	0.485	Not supported
H3	RAT → WBI	1.042	0.149	Not supported
H4	PRE → WBI	2.349	0.009	Supported
H5	RCU → WBI	0.532	0.297	Not supported
H6	RCU × OPP → WBI	0.524	0.300	Not supported
H7	RCU × CAP → WBI	1.222	0.111	Not supported
H8	RCU × RAT → WBI	1.605	0.054	Not supported
H9	RCU × PRE → WBI	0.996	0.160	Not supported

Source: primary data processed (2026).

Two relationships meet the significance criterion: opportunity on whistleblowing intention (t = 1.957; p = 0.025) and pressure on whistleblowing intention (t = 2.349; p = 0.009), so H1 and H4 are supported. Capability, rationalization, and risk culture show no significant direct effect on whistleblowing intention, and none of the four moderating interactions of risk culture is statistically significant, so H2, H3, H5, H6, H7, H8, and H9 are not supported. The final structural model, including path coefficients and outer loadings, is presented in Figure 2.

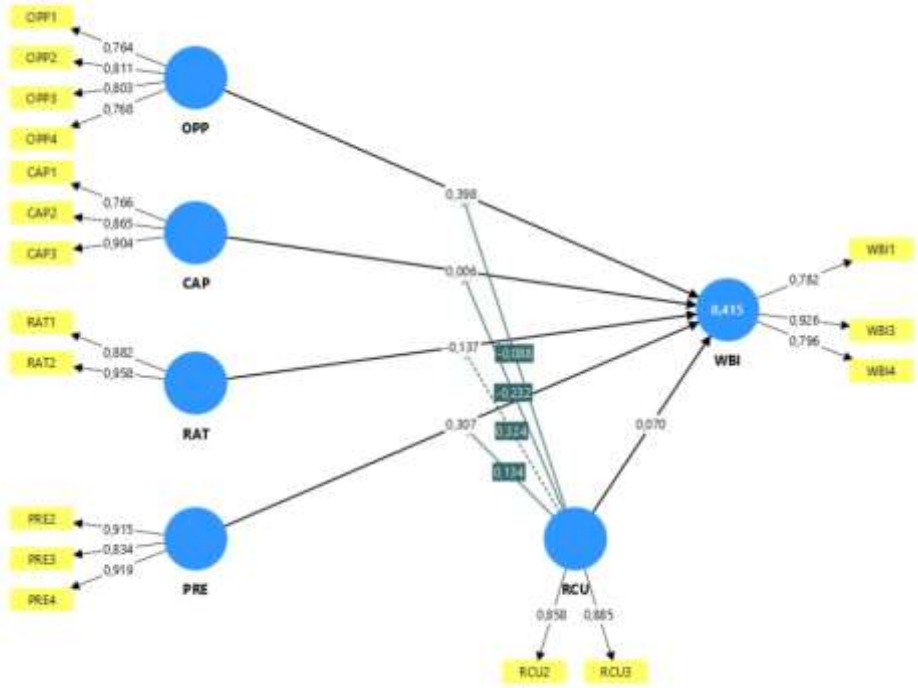

Figure 2. Final Structural Model (SEM-PLS)

Source: primary data processed (2026).

Opportunity is confirmed as the most dominant determinant of whistleblowing intention in this study, consistent with its largest effect size ($f^2 = 0.119$) and the fact that all of its indicators were retained without elimination during measurement-model refinement. This finding indicates that in energy companies, employees' intention to report misconduct is shaped primarily by the perceived ease of access to the whistleblowing system, clarity of the reporting procedure, confidence that reports will be followed up objectively, and protection from

retaliation the last of which recorded the lowest mean among the opportunity indicators, signaling that whistleblower protection remains an area requiring strengthening. This result is only partly consistent with Latan et al. (2021), Indriani et al. (2019), (Widyanto & Sulistiyowati, 2020), (Sugiyanto et al., 2022) and (Defiantoro, 2023), whose findings generally attribute a broader role to individual factors such as capability and rationalization; the difference is plausibly related to the energy sector's high-risk, tightly governed operating environment, in which the whistleblowing system has become embedded as a governance instrument rather than a peripheral administrative channel. The finding reinforces Near and Miceli's (1985) argument that a whistleblowing decision (Antoh & Sholihin, 2021) depends strongly on the belief that the organization provides an effective mechanism and responds adequately to reports.

