

Research Article

The Effect of Tone at the Top and Knowledge Sharing on Risk Culture mediated by Collaborative Working (Case Study of Civil Servants at the Madiun City Inspectorate)

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Abstract: This study aims to analyze the influence of tone at the top and knowledge sharing on risk culture, with collaborative working as a mediating variable among civil servants (ASN) at the Madiun City Inspectorate. The study used a descriptive quantitative approach, using primary survey data analyzed using SmartPLS 4. This study tested seven hypotheses regarding the relationships between the variables. The results showed that five hypotheses were accepted and two hypotheses were rejected. Tone at the top, knowledge sharing, and collaborative working had a positive effect on risk culture. Knowledge sharing also had a positive effect on collaborative working and risk culture through collaborative working. However, tone at the top had no effect on collaborative working and no effect on risk culture through the mediating variable. Theoretically, these results indicate that tone at the top is not always able to improve risk culture through collaborative working. Practically, this study emphasizes the importance of leadership in building a risk culture through active involvement in planning, measuring, reporting, and evaluating performance at the Madiun City Inspectorate.

Keywords: Collaborative Working; Knowledge Sharing; Risk Culture; Risk Management; Tone at the Top.

1. Introduction

The Indonesian Government has reinforced national risk governance through the enactment of Presidential Regulation No. 39 of 2023 on National Development Risk Management, which mandates the implementation of integrated risk management across ministries, agencies, and local governments to support national development objectives (Presidential Regulation of the Republic of Indonesia No. 39 of 2023). This regulation emphasizes that risk management is a strategic instrument to ensure accountability, sustainability, and performance in public sector development.

Despite this regulatory framework, empirical evidence indicates that risk management maturity within local governments remains limited. The 2023 evaluation of the Integrated Government Internal Control System (SPIP) conducted by the Financial and Development Supervisory Agency (BPKP) in East Java Province shows that although all local governments achieved level 3 SPIP maturity, most including the Madiun City Government remained at level 2 for the Risk Management Index (MRI) and the Corruption Control Effectiveness Index (IEPK) (BPKP, 2024). This condition reflects persistent weaknesses, including the absence of formal risk management structures, incomplete of strategic risks, inadequate monitoring of risk events and mitigation actions, and insufficient fraud risk management.

In response, the Madiun City Government enacted Mayor Regulation No. 18 of 2024 on Regional Development Risk Management as an initial step to provide legal certainty for integrated risk management at the local level. However, technical implementation still relies on earlier local regulations and national guidelines issued by BPKP (BPKP Regulation No. 4 of 2019). This indicates that beyond regulatory compliance, effective risk management in local

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governments depends largely on organizational readiness, particularly the strength of risk culture.

Risk culture is widely recognized as a critical determinant of decision making quality and organizational performance (The Institute of Risk Management, 2012). The Institute of Risk Management (2012) identifies four interrelated dimensions shaping risk culture: tone at the top, governance, competency, and decision making. Among these, tone at the top referring to the ethical climate and leadership example set by senior management plays a pivotal role in influencing employees' attitudes toward risk awareness, openness, and accountability. Prior studies demonstrate that strong leadership commitment to risk management, reflected in policies, communication, and consistent behavior, significantly enhances governance sustainability (Penno, 2022; Onesti & Palumbo, 2023). In the public sector context, leadership role modeling is consistently highlighted as a core indicator of a mature risk culture (BPKP, 2019).

In addition to leadership, effective knowledge sharing is essential for embedding risk management practices within organizations. Knowledge sharing facilitates the exchange of tacit and explicit knowledge, improves decision-making capability, reduces uncertainty, and strengthens organizational learning (Ibrahim, 2022; Muleke, 2023). At the individual level, knowledge sharing enhances task performance and professional development, while at the organizational level it contributes to efficiency, innovation, and resilience. Nevertheless, evidence from the Madiun City Government suggests that limited understanding of risk management concepts and suboptimal knowledge-sharing practices continue to hinder effective implementation (Yi, 2009).

