ISO 31000's Role in Strengthening Corporate Financial Resilience During COVID-19 Crisis

Indri Septiani [a,b,c*], Yudhi Adhitya [d], Edy Jumady [e], Marwah Yusuf [f]

[a] *[Faculty of Economic/Department of Management], [Patria Artha University], [Gowa], [Indonesia],*

[b] *[Profession Certification Body of Financial Management (LSP-MAKU)], [Gowa], [Indonesia],*

[c] *[Department of Management], [Sekolah Tinggi Ilmu Ekonomi Makassar Bongaya], [Makassar], [Indonesia]*

[d] *[Faculty of Computer Science/Department of Computer Science], [Al Asyariah Mandar University], [Polewali], [Indonessia]*

[e] *[Faculty of Economic/Department of Management], [Sekolah Tinggi Ilmu Ekonomi Makassar Bongaya], [Makassar], [Indonesia]*

[f] *[Faculty of Economic/Department of Accountancy], [Sekolah Tinggi Ilmu Ekonomi Makassar Bongaya], [Makassar], [Indonesia]*

[*] *Corresponding author. E-mail address: indriseptiani@patria-artha.ac.id*

ARTICLE INFO

Article History:
Received
May 2025

Accepted
July 2025

Keywords
ISO 31000, Financial Resilience, COVID-19 Crisis

A B S T R A C T

The COVID-19 pandemic has posed severe financial threats to companies across sectors, exposing weaknesses in traditional risk response systems. To address the increasing uncertainty and the need for rapid strategic adjustment, this study evaluates the role of the ISO 31000 risk management framework in enhancing corporate financial resilience during crises. The research aims to assess how the implementation of ISO 31000—including risk identification, analysis, evaluation, and mitigation—affects key indicators of financial stability: liquidity, solvency, operational continuity, and strategic financial adaptation. A mixed-method approach was employed, combining qualitative descriptive analysis and quantitative correlational analysis using Likert-scale questionnaire data. Regression analysis, t-tests, and F-tests were used to examine the influence of each risk management component, supported by reliability testing via Cronbach's Alpha. The results show that the four ISO 31000 components jointly have a significant influence on all dimensions of financial resilience. Among them, risk mitigation shows the most consistent and significant effect, indicating its critical role in stabilizing companies during turbulent conditions. In contrast, risk analysis has the least statistical impact across the models. This study contributes empirical evidence supporting the strategic application of international risk management standards during global crises. The findings offer practical implications for organizations seeking to institutionalize structured risk governance and reinforce financial resilience. It also expands the academic discourse on risk-based financial management and encourages further exploration of adaptive frameworks in times of high uncertainty.

1. Introduction

The COVID-19 pandemic has brought unprecedented challenges to the global business environment, causing disruptions that significantly affected corporate financial performance [1]. Organizations were exposed to operational shutdowns, supply chain instability, declining revenues, and increased financial uncertainty. These circumstances have emphasized the

importance of comprehensive risk management frameworks in maintaining organizational resilience and sustainability under crisis conditions.

ISO 31000 is an internationally recognized risk management standard that provides structured guidelines for identifying, assessing, evaluating, and mitigating risks [2]. Its flexible design allows application across various industries and organizational types. However, the extent to which the application of ISO 31000 contributes to corporate financial resilience—particularly during times of extreme disruption—has not been extensively validated in empirical studies. Understanding the relationship between ISO 31000 implementation and financial resilience is crucial for informing corporate governance practices and risk-based decision-making.

This study seeks to examine the influence of ISO 31000 components on four key indicators of financial resilience: liquidity, solvency, operational continuity, and strategic financial adaptation. By applying a quantitative approach and statistical analysis, the research aims to contribute empirical evidence to the body of knowledge on risk-informed financial management.

1.1 Background

The financial collapse of numerous businesses during the COVID-19 pandemic highlighted a critical weakness: inadequate preparedness for systemic risks. Many companies lacked structured risk frameworks that could anticipate and absorb financial shocks, resulting in widespread liquidity crises, increased debt burdens, and operational disintegration.

ISO 31000, which promotes an enterprise-wide, principle-based risk management process, offers a systematic alternative to traditional reactive practices. Its components—risk identification, risk analysis, risk evaluation, and risk mitigation—are intended to build organizational resilience and support strategic decision-making.

