



Perception of Culture Risk and People Risk in Influencing Risk Management Implementation During and Post Covid 19 Pandemic: Case of Banking Industry in Indonesia

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Abstract. The aim of this study is to compare survey-based research conducted among banking employees in South Africa and Indonesia in order to investigate how perceptions of culture risk and people risk influence operational and overall risk management implementation during and after the Covid-19 pandemic. This research extends the benchmark study by [10], which found that both culture risk and people risk significantly affected risk management performance in South African banks. Almost 400 respondents participated in the South African study, while in Indonesia fewer than 50 valid responses were obtained from 110 eligible candidates due to the criteria applied. Culture risk is defined as organizational norms and behaviors that shape risk awareness, consistent with [3], while people risk reflects human error, competence, and ethical behavior as described in [14], London: Institute of Operational Risk. The findings indicate that during and after the Covid-19 pandemic, culture risk has a stronger and statistically significant influence on operational and general risk management implementation, whereas people risk shows a positive but less significant effect. The study highlights the importance of strengthening risk culture to sustain effective governance in the banking sector and recommends further research with a larger Indonesian sample.

Keywords: Culture Risk, People Risk, Risk Perception, Risk Management, Covid 19 Pandemic.

1 Introduction

There are a lot of cases in Banking industry which then led to bankruptcy (worst case) e.g. Barings, Banker's Trust in the United States of America and a lot of cases in Indonesian banking industry in the era of economic crisis 1997-1998. In Indonesia, those cases had caused the Government to spend not less than Rp147.7 trillion in the year 2000 through a recapitalization program for banking industry to rebuild the trust in

banking industry [5]. For banking industry, Basel Committee has introduced risk management initiatives that is followed by banking industry players and regulators worldwide. Risk management practices in banking industry that is introduced by Basel Committee has developed its activities not only focusing on quantitative method only but also building risk management capability on the people involved in its daily operations. Formerly, Bank Indonesia as the regulator as well as the examiner of banking industry in Indonesia has been introducing policy on risk management implementation for banking industry since 2005. The role now is undertaken by Otoritas Jasa Keuangan – OJK as the Financial Services Authority.

People risk is defined as the risk posed by employee's action and behaviors, such as a lack of succession planning, poor planning, unethical behavior [14]. People risk is unavoidable, as people who are responsible to run the Bank operation or organization to achieve its objective.

Culture risk relates to a bank's strategy, rules, processes, and practices that have not been adequately accepted and executed throughout the organization [3]. Both factors are believed to be the critical part in building good operational risk implementation as well as general practice of risk management.

Previous research by [10] investigated how people and culture risk perceptions influenced operational and overall risk management within South Africa's major banking institutions. That study, conducted at the height of the Covid-19 pandemic, involved 391 participants from the top five commercial banks in South Africa and revealed that both culture risk and people risk had a positive and statistically significant effect on operational and general risk management performance. However, study in Indonesia showed that the degree of impact differed: culture risk demonstrated a stronger correlation ($r = 0.434$ with operational risk management) than people risk ($r = 0.338$), indicating that a healthy risk culture played a greater role in ensuring effective governance and compliance. The study therefore concluded that fostering an ethical and value-driven culture was essential to reduce people-related failures and strengthen organizational resilience.

Despite its valuable contribution, the South African-based thesis presents several contextual and methodological gaps relevant to the Indonesian banking environment. The gap may be due to different cultural and regulatory ground that shape both countries.

The sample and representation gap arises from the contrast between the 391 respondents from five major South African banks and fewer than 50 participants from Indonesian institutions, offering insight into how risk awareness may differ between large multinational banks and localized entities. Finally, the Model Validation Gap emerges as this study replicates the South African analytical framework using correlation, factor analysis, and SEM to test whether the same relationships between culture risk, people risk, and risk management effectiveness hold true within Indonesia's unique cultural and regulatory context.

Through addressing these gaps, the Indonesian research aims to determine whether culture risk continues to show a stronger influence on risk management than people risk and to what extent national culture, organizational norms, and post-pandemic behavioral shifts reshape these relationships. In doing so, the study extends [10] framework

into a new geographical, cultural, and temporal domain enhancing the global understanding of how people and culture risk perceptions drive sustainable risk management practices.

