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BANKRUPTCY RISKS ASSESSMENT: A COMPREHENSIVE REVIEW OF QUALITATIVE INDICATORS[6]

This article delves into the nuanced realm of bankruptcy risk assessment, shifting the focus from traditional quantitative financial metrics to a comprehensive evaluation of qualitative indicators. It meticulously categorizes these indicators into four pivotal groups: Management, Financial, Legal, and Operational. The Management category scrutinizes elements like employee loyalty and the professionalism of management, acknowledging their significant influence on a firm's fiscal stability. The Financial section emphasizes assets and the quality of financial reporting, highlighting how these aspects clearly and accurately reflect a company's financial standing. The Legal dimension encompasses regulatory compliance and court disputes, underscoring the fiscal implications of legal adherence and challenges. Lastly, the Operational category includes market reputation, innovations, productivity, standard compliance, and flexibility, each representing operational factors with potential impact on solvency. A key innovation of this study is the development of a unified 5-point scoring scale for the quantitative interpretation of these qualitative indicators. This scale bridges the gap between qualitative evaluation and quantitative analysis, furnishing a robust tool for

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comprehensive bankruptcy risk assessment. Integrating diverse qualitative factors with a structured scoring system in this research article offers a multidimensional approach to understanding and predicting bankruptcy risks, marking an advancement in financial risk assessment.
Keywords: bankruptcy; corporate finance; financial stability; compliance; qualitative indicators; risk-oriented management
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1. Introduction

Assessing bankruptcy risks is a cornerstone for investors, creditors, and stakeholders in the intricate landscape of financial risk management. Traditionally, the focus has been predominantly on quantitative measures such as financial ratios, cash flow analyses, and profitability metrics. However, this paper posits that qualitative indicators, often overshadowed by their quantitative counterparts, play a pivotal role in painting a comprehensive picture of a company's financial health and its potential trajectory toward insolvency.

The relevance of qualitative indicators in bankruptcy prediction is rooted in their ability to capture the non-numeric, often intangible aspects of a company's operations and environment that significantly impact its risk profile. These include management quality, industry trends, market position, brand reputation, and the regulatory landscape. In a dynamic economic environment, where rapid changes in market conditions and business models are commonplace, more than the reliance solely on historical financial data, as is typical in quantitative analysis, may be needed. Qualitative indicators offer a more nuanced and forward-looking perspective, enabling stakeholders to anticipate shifts in a company's fortunes before they are reflected in the financial statements.

This comprehensive review aims to achieve two goals. First, it seeks to identify and categorize the various qualitative indicators relevant to bankruptcy prediction, drawing from interdisciplinary literature encompassing finance, economics, organizational theory, and behavioural sciences. This categorization is instrumental in understanding these indicators' diverse nature and elucidating their interrelationships and combined impact on a company's solvency.

Secondly, the paper examines the methodologies incorporating qualitative indicators into bankruptcy risk assessment models proposed by Tyshchenko V., Achkasova S., Karpova V., and Kanyhin S. (2023). Integrating qualitative data into analytical models presents unique challenges, primarily due to its subjective and often unstructured nature. This review delves into various approaches, such as expert systems and qualitative scoring models, which have been employed to quantify and integrate qualitative data into predictive models.

Furthermore, this article evaluates the efficacy of qualitative indicators in enhancing the accuracy of bankruptcy prediction models. A meta-analysis of empirical studies seeks to ascertain whether including qualitative factors significantly improves predictive performance over models relying solely on quantitative data. This analysis is crucial in understanding the real-world applicability of these indicators and their potential to revolutionize bankruptcy risk assessment.

This paper aims to provide a detailed, nuanced understanding of the role of qualitative indicators in bankruptcy prediction. It endeavours to bridge the gap between the rich yet underutilized qualitative data and the predominantly quantitative focus of traditional bankruptcy prediction models. By highlighting the importance of these often-neglected factors, this paper seeks to inspire further research and development in this critical area of financial risk management, ultimately contributing to a more holistic and robust approach to predicting bankruptcy risk.

2. Literature Review

Several research publications have focused explicitly on exploring how qualitative indicators influence financial stability (Kim, Han (2003); Hu (2009); Yildirak, Süer (2011); Seçme, Bayrakdaroğlu, Kahraman, (2009)). Table 1 compiles a comprehensive list of the qualitative indicators these publications have investigated to provide a clear overview.

Table 1. Groups of quality indicators in publications

Source	Indicator	Content of the indicator
Kim, Han (2003)	Industry	Government policy and international agreements, cyclicality, market demand, sensitivity to changes in macroeconomic factors, product life cycle
	Management	Competence, stability, management-owner relations, human resource management, business growth/performance, planning, achievements
	Flexibility	Direct and indirect financing
	Trust	Credit history, reliability of information, relationships with financial institutions
	Competitiveness	Market position, degree of competition, prospects for demand for a product or service
	Operational	Stability and diversity of procurement, production efficiency, sales diversification, and efficiency of the sales network
Hu (2009)	General	Management, number of years in business, competition, level of service, location, employee training, awareness of market trends
Yildirak, Süer (2011)	General	Reputation, relationships with banks and financial institutions, demand for products, compliance with agreements
Seçme, Bayrakdaroğlu, Kahraman, (2009)	Reorganization	The external environment, quality of the organization
	Differentiation	Relationships, reputation, privileges, work schedule
	Marketing	Quality of goods or services, market position
	Service	Customer focus
	Productivity	Productivity of production

Source: Own processing of Scopus articles.

3. Methodology

In Table 1, a wide array of indicators is explored across various publications. Within this spectrum, it is pertinent to categorically emphasize three primary groups: management, financial, and operational indicators. Additionally, this study introduces legal indicators, a category notably absent in the referenced publications. The rationale for including these legal indicators will be elaborated upon subsequently. The comprehensive set of indicators incorporating these additions is systematically presented in Table 2.

Table 2. Groups of quality indicators

Group	Indicators
Management	Employee loyalty
	Professionalism of management
Financial	Assets
	Financial reporting
Legal	Compliance (regulation)
	Courts disputes
Operational	Market reputation
	Innovations
	Productivity
	Compliance (standards)
	Flexibility

Source: Own processing.

Consequently, it is essential to individually analyze the publications that address the impact of each indicator listed in Table 2 on an enterprise's financial security. For each of these indicators, a 5-point scale will be developed. This structured approach enables a comprehensive, aggregate utilization of these indicators in assessing the enterprise's overall state. This methodical examination and the subsequent scaling system provide a nuanced and quantifiable analysis of each indicator's influence on financial stability.

4. Results

Several studies have examined the impact of employee loyalty on an enterprise's financial stability, highlighting its significant influence. The research conducted by Guiso, Sapienza, and Zingales (2015) focuses on the pivotal role of corporate culture and its beneficial effects on financial decision-making processes. On the other hand, Rajan, Cervais, and Zingales (2000) discuss the potential negative economic implications of cultural diversification within an organization.

Margolis, Elfenbein, and Walsh (2009), as well as Orlitzky, Schmidt, and Rynes (2003), undertook meta-analyses to investigate the relationship between corporate social responsibility (CSR) and financial performance. Their findings indicate a positive correlation, suggesting that CSR initiatives are not only socially beneficial but also advantageous from a financial perspective.