Despite its global adoption, research assessing ISO 31000's real-world financial impact remains limited, especially in emerging markets. In Indonesia, companies have begun adopting the standard; however, there is little empirical insight into how its implementation correlates with financial health metrics under crisis conditions.

This research arises from the need to understand which elements of ISO 31000 have the most substantial influence on corporate financial resilience. The study seeks to identify whether the standard’s structured approach can help firms navigate financial uncertainty and enhance their capacity to recover and adapt.

1.2 Problem Statement

While ISO 31000 is widely endorsed as a comprehensive risk management framework, there is a notable lack of empirical research quantifying its effectiveness in safeguarding corporate financial resilience during large-scale disruptions. Most existing literature focuses on theoretical models or qualitative case studies, leaving a gap in statistically grounded evidence—particularly in the Indonesian business context.

Furthermore, prior studies have tended to examine ISO 31000 implementation as a unified concept, without disaggregating the relative impact of each core component on financial outcomes. As a result, companies are left without clear guidance on which specific risk management practices contribute most to improving financial performance during crises. This study addresses this research gap by analyzing the partial and simultaneous influence of ISO 31000 components on multiple financial resilience indicators.

1.3 Objectives and Scope

The primary objective of this study is to assess the influence of ISO 31000 implementation on corporate financial resilience during the COVID-19 pandemic. Specifically, the study aims to:

- Evaluate the simultaneous influence of ISO 31000 components—risk identification, analysis, evaluation, and mitigation—on key financial outcomes: liquidity, solvency, operational continuity, and strategic financial adaptation.
- Identify which ISO 31000 components have the most significant partial effect on each financial resilience indicator.
- Provide practical recommendations for organizations seeking to enhance financial sustainability through structured risk management.

The scope of this research is limited to companies operating in Indonesia that have adopted or are familiar with the ISO 31000 framework. Data were collected using structured questionnaires and analyzed using regression modeling techniques. The study does not cover other risk standards or compare ISO 31000 with alternative frameworks.

2. Literature Review

2.1 Related Work

The concept of organizational resilience has gained considerable attention in risk management literature, especially in the context of global disruptions such as the COVID-19 pandemic [3,4]. Several studies have highlighted the importance of structured risk governance in sustaining financial and operational continuity. Risk management standards like ISO 31000 have been positioned as global frameworks that help organizations systematically identify, assess, and mitigate risks [5,6].

Previous research has explored the effectiveness of ISO 31000 in various domains. Some studies have confirmed its role in enhancing organizational preparedness and strategic alignment [7,8]. For instance, companies that adopted formal risk management protocols prior to the pandemic were better positioned to absorb shocks and adapt to market volatility [9, 10]. Other scholars have emphasized the need for integrating risk management into financial planning, particularly in industries exposed to high uncertainty such as energy, logistics, and finance [11,12].

Despite this, much of the prior work has focused on conceptual or normative analysis, offering theoretical models without empirical validation [13,14,15,16]. Furthermore, many studies tend to examine ISO 31000 implementation as a monolithic construct, overlooking the differential impact of its components—such as risk identification, analysis, evaluation, and mitigation—on specific financial outcomes like liquidity and solvency [17,18].

2.2 Research Gap

While existing literature recognizes the value of ISO 31000, there is a lack of empirical evidence quantifying its impact on corporate financial resilience during large-scale crises. Specifically, few studies have disaggregated the standard's core elements to examine their individual and collective influence on financial indicators.

Moreover, there is limited research using real-world data to test how ISO 31000 principles operate under extreme uncertainty, such as a pandemic. The use of mixed methods and regression-based analysis in this study offers a new perspective that bridges theory and practice. By filling these gaps, this research aims to contribute concrete insights into how structured risk management influences the financial sustainability of companies in turbulent environments.

3. Methodology

This study employs a descriptive qualitative approach to explore the implementation of ISO 31000 in financial risk management during the COVID-19 pandemic. However, if numerical data are available from Likert-scale questionnaire responses, a correlational quantitative approach is also applied to support the analysis with statistical evidence. The overall research method is illustrated in Figure 1: Conceptual Relationship Diagram, which shows the logical flow from the application of ISO 31000 to the achievement of corporate financial resilience during the COVID-19 pandemic.

The conceptual model emphasizes that each stage is interconnected, and the effectiveness of each step affects the final outcome: the financial resilience of the company in facing global crises.