Collaborative working further complements leadership and knowledge sharing in fostering a strong risk culture. Collaboration enables collective problem-solving, mutual support, and shared learning across organizational units, thereby accelerating the diffusion of risk management knowledge and practices (Oyarzun & Martin, 2023). Effective collaboration is characterized by information sharing, mutual reinforcement, collective knowledge construction, and empathy among organizational members (Winaryati et al., 2022). However, collaborative initiatives related to risk management in the Madiun City Government remain limited, both within individual departments and at the city-wide level.

Given these conditions, this study investigates the influence of tone at the top and knowledge sharing on risk culture, with collaborative working as a mediating variable, using a case study of civil servants at the Inspectorate of Madiun City. By focusing on a public sector setting that has received limited empirical attention, this study aims to contribute to the literature on risk culture in public sector organizations and to provide practical insights for strengthening regional development risk management in local governments.

2. Literature Review

Tone at the Top (X1)

Tone at the Top refers to the level of commitment and behavior of top leadership in instilling ethical values, openness, and risk awareness as the foundation of organizational governance and risk management. Top leadership acts as a role model, shaping employee attitudes, behaviors, and risk perceptions through policies, structures, incentives, and decision-making practices that consider risk (BPKP, 2019; PP No. 60 of 2008). Previous research has shown that Tone at the Top has a positive effect on the effectiveness of risk management practices, the quality of internal controls, fraud prevention, and increased risk awareness and team performance (Kabuye et al., 2019a; Julian et al., 2021; Onesti & Palumbo, 2023; Braumann et al., 2025). Thus, Tone at the Top is seen as a key determinant in establishing an organizational risk-aware culture (Rose, 2024; Alfian Lutfi et al., 2025).

Knowledge Sharing (X2)

Knowledge sharing is the process of continuously exchanging knowledge, experience, and information between individuals and work units, enabling the formation of new understanding and improving organizational competency (Yi, 2009). In the context of risk management, knowledge sharing plays a crucial role in disseminating risk understanding, lessons learned from risk events, and effective mitigation practices. Research shows that knowledge sharing positively impacts performance, innovative work behavior, organizational citizenship behavior, and internal collaboration (Azzahra et al., 2025; Ayatullah & Nasution, 2023; Chedid et al., 2020). Furthermore, knowledge sharing has been shown to strengthen

collaboration and innovation when supported by a conducive organizational culture and leadership (Lam et al., 2021; Miao et al., 2023; Noveriansyah et al., 2024).

Collaborative Working (Z)

Collaborative working is a form of collaboration across individuals and work units that is carried out synergistically, either through face-to-face interaction or the use of technology, to increase the effectiveness and efficiency of achieving organizational goals. Collaboration is characterized by open communication, positive interdependence, team competence, and shared accountability (Dewi et al., 2020).

Previous research has shown that collaborative working positively impacts performance, learning, organizational resilience, and risk management effectiveness, particularly in complex and dynamic environments (Eny Winaryati et al., 2022; Qureshi et al., 2023; Friday et al., 2021). Within the context of a risk culture, collaboration strengthens the process of risk knowledge sharing and more informed decision-making (Bradford-Knox, 2020; Lim et al., 2022).

Risk Culture (Y)

Risk culture is a set of values, beliefs, knowledge, attitudes, and behaviors related to risk shared by leaders and employees to support effective decision-making and risk governance (IRM, 2012 in BPKP, 2019). Risk culture reflects how an organization consistently recognizes, discusses, and responds to risk.

Several studies show that risk culture is significantly influenced by risk leadership (tone at the top), transparency, risk competency, and organizational learning processes (Twining et al., 2010; Gorzen-Mitka, 2018; Salamah & Wijanarko, 2020). SEM-PLS-based research also demonstrates that risk culture plays a key role in the successful implementation of Enterprise Risk Management and improving organizational performance (Santigie Kanu, 2020; Mohamed Santigie Kanu, 2022; Moczydlowska et al., 2023).

