BALANCE: JOURNAL OF ISLAMIC ACCOUNTING
Prodi Akuntansi Syariah - Fakultas Ekonomi dan Bisnis Islam
UIN Sayyid Ali Rahmatullah Tulungagung
Website: http://ejournal.iain-tulungagung.ac.id/index.php/jas/index
DOI: 10.21274/balance.v6i2.11576

BUSINESS STRATEGY, INTELLECTUAL CAPITAL, BOARD INDEPENDENCE ON BANKRUPTCY RISK

Ika Pratiwi[1], Aryo Bimo Setya Permana[2]
Tax Accounting Study Program, Vocational School, Diponegoro University[1,2]
ikapratiwii@lecturer.undip.ac.id[1], aryobimosetyapermana@lecturer.undip.ac.id[2]

Abstract: *This study provides empirical data on the factors influencing bankruptcy risk companies in Indonesia. Bankruptcy risk is a critical issue that threatens corporate sustainability, especially in highly competitive and uncertain business environments. Internal factors such as the effective utilization of intellectual capital, the implementation of appropriate business strategies, and the strength of corporate governance through board independence are believed to influence the likelihood of bankruptcy. Intellectual Capital, Business Strategy, Board Independence are used as independent variables. The dataset consists of non-financial companies listed on the Indonesia Stock Exchange, covering the period from 2023 to 2024. The sampling using purposive sampling. There are 484 data that included the criteria. Multiple regression analysis used to be technique analysis. The results indicate that business strategy and board independence has a significant negative effect, while intellectual capital shows insignificant impact on bankruptcy risk. The results underscore the significance of incorporating strategic resources and governance mechanisms to strengthen corporate sustainability and ensuring financial stability. This research adds to the body of literature on bankruptcy prediction by incorporating non-financial determinants and governance dimensions, and provides practical implications for managers and regulators seeking to enhance firm resilience through improved intellectual capital management, strategic alignment, and board independence*

Keywords: *Bankruptcy Risk, Board Independence, Intellectual Capital, Business Strategy*

Introduction

In today's globalization era, the emergence of numerous new companies has intensified competition across industries. To achieve their objectives and ensure survival, businesses are compelled to design or revise strategies that align with their mission, vision, and long-term goals. Firms must be responsive to the influx of new rivals and to fluctuating economic conditions. The Business Competition Supervisory Commission (KPPU) reported in its annual review that the intensity of business competition in Indonesia rose since 2021. This was reflected in the national business competition index, which climbed from 4.65 in 2020 to 4.81 in 2021 on a seven-point scale, signaling stronger competition despite the challenges of the Covid-19 pandemic. Companies in various sectors, including services and manufacturing, strive not only to endure but also to outperform competitors, which pushes them to adopt innovative approaches and strategic initiatives to reduce the likelihood of bankruptcy [1]. However, ensuring business continuity is a challenging task, as firms constantly encounter bankruptcy risk. Bankruptcy remains a significant reason behind company delistings from the Indonesia Stock Exchange (IDX), with 38 firms facing potential delisting in 2023 and 50 firm at risk in 2024. Bankruptcy occurs when companies are unable to fulfill their obligations, often requiring legal procedures such as debt restructuring or asset liquidation. Companies adopt strategic approaches to mitigate uncertainties, enhance improve performance and lower the risk of financial distress, with strategies like cost leadership and differentiation proving effective in strengthening profitability and resilience. Since bankruptcy affects creditors, shareholders, managements, employees and society at large, identifying the factors that influence bankruptcy risk is crucial, especially for investors and shareholders. One factor that complicates bankruptcy risk assessment is business strategy [2]. For instance, Southwest Airlines has successfully minimized costs by standardizing its fleet, while Garuda Indonesia has pursued differentiation by focusing on premium service and customer loyalty [3].

[1] Stewart Thornhill and Raphael Amit, *Learning About Failure: Bankruptcy, Firm Age, and the Resource-Based View* (2003).

[2] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

[3] Dian Agustia, Nur Pratama Abdi Muhammad, and Yani Permatasari, 'Earnings Management, Business Strategy, and Bankruptcy Risk: Evidence from Indonesia', *Heliyon*, 6.2 (2020), doi:10.1016/j.heliyon.2020.e03317.