Further exploring the multifaceted impact of CSR, Godfrey, Merrill, and Hansen (2009) view CSR as a form of insurance that enhances investment value. This perspective aligns with the observations made by Jo and Harjoto (2011), who found that companies with robust CSR commitments exhibit higher market values. Flammer (2015) reinforces this viewpoint by establishing a positive causal relationship between CSR activities and the financial performance of companies.

Table 3, drawing from the comprehensive study by Jo and Harjoto (2011), presents a detailed list of the advantages and disadvantages influencing employee loyalty. This tabulation is based on systematic analysis and synthesizes the factors impacting this critical aspect of organizational dynamics.

Table 3. Advantages and disadvantages from the perspective of employee loyalty

Category	Advantages	Disadvantages
Community	- Charity - Investing in socially beneficial innovations - Support in obtaining housing - Assistance in education	- Disputes with investors - Negative economic impact
Environment	- Useful products and services - Pollution prevention - Recycling and disposal - Alternative fuels - Communication with the public - Property, plant, and equipment	- Disputes with the public - Lack of communication
Employee relations	- Good relations with trade unions - No downsizing policy - Distribution of profits among employees - Involvement of employees in decision-making - High retirement benefits - Health and safety protection	- Poor relations with trade unions - Formal attitude to labour safety - Permanent/significant staff reductions - Lack of pensions/benefits
Product quality and safety	- High quality and safety of products - Research and development/innovation - Benefits for economically disadvantaged groups	- Poor quality and safety of products - Non-compliance with antitrust laws
Industry		- Alcohol - Gambling - Tobacco - Firearms - Nuclear technologies

Source: Jo and Harjoto (2011).

The list provided in Table 3 is proposed as a foundational framework for constructing questionnaires to evaluate employee loyalty within an enterprise. The following is a generalized outline for the scoring mechanism:

1 - High level of dissatisfaction

2 - Most employees are dissatisfied

3 - Mixed feedback from employees

4 - Most employees are satisfied

5 - High level of satisfaction among employees.

Table 4. Criteria for assessing the impact of top managers on financial results

Characteristic	Description
Leadership	
Hires "A" class players	Finds, recruits, and hires class-A players
Develops people	Coaches people in their current positions to improve performance and prepares them for future roles.
Dismisses those who do not cope with the work	Eliminates category C players within 180 days. This is achieved through coaching, transfer, demotion, or dismissal.
Treats people with respect	Values others, treats them fairly, and shows concern for their views and feelings.
Efficiency	Ability to produce significant amounts of output with minimal effort.
A network of talented people	Has an extensive network of talented people.
Flexibility/Adaptability	Adapts quickly to changing priorities and conditions. Copes with complexity and change.
Personality	
Integrity	Does not cut corners ethically. Gains trust and maintains confidentiality.
Organization and planning	I plan, organize, schedule, and budget efficiently and effectively.
Calm under pressure	Maintains consistent performance under high pressure or stressful conditions
Aggressive but respectful	Moves quickly and stands firmly without being too abrasive.
Quick to make decisions	Acts quickly without getting hung up on obstacles.
Follows through on commitments	Follows through on verbal and written agreements, regardless of personal cost.
Intelligence	
Mental abilities	Fast learner. Demonstrates the ability to understand and assimilate new information quickly.
Analytical skills	Structures and processes qualitative or quantitative data and draws conclusions.
Strategic thinking/vision	Ability to see the big picture and communicate it in an inspiring way.
Creativity/innovation	Generates new and innovative approaches to solving problems.
Attention to detail	Refrain from letting essential details slip through the cracks or derail a project.
Motivation.	
Enthusiasm	Shows passion and enthusiasm for work. Has a "can do" attitude.
Perseverance	Demonstrates persistence and willingness to go the extra mile to get things done.
Proactive / Initiative	Acts without being told what to do. Bring new ideas to the company.
Work ethic	Has a solid willingness to work hard and work long hours to complete the job.
Sets high standards	Expects personal and team performance to be the best it can be.
Interpersonal	
Ability to listen	Allows others to speak and seeks to understand their point of view.
Open to criticism and ideas	Frequently asks for feedback and responds calmly to criticism.
Written communication	Writes clearly and concisely, using correct grammar.
Oral communication	Speaks clearly and expressively without being overly verbose or talkative.
Teamwork	Reaches out to colleagues and collaborates with leaders to build relationships.
Persuasiveness	Ability to persuade others to follow a course of action
Holds people accountable	Sets and monitors goals for the team to ensure progress toward completion.

Source: Kaplan, Klebanov, and Sorensen (2012).

The influence of management quality and professionalism on financial metrics warrants specific attention. Hambrick and Mason (1984) introduced the "Upper Echelons Theory," which asserts that an organization's financial performance can be predicted by analyzing the characteristics of its executive team. This concept was empirically supported in the study by Bertrand and Schoar (2003), which emphasized the significant role of individual managers in shaping corporate policies.

Expanding on this, Gibbons and Waldman (2004) elaborated on the approach by considering the specific skills of top executives as a critical determinant of financial success. Kaplan, Klebanov, and Sorensen (2012), as well as Adams, Almeida, and Ferreira (2005), focused on the attributes and characteristics of Chief Executive Officers (CEOs), analyzing their impact on financial metrics. Remarkably, the research by Cornelli, Kominek, and Ljungqvist (2013) highlighted the importance of experienced supervision over top managers in achieving better economic outcomes.

Table 4 presents a systematically researched list of top management characteristics that influence an enterprise's financial results, as explored in the scientific work of Kaplan, Klebanov, and Sorensen (2012). This table aggregates various attributes and traits of top-level management identified as influential factors in determining an enterprise's financial performance.

In the context of their scientific analysis, Kaplan, Klebanov, and Sorensen found that among the characteristics presented in Table 4, the key determinants of financial performance are communication skills, strategic planning, and decision-making efficiency. Therefore, these indicators were used to assess the level of quality and professionalism of managers at the enterprise. The formed list is presented in Table 5.

Table 5. Criteria for assessing the impact of top managers on the company's financial performance

Criteria / Number of points	Decision-making skills	Strategic planning	Communication skills
1	Decisions are made slowly and not always reasonably	There is no strategic planning	Significant communication problems
2	There are delays in making important decisions.	There are attempts at strategic planning, but they are only sometimes practical.	There are problems in communication, but they need to be more critical.
3	Decisions are made on time, but sometimes without a complete analysis	There is an essential strategy that the company follows	In general, communication is at a decent level
4	Decisions are made on time and are usually well-informed	Strategy is clearly defined and primarily implemented	Good communication in most cases
5	Decisions are made quickly, reasonably and effectively	Vital strategic planning and effective implementation	Excellent communication skills at all levels

Source: Own processing.

The state of assets plays a crucial role in the financial security of enterprises. Research conducted by Hall, Hutchinson, and Michaelas (2004) and Musso and Schiavo (2008) underlines the impact of asset conditions on capital structure decisions, particularly in European Small and Medium Enterprises (SMEs). Casey and O'Toole (2014) delved into the significance of asset conditions for SMEs during financial crises, highlighting its critical importance.