3. Research Method

The efficient and effective achievement of organizational goals depends on the implementation of strategic management formulated by top management and implemented throughout the organization, taking into account the dynamics of the internal and external environments (Rahayu Puji Suci, 2009; 2019). In an international context, understanding international management is crucial due to differences in economic, political, and cultural factors that influence organizational decision-making (Rahayu Puji Suci, 2024). Risk management serves as a decision-making process and implementation of actions to increase the chances of achieving organizational goals and ensure operational sustainability through risk identification, control, and opportunity utilization. The effectiveness of risk management is largely determined by the existence of a strong risk culture, employee engagement, and structured risk management systems and processes (Domańska-Szaruga, 2020). However, risk management implementation is not always optimal due to inconsistent implementation and limited adaptation to environmental changes. Therefore, measuring the level of risk management maturity through risk culture attributes, frameworks, processes, and documentation equipped with measurable indicators and parameters is necessary (Simanjuntak et al., 2021). The conceptual framework and formulation of research hypotheses are presented as follows:

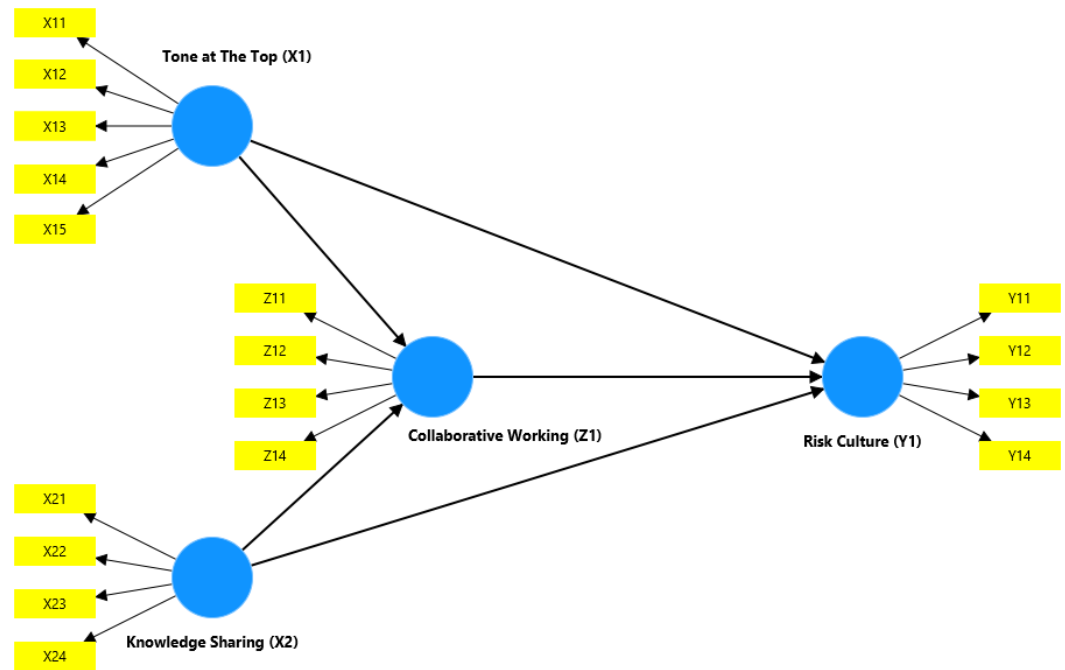


Figure 1. Conceptual Framework.

Hypotheses:

- H1: Tone at the top has a positive and significant effect on risk culture.
- H2: Knowledge sharing has a positive and significant effect on risk culture.
- H3: Tone at the top has a positive and significant effect on collaborative working.
- H4: Knowledge sharing has a positive and significant effect on collaborative working.
- H5: Collaborative working has a positive and significant effect on risk culture.
- H6: Collaborative working mediates the relationship between tone at the top and risk culture.
- H7: Collaborative working mediates the relationship between knowledge sharing and risk culture.