Beyond strategy, intellectual capital (IC) also plays a vital role. Organizations investing in IC—particularly structural, human and capital efficiency—to foster innovation and long-term sustainability [4]. In the knowledge-based economy, intangible assets are critical drivers of financial and organizational performance. Proper IC management not only improves credit ratings and reduces borrowing costs but also lowers the probability of bankruptcy by enhancing overall firm value and competitiveness [5].

Board Independence may influence the likelihood of bankruptcy through two main channels. First, as demonstrated by the Wirecard scandal, financial and accounting information can be altered to mask a firm's actual condition. Strong boards are able to enhance the reliability of financial information, enabling investors and regulators to better evaluate the company's true situation. Second, boards can also strengthen the effectiveness of management's actions in times of financial difficulty by fulfilling their oversight and advisory responsibilities effectively.

Building on this context, the present study investigates the influence of business strategy, intellectual capital, and board independence on the bankruptcy risk of companies listed on the Indonesia Stock Exchange (IDX) for the 2023–2024 period. Business strategy is proxied by cost leadership and differentiation, intellectual capital by the adjusted value-added intellectual coefficient (A-VAIC) and its components (CEE, HCE, SCE), board independence and bankruptcy risk by the Altman Z-score [6].Results reveal that differentiation strategy significantly reduces bankruptcy risk, intellectual capital has no significant effect on bankruptcy risk.

This study providing new insights into how strategic, corporate governance and intangible resources influence financial stability. It not only enriches the sparse literature on bankruptcy risk in emerging markets but also contextualizes Porter's strategic typologies, the role of intellectual capital and corporate governance especially board independence in shaping firm resilience.

Although bankruptcy risk has been widely studied in the fields of

[4] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

[5] Velia Gabriella Cenciarelli, Giulio Greco, and Marco Allegrini, 'Does Intellectual Capital Help Predict Bankruptcy?', *Journal of Intellectual Capital*, 19.2 (2018), pp. 321–37, doi:10.1108/JIC-03-2017-0047.

[6] Edward I Altman, 'Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy', in *The Journal of Finance*, no. 4 (1968), XXIII <http://www.jstor.org/about/terms.html.>.

accounting, finance, and management, the literature still presents several notable gaps. First, most previous studies have focused on traditional financial indicators such as profitability, leverage, or liquidity ratios as the main predictors of corporate bankruptcy[7]. While these models are useful, they often fail to incorporate intangible resources, such as intellectual capital, which play an increasingly critical role in sustaining competitiveness in knowledge-based economies[8]. Limited research has explicitly examined the link between intellectual capital and bankruptcy risk, particularly in emerging markets such as Indonesia.

Second, prior studies on business strategy suggest that cost leadership and differentiation can strengthen performance and reduce financial distress[9]. However, evidence remains mixed and context-dependent. In developed countries, differentiation often enhances long-term resilience, but in emerging markets, where competition and resources differ, the strategic impact on bankruptcy risk is less clear. Few studies have integrated business strategy with bankruptcy prediction models in Indonesia, despite its dynamic and highly competitive industrial landscape.

Third, the influence of corporate governance especially board independence for forecasting bankruptcy risk has not been sufficiently explored. Board independence is expected to improve monitoring and reduce agency problems, which may subsequently reduce the likelihood of financial distress.

Finally, most existing research has been conducted in developed economies, with relatively few studies focusing on emerging markets like Indonesia, where firms face distinct challenges such as weaker governance structures, high market volatility, and limited resource utilization. This leaves an empirical gap in understanding how intellectual capital, business strategy, and board independence jointly influence bankruptcy risk in such environments. Therefore, this study addresses these gaps by investigating the effect of intellectual capital and business strategy on bankruptcy risk,

[7] Edward I Altman, 'Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy', in *The Journal of Finance*, no. 4 (1968), XXIII <http://www.jstor.org/about/terms.html.>.

[8] Velia Gabriella Cenciarelli, Giulio Greco, and Marco Allegrini, 'Does Intellectual Capital Help Predict Bankruptcy?', *Journal of Intellectual Capital*, 19.2 (2018), pp. 321–37, doi:10.1108/JIC-03-2017-0047.

[9] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

while examining the role of board independence using evidence from firms listed on the Indonesia Stock Exchange during 2023–2024.