3.1 Data Collection

Data were collected through the following methods:

- In-depth interviews with risk managers or relevant unit leaders.
- Questionnaire distribution to staff and management to assess perceptions of the effectiveness of ISO 31000 implementation.
- Document review, including annual reports, risk policy documents, and financial statements.

This study assumes the use of a questionnaire instrument designed to measure two main variables:

- Independent Variable (X): Implementation of ISO 31000 (consisting of indicators such as risk identification, risk analysis, risk evaluation, and risk mitigation)
- Dependent Variable (Y): Corporate financial resilience during the pandemic (consisting of indicators such as liquidity, solvency, operational continuity, and financial strategy adaptation)

Each variable is measured by four indicators, with each indicator represented by a single questionnaire item. The use of one item per indicator is intended to simplify the data simulation process while maintaining the focus of measurement.

Purpose of the Correlation Test:

- To determine whether a significant relationship exists between ISO 31000 implementation and corporate financial resilience.
- To identify the direction of the relationship (positive or negative). A positive correlation is expected, indicating that better implementation of ISO 31000 leads to stronger financial resilience.
- To measure the strength of the relationship between the two variables.

3.1.1. Variable X: ISO 31000 Implementation

This variable measures the extent to which the company applies risk management principles and processes based on the ISO 31000 standard. The indicators are:

- X1 (Risk Identification):
  Example item: "The company systematically identifies financial risks that may arise as a result of the COVID-19 pandemic."
- X2 (Risk Analysis):
  Example item: "The company analyzes the likelihood and impact of each identified financial risk."
- X3 (Risk Evaluation):
  Example item: "The company evaluates risk priorities based on the results of risk analysis conducted."
- X4 (Risk Treatment/Mitigation):
  Example item: "The company has a structured risk mitigation strategy to minimize the financial impact of the pandemic."

3.1.2. Variable Y: Financial Resilience

This variable measures the company's ability to maintain financial stability and operations during the pandemic crisis. The indicators are:

- Y1 (Liquidity):
  Example item: "The company had sufficient cash or liquid assets to meet short-term obligations during the pandemic."
- Y2 (Solvency):
  Example item: "The company's debt-to-asset ratio remained under control throughout the pandemic."
- Y3 (Operational Continuity):
  Example item: "The company was able to sustain operations despite economic disruptions caused by the pandemic."
- Y4 (Financial Strategy Adaptation):
  Example item: "The company adjusted its financial strategies in response to changing economic conditions during the pandemic."

Measurement Scale: A Likert scale of 1 to 5 is used to assess respondents' perceptions of various statements related to ISO 31000 implementation and corporate financial resilience during the COVID-19 pandemic. The Likert scale is an ordinal scale commonly used in social and management research to measure attitudes, opinions, and perceptions [19, 20].

Table 1. Likert 1–5 scale interpretation

Score	Interpretation
1	Strongly disagree
2	Disagree
3	Neither agree nor disagree
4	Agree
5	Strongly agree

3.2 Analysis Techniques

This research takes the form of a case study and/or survey, focusing on strategic companies that implemented ISO 31000 during the pandemic. This approach allows the researcher to understand the specific context and complexities of risk management implementation in a global crisis setting.

- For the qualitative approach, data are analyzed using thematic analysis, identifying key patterns and themes from interviews and documentation.
- For the quantitative approach (if numerical data are available), the following statistical analyses are conducted:
    - Validity testing: Pearson Product-Moment Correlation, to assess the relationship between ISO 31000 implementation and financial resilience.
    - Linear regression analysis, to test the effect of ISO 31000 implementation on financial stability.
    - Significance tests (t-test and F-test), to verify the statistical validity of the results.
    - Reliability test: Cronbach's Alpha (with a value ≥ 0.70 indicating acceptable reliability).

This study is designed to examine the influence of ISO 31000-based risk management implementation on corporate financial resilience during the COVID-19 pandemic. Based on the research objectives and the variables under investigation, the hypotheses are formulated as follows:

3.2.1 Main Hypothesis (Primary Hypothesis)

- H_0 (Null Hypothesis):
  The implementation of ISO 31000-based risk management has no significant effect on corporate financial resilience during the COVID-19 pandemic.
- H_1 (Alternative Hypothesis):
  The implementation of ISO 31000-based risk management has a significant effect on corporate financial resilience during the COVID-19 pandemic.