2 Literature Review

[15] emphasized that risk management is a vital instrument for safeguarding organizational processes and enhancing value creation. In the banking industry, where institutions face complex exposure to both market and human factors, regulators such as Indonesia's Otoritas Jasa Keuangan have mandated dedicated risk management units to ensure sound governance implemented in the Bank. According to [1], risk represents a combination of uncertainty and potential losses resulting from adverse conditions. The Basel Capital Accord further classifies risks into distinct categories credit, market, and operational where operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people, systems, or external events. Unlike credit or market risk, operational risk is qualitative in nature and often arises from human behavior, ethical judgment, and organizational culture.

Within this framework, people risk and culture risk are integral sub-components of operational risk. People's risk stems from human error, misconduct, insufficient competence, or leadership failure that can lead to process breakdowns and losses [4]. Culture risk or risk culture represents the shared norms and behaviors that shape how individuals perceive and manage risk. As noted by [8], a strong risk culture acts as an informal control system guiding ethical conduct and decision-making, while [6] found that organizations with engaged employees and robust cultural alignment demonstrate superior operational-risk outcomes.

The relationship between people and culture risk is reciprocal. [9] argued that people risk is often the visible outcome of cultural weaknesses, while [2] observed that a weak culture fosters non-compliance and poor accountability. [16] further showed that culture mediates the impact of human behavior on risk management effectiveness. When shared values and ethical norms are deeply embedded, people risk diminishes. Conversely, cultural deterioration heightens the likelihood of human failure. Therefore, as noted by [3], culture risk and people risk cannot be treated as isolated constructs but as interdependent elements, where culture shapes the behavioral environment and people risk represents the tangible outcome of that environment.

Most successful organizations cultivate a culture built on shared values, because these collective beliefs and principles align employee behavior and foster consistency across decisions and actions. Organizational culture is widely understood as the set of shared values, norms, and assumptions that bind members together and guide how work gets done. Therefore, embedding shared values is not merely symbolic it is a foundational mechanism for cultivating consistent, risk-aware behavior that supports effective risk management implementation.

3 Method

3.1 Data and Source of Data

To get the empirical objectives, a positivist paradigm was selected as the most appropriate research paradigm. This paradigm allows one to identify and describe the relationship between variables to obtain a scientific or statistical understanding of the phenomena. This research used primary data from an online structured questionnaire. The questionnaire was distributed to approximately 110 candidate participants.

However, after filtering based on the required criteria employees who had worked in the banking sector during the period 2018–2023 the final valid sample consisted of fewer than 50 participants. Respondents represented a diverse range of banks, from community and municipal banks to systemically important banks operating in Indonesia. The total respondents that become study's sample were 33.

3.2 Sampling Procedure

For this study, a questionnaire study is chosen and criteria is made to the participants in order to get more relevant subjects, that is, only people working in a bank for period of 2018 – 2023 who can participate.

Furthermore, participants were categorized into:

- Management (Directors and 1 level below)
- Non-Management
- Commissioner
- Committee member (such as Audit Committee or Risk Monitoring Committee).

3.3 Questionnaire Design

The questionnaire for this research study was designed by combining questions mostly from previous study taken from risk management system [12]; [11] which then was adopted to research regarding Culture Risk and People Risk influencing Risk Management Implementation [10]. The questionnaire format is a closed ended question (ie quantitative method), which used the structured question format and required participants to rate their responses according to the questions and scale provided.

3.4 Analysis Methodology

The research employed Partial Least Squares – Structural Equation Modeling (PLS-SEM) to conduct a multivariate analysis aimed at evaluating both the validity and reliability of the research instrument, which consisted of structured questionnaire indicators. Within the model, Culture Risk and People Risk served as independent variables, while Risk Management Implementation functioned as the dependent variable.