Literature Review

Discussions on the definition of bankruptcy risk are generally shaped by two perspectives: the event-oriented view and the process-oriented view. The event-oriented approach regards bankruptcy as a distinct occurrence, which may be marked by the filing of a bankruptcy petition, overdrawing a bank account, or failure to distribute dividends on preferred stock. In contrast, the process-oriented definition views bankruptcy as a sequence of stages, beginning with declining cash inflows, followed by negative cash flows, dividend reductions, and ultimately, bankruptcy filing. This perspective highlights not just the formal declaration of bankruptcy, but also the wider spectrum of financial distress that may or may not eventually lead to bankruptcy [10]. Within this framework, financial distress is attributed to two main sources: internal (endogenous) factors such as weak managerial decisions, earnings manipulation, and unprofitable projects, and external (exogenous) factors like market volatility and regulatory changes that affect firms at large [11].

Building on this, Porter's competitive strategy framework identifies two the two generic strategies—cost leadership and differentiation. The cost-leadership approach focuses on efficiency-reducing production costs and maximizing asset utilization while differentiation focuses on developing unique products, enhancing customer loyalty, and innovating distribution channels to secure higher margins. Despite their differences, both strategies seek to enhance competitiveness, sustain profitability, and ensure business continuity, thereby reducing the likelihood of bankruptcy. In line with bankruptcy risk theory, financial distress if unmanaged, increases bankruptcy risk. Consequently, firms must carefully choose and implement business strategies that strengthen performance, as inappropriate strategies may escalate financial distress and bankruptcy risk [12]. Thus, the first hypothesis is formulated as follows:

[10] Ahmed Mohamed Habib, 'Do Business Strategies and Environmental, Social, and Governance (ESG) Performance Mitigate the Likelihood of Financial Distress? A Multiple Mediation Model', *Heliyon*, 9.7 (2023), doi:10.1016/j.heliyon.2023.e17847.

[11] Dian Agustia, Nur Pratama Abdi Muhammad, and Yani Permatasari, 'Earnings Management, Business Strategy, and Bankruptcy Risk: Evidence from Indonesia', *Heliyon*, 6.2 (2020), doi:10.1016/j.heliyon.2020.e03317.

[12] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3, (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

H1: Business strategy has a negative relationship with bankruptcy risk.

In addition, existing studies highlight the crucial role of intellectual capital in safeguarding a company's financial well-being. Sustained stability relies not only on building equity but also on managing both tangible and intangible assets efficiently. Efficient use of intellectual capital can lower debt costs, improve profitability, and enhance value creation over time. Firms with strong intellectual capital are better positioned to generate sustainable profits, repay obligations, and gain favorable investor and lender confidence[13]. By managing intellectual capital effectively, companies can strengthen improve credit assessments, lower capital costs, enhance performance, and raise firm value.

Moreover, integrating intellectual capital measures into bankruptcy prediction models can help optimize financial resource allocation and support growth in knowledge-driven economies. In this context, firms with adequate intellectual capital are less vulnerable to bankruptcy and better able to contribute to economic and social development. Based on this reasoning, the second hypothesis is stated as follows:

H2: Intellectual capital has a negative relationship with bankruptcy risk

Management and finance literature suggests that independent directors function as more effective referees of management decisions than inside board members. Independent directors are argued to have more experience and expertise and less dependence on management and are therefore credited to improving board monitoring ability, especially in firms with dominant shareholders operating in countries with weak legal shareholder protection[14]. However, inside directors can also be a key source of firm-specific knowledge and expertise.

In addition, boards that are more aligned with management may sometimes be advantageous, as CEOs may be more willing to disclose sensitive or complex information, which can in turn constrain the board's ability to exert influence. Although numerous empirical studies have examined the relationship between board independence and firm performance, the findings remain inconclusive, largely due to endogeneity concerns. However, research linking board

[13] Velia Gabriella Cenciarelli, Giulio Greco, and Marco Allegrini, 'Does Intellectual Capital Help Predict Bankruptcy?', *Journal of Intellectual Capital*, 19.2 (2018), pp. 321–37, doi:10.1108/JIC-03-2017-0047.