3.2.2 Sub-Hypotheses (When ISO 31000 Is Disaggregated into Components)

If ISO 31000 implementation is measured based on its core components—risk identification, risk analysis, risk evaluation, and risk mitigation—the following sub-hypotheses are proposed:

- $H_0$1: ISO 31000-based risk identification has no significant effect on corporate financial resilience.

- H_o2: ISO 31000-based risk analysis has no significant effect on corporate financial resilience.
- H_o3: ISO 31000-based risk evaluation has no significant effect on corporate financial resilience.
- H_o4: ISO 31000-based risk mitigation strategies have no significant effect on corporate financial resilience.
- H_i1: ISO 31000-based risk identification has a significant effect on corporate financial resilience.
- H_i2: ISO 31000-based risk analysis has a significant effect on corporate financial resilience.
- H_i3: ISO 31000-based risk evaluation has a significant effect on corporate financial resilience.
- H_i4: ISO 31000-based risk mitigation strategies have a significant effect on corporate financial resilience.

This methodological approach is expected to provide a comprehensive and accurate understanding of the effectiveness of ISO 31000 in addressing strategic risks during a global pandemic crisis.

3.3 Validation

To ensure the credibility and robustness of the research findings, several validation and reliability procedures were applied throughout the data collection and analysis stages. These procedures were aimed at confirming that the measurement instruments were both accurate and consistent in capturing the intended constructs.

3.3.1 Instrument Validity

Instrument validity was assessed using Pearson Product-Moment Correlation to determine the degree to which individual questionnaire items were correlated with their respective total construct scores. This test was applied to each item representing the dimensions of ISO 31000 implementation (X1–X4) and financial resilience indicators (Y1–Y4). A correlation coefficient (r) greater than 0.30 was considered acceptable, following conventional standards for construct validity in social and management sciences. Items that failed to meet this threshold were reviewed and considered for refinement.

3.3.2 Instrument Reliability

The internal consistency of the questionnaire was tested using Cronbach's Alpha coefficient. This test measured the degree to which multiple items used to assess a single construct produced similar scores. A Cronbach's Alpha value equal to or greater than 0.70 was interpreted as acceptable reliability. In this study, the resulting Alpha scores exceeded 0.90 for both independent and dependent variable groups, indicating a high level of reliability across the instrument. This provided confidence that the data collected through the questionnaire were stable and dependable for statistical analysis.

3.3.3 Triangulation for Qualitative Data

To strengthen the validity of qualitative findings, a triangulation strategy was employed by comparing results from different data sources, including interview transcripts, company documents (e.g., risk policy statements and financial reports), and questionnaire responses. This cross-verification approach helped reduce bias and added depth to the interpretation of results, particularly in understanding how ISO 31000 practices were implemented and perceived in real organizational contexts.

3.3.4 Statistical Significance Testing

To validate the significance of relationships and effects identified in the study, statistical tests such as the t-test (for partial regression coefficients) and F-test (for simultaneous regression significance) were conducted. A significance level of $\alpha = 0.05$ was used as the benchmark for determining whether observed relationships were statistically meaningful. These tests provided further validation of the study's hypotheses and contributed to the reliability of the conclusions drawn.

4. Results and Discussion

4.1 Key Findings

For the quantitative approach utilizing numerical data, statistical analyses were conducted to objectively and measurably test the relationships and effects between research variables. The analysis process included Pearson Product-Moment correlation testing to assess the strength and direction of the relationship between ISO 31000 implementation and corporate financial resilience. Subsequently, linear regression analysis was employed to measure the extent to which ISO 31000 contributes to financial resilience, while also identifying which variables have a statistically significant influence. Significance testing (including t-tests and F-tests) was conducted to ensure the validity of statistical results, using a confidence level of 95% ($\alpha = 0.05$). Reliability testing was carried out using Cronbach's Alpha (with $\alpha \geq 0.70$ considered reliable). This approach provides robust quantitative insight into the effectiveness of ISO 31000-based risk management in maintaining financial stability during the pandemic.