4. Results and Discussion

Result

The analysis results show that both male and female respondents generally gave a positive assessment of the implementation of Tone at the Top. This is reflected in the dominance of responses with scores of 4 (agree) and 5 (strongly agree) across all X1 indicators. Among male respondents, the majority of responses concentrated on score 4, with percentages ranging from 41.6% to 54.1%, while score 5 also showed a relatively consistent proportion. Negative responses (scores 1 and 2) appeared in low percentages, indicating a perception that tends to support the role of leaders in building organizational values and commitment.

Female respondents showed a stronger pattern, with a higher predominance of responses with score 4, even reaching 62.5% to 75.0% across some indicators. There were no responses with score 1, indicating a very positive perception of leadership exemplary behavior and consistency of organizational values. Overall (men and women combined), descriptive results show that more than 50% of respondents agreed with almost all Tone at the Top indicators, with scores 4 and 5 being the dominant values. These findings indicate that Tone at The Top has been implemented well and perceived positively by respondents, thus having strong potential in shaping the organization's risk culture.

Table 1. Respondent Characteristics Based on Gender.

NO.	Description	Results	
		(Rsp)	(%)
1	Male	24	60,0
2	Female	16	40,0

Source: Processed primary data (2025).

The age distribution of respondents shows that the majority of ASN are in the productive age range, with the largest proportion in the 41–50 age group (35.0%), followed by the 31–40 age group (27.5%). This indicates a relatively high level of maturity and work experience within the Inspectorate.

Table 2. Respondent Characteristics Based on Age

NO.	Description	Results		AGE INTERVAL (Year)							
		(Rsp)	(%)	20-30		31-40		41-50		≥ 51	
				(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)
1	Male	24	60,0	4	10,0	6	15,0	11	27,5	3	7,5
2	Female	16	40,0	3	7,5	5	12,5	3	7,5	5	12,5
Total		40	100,0	7	17,5	11	27,5	14	35,0	8	20,0

Source: Processed primary data (2025)

Based on the table, the respondents educational level was dominated by Bachelor's (S1) graduates at 80.0%, followed by Master's (S2) graduates at 15.0%, and high school graduates at 5.0%. This finding indicates that the majority of respondents have a higher educational background relevant to their supervisory and risk management duties.

Table 3. Respondent Characteristics Based on highest level of education

NO.	Description	Results		EDUCATION					
		(Rsp)	(%)	SMA		S1		S2	
				(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)
1	Male	24	60,0	1	2,5	17	42,5	6	15,0
2	Female	16	40,0	1	2,5	15	37,5	0	0,0
Total		40	100,0	2	5,0	32	80,0	6	15,0

Source: Processed primary data (2025)

Based on the length of service table, the majority of respondents had ≥ 7 years of service (37.5%), followed by 5–7 years of service (35.0%). This indicates that respondents have sufficient organizational experience to objectively assess the implementation of leadership, collaboration, and risk culture.

Table 4. Respondent Characteristics Based on Occupation

NO.	Description	Results		WORKING LONG (TAHUN)							
		(Rsp)	(%)	1 < X ≤ 3		3 < X ≤ 5		5 < X ≤ 7		≥ 7	
				(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)
1	Male	24	60,0	1	2,5	5	12,5	3	7,5	15	37,5
2	Female	16	40,0	1	2,5	4	10,0	11	27,5	0	0,0
Total		40	100,0	2	5,0	9	22,5	14	35,0	15	37,5

Source: Processed primary data (2025)

Based on the respondent table regarding distance from home to work, the majority of respondents live between 1 and 5 km (42.5%), followed by 5 and 10 km (32.5%). Relatively close proximity to the office has the potential to support civil servant attendance, discipline, and work effectiveness.

Table 5. Respondent Characteristics Based on Monthly Income.