[14] Peng Wu, Lei Gao, and Tingting Gu, 'Business Strategy, Market Competition and Earnings Management: Evidence from China', *Chinese Management Studies*, 9.3 (2015), pp. 401–24, doi:10.1108/CMS-12-2014-0225.

independence to insolvency risk remains relatively sparse[15]. Their study shows that companies with smaller and more independent boards are better able to avoid bankruptcy when experiencing financial distress, indicating that independent boards enhance monitoring effectiveness, particularly during crises. Board size, independence, and gender diversity influence insolvency risk and find that such effects intensify in the period following an AAER citation. In this context, an AAER citation acts as a negative signal, triggering substantial stock price declines and increasing pressure on management. The larger boards reduce bankruptcy risk only in highly complex firms, and that a higher proportion of internal directors decreases bankruptcy risk in firms requiring specialized expertise, whereas the opposite holds true for firms with low technical complexity[16]. Examining non-financial firms in China, greater board independence is associated with a reduced likelihood of financial distress, with independent directors having a stronger effect during periods of economic crisis. Grounded in theoretical arguments and aligned with prior empirical findings[17].

Board independence, represented by the proportion of independent commissioners, strengthens corporate governance by acting as a monitoring mechanism. According to agency theory, a higher level of board independence helps reduce agency conflicts and information asymmetry, which in turn decreases the likelihood of financial distress and bankruptcy. Empirical findings show that independent commissioners negatively affect the probability of financial distress. Based on this reasoning, the third hypothesis is stated as follows:
H3: Board Independence has a negative relationship with bankruptcy risk.

Research Methodology

Secondary data used in this study obtained from the Indonesia Stock Exchange (IDX/BEI) for non-financial companies. By applying purposive sampling, a total of 242 firms were selected, resulting in 484 firm-year observations. In 2024, there were 943 firms listed on IDX, of which 131 belonged to the financial sector and 224 were identified as outliers. The dataset

[15] Florian Maier, *Board Characteristics and the Insolvency Risk of Non-Financial Firms*. Journal of Risk and Financial Management *Citation* (2022), doi:10.3390/jrfm.

[16] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

[17] Hsihui Chang, Guy D. Fernando, and Arindam Tripathy, 'An Empirical Study of Strategic Positioning and Production Efficiency', *Advances in Operations Research*, 2015 (2015), doi:10.1155/2015/347045.

therefore comprises 484 observations covering the period 2023–2024. To examine how several independent variables affect bankruptcy risk, this study uses multiple linear regression analysis, which is appropriate for assessing the impact of multiple predictors simultaneously business strategy, intellectual capital, and board independence on the likelihood of bankruptcy.

Variable Measurement

Based on[18], business strategy (BS) reflect the policy and approaches adopted by firms to respond to competitive pressures and gain an advantage. Business strategies are grouped into Cost Leadership (CL) and Differentiation strategies (DS)

Cost Leadership (CL): efficiency in designing products and markets to outperform competitors. This study uses Asset Turnover of Operation (ATO) as its proxy, calculated as:

ATO = Operating sales / Average operating asset

Differentiation Strategy (DS): Relates to a firm's ability to deliver unique products or services that provide superior value (e.g., product quality, unique features, customer service). It is proxied by:

DS = Operating Income + R & D Expense) / Sales.

Intellectual capital (IC), an intangible asset, consists of human capital, structural capital, and relational (social) capital [19]. It enhances firm performance, creates Added value, reduces risks, and strengthens competitiveness.

Measurement of IC follows the Adjusted Value-Added Intellectual Coefficient (A-VAIC) approach, which involves:

Step 1: Determine the total value added (VA):
VA is computed as Net Income plus Personnel Costs, Interest, Taxes, Depreciation and Amortization, and R&D expenditures.

Step 2: Compute human capital efficiency (HCE), structural capital efficiency (SCE), and capital employed efficiency (CEE):
HCE = VA divided by human capital (HC), where HC represents total personnel expenses.
SCE = VA divided by structural capital (SC), with SC represented by research and development spending.
CEE = VA divided by capital employed (CE), where CE is the total of capital and overall liabilities.

[18] Peng Wu, Lei Gao, and Tingting Gu, 'Business Strategy, Market Competition and Earnings Management: Evidence from China', *Chinese Management Studies*, 9.3 (2015), pp. 401–24, doi:10.1108/CMS-12-2014-0225.