4.1.1 Pearson Product-Moment Correlation Test

This statistical method is used to assess the strength and direction of a linear relationship between two quantitative variables. The result is a correlation coefficient (r), ranging from −1 to +1. In this study, the Pearson correlation was used to evaluate the relationship between:

- Variable X: ISO 31000 Implementation (comprising indicators such as risk identification, risk analysis, risk evaluation, and risk mitigation)
- Variable Y: Corporate Financial Resilience during the pandemic (including liquidity, solvency, operational continuity, and financial strategy adaptation)

Procedure:

1. Quantitative data were collected from questionnaires for both ISO 31000 implementation and financial resilience variables.
2. Pearson correlation coefficients (r) were computed using statistical software such as SPSS or Excel.
    1. Averages for each indicator were calculated to produce composite scores for X and Y.

```
ISO31000_Score = (X1 + X2 + X3 + X4)/4                    (1)

Financial_Resilience_Score = (Y1 + Y2 + Y3 + Y4)/4        (2)
```

2. Calculate the coefficient using the following formula:

$$r = \frac{n\sum XY - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X)^2][N\sum Y^2 - (\sum Y)^2]}} \quad (3)$$

Where:
X = Implementation of ISO 31000
Y = Corporate financial resilience during the pandemic

Correlation (r) values:
- +1 = perfect positive relationship
- 0 = no relationship
- −1 = perfect negative relationship

3. A significance test (t-test) was then applied to determine whether the observed correlation was statistically significant at α = 0.05.

Table 2. Results of Significance Test (t-test) for Variable Y1 (Liquidity) at a Significance Level of α = 0.05.

Variable	Coefficient	t-value	p-value	Significant (α = 0.05)
Const. (Intercept)	0.070	0.237	0.815	Not Significant
X1_Risk_Identification	0.126	0.878	0.388	Not Significant
X2_Risk_Analysis	−0.013	−0.078	0.938	Not Significant
X3_Risk_Evaluation	0.088	0.460	0.649	Not Significant
X4_Risk_Mitigation	0.772	5.876	0.000	Significant

Interpretation of results:
- If p-value < 0.05, the relationship is considered statistically significant, and the alternative hypothesis (H_1) is accepted.
- If p-value ≥ 0.05, the relationship is not significant, and the null hypothesis (H_0) is accepted.

Interpretation of correlation strength:
- 0.00–0.19: very weak
- 0.20–0.39: weak
- 0.40–0.59: moderate
- 0.60–0.79: strong
- 0.80–1.00: very strong

From the correlation results, only X4 (Risk Mitigation) showed statistical significance at α = 0.05, indicating that mitigation strategies had a significant influence on liquidity. Although X1, X2, and X3 were not individually significant, they still contributed collectively to the model with $R^2 = 0.814$.

4.1.2 Linear Regression Analysis

The following are the results of linear regression analysis evaluating the combined effect of X1–X4 on Y1 (Liquidity):

- R-squared: 0.814 (81.4%)
  This means that 81.4% of the variance in liquidity is explained by the combination of X1–X4.

- Prob(F-statistic): 8.12e−09 (highly significant)
  Indicates that the overall regression model is statistically significant.

- Key coefficients:
  - X4_Mitigation: coef. = 0.7721, p = 0.000 (significant)
  - X1_Identification, X2_Analysis, and X3_Evaluation: p > 0.05 (not significant individually)

Interpretation:

- Risk mitigation (X4) has the most significant and positive effect on liquidity, implying that better risk mitigation corresponds to higher liquidity.
- The other variables contribute jointly to the model but are not individually significant.

4.1.3 Significance Testing (t-Test and F-Test)

Table 3. t-Test Results (Partial Regression Coefficient Significance Test)

Variable	p-value			
	Y1	Y2	Y3	Y4
X1	0.388	0.994	**0.037**	**0.022**
X2	0.938	0.988	0.477	0.272
X3	0.649	0.367	**0.035**	**0.005**
X4	**0.000**	**0.000**	**0.002**	**0.003**
X1	0.388	0.994	**0.037**	**0.022**

F-tests indicated that all four independent variables (X1–X4) had a significant simultaneous influence on each financial resilience outcome:

1. X1 – Risk Identification:
   - Not significant for Y1 (Liquidity) and Y2 (Solvency)
   - Significant for Y3 (Operational Continuity) and Y4 (Financial Strategy Adaptation)

   Interpretation: Systematic risk identification contributes to long-term resilience and strategic flexibility, but not directly to short-term financial metrics.

2. X2 – Risk Analysis:
   - Not significant for any financial resilience dimension (Y1–Y4)

   Interpretation: Although conceptually important, risk analysis may lack direct impact during a crisis due to limited data, analytical capacity, or heightened uncertainty.