Winker and Köhler (2000) established a connection between asset productivity and overall financial performance in larger enterprises. This link is further explored by Titman and Wessels (1988), Rajan and Zingales (1995), and Barclay and Smith (1995), who investigated various elements influencing the capital structure decisions of large companies. Additionally, Servaes (1996), Erickson and Whited (2000), and Almeida and Campello (2007) concentrated on how the state of assets influences investment decisions and the financial performance of large enterprises.

Berger and Udell (1998) provided a comprehensive overview of small business financing, accentuating the role of asset quality. The collective insights from these studies underscore the substantial impact of asset quality on the financial security of enterprises across different market segments and during various economic conditions, including financial crises. Asset condition indicates an enterprise's capacity to generate profits and fulfil obligations to creditors.

Therefore, incorporating asset conditions into bankruptcy prediction models is necessary and beneficial for a more accurate evaluation of an enterprise's financial health and for taking timely measures to maintain financial stability. It is essential to recognize that there is no one-size-fits-all method for assessing asset quality; thus, the criteria for evaluation need to be tailored for each company. The generalized approach for scoring asset conditions is as follows:

1 - Assets in poor condition require significant investment

2 - Assets are in fair condition, require some renovation

3 - Assets in satisfactory condition, with minimal renovation needs

4 - Assets in good condition, ready for use

5 - Assets in perfect condition, new, or well preserved.

Exploring financial reporting quality and its influence on company performance is a significant area of focus in academic research. Studies by Barth, Beaver, and Landsman (2001), Ball and Shivakumar (2005), Francis, LaFond, Olsson, and Schipper (2005), and Biddle, Hilary, and Verdi (2009) have scrutinized the link between the quality of financial reporting and its relevance to stakeholders.

Dechow, Ge, and Schrand (2010) comprehensively analyzed how reporting accuracy affects financial performance. The research by Healy and Palepu (2001) and Bushman and Smith (2009) underscored the crucial role of high-quality financial reporting in corporate governance. Further investigations by Ioannou and Serafem (2012), Dhaliwal, Li, Tsang, and Yang (2011), and Kim, Park, and Wier (2012) delved into the nexus between corporate governance and corporate social responsibility (CSR), highlighting the necessity of adhering to standards in these domains to enhance financial outcomes.

From these various studies, it becomes evident that the quality of financial reporting profoundly impacts the financial performance of enterprises. High-quality reporting gives investors, creditors, and other stakeholders more reliable and comprehensive information about a company's financial standing, enabling well-informed decision-making. Consequently, the quality of financial statements should be regarded as a pivotal factor in the analysis of financial stability and in predicting the potential bankruptcy of companies. This consideration is particularly pertinent given the importance of financial reporting for investors and financial analysts in making astute assessments.

When analyzing the quality of financial statements, it is crucial to consider aspects of accuracy, understandability, and compliance with standards due to their collective impact on financial information's reliability, usefulness, and comparability. The accuracy of financial statements reflects the extent to which they represent the actual financial position of a company, with errors or inaccuracies potentially leading to misguided decisions by investors, creditors, and other stakeholders. This necessitates correctly identifying and reporting financial events and transactions by international financial reporting standards. Understandability is essential; financial information must be presented clearly to stakeholders, possibly without in-depth financial knowledge, to ensure correct interpretations and decisions. This requires a transparent presentation and clear definitions of terms and concepts. Furthermore, compliance with international financial reporting standards ensures companies' comparability and provides reliable information to investors and creditors. Non-compliance can negatively impact a company's reputation and investment attractiveness. Therefore, a comprehensive analysis of financial statement quality must consider these interrelated aspects as deficiencies that can lead to significant issues in financial analysis and decision-making.

Table 6. Criteria for assessing the impact of the quality of financial statements on the company's financial results

Criteria / Number of points	Accuracy	Compliance with standards	Comprehensibility
1	Significant inaccuracies in reporting	Most standards are not met	Reporting is complex to understand
2	Several inaccuracies in reporting	A few standards are not met	Reporting has some unclear points
3	Reporting is generally accurate	Most standards are met	Overall, the reporting is clear
4	Minimal inaccuracies in reporting	Minor deviations from standards	The reporting is transparent and almost entirely understandable
5	Reporting is 100% accurate	Full compliance with all standards	The reporting is evident and understandable

Source: Own processing.

The investigation into the effect of legal compliance on corporate financial performance is a prominent topic in contemporary academic research. Bhagat, Bizdjak, and Coles (1998) explored the stock price reactions of companies embroiled in litigation, observing significant negative deviations from the norm following lawsuit notifications. Karpoff, Lee, and Vendrzyk (1999), and Donelson, Ege, and McInnis (2017) delved into the financial repercussions of legal actions in fraud cases. Achkasova, Bezrodna, & Ohorodnia (2021) analyzed compliance risks' volatility and subsequent influence on the financial state.

The studies by Rogers and Van Buskirk (2009) and Field, Lowry, and Shu (2005) concentrated on alterations in disclosure practices in the context of shareholder lawsuits, highlighting the influence these legal challenges have on subsequent financial reporting. Gallemore and Labro (2015) and Karpoff, Lee, and Martin (2014) examined the aftermath of financial statement fraud, including the litigation costs involved.

Humphery-Jenner and Lang (2015) investigated the impact of legal proceedings on a company's external financing capabilities. Poppo and Zhou (2014) emphasized the management of transactions in buyer-supplier relationships and its effect on financial performance. Ryall and Sampson (2009) analyzed the relationship between contracts, their enforcement mechanisms, and their influence on economic outcomes.

Mellewigt, Madhok, and Weibel (2007) studied the interplay of trust and formal contracts in inter-organizational relationships, noting how their balance can influence financial performance. Wathne and Heide (2000) investigated opportunistic behaviour in interfirm relations and its economic implications. Luo (2002) focused on international enterprises, underscoring the significance of adhering to contractual agreements for successful cooperation and financial efficiency.

Reuer and Arinõ (2007) examined the intricacies of strategic alliance contracts, suggesting that specific stipulations could enhance financial performance. Cannon and Perrault Jr. (1999) addressed the importance of contract compliance in buyer-seller relationships and its indirect impact on financial performance. These studies collectively illustrate that legal compliance, whether in litigation, fraud, contractual relationships, or strategic alliances, is critical in shaping a company's financial trajectory.

Arora and Cason (1996) studied enterprises' motivation to exceed environmental standards voluntarily. They observed that such behaviour could lead to cost savings, improved reputation, and other positive financial outcomes. Gunningham, Kagan, and Thornton (2004) explored why some companies go beyond legal requirements in environmental protection, indicating potential economic benefits from proactive ecological actions.

Ioannou and Serafeim (2012) examined the factors of corporate social responsibility (CSR), focusing on the role of national institutions and regulatory frameworks. They highlighted how adherence to or surpassing legislative requirements can influence a company's financial activities. Short and Toffel (2010) analyzed the relationship between self-regulation and mandatory compliance with legislation, noting the impact of the legal environment on financial results.

Melis, Carta, and Gaia (2012) focused on mergers and acquisitions and the role of corporate governance closely linked to legislative compliance. The researchers discussed the financial consequences of decisions in this context. Numerous studies have considered the impact of adherence to tax laws and tax strategies on companies' financial performance. These investigations underscore the importance of legal compliance, not just as a regulatory necessity but also as a strategic approach that can have significant financial implications for enterprises.