Pressure is the second significant determinant ($t = 2.349$; $p = 0.009$; $f^2 = 0.068$). After the elimination of PRE1 (social pressure), the retained indicators (PRE2–PRE4) reflect moral obligation, personal values, and a sense of responsibility, indicating that whistleblowing intention in the energy sector is driven more by internalized moral pressure than by pressure from the social environment. This finding is only partly aligned with prior Whistleblowing Diamond studies that emphasize external or social pressure, but is consistent (Schwartz, 1977) Norm Activation Theory, which explains that prosocial behavior is triggered by activation of internal moral norms.

Capability and rationalization show no significant effect on whistleblowing intention ($t = 0.038$, $p = 0.485$; and $t = 1.042$, $p = 0.149$, respectively), with effect sizes close to zero (0.000 and 0.014). For capability, descriptive results show that most respondents already perceive themselves as having adequate ability to use the whistleblowing system, so capability functions as a necessary precondition rather than a differentiating driver of intention — consistent with (Park & Blenkinsopp, 2009), who note that individual capability becomes less influential once an organization provides an accessible reporting mechanism usable by the entire workforce. For rationalization, although most respondents view whistleblowing as morally acceptable and beneficial (reflected in the high mean of the later-eliminated RAT4), this moral acceptance does not automatically translate into an intention to act, particularly given continued hesitation regarding personal consequences (reflected in the low mean of the eliminated RAT3) (Tan et al., 2025). This pattern is consistent with (Fitriningrum et al., 2025), who find that rationalization requires the support of other factors, such as opportunity, to translate into whistleblowing intention.

Risk culture shows no significant direct effect on whistleblowing intention ($t = 0.532$; $p = 0.297$; $f^2 = 0.005$), and none of its four moderating interactions with the Whistleblowing Diamond elements reaches significance, although the direction of the moderated effect sizes differs across relationships: risk culture tends to strengthen the effects of capability (f^2 from 0.000 to 0.018) and rationalization (f^2 from 0.014 to 0.052, the largest moderated effect size in the model) but tends to weaken the effects of opportunity (f^2 from 0.119 to 0.023) and pressure (f^2 from 0.068 to 0.013). After the elimination of RCU1 (tone at the top) and RCU4 (training and communication), the retained risk-culture indicators (RCU2–RCU3) represent understanding of business risk and clarity of consequences for violations rather than leadership modeling or training exposure, which may explain the limited moderating role observed. These results are only partly consistent with (Tripermata et al., 2022). IRM (2012), and (Power et al.,

2013), who report a stronger organizational-culture influence, but align with (Martin & Cullen, 2006) and (Kaptein, 2008), who argue that organizational culture more often operates by shaping norms, systems, and practices than by directly moderating individual behavior. Taken together, these findings suggest that in the energy sector, risk culture functions more as a governance foundation supporting the overall control environment (Mulyono, 2025) than as a direct behavioral driver or a statistically significant moderator (Baron & Kenny, 1986) of whistleblowing intention.

CONCLUSION

This study finds that opportunity and pressure are the only significant determinants of whistleblowing intention among employees of Indonesian energy companies, with opportunity the most dominant factor, while capability, rationalization, and risk culture show no significant direct effect, and risk culture does not significantly moderate any of the four Whistleblowing Diamond relationships, although it shows a non-significant tendency to strengthen the effects of capability and rationalization while weakening the effects of opportunity and pressure. The Whistleblowing Diamond and risk culture jointly explain 41.5 percent of the variance in whistleblowing intention, a moderate predictive level. These findings indicate that in a high-risk, governance-intensive industry such as energy, employees' willingness to report misconduct depends chiefly on having an accessible, trustworthy, and well-protected reporting mechanism, reinforced by internalized moral responsibility, rather than on individual capability, moral justification, or organizational risk culture acting alone. Given these results, energy companies should prioritize strengthening the whistleblowing system by ensuring simple, accessible, and confidential reporting channels, transparent and accountable follow-up, and stronger anti-retaliation protection for reporters, while also sustaining programs that build integrity and moral responsibility among employees, and continuing to embed risk culture within the broader governance and internal-control environment even though its direct and moderating effects were not statistically significant in this study. Because this study was limited to the energy sector and to respondents already familiar with their organization's whistleblowing system, its findings should not be generalized to other industries or to employees with limited exposure to such systems; future research is therefore encouraged to test the integrated model in other high-risk industries and to incorporate additional variables such as ethical (Zakaria, 2021) leadership, organizational justice, psychological safety, organizational trust, or perceived organizational support to improve the model's explanatory power.

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