Ing. Mgr. Adela Zborilova
Czech University of Life Sciences Prague
Department of Management
E-mail: Sramkovaad@pef.czu.cz
Orcid: https://orcid.org/0009-0002-7595-6747

SUPPLEMENTARY PUBLIC INDICATORS FOR EFFECTIVE PRE-M&A DUE DILIGENCE

UDC / UDK: 658.168:005.52
JEL classification / JEL klasifikacija: G34, G32, M21, C44
DOI: 10.17818/EMIP/2025/46
Preliminary communication / Prethodno priopćenje
Received / Primljeno: August 1, 2025 / 1. kolovoza 2025.
Accepted / Prihvaćeno: October 17, 2025 / 17. listopada 2025.

Abstract

Mergers and acquisitions (M&A) often fail due to insufficient due diligence that prioritizes financial and Environmental, Social, Governance (ESG) metrics while missing non-financial dimensions. This study introduces a proposed framework of supplementary public indicators categorized into six areas: Technology, Human Resources, Customer Satisfaction, Regulatory Compliance, Market Positioning, and Organizational Culture. Using the Analytic Hierarchy Process (AHP) with input from professionals, the study identifies Market Positioning and Customer Satisfaction as the most critical categories, reflecting their importance in mitigating risks and ensuring operational resilience. The study proposes an approach to improve M&A evaluations using publicly available data, addressing gaps in traditional methods. While reliant on public data and expert judgments, the framework offers insights for practitioners, with future research needed to validate its application across industries. Simultaneously, readers of this study should be aware of a limitation of this study, which is that the weights of indicators were determined based on the professional evaluation of three experts, which may introduce a certain level of subjectivity.

Keywords: M&A, Due Diligence, AHP, Public Indicators, Technology, Human Resources, Customer Satisfaction, Regulatory Compliance, Market Positioning, Organizational Culture

1. INTRODUCTION

Mergers and acquisitions (M&A) have become fundamental to firms' growth strategies in increasingly globalized and competitive markets. Whether

driven by the need to access new markets, leverage synergies, or gain technological advantages, M&A activities often represent significant financial commitments (García-Nieto et al., 2024). Despite their potential for strategic transformation, many M&A transactions fail to deliver the predicted benefits, with many failures due to inadequate pre-merger evaluation and preparation (Damodaran, 2012). The due diligence process, which supports decision-making in M&A, has traditionally focused on financial indicators and, more recently, Environmental, Social, and Governance (ESG) metrics. These frameworks, while essential, do not provide a comprehensive view of the target firm's overall health, capabilities, and potential risks, particularly in today's data-driven and complex business landscape (Eccles et al., 2014).

Recent research on non-financial reporting in state-owned enterprises across Central and Eastern Europe further underscores this gap. Dragija Kostic et al. (2022) demonstrate that while non-financial disclosures have become more structured under EU Directive 2014/95/EU, their scope remains limited to sustainability and governance aspects, leaving out critical operational and strategic dimensions relevant for M&A evaluations. This reinforces the argument that supplementary public indicators beyond ESG are necessary to capture a holistic picture of organizational performance.

The limitations of financial and ESG indicators highlight the need for a broader approach that incorporates supplementary public indicators. These non-financial metrics can be obtained from publicly available data sources, such as regulatory filings, digital platforms, industry reports, and customer reviews. These indicators offer insights into areas not typically covered by traditional frameworks, including technological innovation, workforce stability, customer sentiment, regulatory adherence, market positioning, and organizational culture (Nian & Said, 2025). For instance, publicly reported cybersecurity incidents can provide valuable insights into a firm's technological resilience, while employee turnover rates and online reviews can offer information about internal organizational health (Brynjolfsson et al., 2017).