NO.	Description	Results		Distance from Home to Office (km)							
		(Rsp)	(%)	≤ 1		1 < X ≤ 5		5 < X ≤ 10		≥ 10	
				(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)	(Rsp)	(%)
1	Male	24	60,0	0	0	12	30,0	7	17,5	5	12,5
2	Female	16	40,0	1	2,5	5	12,5	6	15,0	4	10,0
Total		40	100,0	1	2,5	17	42,5	13	32,5	9	22,5

Source: Processed primary data (2025)

Inferential testing is used to draw conclusions about the population based on sample data. This research analysis was conducted using SmartPLS version 4 with the variance-based Partial Least Squares–Structural Equation Modeling (PLS-SEM) method to examine the relationships between variables. Model testing was conducted up to the second order using an embedded two-stage approach (Sarstedt et al., 2019). In the first stage, the second-order outer model was tested through convergent validity, discriminant validity, and construct reliability tests. The second stage was then conducted on the first-order model using the same tests. After the outer model was satisfied, the analysis continued with inner model testing and hypothesis testing.

Table 6. Outer Loading.

Instrumen	<i>Tone at The Top</i>	<i>Knowledge Sharing</i>	<i>Collaborative Working</i>	<i>Risk Culture</i>	Results
X ₁₁	0.926				Valid
X ₁₂	0.926				Valid
X ₁₃	0.881				Valid
X ₁₄	0.953				Valid
X ₁₅	0.902				Valid
X ₂₁		0.919			Valid
X ₂₂		0.920			Valid
X ₂₃		0.909			Valid
X ₂₄		0.944			Valid
Z ₁₁			0.838		Valid
Z ₁₂			0.910		Valid
Z ₁₃			0.940		Valid
Z ₁₄			0.853		Valid
Y ₁₁				0.895	Valid
Y ₁₂				0.889	Valid
Y ₁₃				0.922	Valid
Y ₁₄				0.788	Valid

Source: Processed primary data (2025)

All indicators for the tone at the top (13 items), knowledge sharing (11 items), collaborative working (11 items), and risk culture (14 items) variables had loading factor values above 0.708. These results indicate that all indicators are valid and able to accurately measure their constructs, thus supporting the construct validity of the measurement model.

Table 7. Heterotrait – Monotrait Ratio (HTMT).

Variabel	<i>Collaborative Working (Z₁)</i>	<i>Knowledge Sharing (X₂)</i>	<i>Risk Culture (Y₁)</i>	<i>Tone at The Top (X₁)</i>	Results
<i>Collaborative Working (Z₁)</i>					
<i>Knowledge Sharing (X₂)</i>	0.922				invalid
<i>Risk Culture (Y₁)</i>	0.757	0.600			valid
<i>Tone at The Top (X₁)</i>	0.747	0.799	0.863		valid

Source: Processed primary data (2025)

The test results showed that the HTMT values for the tone at the top, knowledge sharing, collaborative working, and risk culture variables were less than 0.9, thus confirming the validity of all the variable indicators and their items.

The convergent validity and discriminant validity tests showed consistent results, with all indicators declared valid. This indicates that the model used has a good fit and is able to effectively differentiate between different constructs. Therefore, the measurement instrument used in this study can be said to be valid.

Table 8. Average Variant Extracted (AVE).

Variabel	<i>Average Variance Extracted (AVE)</i>	Results
Tone at The Top	0.785	valid
Knowledge Sharing	0.852	valid
Collaborative Working	0.766	valid
Risk Culture	0.843	valid

Source: Processed primary data (2025)

The purpose of this test is to determine whether a set of constructed indicators can represent the latent variable. The measurement criterion is that the AVE value must be greater than 0.50, thus concluding that the latent variable (construct) can be explained by more than 50% of its indicators (Fornell & Lacker, 1981). Based on the results above, it was found that the AVE value of all indicators was > 0.50, thus concluding that all indicators are categorized as valid.

Table 9. Cronbach Alpha.