[19] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

Step 3: Derive A-VAIC: A-VAIC is obtained by summing HCE, SCE, and CEE.

Bankruptcy risk is assessed using the Altman Z-score, one of the most reliable models to predicting financial distress[20]. Z-score developed by Altman (1968) integrates five financial ratios: profitability, leverage, liquidity, solvency, and activity. The interpretation is:

Z ≥ 2.99 is Safe zone or healthy.

1.81 < Z < 2.99 is Grey zone or potential risk.

Z ≤ 1.81 is Distress zone or high bankruptcy risk.

The Z-score formula is:

$$Z = 1{,}2X1 + 1{,}4X2 + 3{,}3X3 + 0{,}6X4 + 0{:}999X5 \quad (1)$$

Where,

X1 = working capital/total assets.

X2 = retained earnings/total assets.

X3 = earnings before interest and taxes/total assets.

X4 = market value of equity/total debt.

X5 = sales/total assets.

Result and Discussion

The application of multiple regression analysis requires the fulfillment of classical assumptions. Failure to meet these assumptions may lead to biased results. The key classical assumption tests include the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. Once these tests are conducted, the study proceeds with the, F-test, coefficient determination and t-test. All classical assumptions were satisfied.

Table 1. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,584[a]	,361	,365	,54601	1,290

a. Predictors: (Constant), CL, IC, DS, BI

b. Dependent Variable: BR

Table 2. ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	77,167	5	15,433	51,768	,000[b]
	Residual	142,503	478	,298		
	Total	219,670	483			

a. Predictors: (Constant), DS, IC, CL, BI

b. Dependent Variable: BR

This results of the F test above, it is known that the calculated F value is 51.768 with a probability of 0.000. Because the probability is smaller than 0.05, it can be concluded that the regression equation model used is a fit model so that it can be used to predict the risk of bankruptcy.

Table 3. Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	7,383	,790		9,349	0,000
IC	,002	,004	,016	,422	0,673
DS	-1,047	,194	-,227	-5,389	0,000
CL	-,084	,464	-,014	-,182	0,856
BI	-1,196	,157	-,287	7,595	0,000

Source: Data Processed Using SPSS ver. 21 (2025)

[20] Jeehan Almamy, John Aston, and Leonard N. Ngwa, "An Evaluation of Altman's Z-Score Using Cash Flow Ratio to Predict Corporate Failure amid the Recent Financial Crisis: Evidence from the UK," *Journal of Corporate Finance*, 36 (2016), pp. 278–85, doi:10.1016/j.jcorpfin.2015.12.009.

The classical assumption is satisfied in the regression model. The coefficient of determination (R^2) measures the explanatory power of the model, ranging from 0 to 1. A higher R^2 indicates stronger predictive accuracy. The test shows an R^2 value of 0.584 (58.4%), meaning that the independent variables (business strategy, intellectual capital, and board independence) explain 58.4% of variations in bankruptcy risk, while the remaining 41,6% is influenced by other factors outside the model.

The F-test evaluates whether the independent variables collectively influence the dependent variable. Using a 5% significance level, the test results show an F-value of 51,768 with a p-value of 0.000, which is below 0.05. This indicates that the regression model is statistically significant and suitable for predicting bankruptcy risk. Thus, with 95% confidence, it can be concluded that business strategy, intellectual capital, and board independence jointly affect bankruptcy risk.

The t-test measures the individual effect of each independent variable on the dependent variable. At a 5% significance level, the decision rule is: If t-count > t-table or p-value < 0.05, then H_0 is rejected (the independent variable significantly affects bankruptcy risk). If t-count < t-table or p-value > 0.05, then H_0 is accepted (the independent variable has no significant effect).

Regression outcomes based on Table 3 for Business Strategy (Cost Leadership/CL and Differentiation/ DS), Intellectual Capital (IC), and Board Independence (BI) on Bankruptcy Risk (BR). The Differentiation Strategy (DS) yields a negative beta coefficient of -1.047 and a p-value of 0.000, which falls below the 0.05 significance level. This result suggests that business strategy exerts a significantly negative influence on bankruptcy risk, thereby confirming Hypothesis 1. According to Porter's framework, firms may adopt either cost leadership-focusing on cost efficiency and asset optimization—or differentiation, which emphasizes product uniqueness, customer loyalty, and distinctive distribution channels.