All markets, including both global and local levels, have been affected in recent years, particularly by the COVID-19 pandemic. Global M&A activities recovered quickly after the initial slowdown caused by the COVID-19 pandemic in 2020. In 2021, the number and value of M&A deals reached record levels, indicating a strong V-shaped recovery (Kooli & Lock Son, 2021; Cho & Chung, 2022). Such a growth was supported by low interest rates, available capital resources, and companies adapting to pandemic-related changes through digital transformation, innovation, and stronger supply chains (Kooli & Lock Son, 2021). Besides, research shows that the severity of COVID-19 did not significantly reduce M&A volumes in 2020, especially in developed countries. Continued growth is expected in high-tech and innovative sectors as economies adjust to the post-pandemic environment (Lee, Degtereva, & Zobov, 2021). In 2022, M&A activity slowed due to rising inflation, higher interest rates, and global uncertainties such as war and energy issues. This led to fewer large deals (Cho & Chung, 2022).

However, overall activity stayed above pre-pandemic levels, with financially strong companies continuing to make strategic acquisitions (Cho & Chung, 2022).

The main research question for this paper is: How can supplementary public indicators be systematically categorized and used to increase the effectiveness of pre-M&A due diligence? With this question, the paper aims to extend the academic understanding of due diligence processes and provide specialists with insights for incorporating these indicators into their evaluation frameworks.

This paper contributes to the academic discourse by proposing a structured framework for supplementary public indicators. The study identifies and categorizes these indicators into thematic domains based on an interdisciplinary review of existing literature and practical data sources. Each category is supported by specific indicators that can be systematically integrated into due diligence processes. Additionally, the paper aims to connect theory and practice by demonstrating how these indicators can improve decision-making and reduce post-merger risks. Practical application and validation of the proposed framework will be a subject of future research.

By focusing exclusively on publicly available data and excluding financial and ESG metrics, this study provides a new perspective on the role of supplementary indicators. This focus ensures that the proposed framework can be applied universally, regardless of industry or geographic context, and highlights the value of leveraging publicly accessible information in strategic decision-making.

Simultaneously, usage of public data not only in M&A due diligence but in any type of analysis must be approached with caution. Public data sources are often adjusted for marketing or investor relations purposes, which can introduce intentional bias (Baldwin et al., 2022). Additionally, algorithmic filtering on platforms like LinkedIn may prioritize certain types of content, skewing the correctness and visibility of critical information (Amaka Peace Onebunne, 2022). Therefore, researchers must apply rigorous validation techniques, triangulate data across multiple sources, and remain aware of the limitations existing in these datasets. A critical evaluation is essential to avoid over-reliance on data that may be incorrect, incomplete, outdated, or strategically manipulated.

In the following sections, the paper provides a detailed review of the existing literature, highlighting gaps that this study seeks to address. The methodology section outlines the qualitative approach employed to identify and categorize the indicators, while the results present a comprehensive framework of supplementary public indicators. The discussion explores the implications of these findings for theory and practice, and the conclusion offers a summary of key insights and directions for future research.

2. LITERATURE REVIEW

M&A has long been fundamental to corporate growth strategies, enabling firms to achieve strategic synergies, market expansion, and innovation gains. However, the high failure rate of M&A transactions, often attributed to insufficient due diligence, highlights the limitations of traditional evaluation frameworks (Hossain, 2021). While financial metrics and Environmental, Social, and Governance (ESG) indicators are foundational to due diligence, they often fail to capture the broader dynamics that influence a firm's operational, cultural, and strategic alignment (David, 2024). Supplementary public indicators and metrics received from publicly available data sources may cover these missing insights. This review explores the evolution of M&A due diligence, the growing relevance of non-financial indicators, and the potential of public data to enhance evaluation methodologies (Ahmad & Zabri, 2016).

The field of M&A due diligence has traditionally been dominated by financial analysis. Foundational texts, such as Damodaran's *Investment Valuation* (2012), provide robust methodologies for assessing company valuation using discounted cash flow models, earnings multiples, and other financial metrics. These metrics remain key for the economic feasibility of M&A transactions.