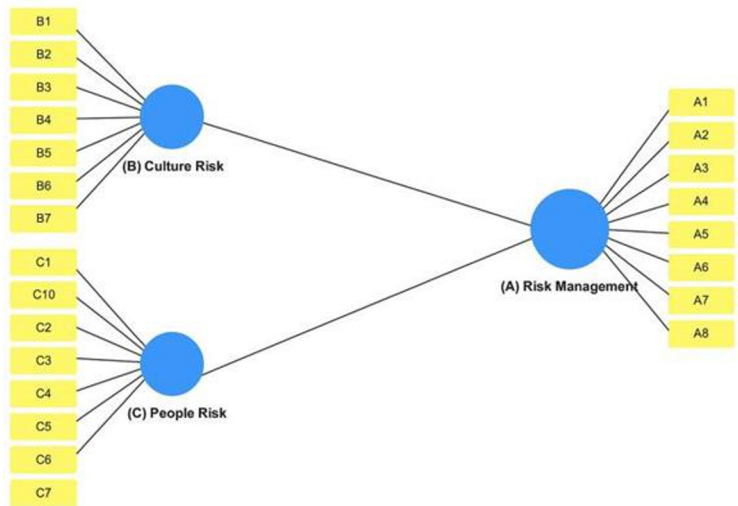


Fig. 1. SEM model depicting the contribution of culture and people risk to effective risk management

Table 1. Construct variables.

Dependent variable: Risk management	Independent variable: Culture Risk	Independent variable: People risk
A1: Operational risk is the potential for loss due to system failure, inadequate procedures and fraud	B1: Cultural risk is the potential risk caused by operational difficulties within a bank due to differences in language, values, customs, and customer preferences.	C1: People risk is the potential risk caused by human error, lack of competence, and lack of adherence to existing policies and procedures.
A2: Operational risk encompasses almost all banking activities and products.	B2: Creating the right work environment essentially creates the right work culture.	C2: People risk is more likely caused by selecting the wrong people for the right positions.
A3: Risk is monitored solely by the Risk Management Unit.	B3: Cultural risk is a set of attitudes and behaviors toward risk.	C3: People risk can be caused by a lack of "tone at the top in being a good role model.
A4: All potential operational risk events must be recorded in the risk register.	B4: Cultural risk stems from a misalignment between company values and employee values.	C4: Problematic employees can be a source of problems for customer relations, operations, and even company finances.
A5: As a banking professional, I am a Risk Champion* to the best of my ability.	B5: Training and awareness of cultural risk are crucial in shaping a company's culture.	C5: People risk can be avoided through proper recruitment procedures, appropriate employee

Dependent variable: Risk management	Independent variable: Culture Risk	Independent variable: People risk
		retention programs, and developing the potential of existing employees.
A6: Inadequate risk assessments can disrupt the Bank's operations.	B6: Communication is key to improving risk culture.	C6: Proper management of people risk is a win-win strategy for a company.
A7: Improving risk culture is the best solution for risk management.	B7: Failures in operational risk have led to increased cultural risks since the Covid-19 pandemic.	C7: Employee attendance rates, work ethic, dependence on key employees, and other internal issues can be associated with people risk.
A8: Always considering all types of risks when making business and operational decisions.		C10: Planning for the formation of financial reserves and employee succession are ways to mitigate people risk.

All dependent and independent variables were formed from latent constructs of variables. They were coming from questions in the questionnaire measured the latent constructs of each variable in which their dimensionality was assessed using Principal Component Analysis (PCA) with varimax rotation. All items with Eigen values above one were retained, and items with factor loadings above 0.50 were included, while those with cross-loadings above 0.50 were excluded. Initially, multiple statements were used to measure each variable, and Cronbach's Alpha was calculated to test the reliability of variables with more than one latent construct.

To assess the appropriateness of PCA for the variables, Cronbach's alpha, and composite reliability were applied for all variables with multiple constructs. All measurements passed the required tests, as Cronbach's alpha and composite reliability values were greater than 0.50, as suggested by [13]. Hence, the latent constructs for all variables were confirmed as valid representations of the variables.