Although these strategies differ in execution, both aim to enhance competitiveness, improve profitability, and ensure long-term survival, thereby reducing the likelihood of bankruptcy. Empirical studies support this finding: Differentiation strengthens financial stability[21],business strategy significantly reduces bankruptcy risk through

[21] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

improved financial performance [22] . Similarly, [23] noted that a higher business strategy index is linked with lower bankruptcy risk, suggesting firms that implement strong strategies are more financially sound.

From the perspective of bankruptcy risk theory, financial distress—driven by either internal factors such as weak management and unprofitable projects or external factors such as market fluctuations and regulatory changes can push firms toward bankruptcy. Hence, adopting the right business strategy is essential to enhance competitiveness and prevent financial difficulties [24] .Both cost leadership and differentiation mitigate bankruptcy risk. While cost leadership enhances productivity, differentiation drives innovation and brand loyalty; in both cases, successful implementation improves performance and lowers the risk of business failure [25].

Intellectual Capital (IC) effect on bankruptcy risk base Table 3, showing a positive beta coefficient of 0.002, insignificant on 0.361. IC insignificant on bankruptcy risk (BR), leading to the rejection of Hypothesis 2. The results indicate that although IC has a positive relationship with bankruptcy risk, the effect is not statistically significant. This finding contradicts who argue that firms with stronger intellectual capital are more capable of generating sustainable profits and meeting debt obligations, thus attracting investors and lenders[26]. Firms with higher IC believed to uphold financial stability and generate long-term value, thereby lowering their risk of bankruptcy. Nevertheless, the results of this found that IC—along with its components, namely capital employed, human capital, and structural capital—does not have a significant impact on bankruptcy risk. The divergence from previous research may be attributed to differences in sample characteristics.

[22] Dian Agustia, Nur Pratama Abdi Muhammad, and Yani Permatasari, 'Earnings Management, Business Strategy, and Bankruptcy Risk: Evidence from Indonesia', *Heliyon*, 6.2 (2020), doi:10.1016/j.heliyon.2020.e03317.

[23] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

[24] Oliver Lukason and María Del Mar Camacho-Miñano, 'Bankruptcy Risk, Its Financial Determinants and Reporting Delays: Do Managers Have Anything to Hide?', *Risks*, 7.3 (2019), doi:10.3390/risks7030077.

[25] Hsihui Chang, Guy D. Fernando, and Arindam Tripathy, 'An Empirical Study of Strategic Positioning and Production Efficiency', *Advances in Operations Research*, 2015 (2015), doi:10.1155/2015/347045.

[26] Velia Gabriella Cenciarelli, Giulio Greco, and Marco Allegrini, 'Does Intellectual Capital Help Predict Bankruptcy?', *Journal of Intellectual Capital*, 19.2 (2018), pp. 321–37, doi:10.1108/JIC-03-2017-0047.

This study examines mining and manufacturing companies, while many earlier studies focused on financial institutions or particular sectors. According to Resource-Based Theory, a firm's sustainable competitive advantage relies on owning critical resources that are valuable, scarce, and difficult for competitors to replicate. Firm with stronger intellectual capital (IC) are generally expected to uphold financial stability and generate long-term value, thereby lowering their risk of bankruptcy. IC—along with its components, namely capital employed, human capital, and structural capital—does not have a significant impact on bankruptcy risk. The divergence from previous research may be attributed to differences in sample characteristics. This study examines mining and manufacturing companies, while many earlier studies focused on financial institutions or particular sectors. According to Resource-Based Theory, a firm's sustainable competitive advantage relies on owning critical resources that are valuable, scarce, and difficult for competitors to replicate. Firms can achieve superior performance when they effectively manage and optimize both tangible and intangible assets. As suggested [27], organizations require two elements to compete successfully: unique resources and the ability to utilize them efficiently. Intellectual capital, being an intangible asset, can potentially enhance firm competitiveness if managed properly.

Nonetheless, the absence of a significant influence in this study suggests that the sample companies have not yet maximized the use of their intangible assets, which limits their role in mitigating bankruptcy risk. The positive direction of the IC coefficient further indicates that intellectual capital within these firms has not been utilized effectively or efficiently, reducing its potential benefits in lowering the probability of financial distress.