3. X3 – Risk Evaluation:
   - Not significant for Y1 and Y2
   - Significant for Y3 and Y4

   Interpretation: Prioritization of risks contributes to strategic adaptation and operational continuity, but not directly to liquidity or solvency.

4. X4 – Risk Mitigation:
   - Statistically significant for all Y variables (Y1–Y4)
   - With very low p-values (< 0.005), X4 showed the most consistent and strong effect across all aspects of financial resilience

   Interpretation: Structured and proactive mitigation strategies played a key role in withstanding financial shocks during the pandemic.

4.1.4 F-Test (Simultaneous Significance)

Table 4. Summary of F-Test Results

Model	F-value	p-value	Significant	Conclusion
Y1	27.40	8.12e−09	Yes	X1–X4 jointly have a significant effect on Liquidity
Y2	26.21	1.26e−08	Yes	X1–X4 jointly have a significant effect on Solvency
Y3	31.79	1.79e−09	Yes	X1–X4 jointly have a significant effect on Operational Continuity
Y4	22.20	6.37e−08	Yes	X1–X4 jointly have a significant effect on Financial Adaptation

Summary of Findings:

1. Simultaneous Significance of All Models
   All regression models (Y1 to Y4) demonstrated p-values well below $\alpha = 0.05$, confirming that X1–X4 jointly have a statistically significant effect on all aspects of corporate financial resilience. These results support the primary hypothesis (H_1) that ISO 31000 implementation contributes to improved financial resilience during crisis conditions.

2. Strength of Each Model (F-value)
   The highest F-value (31.79) occurred in model Y3 (Operational Continuity), indicating that the combination of X1–X4 most strongly explains an organization's ability to maintain operations during the pandemic. Conversely, model Y4 (Strategic Financial Adaptation) had the lowest F-value (22.20), although still significant. This suggests that financial adaptation may also depend on external factors such as government policy or market dynamics beyond the scope of ISO 31000.

4.1.5 Cronbach's Alpha Reliability Test ($\alpha \geq 0.70$ = Reliable)

Table 5. Cronbach's Alpha Reliability Results

Variable	Cronbach's Alpha	Interpretation
ISO 31000 (X)	0.954	Highly reliable

Variable	Cronbach's Alpha	Interpretation
Financial Resilience (Y)	0.962	Highly reliable

The questionnaire instruments for both independent and dependent variables demonstrate high internal consistency, confirming their suitability for quantitative research.

4.2 Interpretation of Results

The findings of this study provide clear empirical support for the research objectives, which sought to examine the extent to which ISO 31000-based risk management practices influence corporate financial resilience during the COVID-19 pandemic. The results indicate that the overall implementation of ISO 31000, as measured through its four key components—risk identification, risk analysis, risk evaluation, and risk mitigation—has a statistically significant impact on all dimensions of financial resilience: liquidity, solvency, operational continuity, and strategic financial adaptation.

The significance of the F-test across all models ($p < 0.05$) confirms the first research objective, which was to assess whether the ISO 31000 framework, when applied as an integrated system, contributes to strengthening a firm's financial resilience. With R^2 values ranging from 0.78 to 0.84, the models demonstrate a high degree of explanatory power, indicating that more than 78% of the variance in financial resilience can be attributed to the collective effect of ISO 31000 implementation.

Furthermore, the t-test results provide a more granular understanding of the influence of each component. Among the four indicators, risk mitigation (X4) consistently exhibited a statistically significant and positive effect on all financial resilience indicators ($p < 0.005$), thereby directly supporting the second objective—to identify which specific ISO 31000 components have the greatest individual impact. In contrast, risk analysis (X2) was not statistically significant in any model, suggesting a gap between analytical processes and their practical application during crisis conditions.

These results emphasize the importance of not only adopting a risk management framework in principle but also ensuring that its implementation—particularly in the area of mitigation—is operationalized effectively across the organization. The findings also validate the use of structured risk management systems such as ISO 31000 as a strategic tool for navigating complex and uncertain business environments.

5. Discussion

The results of this study underscore the strategic importance of ISO 31000 implementation in enhancing corporate financial resilience during the COVID-19 pandemic. By demonstrating the significant contribution of risk mitigation and the joint influence of ISO 31000 components on financial outcomes, the findings provide empirical support for the practical value of structured risk management in turbulent environments. This section interprets the broader implications of the findings, compares them with previous literature, acknowledges limitations, and suggests directions for future research.