The significance of tax compliance has been a focal point in various research endeavours. Mills, Erickson, and Maydew (1998) explored the resources companies allocate to tax planning and the consequent impact on their financial outcomes. Rego (2003) analyzed tax avoidance practices among U.S. multinational corporations, highlighting their effects on financial performance. Hanlon and Slemrod (2009) examined market responses to announcements of involvement in tax evasion, revealing the financial repercussions of such news. Dyreng, Hanlon, and Maydew (2010) delved into the influence of management characteristics on tax avoidance practices and their implications for financial security. Desai and Dharmapala (2011) investigated the interplay between taxation and company valuation, focusing on the financial consequences of various tax compliance strategies. Overesch and Wamser (2010) evaluated the effects of thin capitalization rules on tax planning activities and their economic impact on enterprises.

This body of research underscores the vital role of legal compliance and interactions with the judicial system in businesses' financial operations. Litigation, for instance, can result in significant financial losses for companies. The criticality of tax compliance is especially pronounced; businesses that fail to manage their tax affairs proactively often face substantial financial repercussions, particularly regarding market reactions to such activities. Moreover, the dynamics of intercompany relations, especially regarding contractual compliance and trust, are shown to substantially influence corporate financial performance.

In summary, these studies collectively emphasize the importance of adherence to legal norms and engagement with the judicial system in shaping a company's financial strategy and operations. Companies that effectively navigate and incorporate these factors are more likely to achieve success in the contemporary business landscape.

The scoring system for assessing the impact of legal compliance on a company's financial security can be generalized as follows:

1 - Systemic violations that threaten the company's operations

2 - Serious deviations in activities

3 - Several deviations that require correction

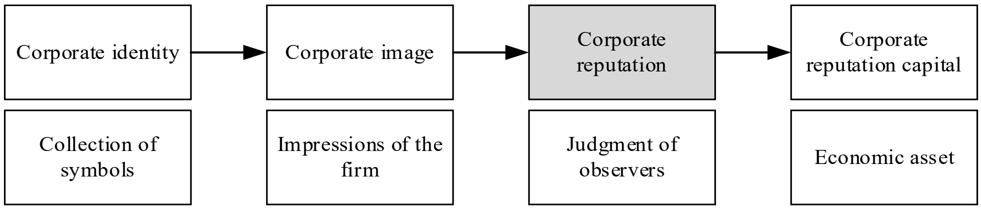
4 - Minimal deviations that do not lead to severe consequences

5 - Full compliance without exceptions.

In examining the influence of a company's reputation on its financial security, a challenge arises due to the lack of a unified definition of "corporate reputation". Barnett, Jermier, and Lafferty's (2006) definition garnered widespread recognition in the academic community and is adopted for this scientific analysis. According to this definition, corporate reputation is construed as the aggregate judgments of observers about a company, formed based on evaluating the financial, social, and environmental outcomes attributed to the company over time. The interplay between corporate reputation and other related concepts is depicted in

Figure 1. This representation aids in understanding the multifaceted nature of corporate reputation and its integral role in influencing a company's financial security.

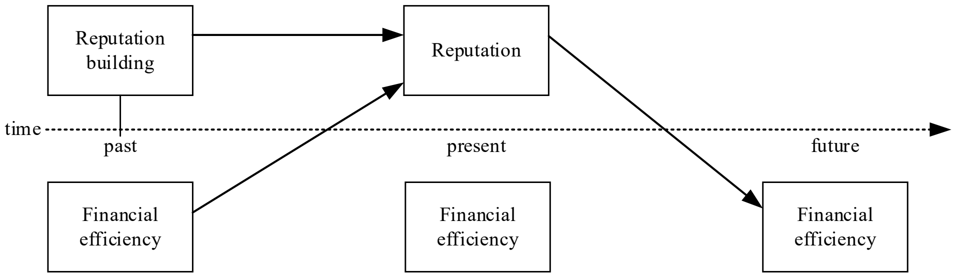
Figure 1. Corporate reputation and related concepts



Source: Roberts P. W. and Dowling G. R. (2002)

Roberts and Dowling (2002) posited and subsequently validated the hypothesis that firms with superior reputations exhibit enhanced financial performance. This correlation between corporate reputation and financial success is encapsulated in a model comprehensively illustrated in Figure 2. The model delineates the mechanisms through which a robust corporate reputation translates into improved economic outcomes, thus offering a clear visual representation of the interconnectedness between these two critical aspects of business performance.

Figure 2. Roberts-Dowling model of reputational and financial dynamics

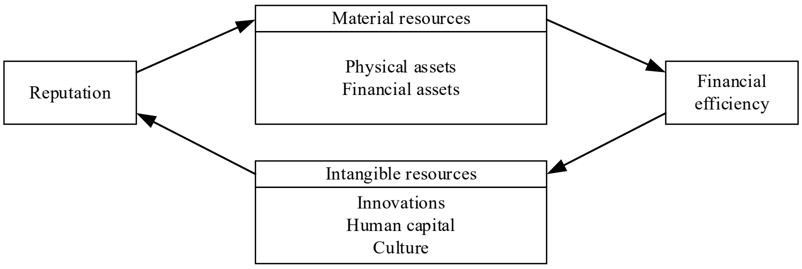


Source: Roberts P. W. and Dowling G. R. (2002).

In their comprehensive study, Roberts and Dowling utilized a dataset comprising 1,000 companies, encompassing their financial performance data and incorporating feedback from a substantial pool of 12,000 respondents, including managers, executive directors, and financial analysts. The survey was designed to cover an extensive array of topics, such as asset utilization, public relations, the capability to develop and retain key employees, financial stability, degree of innovation, investment value, quality of management, and product quality. However, it is essential to note that the application of this model in a domestic context encounters limitations due to the absence of relevant data for its validation. This shortfall raises questions about the model's efficacy within the local economic environment, suggesting that its findings and implications might not be directly transferable or applicable to different economic contexts.

Furthermore, Surroca, Tribó, and Waddock (2010) delved into the interplay between financial performance and corporate reputation. They identified tangible and intangible resources as crucial intermediary elements in this relationship. The dynamics of this interaction and the role of these resources are illustrated in Figure 3, providing a visual representation of how tangible and intangible assets collectively influence the correlation between financial performance and reputation. This approach underscores the complexity of understanding the multifaceted relationship between a company's reputation and financial success, highlighting the importance of considering a broad spectrum of factors in such analyses.

Figure 3. The Surock-Tribault-Waddock model of reputational and financial interaction



Source: Soroka J., Tribo J. A., and Waddock S. (2010).

The authors formulated and empirically substantiated the hypothesis that the relationship between a company's financial condition and its reputation is indirect. The study utilized a sample comprising 599 corporate entities, providing a robust basis for analysis.

Considering the findings from these investigations, it can be asserted that a company's reputation and financial condition are interrelated. This connection is indirect, as reputation is derived from the company's overall activities and conduct. A company's reputation, thus, acts as a reflective indicator of its broader operational ethos and effectiveness.

The generalized description for scoring the impact of a company's reputation on its financial security is structured as follows:

1 - Most of the reviews are negative

2 - Negative feedback prevails, but there are positive aspects

3 - Reviews are mixed

4 - Most of the reviews are positive, but there are some negative reviews

5 - Highly positive feedback prevails.