Variabel	Cronbach's Alpha	Results
Tone at The Top (X ₁)	0,973	Reliabel
Knowledge Sharing (X ₂)	0,969	Reliabel
Collaborative Working (Z ₁)	0,934	Reliabel
Risk Culture (Y ₁)	0,975	Reliabel

Source: Processed primary data (2025)

The results of this analysis show that the Cronbach's alpha value for the tone at the top construct/variable is 0.973, knowledge sharing is 0.969, collaborative working is 0.934, and risk culture is 0.975. All Cronbach's alpha values are above 0.70, indicating good reliability.

Table 10. Composite Reliability

Variabel	Composite Reliability	Results
Tone at The Top (X ₁)	0,978	Reliabel
Knowledge Sharing (X ₂)	0,974	Reliabel
Collaborative Working (Z ₁)	0,953	Reliabel
Risk Culture (Y ₁)	0,980	Reliabel

Source: Processed primary data (2025)

The results of this analysis indicate that the composite reliability value for the tone at the top construct/variable is 0.978, the knowledge sharing variable is 0.974, the collaborative working variable is 0.953, and the risk culture variable is 0.980. All composite reliability values are above 0.70, indicating good reliability.

Table 11. Rsquare (R²).

Variabel Dependen	R _{square}	R _{square adjusted}
Collaborative Working (Z ₁)	0.742	0.728
Risk Culture (Y ₁)	0.775	0.757

Source: Processed primary data (2025)

Based on the analysis results using the bootstrapping method, the R-square value for the dependent variable collaborative working was 0.742 and the dependent variable risk culture was 0.775. This indicates that the variability of collaborative working can be explained by tone at the top and knowledge sharing by 74.20%, while the variability of risk culture can be explained by tone at the top, knowledge sharing, and collaborative working by 77.50%. Values > 50% are considered strong.

Table 12. Effect Size (f).

	Collaborative Working (Z ₁)	Knowledge Sharing (X ₂)	Risk Culture (Y ₁)	Tone at The Top (X ₁)	Results
Collaborative Working (Z ₁)			0.389		Great Effect
Knowledge Sharing (X ₂)	0.957		0.330		Large- Medium Effect
Risk Culture (Y ₁)					
Tone at The Top (X ₁)	0.027		1.357		Small – Big Effect

Source: Processed primary data (2025)

The effect size or f-square (f²) test results show that tone at the top has a significant impact on risk culture, with an f-square value of 1.357, well above the threshold for a large effect (0.35). This indicates that tone at the top is a very dominant factor in explaining and enhancing risk culture. Conversely, tone at the top only has a moderate effect size on collaborative working, with an f-square value of 0.027, which is close to the threshold for a small effect (<0.02).

Table 13. Hypothesis Test.

Hypothesis	Original Sample	Sample Mean (M)	Standardize d Deviation (STDEV)	T _{statistic}	P _{values}	Results
<i>Tone at The Top → Risk Culture</i>	0.856	0.783	0.259	3.305	0.001	Accepted
<i>Knowledge Sharing → Risk Culture</i>	-0.583	-0.505	0.253	2.301	0.021	Accepted
<i>Collaborative Working → Risk Culture</i>	0.582	0.582	0.257	2.266	0.024	Accepted
<i>Tone at The Top → Collaborative Working</i>	0.128	0.159	0.194	0.660	0.509	Rejected
<i>Knowledge Sharing → Collaborative Working</i>	0.761	0.730	0.179	4.242	0.000	Accepted
<i>Tone at The Top → Collaborative Working → Risk Culture</i>	0.074	0.103	0.172	0.433	0.665	Rejected
<i>Knowledge Sharing → Collaborative Working → Risk Culture</i>	0.442	0.415	0.204	2.165	0.030	Accepted

Source: Processed primary data (2025)

Discussion

H1: The Influence of Tone at the Top on Risk Culture

The Influence of Tone at the Top on Risk Culture. The results of this study indicate that tone at the top significantly influences risk culture in the Madiun City Inspectorate. This finding supports the ethical and symbolic leadership theory, which positions leaders as primary role models in shaping organizational values and behavior. Leadership consistency in policies and actions has been shown to encourage the internalization of risk culture by employees, in line with the findings of Kabuye et al. (2019a), Ewelt-Knauer et al. (2022), and Soares et al. (2023). Conversely, weak leadership role models have the potential to reduce employee sensitivity to organizational risks.