Regression results in Table 3 of Board Independence (BI) on Bankruptcy Risk (BR) shows a negative beta coefficient of –1.196 significant at 0.000. This finding shows that Board Independence has a significantly negative impact on bankruptcy risk, thereby confirming Hypothesis 3. Board Independence may influence the likelihood of bankruptcy through at least two mechanisms. First, as highlighted by the recent Wirecard case, financial and accounting information can be manipulated to hide a firm's actual financial condition. A well-functioning board can enhance the reliability of the financial and

[27] Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008.

accounting reports that investors and regulators rely on to evaluate a company's true status. Second, more broadly, by effectively carrying out their monitoring and advisory functions, boards can strengthen management's ability to respond to financial distress. Independent directors are argued to have more experience and expertise and less dependence on management and are therefore credited to improving board monitoring ability, especially in firms with dominant shareholders operating in countries with weak legal shareholder protection. However, inside directors can also be a key source of firm-specific knowledge and expertise In addition, management-friendly boards may also be optimal because CEO may be more willing to disclose sensitive or complex information, which could in turn reduce the board's ability to exert influence. Although numerous empirical studies have examined the link between board independence and firm performance, the findings are inconsistent, largely because this relationship is often affected by endogeneity issues. Board independence, represented by the proportion of independent commissioners, strengthens corporate governance by acting as a monitoring mechanism. According to agency theory, a higher level of board independence helps reduce agency conflicts and information asymmetry, decreases the likelihood bankruptcy. Empirical findings show that independent commissioners negatively affect the probability of financial distress[28].

[29] show smaller boards with a higher proportion of independent directors are better at preventing bankruptcy when firms are already experiencing financial distress, indicating that board independence enhances monitoring effectiveness, particularly during crises. Their study shows that board size, independence, and gender diversity have a stronger impact on insolvency risk in the period following an AAER citation. In this context, being cited in an AAER acts as a negative signal, triggering sharp declines in share prices and increasing pressure on management.

Conclusion

This research seeks to examine how business strategy, intellectual capital, and board independence affect bankruptcy risk in companies listed on the Indonesia Stock Exchange for the 2023–2024 period. The results show that

[28] Ali F. Darrat and others, 'Corporate Governance and Bankruptcy Risk', *Journal of Accounting, Auditing and Finance*, 31.2 (2016), pp. 163–202, doi:10.1177/0148558X14560898.

[29] Florian Maier, *Board Characteristics and the Insolvency Risk of Non-Financial Firms*. Journal of Risk and Financial Management *Citation* (2022), doi:10.3390/jrfm.

both business strategy and board independence significantly reduce bankruptcy risk, whereas intellectual capital does not exhibit a significant influence on bankruptcy risk. These outcomes offer valuable theoretical and practical insights for academics, investors, regulators, and corporate decision-makers.

Based theoretical, the results suggest that Porter's differentiation strategy can reduce the likelihood of bankruptcy. For investors, recognizing firms that adopt a differentiation approach may safeguard their investments, as such firms are less exposed to bankruptcy risk compared to those following a cost-leadership strategy. On the managerial side, companies pursuing differentiation strategies tend to be financially healthier; thus, managers are encouraged to develop product uniqueness, strengthen customer loyalty, and establish distinctive distribution channels to secure higher profit margins. A well-implemented differentiation strategy can enable firms to outperform competitors, enhance productivity, and ensure long-term business sustainability in a competitive market.

Meanwhile, the finding that intellectual capital has no significant effect indicates that non-financial companies have not fully optimized intangible resources to mitigate bankruptcy risk. Boards with a higher level of independence tend to be more effective at preventing bankruptcy once a firm is experiencing financial distress, indicating that independent boards enhance monitoring capabilities, particularly during periods of crisis. Consequently, companies should prioritize the efficient use of resources and keep leverage at manageable levels to improve financial stability and bolster investor confidence.

Despite its valuable contributions, this study is subject to several limitations. This study only covers a short observation period (2023–2024). This may not fully capture long-term effects of intellectual capital, board independence, business strategy, on bankruptcy risk. Future research should include samples from other countries to test whether similar results apply in different cultural, regulatory, and emerging market contexts. Moreover, the sample excludes financial sector firms, focusing only on non-financial companies, results might differ if financial institutions (which have distinct risk profiles and governance structures) were included. Future studies could address this by employing survey-based measures of business strategy. Lastly, the coefficient of determination in this study falls within a moderate range, suggesting that other variables not included in this model may also influence bankruptcy risk and should be considered in subsequent research.