In recent decades, ESG metrics have been increasingly integrated into due diligence processes. Eccles, Ioannou, and Serafeim (2014) highlight how ESG factors such as environmental compliance, corporate governance, and social responsibility align acquisitions with long-term sustainability goals. Including ESG metrics reflects a growing awareness of the reputational, regulatory, and operational risks of neglecting non-financial factors. However, while ESG indicators address sustainability and compliance, they do not include other dimensions, such as technological capability and workforce dynamics.

The limitations of these traditional frameworks are evident in studies examining the causes of M&A failures. Weber and Tarba (2014) identify cultural misalignment, leadership instability, and poor post-merger integration as key factors undermining M&A success. These challenges underscore the need for broader frameworks that extend beyond financial and ESG data to involve the target company's organizational and strategic elements.

Non-financial indicators become valuable tools in M&A evaluations. David (2024) argues that cultural alignment between merging entities is a critical determinant of post-merger success. Similarly, Cartwright and Schoenberg (2006) emphasize the importance of leadership stability, workforce engagement, and organizational culture in ensuring successful M&A outcomes.

Technological indicators are increasingly recognized as critical components of due diligence, particularly in knowledge-intensive and technology-driven industries. Iansiti and Lakhani (2020) explore how digital capabilities, patent portfolios, and participation in innovation ecosystems provide insights into a firm's willingness for technological integration. Metrics such as the number of

patents filed, research and development expenditure, and the frequency of cybersecurity incidents offer insight into evaluating a company's technological strength and resilience (Beylin, 2025).

These studies, however, vary in their assumptions, scope, and level of detail. An example is that while Iansiti and Lakhani (2020) emphasize innovation ecosystems, they do not account for the strategic intent behind patent filings that may be defensive rather than innovative. Similarly, Eccles et al. (2014) focus on ESG integration but do not critically assess how ESG disclosures may be selectively presented to enhance corporate image. This lack of scrutiny across studies suggests a need for more comparative analysis that evaluates the reliability and intent behind the indicators used.

Customer satisfaction and reputation indicators, derived from online reviews and social media, are also gaining attention in the literature. Brynjolfsson, Rock, and Syverson (2017) demonstrate how customer feedback can be a reliable predictor of brand strength and market positioning. Furthermore, Thietart et al. (2016) highlight the importance of analyzing customer loyalty metrics and net promoter scores in evaluating the market potential of target firms. It is important to bear in mind, however, that online reviews often reflect extreme opinions, and social media sentiment can be influenced by viral trends or coordinated campaigns. These biases may thus mislead evaluators.

The increase of open data initiatives and digital platforms has expanded the scope of publicly accessible information. Regulatory filings, industry reports, and online databases provide data that can complement traditional due diligence frameworks. For instance, public records maintained by regulatory bodies such as the European Securities and Markets Authority (ESMA) and the U.S. Securities and Exchange Commission (SEC) offer insights into a firm's legal compliance, litigation history, and adherence to industry standards (European Commission, 2024). Looking at the regulatory filings from a critical perspective, they may lag behind real-time developments, and differences in disclosure standards across jurisdictions can hinder comparability. Moreover, companies may strategically disclose or omit information to shape investor perception (Adejumo & Ogburie, 2025).

Digital platforms such as Glassdoor, LinkedIn, and Indeed provide valuable sources of human resource indicators. Publicly accessible data on employee turnover rates, job openings, and workplace reviews provide nuanced insights into organizational health and workforce stability (Li et al., 2022). These indicators are particularly relevant in evaluating a company's internal capabilities and willingness for post-merger integration.

Customer sentiment analysis, derived from social media platforms and review websites, is another critical area of focus. A study by Wankahde et al. (2022) demonstrates the utility of sentiment analysis tools in evaluating brand reputation, customer loyalty, and market insight. These metrics can help identify potential reputational risks and opportunities associated with the target company.

Empirical studies provide further validation of the utility of supplementary public indicators in M&A contexts. A publication by Mortkovitch (2024) found that firms integrating non-financial and public data into due diligence processes experienced higher post-merger success rates compared to those relying just on traditional metrics. The report emphasizes the importance of incorporating indicators such as regulatory compliance, market share, and employee engagement to achieve a more holistic evaluation.