5.1 Comparison with Prior Research

The findings of this study are consistent with previous research emphasizing the role of risk management in improving organizational resilience. Earlier studies have argued that companies with formal risk frameworks are better equipped to anticipate and respond to economic shocks. This study reinforces that perspective, particularly by providing quantitative evidence on the effectiveness of ISO 31000 in safeguarding liquidity, solvency, and continuity.

The critical role of risk mitigation (X4) in this study aligns with the literature that identifies proactive risk responses as a key determinant of financial stability. The finding that risk analysis (X2) was not statistically significant across models echoes concerns in prior research about the challenges of data quality, modeling uncertainty, and risk quantification during crisis conditions. While many studies support the theoretical value of risk analysis, its practical implementation may falter when organizations lack analytical resources or face unprecedented scenarios, as seen during the pandemic.

This study adds to the limited body of empirical research on ISO 31000 in emerging markets, particularly in Indonesia, and helps bridge the gap between theoretical risk frameworks and measurable financial outcomes.

5.2 Limitations

Despite the insights generated, several limitations must be acknowledged:

- The study relied on self-reported data through structured questionnaires, which may introduce response bias or subjective interpretation of organizational practices.
- The use of a cross-sectional design captures perceptions and financial resilience at a specific point in time, limiting causal inference and longitudinal understanding.
- The analysis focused solely on ISO 31000 without comparing it to other risk management frameworks, which may restrict the generalizability of conclusions.
- The sample was limited to companies in strategic sectors that adopted ISO 31000, and thus, the findings may not reflect the experiences of small or non-compliant organizations.

5.3 Future Research

Future studies could expand on this work by incorporating longitudinal designs to assess how ISO 31000 implementation influences financial resilience over time and across different crisis phases. Additionally, comparative studies involving other risk frameworks (e.g., COSO ERM, ISO 22301) could provide more nuanced insights into the relative effectiveness of ISO 31000.

Further research could also integrate qualitative methods such as case studies or expert interviews to better understand the organizational enablers and barriers to effective risk analysis and mitigation. Expanding the geographic and sectoral scope would also enhance the external validity of the findings and provide a more comprehensive understanding of ISO 31000's impact across different business contexts.

6. Conclusion

This study investigates the role of ISO 31000 risk management framework in strengthening corporate financial resilience during the COVID-19 crisis. The global pandemic highlighted the urgency for companies to adapt swiftly and systematically to financial uncertainties, prompting the need for empirical validation of internationally recognized risk management standards.

Employing a mixed-method approach that integrates descriptive qualitative insights with quantitative correlational analysis, this research assessed the impact of four key components of ISO 31000—risk identification, analysis, evaluation, and mitigation—on four dimensions of financial resilience: liquidity, solvency, operational continuity, and strategic financial adaptation. Data were collected through structured questionnaires and processed using regression analysis, t-tests, and F-tests, supported by reliability testing.

The findings reveal that while not all components had significant individual influence, the ISO 31000 framework as a whole significantly contributed to all dimensions of financial resilience. Among the components, risk mitigation demonstrated the most consistent and significant positive impact, emphasizing the importance of structured response strategies during crises. Conversely, risk analysis was found to be the least impactful, suggesting potential gaps in analytical capacity or the practical limitations of data interpretation during a dynamic crisis environment.

The study makes a valuable contribution to the field by providing strong empirical evidence on the effectiveness of ISO 31000 in supporting financial stability during extreme disruptions. It reinforces the importance of comprehensive risk management systems not only as a compliance tool but as a strategic asset for organizational sustainability. The results are particularly relevant for practitioners, policymakers, and academic researchers seeking to enhance crisis preparedness and long-term resilience planning in the corporate sector.

7. Recommendation

Based on the findings of this study, several practical and strategic recommendations are proposed to enhance corporate financial resilience through risk management practices:

- Institutionalize ISO 31000 as a Strategic Framework
  Organizations, especially those operating in high-risk or dynamic sectors, are strongly encouraged to adopt ISO 31000 not merely as a compliance tool but as an integral part of their corporate strategy. The study has shown that a comprehensive implementation of risk identification, evaluation, and particularly risk mitigation, significantly enhances financial resilience during crises.