The nexus between innovation and financial performance has been a subject of considerable interest in academic research. Teece (2010) delved into the interplay between business models, strategy, and innovation, affirming their synergistic alignment can enhance a firm's competitive stance and financial outcomes. Hall, Lotti, and Meres (2013) utilized data from

Italian firms to assess the impact of investments in innovation on financial performance. This study highlighted the direct correlation between innovative investments and economic gains.

Hult, Gurley, and Knight (2004) concentrated on the factors that drive innovation and examined their influence on business performance. Their research provides insights into how innovation acts as a catalyst for overall business growth and success. Forsman (2011) conducted a comparative analysis of the innovation potential in the manufacturing and service sectors and its consequent effect on financial performance, suggesting sector-specific dynamics in how innovation influences financial results.

Geroski, Machin, and Van Renen (1993) identified a positive correlation between an enterprise's innovativeness and profitability, thereby underscoring the financial value of embracing innovation. Collectively, these studies emphasize the critical role of innovation as a determinant of economic performance in enterprises.

The generalized scoring system for assessing could be structured as follows:

1 - Critically outdated technology requires immediate upgrade

2 - Outdated technologies require investment

3 - Average level, requires minor upgrades

4 - Good level of technological equipment

5 - Modern technologies, maximizing efficiency.

Several scholarly studies have focused on the impact of production process efficiency on enterprise financial performance. Porter and Heppelmann (2014) analyzed how advancements in production development enhance efficiency and subsequently influence financial performance, highlighting the direct benefits of efficient production methods on economic outcomes.

Deif (2011) proposed a systemic model centred around green manufacturing, emphasizing that environmentally efficient manufacturing practices can lead to cost reductions and improved financial performance. This study underscores the economic benefits of adopting sustainable manufacturing practices.

Li (2012) concentrated on supply chain dynamics, exploring the impact of technology on supply chain collaboration and its financial implications. This research provides insights into how technological integration within supply chains can boost financial performance.

Singh, Garg, and Deshmukh (2008) investigated strategies employed by small and medium-sized enterprises (SMEs) focusing on efficient production to enhance financial sustainability. Their study highlights the critical role of production efficiency in SMEs' financial health.

Collectively, these studies stress the importance of production process efficiency as a crucial determinant of positive financial results. They draw attention to the pivotal role of technology and productivity in this context. Therefore, it is essential to consider these aspects separately when evaluating their impact.

The generalized scoring system for assessing could be structured as follows:

1 - Abysmal performance, requires serious revision

2 - Low performance, numerous problem areas

3 - Average performance; some areas need optimization

4 - Good performance with minor deviations

5 - High performance and optimal use of resources.

Various academic papers have studied the relationship between standard compliance and companies' financial performance. Corbett, Montes-Sancho, and Kirsch (2005) analyzed the impact of ISO 9000 certification in the United States, identifying a positive correlation between certification and financial performance. Their findings suggest that adherence to these standards can financially benefit companies.

Iatridis and Kesidou (2018) explored the financial repercussions of both natural and nominal implementation of ISO 14001 in Greek manufacturing companies, particularly during the economic crisis. Their research highlights the distinction between genuine and superficial compliance with standards and its varying financial impacts.

Zeng, Shi, and Lou (2007) examined the synergistic effects of implementing integrated management systems in Chinese companies, including various ISO standards. This study provides insights into how comprehensive standard compliance can enhance organizational efficiency and financial performance.

Link, A. N., & Link, K. R. (2009) focused on the financial effects of ISO 50001 certification, investigating its influence on energy management and economic outcomes. Nakamura, Takahashi, and Vertinsky (2001) delved into the motivations behind Japanese firms' choices to pursue ISO environmental certifications and their correlation with financial performance.

Fryxell and Szeto (2002) and Potoski and Prakash (2005) studied the financial impacts of motivations for obtaining ISO 14001 certification and participation in environmental initiatives, commonly referred to as "green clubs." Collectively, these studies emphasize the significance of compliance with standards as a critical driver for improving companies' financial performance.

It should be noted that the range of standards applicable may vary across industries, necessitating a tailored approach to the scoring system. The generalized scoring system could be structured as follows:

1 - Critically low level of quality

2 - Significant deviations from the standards

3 - Average level of quality

4 - Minor deviations from the standards

5 - Full compliance with high-quality standards.

The scientific community has extensively researched the association between flexibility in management practices and enterprise financial performance. Gupta and Somers (2012) identified a significant relationship between manufacturing flexibility and business strategy, highlighting how synergy positively influences economic performance. Their work suggests that flexibility in manufacturing can be a strategic asset contributing to improved financial results.

Makadok and Coff (2013), along with Peng, Schroeder, and Shah (2011), investigated the role of flexible management in enhancing profitability. Their studies indicate that flexibility in management, primarily through integrating market-oriented and hierarchical mechanisms, can lead to optimal business outcomes and increased profitability.

Zhang, Macpherson, and Jones (2016) focused on the significance of flexibility in learning processes within small and medium-sized enterprises (SMEs), examining its impact on financial performance. Their findings suggest that adaptability in learning and development processes is crucial for SMEs' economic success.

Golden and Powell (2010) and Liu, Ke, Wei, and Hua (2016) explored how the flexibility of information systems can result in cost efficiencies in business processes, indirectly influencing a company's financial health. Their research underscores the economic benefits of adaptable information systems in streamlining operations and reducing costs.

These studies emphasize the importance of flexibility across various management domains as a critical driver for financial stability and efficiency. Consequently, it is essential to incorporate a criterion for assessing the level of management flexibility in the evaluation system for a company's financial security. The generalized scoring system for evaluating could be structured as follows:

1 - Rigid business model, lack of flexibility

2 - Low flexibility, numerous restrictions

3 - Medium flexibility

4 - Good flexibility, some limitations

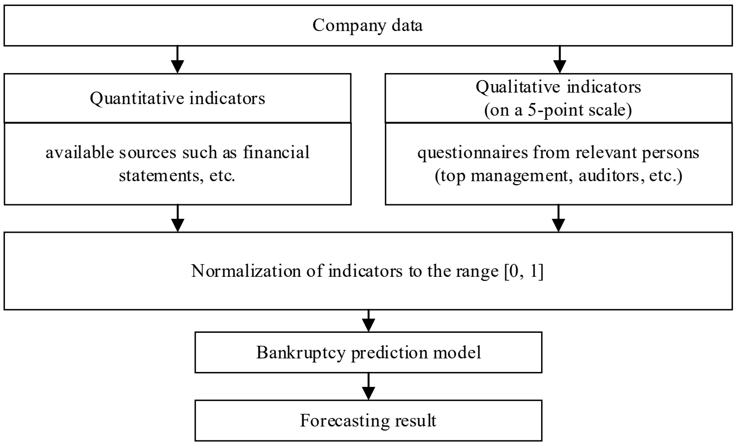
5 - High flexibility and ability to change strategies quickly.

The outcomes of various publications focusing on the impact of qualitative indicators on the financial security of an enterprise have been comprehensively synthesized and systematized. To facilitate the practical application of these indicators, unified 5-point evaluation scales have been developed. These scales provide a standardized method for quantitatively assessing the influence of each qualitative factor on an enterprise's financial security.