Case studies also illustrate the application of public data in M&A evaluations. For example, the acquisition of LinkedIn by Microsoft in 2016 used analysis of public data, including user engagement metrics and professional network growth trends, to assess LinkedIn's strategic fit and long-term potential (Iansiti & Lakhani, 2020).

Despite the growing recognition of non-financial and public indicators, systematic frameworks for their integration into M&A due diligence remain insufficient. Most studies focus on specific dimensions, such as culture or technology, without comprehensively categorizing supplementary indicators. Moreover, empirical research validating the predictive value of these indicators in different industry contexts is limited.

Another significant gap lies in the lack of methodologies for systematically sourcing and analyzing public data. While digital platforms and regulatory databases offer vast amounts of information, the challenge lies in filtering and investigating this data to obtain actionable insights. This gap highlights the need for frameworks integrating diverse data sources into the evaluation process.

This study aims to address these gaps by developing a structured framework for supplementary public indicators. By categorizing these indicators into thematic areas such as technology, human resources, customer satisfaction, regulatory compliance, market positioning, and organizational culture, the research seeks to provide a holistic approach to M&A evaluations.

The findings of this literature review provide the foundation for the subsequent methodological and empirical analyses. The following section outlines the research design and approach to identifying and categorizing supplementary public indicators.

3. METHODOLOGY

The research uses a qualitative and theoretical approach to develop a framework of supplementary public indicators for effective pre-M&A due diligence. The methodology is designed to systematically identify, categorize, and evaluate publicly accessible, non-financial indicators that can complement traditional financial and ESG metrics.

The research follows an exploratory design, addressing gaps in traditional due diligence frameworks by introducing supplementary indicators derived from public data sources. The study comprises three phases:

- Identification of indicators: Collect and identify potential indicators from academic literature, public datasets, and industry reports.
- Categorization: Organization of the indicators into thematic domains reflecting key dimensions of organizational performance.
- Prioritization using Analytic Hierarchy Process (AHP): Application of the AHP methodology to assign weights to the categories based on their relative importance to M&A success.

A systematic review of peer-reviewed articles and conference proceedings was conducted to identify theoretical foundations and empirical studies related to M&A due diligence and to gather the supplementary indicators. The process of selecting sources was guided by relevance, credibility, and accessibility. As the primary sources, databases such as Scopus, Web of Science, and Google Scholar were used. The searching strategy, especially for identification of the indicators, involved usage of a combination of keywords including mainly "M&A", "due diligence", "performance indicators", "company evaluation", "business performance", "non-financial performance", "evaluation of organizations", "public data", "AHP methodology." and "public data of organizations". Functional boolean operators were applied in order to refine the searched results, and filters were used to exclude non-English publications and non-peer-reviewed sources. The time frame for the search was set from 2010 to 2024 in order to involve both older and recent studies. Final sources were selected based on their methodological rigor, relevance to the research topic, and the presence of empirical data or frameworks applicable to the research topic. The author's preference was given to research studies published in high-impact journals and proceedings from reputable conferences in the fields of business, finance, and organizational science.

After the identification of the indicators, the AHP method is applied. The AHP method, developed by Saaty (1980), has gained importance as a multi-criteria decision-making tool due to its ability to structure complex problems hierarchically and flexibility in incorporating qualitative and quantitative factors. In the context of M&A, the AHP method offers a systematic framework for prioritizing various indicators, which is critical for effective pre-M&A due diligence. By facilitating pairwise comparisons and assigning relative weights to indicators, AHP helps decision-makers evaluate the importance of diverse metrics and align due diligence processes with strategic objectives (Saaty, 2008).

AHP has been widely applied in strategic decision-making, including supply chain management, project evaluation, and investment prioritization. In the field of M&A, its utility lies in comparing multiple dimensions of organizational performance and aligning them with transaction goals. Studies such as those by Ho (2008) and Munier (2021) highlight the adaptability of AHP in dealing with hierarchical data and deriving priorities from subjective judgments. This makes it

particularly suitable for assessing supplementary public indicators, where qualitative insights (e.g., workforce stability or brand reputation) are as important as quantitative metrics (e.g., patent filings or legal disputes).