- Prioritize Risk Mitigation Planning
  Among all ISO 31000 components, risk mitigation (X4) emerged as the most consistently significant predictor of financial resilience indicators. Companies should therefore invest more resources and leadership attention in developing structured, proactive mitigation strategies that can be quickly activated during times of disruption.

- Improve Analytical Capacities in Risk Assessment
  The relatively weak influence of risk analysis (X2) suggests a gap in analytical skills or tools used during the crisis. Enhancing internal capabilities—through training, data integration, and decision-support systems—will help firms conduct more accurate and actionable risk assessments in real time.

- Integrate Risk Management into Financial Planning
  Risk identification, evaluation, and mitigation should be embedded into financial decision-making processes such as budgeting, liquidity planning, and investment evaluations. This integration ensures that risk-aware decisions are made at every financial level, aligning operational agility with long-term stability.

- Further Research and Sectoral Adaptation
  Future research should consider sector-specific adaptations of the ISO 31000 framework, exploring how risk profiles differ across industries and how certain components may need to be tailored. Additionally, longitudinal studies would help assess the sustained impact of ISO 31000 on corporate resilience beyond the pandemic context.

REFERENCES

[1] Herbane B 2010 Small business research: Time for a crisis-based view Int. Small Bus. J. 28: 43–64
[2] Power M 2009 The risk management of nothing Accounting, Organizations and Society 34: 849–55
[3] Ritchie B and Brindley C 2007 Supply chain risk management and performance: A guiding framework for future development Int. J. Oper. Prod. Manag. 27: 303–22
[4] Aven T 2016 Risk assessment and risk management: Review of recent advances on their foundation Eur. J. Oper. Res. 253: 1–13
[5] Yazid A S, Hussin M R and Daud W N W 2011 An empirical study of risk management practices in Malaysian public-listed companies Int. Bus. Res. 4: 221–31
[6] Manab N A, Kassim I and Hussin M R 2010 Enterprise-wide risk management (EWRM) practices: Between corporate governance compliance and value creation Int. Rev. Bus. Res. Pap. 6: 239–52
[7] ISO 2018 ISO 31000: Risk management – Guidelines (Geneva: International Organization for Standardization)
[8] Hopkin P 2018 Fundamentals of Risk Management: Understanding, Evaluating and Implementing Effective Risk Management (London: Kogan Page)
[9] Kaplan R S and Mikes A 2012 Managing risks: A new framework Harvard Bus. Rev. 90: 48–60
[10] Ale B J M and Hartford D N D 2020 Risk assessment at large: Towards more accurate risk-based decision-making Saf. Sci. 122: 104503
[11] Dahmen P 2023 Organizational resilience as a key property of enterprise risk management in response to novel and severe crisis events Risk Manage. Insur. Rev. XX: YY–ZZ
[12] Ding W, Xu S, Wang Y 2020 Corporate Social Responsibility and Organizational Resilience to COVID-19 Crisis: An Empirical Study of Chinese Firms Sustainability 12: 8970
[13] Blazquez-Resino J J et al. 2022 A Standard-Based Concept of the Integration of the Corporate Recovery Management Systems: Coping with Adversity and Uncertainty during a Pandemic Sustainability 14: 1254
[14] Massaro E, Ganin A, Perra N, Linkov I, Vespignani A 2017 Resilience management during large-scale epidemic outbreaks arXiv
[15] Mentges A, Halekotte L, Schneider M, Demmer T, Lichte D 2023 A resilience glossary shaped by context: Reviewing resilience-related terms for critical infrastructures arXiv

[16] Martinelli E, Dellanoce F, Carozza G 2021 Business resilience and risk management during the Covid-19 pandemic: the Amadori case-study Sinergie Ital. J. Manage. XX: YY–ZZ
[17] Italian Safety Gov. 2022 The impact of the COVID-19 pandemic on the safety management in Italian Seveso industries J. Loss Prevent. Proc. Ind. XX: YY–ZZ
[18] ISO/TC292 and TC262 bodies 2020 Assessing resilience of healthcare infrastructure exposed to COVID-19: emerging risks, resilience indicators, interdependencies and international standards Int. J. Disaster Risk Sci. XX: YY–ZZ
[19] Likert, R. A Technique for the Measurement of Attitudes. Ph.D. Thesis, New York University, New York, NY, USA, 1932.
[20] Likert, R.; Roslow, S.; Murphy, G. A simple and reliable method of scoring the Thurstone attitude scales. J. Soc. Psychol. 1934, 5, 228–238.