An approach for integrating these qualitative indicators into a bankruptcy forecasting system has also been proposed. This approach is depicted in Figure 4, which illustrates the methodology for incorporating these qualitative measures into the predictive framework. The figure outlines the steps and processes of gathering, scoring, and analyzing qualitative data. It demonstrates how this information can effectively enhance the accuracy and robustness of bankruptcy predictions.

Overall, this comprehensive effort to collate and systematize qualitative indicators and develop a structured approach for their application marks a significant advancement in financial risk assessment. It underscores the importance of considering a broad spectrum of factors, beyond just quantitative financial metrics, in evaluating an enterprise's financial health and predicting its future stability.

Figure 4. Framework for incorporating qualitative indicators in bankruptcy prediction



Source: Own processing.

Different approaches can normalize the scores from 0 to 1, including linear, logarithmic, sigmoid, and cutoff. Given a fixed set of scores on a 5-point scale, linear normalization is the best fit because of its simplicity.

$$Q = \frac{x - min}{max - min} \quad (1)$$

Where:

max – 1 (minimum score on a 5-point scale)

max – 5 (maximum score on a 5-point scale)

Taking into account management, legal, financial, and operational non-quantitative indicators is critical for a comprehensive assessment of an enterprise's financial condition. Together, these factors allow us to cover many more aspects of the company's performance and increase the accuracy of the forecast.

An enterprise's bankruptcy risk analysis system, which includes quantitative and qualitative indicators, allows generalizing and systematizing diagnostic information, which helps formulate strategic decisions. Unified 5-point scoring scales and simple linear normalization provide a methodological basis for the quantitative interpretation of qualitative indicators. This makes integrating such indicators into a bankruptcy prediction system possible, increasing its accuracy and reliability. This approach can serve as a basis for further research to develop more detailed models for assessing financial stability, considering a more comprehensive range of factors and interrelationships.

In the next step, we employed a multi-factor model that implements the developed approach by combining the Altman Z-score and the mentioned qualitative ratios. Since the Altman Z-score has no 0 to 1 scale, it needs normalization. We applied Min-Max scaling:

$$\text{Znorm} = \frac{Z - Zmin}{Zmax - Zmin} \tag{2}$$

Where Z is the Altman Z-score. We used the maximum value of 5 for normalization purposes.

Next, we determined the weights for each of the ratios. For simplicity, we assumed equal weighting: 0.5 for both.

$$\text{Combined Score} = Znorm * 0.5 + \frac{\sum_i^n Qi}{n} * 0.5 \tag{3}$$

Where $\frac{\sum_i^n Qi}{n}$ is the sum of all qualitative ratios divided by their count.

Next, the combined score threshold was set to 0.5 because all ratios were normalized.

Table 7. Bankruptcy prediction model validation results

Company		**1**	**2**	**3**	**4**	**5**
Management	Employee loyalty	5	4	5	1	1
	Professionalism of management	4	5	3	1	2
Financial	Assets	4	5	4	1	1
	Financial reporting	3	5	5	3	3
Legal	Compliance (regulation)	5	4	3	1	2
	Courts disputes	5	4	4	2	1
Operational	Market reputation	4	5	4	3	3
	Innovations	3	5	5	3	4
	Productivity	4	5	3	2	1
	Compliance (standards)	5	4	5	1	2
	Flexibility	5	5	5	2	1
Intermidiate financial ratios	Working Capital/Total Assets	0.08	0.05	0.13	0.07	0.05
	Retained Earnings/Total Assets	0.33	0.27	0.55	0.30	0.20
	Earnings Before Interest and Tax/Total Assets	0.17	0.11	0.25	0.13	0.10
	Market Value of Equity/Total Liabilities	1.67	2.20	1.81	1.48	0.01
	Total Sales/Total Assets	1.67	1.09	2.50	1.30	0.90
Altman's Z-Score		3.78	3.22	5.33	3.11	1.58
The sum of all qualitative ratios divided by their count		0.85	0.93	0.84	0.36	0.38
Znorm		0.76	0.64	1.07	0.62	0.32
Combined Score		0.81	0.79	0.95	0.49	0.35
Actual bankrupt		no	no	no	yes	yes

Source: Own processing of anonymized companies data.

In March-May 2023, we selected 5 companies and collected data for qualitative ratios with some financial data for the 2022 financial year. A static link to the questionnaire can be found in the references (Bankruptcy risks assessment form). Two of these companies became bankrupt due to the 2023 financial year. We anonymized all the data due to an agreement with the companies' representatives. Calculation results based on collected data are presented in Table 7.

As seen in Table 7, the ratio for Company 5 was 0.41 (below the threshold), and it became bankrupt. The Altman score for Company 5 was below 1,81, which was expected for the quantitative analysis view. In the case of Company 4, Altman's score was 3,11, which is very safe according to the original model. However, the qualitative analysis showed very low results, and the company went bankrupt. It shows that the combined approach can be used as additional evidence during decision-making in finance.

5. Conclusions

This study has successfully demonstrated the indispensability of qualitative indicators in assessing bankruptcy risks, broadening the horizon beyond the conventional scope of quantitative financial metrics. The meticulous categorization of these indicators into four critical groups – management, Financial, Legal, and Operational – not only enhances our understanding of diverse risk factors but also underscores their multifaceted impact on a company's financial health.

Introducing a unified 5-point scoring scale for these qualitative indicators is a notable contribution, effectively marrying qualitative assessments with quantitative rigour. This innovative approach allows for a more nuanced and comprehensive evaluation of bankruptcy risks, facilitating a deeper insight into the complex interplay of various factors that influence a firm's financial stability. The combined approach was successfully tested on 5 companies, 1 of which could not be recognized as bankrupt using only quantitative methods.

The findings of this study hold profound implications for practitioners, policymakers, and researchers alike. For practitioners, especially those in corporate governance and risk management, the insights provided offer a more holistic framework for decision-making. Policymakers can utilize these findings to understand the complexities of bankruptcy risks better and develop more practical regulatory frameworks. Researchers are presented with a rich foundation for further exploration and refinement of bankruptcy risk assessment models.

In conclusion, this article contributes significantly to the academic discourse on financial risk assessment and provides practical tools and insights that can be applied in real-world scenarios. Integrating qualitative indicators into bankruptcy risk assessment represents a forward-thinking approach, paving the way for more resilient and informed financial decision-making in an ever-evolving economic landscape.

References

Achkasova, S., Bezrodna, O., Ohorodnia, Ye. (2021). Identifying the volatility of compliance risks for the pension custodian banks. – Banks and Bank Systems, 16(3), pp. 113-129. doi:10.21511/bbs.16(3).2021.11.

Adams, R. B., Almeida, H., Ferreira, D. (2005). Powerful CEOs and their impact on corporate performance. – Review of Financial Studies, 18(4), pp. 1403-1432.

Almeida, H., Campello, M. (2007). Financial constraints, asset tangibility, and corporate investment. – The Review of Financial Studies, 20(5), pp. 1429-1460.

Arora, S., Cason, T. N. (1996). Why do firms volunteer to exceed environmental regulations? Understanding participation in EPA's 33/50 program. – Land Economics, 72(4), pp. 413-432.

Ball, R., Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. – Journal of Accounting and Economics, 39(1), pp. 83-128.