4 Results and Discussions

4.1 Results

The validity of the measurement model in this research was assessed using three statistical indicators. First, the outer model results confirmed that all indicators were valid following the second-stage testing procedure. Second, the Average Variance Extracted (AVE) values demonstrated that each construct met the required threshold, 0.5, where the risk management' AVE was 0.685, the AVE of culture risk was 0.729, and the AVE

of people risk was 0.738. These indicated satisfactory convergent validity across the model. Third, the Cronbach’s alpha and composite reliability coefficients exceeded the accepted minimum level, confirming a high degree of internal consistency and instrument reliability. Based on Table 2, all constructs recorded alpha values exceeding 0.50, which indicates moderate internal consistency and suggests that the measurement instruments used were sufficiently reliable for the purposes of this analysis.

Table 2. Cronbach's alpha and composite reliability.

	AVE	Cronbach's alpha	Composite reliability	Conclusion
A (Risk Management)	0.685	0.908	0.929	Reliable
B (Culture Risk)	0.729	0.953	0.960	Reliable
C (People risk)	0.738	0.960	0.966	Reliable

Then in the structural model, the R-square (R^2) value of 0.754 indicated that 75.4 percent of the variance in risk management implementation can be explained by culture risk and people risk. This value represents a strong level of explanatory power, as coefficients above 0.75 are generally categorized as high. However, the bootstrapping coefficient results for significance testing revealed that while Culture Risk exhibits a statistically significant influence on the effectiveness of risk management implementation, People Risk although positively related does not demonstrate a significant level of impact within the model.

These results imply that a strong and well-defined risk culture significantly enhances compliance, awareness, and control effectiveness within banking organizations. Conversely, while the people dimension remains an important component of operational stability, its influence appears to be weaker from a statistical standpoint, suggesting that individual competencies alone are insufficient without the support of an embedded organizational culture that prioritizes risk awareness and ethical conduct.

4.2 Discussion

The final result then used inner model analysis and hypothesis testing. The evaluation of this inner model, as previously demonstrated, used the R-square criterion for independent constructs. The results showed an R-square value of 0.754, indicating that the independent variables, Culture Risk and People Risk, were sufficiently able to explain their relationship with risk management. Next, the hypothesis was tested using bootstrapping to obtain a t-statistic and compared with the t-table value at a 75.4% confidence level.

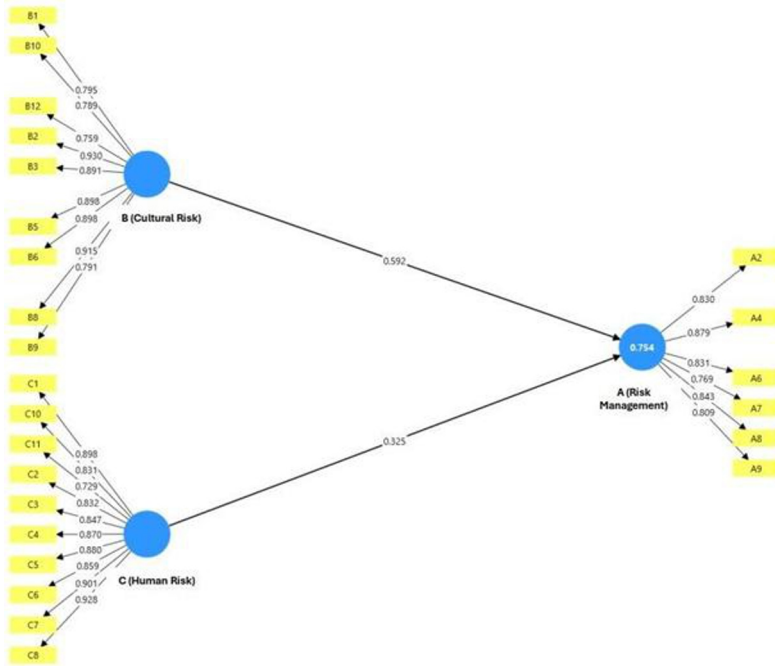


Fig. 2. Model and significance of variables.

To analyze the relationship between the independent variables (Culture Risk and People Risk) and the dependent variable (Risk Management Implementation), descriptive analysis and structural modeling were used.