References

Ahmed Mohamed Habib, 'Do Business Strategies and Environmental, Social, and Governance (ESG) Performance Mitigate the Likelihood of Financial Distress? A Multiple Mediation Model', *Heliyon*, 9.7 (2023), doi:10.1016/j.heliyon.2023.e17847

Ali F. Darrat and others, 'Corporate Governance and Bankruptcy Risk', *Journal of Accounting, Auditing and Finance*, 31.2 (2016), pp. 163–202, doi:10.1177/0148558X14560898

Amr Fahmi and Omar Faqera, *Bankruptcy and Corporate Governance: The Impact of Firm Performance and Macroeconomic Factors* (n.d.); Zhiyan Cao and others, *Corporate Governance and Default Risk of Firms Cited in the SEC's Accounting and Auditing Enforcement Releases* (2013)

Dian Agustia, Nur Pratama Abdi Muhammad, and Yani Permatasari, 'Earnings Management, Business Strategy, and Bankruptcy Risk: Evidence from Indonesia', *Heliyon*, 6.2 (2020), doi:10.1016/j.heliyon.2020.e03317

Ditiro AR Alam Ben MochDzulkirom Topowijono, 'ANALISIS METODE SPRINGATE (S-SCORE) SEBAGAI ALAT UNTUK MEMPREDIKSI KEBANGKRUTAN PERUSAHAAN (Studi Pada Perusahaan Property Dan Real Estate Yang Listing Di Bursa Efek Indonesia Pada Tahun 2011-2013)', in *Jurnal Administrasi Bisnis (JAB)|Vol*, no. 1 (2015), XXI

Edward I Altman, 'Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy', in *The Journal of Finance*, no. 4 (1968), XXIII <http://www.jstor.org/about/terms.html.>

Florian Maier, *Board Characteristics and the Insolvency Risk of Non-Financial Firms*. Journal of Risk and Financial Management *Citation* (2022), doi:10.3390/jrfm

Hsihui Chang, Guy D. Fernando, and Arindam Tripathy, 'An Empirical Study of Strategic Positioning and Production Efficiency', *Advances in Operations Research*, 2015 (2015), doi:10.1155/2015/347045

Jeehan Almamy, John Aston, and Leonard N. Ngwa, 'An Evaluation of Altman's Z-Score Using Cash Flow Ratio to Predict Corporate Failure amid the Recent Financial Crisis: Evidence from the UK', *Journal of Corporate Finance*, 36 (2016), pp. 278–85, doi:10.1016/j.jcorpfin.2015.12.009

Maria Goreti Kentris Indarti, Jacobus Widiatmoko, and Imang Dapit Pamungkas, 'Corporate Governance Structures and Probability of Financial Distress: Evidence From Indonesia Manufacturing Companies', *International Journal of Financial Research*, 12.1 (2020), p. 174, doi:10.5430/ijfr.v12n1p174

Oliver Lukason and María Del Mar Camacho-Miñano, 'Bankruptcy Risk, Its Financial Determinants and Reporting Delays: Do

Managers Have Anything to Hide?', *Risks*, 7.3 (2019), doi:10.3390/risks7030077

Peng Wu, Lei Gao, and Tingting Gu, 'Business Strategy, Market Competition and Earnings Management: Evidence from China', *Chinese Management Studies*, 9.3 (2015), pp. 401–24, doi:10.1108/CMS-12-2014-0225

Tamanna Dalwai and Mahdi Salehi, 'Business Strategy, Intellectual Capital, Firm Performance, and Bankruptcy Risk: Evidence from Oman's Non-Financial Sector Companies', *Asian Review of Accounting*, 29.3 (2021), pp. 474–504, doi:10.1108/ARA-01-2021-0008

Velia Gabriella Cenciarelli, Giulio Greco, and Marco Allegrini, 'Does Intellectual Capital Help Predict Bankruptcy?', *Journal of Intellectual Capital*, 19.2 (2018), pp. 321–37, doi:10.1108/JIC-03-2017-0047