Bankruptcy risks assessment form. URL: https://doi.org/10.5281/zenodo.11457339.

Barclay, M. J., Smith Jr, C. W. (1995). The maturity structure of corporate debt. – The Journal of Finance, 50(2), pp. 609-631.

Barnett, M. L., Jermier, J. M., Lafferty, B. A. (2006). Corporate reputation: The definitional landscape. – Corporate reputation review, 9, pp. 26-38.

Barth, M. E., Beaver, W. H., Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. – Journal of Accounting and Economics, 31(1-3), pp. 77-104.

Berger, A. N., Udell, G. F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. – Journal of Banking & Finance, 22(6-8), pp. 613-673.

Bertrand, M., Schoar, A. (2003). Managing with style: The effect of managers on firm policies. – The Quarterly Journal of Economics, 118(4), pp. 1169-1208.

Bhagat, S., Bizjak, J., Coles, J. L. (1998). The shareholder wealth implications of corporate lawsuits. – Financial Management, pp. 5-27.

Biddle, G. C., Hilary, G., Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency?. – Journal of Accounting and Economics, 48(2-3), pp. 112-131.

Bushman, R. M., Smith, A. J. (2001). Financial accounting information and corporate governance. – Journal of Accounting and Economics, 32(1-3), pp. 237-333.

Cannon, J. P., Perreault Jr, W. D. (1999). Buyer-seller relationships in business markets. – Journal of Marketing Research, 36(4), pp. 439-460.

Casey, E., O'Toole, C. M. (2014). Bank lending constraints, trade credit and alternative financing during the financial crisis: Evidence from European SMEs. – Journal of Corporate Finance, 27, pp. 173-193.

Corbett, C. J., Montes-Sancho, M. J., Kirsch, D. A. (2005). The financial impact of ISO 9000 certification in the United States: An empirical analysis. – Management Science, 51(7), pp. 1046-1059.

Cornelli, F., Kominek, Z., Ljungqvist, A. (2013). Monitoring managers: Does it matter?. – The Journal of Finance, 68(2), pp. 431-481.

Dechow, P. M., Ge, W., Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. – Journal of Accounting and Economics, 50(2-3), pp. 344-401.

Deif, A. M. (2011). A system model for green manufacturing. Journal of Cleaner Production, 19(14), pp. 1553-1559.

Desai, M. A., Dharmapala, D. (2011). Corporate tax avoidance and firm value. – The Review of Economics and Statistics, 91(3), pp. 537-546.

Dhaliwal, D. S., Li, O. Z., Tsang, A., Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. – The Accounting Review, 86(1), pp. 59-100.

Donelson, D. C., Ege, M., McInnis, J. M. (2017). Internal control weaknesses and financial reporting litigation. – The Accounting Review, 92(4), pp. 195-233.

Dyreng, S. D., Hanlon, M., Maydew, E. L. (2010). The effects of executives on corporate tax avoidance. – The Accounting Review, 85(4), pp. 1163-1189.

Erickson, T., Whited, T. M. (2000). Measurement error and the relationship between investment and q. – Journal of Political Economy, 108(5), pp. 1027-1057.

Field, L., Lowry, M., Shu, S. (2005). Does disclosure deter or trigger litigation?. – Journal of Accounting and Economics, 39(3), pp. 487-507.

Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. – Management Science, 61(11), pp. 2549-2568.

Forsman, H. (2011). Innovation capacity and innovation development in small enterprises. A comparison between the manufacturing and service sectors. – Research Policy, 40(5), pp. 739-750.

Francis, J., LaFond, R., Olsson, P. M., Schipper, K. (2005). The market pricing of accruals quality. – Journal of Accounting and Economics, 39(2), pp. 295-327.

Fryxell, G. E., Szeto, A. (2002). The influence of motivations for seeking ISO 14001 certification: An empirical study of ISO 14001 certified facilities in Hong Kong. – Journal of Environmental Management, 65(3), pp. 223-238.

Gallemore, J., Labro, E. (2015). The importance of the internal information environment for tax avoidance. – Journal of Accounting and Economics, 60(1), pp. 149-167.

Geroski, P. A., Machin, S., Van Reenen, J. (1993). The profitability of innovating firms. – The RAND Journal of Economics, pp. 198-211.

Gibbons, R., Waldman, M. (2004). Task-specific human capital. – American Economic Review, 94(2), pp. 203-207.

Godfrey, P. C., Merrill, C. B., Hansen, J. M. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. – Strategic Management Journal, 30(4), pp. 425-445.

Golden, W., Powell, P. (2010). Information system flexibility and the cost efficiency of business processes. – Journal of Systems and Software, 83(5), pp. 784-793.

Guiso, L., Sapienza, P., Zingales, L. (2015). The value of corporate culture. – Journal of Financial Economics, 117(1), pp. 60-76.

Gunningham, N., Kagan, R. A., Thornton, D. (2004). Social license and environmental protection: Why businesses go beyond compliance. – Law & Social Inquiry, 29(2), pp. 307-341.

Gupta, Y. P., Somers, T. M. (2012). Business strategy, manufacturing flexibility, and organizational performance relationships: A path analysis approach. – Production and Operations Management, 5(3), pp. 204-233.

Hall, B. H., Lotti, F., Mairesse, J. (2013). Evidence on the impact of R&D and ICT investments on innovation and performance in Italian firms. – Economics of Innovation and New Technology, 22(3), pp. 300-328.

Hall, G. C., Hutchinson, P. J., Michaelas, N. (2004). Determinants of the capital structures of European SMEs. – Journal of Business Finance & Accounting, 31(5-6), pp. 711-728.

Hambrick, D. C., Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. – Academy of Management Review, 9(2), pp. 193-206.

Hanlon, M., Slemrod, J. (2009). What does tax aggressiveness signal? Evidence from stock price reactions to news about tax shelter involvement. – Journal of Public Economics, 93(1-2), pp. 126-141.

Healy, P. M., Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. – Journal of Accounting and Economics, 31(1-3), pp. 405-440.

Hu, Y. C. (2009). Bankruptcy prediction using ELECTRE-based single-layer perceptron. – Neurocomputing, 72(13-15), pp. 3150-3157.

Hult, G. T. M., Hurley, R. F., Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. – Industrial Marketing Management, 33(5), pp. 429-438.

Humphery-Jenner, M., Lang, M. (2015). The impact of securities litigation on external financing. – The Journal of Corporate Finance, 31, pp. 166-186.

Iatridis, G. E., Kesidou, E. (2018). What drives substantive versus symbolic implementation of ISO 14001 in a time of economic crisis? Insights from Greek manufacturing companies. – Journal of Business Ethics, 148(4), pp. 859-877.

Ioannou, I., Serafeim, G. (2012). What drives corporate social performance? The role of nation-level institutions. – Journal of International Business Studies, 43(9), pp. 834-864.

Jo, H., Harjoto, M. A. (2011). Corporate governance and firm value: The impact of corporate social responsibility. – Journal of Business Ethics, 103(3), pp. 351-383.

Kaplan, S. N., Klebanov, M. M., Sorensen, M. (2012). Which CEO characteristics and abilities matter?. – The Journal of Finance, 67(3), pp. 973-1007.