H2: The Effect of Knowledge Sharing on Risk Culture

This study demonstrates that knowledge sharing has a significant impact on risk culture. This finding confirms that a risk culture cannot be formed without a continuous process of knowledge distribution and internalization. External, internal, and individual challenges, as stated by Nawawi (2020), play a crucial role in determining the effectiveness of knowledge sharing. These results align with Twining et al. (2010), Aven & Ylönen (2021), and Rippl (2018), who emphasize that understanding risk is a key prerequisite for strengthening an organization's risk culture.

H3: The Effect of Collaborative Working on Risk Culture

The results of this study indicate that collaborative working significantly influences risk culture. This finding indicates that developing a risk culture requires crossfunctional synergy for effective and efficient implementation. Structured collaboration can minimize overlapping work and improve the quality of collective risk management. These results are consistent with Bradford-Knox (2020), Friday et al. (2021), and Moczydłowska et al. (2023).

H4: The Influence of Tone at the Top on Collaborative Working

This study found that tone at the top did not significantly influence collaborative working. This finding differs from Walter et al. (2021) and Lin & Ling (2021), and suggests that leadership role models do not necessarily directly encourage collaborative work. Differences in organizational characteristics, leadership styles, and respondent subjectivity during data are

suspected to be factors influencing these results. As a case study, these findings are contextual and do not preclude the possibility of different results in other organizations or time periods.

H5: The Effect of Knowledge Sharing on Collaborative Working

The research results demonstrate that knowledge sharing has a significant effect on collaborative working. The knowledge sharing process fosters interaction, trust, and coordination among employees, ultimately strengthening collaboration. This finding aligns with Jialin Yi (2009), Qureshi et al. (2023), and Lim et al. (2022), who stated that knowledge sharing is the primary foundation for creating synergistic and innovative collaboration.

H6: The Influence of Tone at the Top on Risk Culture through Collaborative Working

The results show that tone at the top does not significantly influence risk culture through collaborative working as a mediator. This finding indicates that strong leadership does not automatically improve risk culture if it is not accompanied by effective collaboration mechanisms. This result is inconsistent with Rose & Amelia (2024) and Braumann et al. (2025) but may be explained by the organizational context and limited cross-functional collaboration that existed at the time of the study.

H7: The Effect of Knowledge Sharing on Risk Culture through Collaborative Working

This study demonstrates that knowledge sharing significantly impacts risk culture through collaborative working as a mediator. This finding confirms that improving the quality of individual knowledge fosters effective collaboration, which in turn strengthens an organization's risk culture. This finding is consistent with Rodriguez & Edwards (2009), A good organizational climate can strengthen organizational commitment Hermawati, A et al (2022). Green & Johnson (2015), and Hanna et al. (2024), and emphasizes the importance of individual professionalism and competence as prerequisites for successful collaboration.

5. Conclusion

Based on the results of this study, the influence of top-level tone and knowledge sharing on risk culture, mediated by collaborative working, leads to several key conclusions. A strong top-level tone can improve the risk culture at the Madiun City Inspectorate. Similarly, strong knowledge sharing is able to enhance the risk culture within the institution. Collaborative working also plays an important role, as strong collaboration can improve the risk culture at the Madiun City Inspectorate. However, a strong top-level tone has not yet been able to improve collaborative working in this organization. In contrast, strong knowledge sharing is very effective in enhancing collaborative working among employees. Furthermore, a strong top-level tone, when mediated by collaborative working, has not yet succeeded in improving the risk culture. On the other hand, strong knowledge sharing, when mediated by collaborative working, is able to improve the quality of the risk culture at the Madiun City Inspectorate.

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