The important findings of this study are as follows:

1. **Culture Risk:** Respondents view communication and training as central to maintaining a healthy risk culture; during Covid 19 pandemic some organization experienced cultural stress but in lower value. In overall the data affirm that culture risk has a strong statistically significant influence on risk management implementation.
2. **People Risk:** generally demonstrate positive perception especially for statements relating to recruitment, leadership and ethical conduct; respondent strongly agree that effective management of people risk may benefit both employees and organization. However, pandemic related questions have slightly weaker statement, showing that in Covid 19 pandemic, issue on absenteeism, role adaptation still exist. Although people risk shows a positive correlation with risk management implementation, its influence is moderate and statistically not significant compared to culture risk.

The structural equation modeling (PLS-SEM) results yielded an R^2 value of 0.754, indicating that culture risk and people risk jointly explain 75.4 % of the variation in

risk-management implementation across the sample. Culture risk contributes more substantially and significantly, while people risk provides a positive but weaker contribution.

These findings mirror the South African benchmark study [10] in the same direction but differ in intensity: the Indonesian data highlight stronger cultural alignment yet greater variability in people-related factors. Effective communication, training, and leadership tone emerge as the dominant drivers of resilient risk-management behavior.

A strong risk culture promotes compliance, awareness, and effectiveness of control, while weak cultural structures allow misconduct and operational failure. Although people factors such as competence and ethics remain vital, they must be reinforced through a robust organizational culture that embeds shared values and accountability. Enhancing culture-based leadership programs and integrating people-risk awareness into daily processes will strengthen overall organizational resilience in the post-pandemic era.

5 Conclusion and Recommendation

5.1 Conclusion

The findings of this study confirm that both culture risk and people risk play important roles in shaping the effectiveness of risk management implementation in Indonesia's banking industry during and after the Covid-19 pandemic. However, consistent with the comparative reference from South Africa [10], the results reveal that culture risk exerts a stronger and statistically significant influence on operational and overall risk management practices than people risk. This indicates that the behavioral and cultural foundations of an organization such as communication, ethical standards, and leadership tone are more decisive in ensuring compliance, accountability, and operational stability than individual capability alone.

While people risk maintains a positive relationship with risk management implementation, its impact in the Indonesian context appears less significant. This may stem from factors such as hierarchical organizational culture, limited empowerment at lower management levels, and challenges in post-pandemic adaptation, where human-resource pressures and hybrid work transitions tested the resilience of employees and institutions. These contrasts also reflect the differences identified in the gap analysis notably in cultural environment, sample scale, and post-pandemic dynamics which distinguish the Indonesian context from the South African case.

Statistically, the model demonstrates that both people and culture risk collectively explain 75.4% of the variance in risk management implementation ($R^2 = 0.754$), underscoring the robustness of the relationship between these factors. The findings further reinforce that a strong risk culture supported by shared values, consistent leadership behavior, and effective communication serves as a key enabler of sustainable risk management performance.

5.2 Recommendation

In view of these findings, the study recommends that:

1. Indonesian Banks place greater emphasis on strengthening risk culture across all levels of the organization.
2. Risk management should be embedded not only as a compliance mechanism but as a collective mindset that reflects shared values and organizational ethics.
3. Leadership commitment and communication are essential to cultivating this environment, as they set the tone for how risks are perceived and addressed.
4. Similarly, human-resource policies must integrate people-risk awareness into recruitment, training, and development strategies, ensuring that competence and integrity form the basis of every role.

Post-pandemic lessons, such as the importance of flexibility, digital readiness, and transparent communication, should be institutionalized to enhance operational resilience and sustain employee accountability.

The study has some limitations, especially time constraints in collecting more sufficient respondents, as time available to conduct a survey was very limited. Criteria also be put to select that only proper candidate working in the era Covid 19 pandemic can participate in the survey. Consequently, active respondents become much lesser. However, this research result still can be considered reliable as number of respondents have passed the minimum threshold. It is suggested that for further study, more participants can be invited in order to get more precise result.

Disclosure of Interests. The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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