Karpoff, J. M., Lee, D. S., Martin, G. S. (2014). The consequences to managers for financial misrepresentation. – Journal of Financial Economics, 113(1), pp. 61-82.

Karpoff, J. M., Lee, D. S., Vendrzyk, V. M. (1999). Defense procurement fraud, penalties, and contractor influence. – Journal of Political Economy, 107(4), pp. 809-842.

Kim, M. J., Han, I. (2003). The discovery of experts' decision rules from qualitative bankruptcy data using genetic algorithms. – Expert Systems with Applications, 25(4), pp. 637-646.

Kim, Y., Park, M. S., Wier, B. (2012). Is earnings quality associated with corporate social responsibility?. – The Accounting Review, 87(3), pp. 761-796.

Li, L. (2012). Effects of enterprise technology on supply chain collaboration: Analysis of China-linked supply chain. – Enterprise Information Systems, 6(3), pp. 265-284.

Link, A. N., Link, K. R. (2009). Innovation, productivity, and competitiveness: Implications of ISO 50001 energy-management quality system standardization. – International Journal of Energy Economics and Policy, 37(6), pp. 3281-3286.
Liu, H., Ke, W., Wei, K. K., Hua, Z. (2016). The impact of IT capabilities on firm performance: The mediating roles of absorptive capacity and supply chain agility. – Decision Support Systems, 54(3), pp. 1452-1462.
Luo, Y. (2002). Contract, cooperation, and performance in international joint ventures. – Strategic Management Journal, 23(10), pp. 903-919.
Makadok, R., Coff, R. (2013). Both market and hierarchy: An incentive-system theory of hybrid governance forms. – Academy of Management Review, 24(2), pp. 248-272.
Margolis, J. D., Elfenbein, H. A., Walsh, J. P. (2009). Does it pay to be good...and does it matter? A meta-analysis of the relationship between corporate social and financial performance. – Journal of Business Ethics, 91(2), pp. 353-368.
Melis, A., Carta, S., Gaia, S. (2012). The role of corporate governance in mergers and acquisitions. – Journal of Management & Governance, 16(4), pp. 671-686.
Mellewigt, T., Madhok, A., Weibel, A. (2007). Trust and formal contracts in interorganizational relationships - Substitutes and complements. – Managerial and Decision Economics, 28(8), pp. 833-847.
Mills, L. F., Erickson, M., Maydew, E. L. (1998). Investments in tax planning. – Journal of the American Taxation Association, 20(1), pp. 1-20.
Musso, P., Schiavo, S. (2008). The impact of financial constraints on firm survival and growth. – Journal of Evolutionary Economics, 18(2), pp. 135-149.
Nakamura, M., Takahashi, T., Vertinsky, I. (2001). Why Japanese firms choose to certify: A study of managerial responses to environmental issues. – Journal of Environmental Economics and Management, 42(1), pp. 23-52.
Orlitzky, M., Schmidt, F. L., Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. – Organization Studies, 24(3), pp. 403-441.
Overesch, M., Wamser, G. (2010). Corporate tax planning and thin-capitalization rules: Evidence from a quasi-experiment. – Applied Economics, 42(5), pp. 563-573.
Peng, D. X., Schroeder, R. G., Shah, R. (2011). Linking routines to operations capabilities: A new perspective. – Journal of Operations Management, 29(6), pp. 486-502.
Poppo, L., Zhou, K. Z. (2014). Managing contracts for fairness in buyer-supplier exchanges. – Strategic Management Journal, 35(10), pp. 1508-1527.
Porter, M. E., Heppelmann, J. E. (2014). How smart, connected products are transforming competition. – Harvard Business Review, 92(11), pp. 64-88.
Potoski, M., Prakash, A. (2005). Green clubs and voluntary governance: ISO 14001 and firms' regulatory compliance. – American Journal of Political Science, 49(2), pp. 235-248.
Rajan, R. G., Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. – Journal of Finance, 50(5), pp. 1421-1460.
Rajan, R., Servaes, H., Zingales, L. (2000). The cost of diversity: The diversification discount and inefficient investment. – The Journal of Finance, 55(1), pp. 35-80.
Rego, S. O. (2003). Tax-avoidance activities of U.S. multinational corporations. – Contemporary Accounting Research, 20(4), pp. 805-833.
Reuer, J. J., Arinõ, A. (2007). Strategic alliance contracts: Dimensions and determinants of contractual complexity. – Strategic Management Journal, 28(3), pp. 313-330.
Roberts, P. W., Dowling, G. R. (2002). Corporate reputation and sustained superior financial performance. – Strategic Management Journal, 23(12), pp. 1077-1093.
Rogers, J. L., Van Buskirk, A. (2009). Shareholder litigation and changes in disclosure behavior. – Journal of Accounting and Economics, 47(1-2), pp. 136-156.
Ryall, M. D., Sampson, R. C. (2009). Formal contracts in the presence of relational enforcement mechanisms: Evidence from technology development projects. – Management Science, 55(6), pp. 906-925.
Seçme, N. Y., Bayrakdaroğlu, A., Kahraman, C. (2009). Fuzzy performance evaluation in Turkish banking sector using analytic hierarchy process and TOPSIS. – Expert systems with applications, 36(9), pp. 11699-11709.
Servaes, H. (1996). The value of diversification during the conglomerate merger wave. – Journal of Finance, 51(4), pp. 1201-1225.
Short, J. L., Toffel, M. W. (2010). Making self-regulation more than merely symbolic: The critical role of the legal environment. – Administrative Science Quarterly, 55(3), pp. 361-396.
Singh, R. K., Garg, S. K., Deshmukh, S. G. (2008). Strategy development by SMEs for competitiveness: A review. – Benchmarking: An International Journal.

Surroca, J., Tribó, J. A., Waddock, S. (2010). Corporate responsibility and financial performance: The role of intangible resources. – Strategic Management Journal, 31(5), pp. 463-490.
Teece, D. J. (2010). Business models, business strategy and innovation. – Long Range Planning, 43(2-3), pp. 172-194.
Titman, S., Wessels, R. (1988). The determinants of capital structure choice. – Journal of Finance, 43(1), pp. 1-19.
Tyshchenko, V., Achkasova, S., Karpova, V., Kanyhin, S. (2023). Assessment the influence of debt capital on the bankruptcy of enterprises in the agricultural sector. – Agricultural and Resource Economics: International Scientific E-Journal, 9(2), pp. 183-204.
Wathne, K. H., Heide, J. B. (2000). Opportunism in interfirm relationships: Forms, outcomes, and solutions. – Journal of Marketing, 64(4), pp. 36-51.
Winker, P., Köhler, C. (2000). Productivity growth in small and large German manufacturing firms: Evidence from panel data on medium-sized firms and extended performance accounts for large firms. – Small Business Economics, 15(1), pp. 37-51.
Yildirak, K., Süer, Ö. Paper Title: The Importance of Qualitative Factors in Firm Default: Evidences from Turkey.
Zeng, S. X., Shi, J. J., Lou, G. X. (2007). A synergetic model for implementing an integrated management system: An empirical study in China. – Journal of Cleaner Production, 15(18), pp. 1760-1767.
Zhang, M., Macpherson, A., Jones, O. (2016). Conceptualizing the learning process in SMEs: Improving innovation through external orientation. – International Small Business Journal, 24(3), pp. 299-323.