The application of AHP extends beyond financial evaluations, making it a powerful tool for integrating non-financial indicators into M&A processes. For instance, Lee (2013) demonstrates how AHP can be used to evaluate intangible assets, such as organizational culture and customer satisfaction, by translating subjective perceptions into measurable priorities. This aligns with the objectives of this study, which seeks to incorporate non-financial, publicly accessible indicators into due diligence frameworks. Furthermore, Saha et al. (2024) used AHP to prioritize post-merger integration strategies, emphasizing the multidimensional character of M&A evaluations. Similarly, Saaty and Vargas (2012) discuss how AHP can assess operational, regulatory, and reputational risks, which are often overlooked in traditional due diligence processes. These findings underscore the method's relevance in systematically analyzing the supplementary public indicators identified in this study.

The AHP method was applied in the following steps:

- Defining the objective: The goal is to determine the relative importance of the domains of supplementary public indicators for pre-M&A due diligence.
- Pairwise comparisons: The relative importance of each category is assessed pairwise, based on expert judgment. A scale of 1–9 is used, where 1 indicates equal importance, 3 indicates moderate importance of one category over another, 5 indicates strong importance, 7 indicates very strong importance, and 9 indicates extreme importance. Intermediate values (2, 4, 6, 8) are used for a more effective distinction. Additionally, reciprocals (1/2, 1/3, etc.) are used when the second category is more important than the first.
- Calculation of weights: The pairwise comparison matrix is normalized, and the eigenvector method calculates the weights. Consistency is checked using the Consistency Ratio (CR) to ensure reliable judgments.

To ensure the robustness and validity of the AHP application, a panel of three experts was conducted to provide pairwise comparisons for determining the relative importance of the indicator categories. The selection was based on professional experience, domain relevance, and simultaneously also diversity of perspectives and independence of the experts. The selection criteria for the experts included extensive professional experience (at least 5 years) in business management, incl. experience in organizational performance evaluation. Potential biases were mitigated by explaining experts the study objectives and ensuring anonymity in their responses. However, the reliance on a small expert panel introduces subjectivity arising from the field of their expertise, which is acknowledged as a limitation. A brief description of the experts is provided below:

- Senior Manager in Management Consulting: Specializing in corporate strategy and technology integration, this expert brings a strategic perspective focused on innovation, compliance, and market positioning.
- Business Banker at a Leading Czech Bank: With expertise in risk management and regulatory compliance, this professional emphasizes adherence to regulations, customer satisfaction, and market competitiveness in the financial sector.
- HR Specialist in an International Company: Focused on human capital and organizational culture, this expert prioritizes employee engagement and HR optimization while considering the role of technology and market positioning.

These experts were selected to provide diverse perspectives, blending practical insights with theoretical knowledge. Their backgrounds ensure a well-rounded evaluation of the indicator categories, incorporating considerations of strategic alignment, operational risk, and data reliability. To maintain consistency and mitigate biases, all experts were provided with a detailed briefing on the objectives, methodology, and evaluation criteria before conducting the pairwise comparisons.

For validation of the results, the identical method could be replicated with a larger or different set of experts. This approach allows testing the consistency of the indicator prioritization and helps to identify any variations in judgment across different experts.

4. RESULTS

The results of this study provide the framework for supplementary public indicators to increase the pre-M&A due diligence process. Six primary categories of indicators were identified through systematic data collection and analysis. Each category represents a separate dimension of organizational performance or risk outside the financial and ESG domains. The findings highlight the importance of integrating publicly accessible, non-financial indicators into M&A evaluations to provide a more holistic understanding of target firms.

4.1. Identification and Categorization of Indicators

4.1.1. Technology Indicators

Technology related indicators emerged as a critical domain in pre-M&A due diligence. These indicators offer insights into a company's innovation capabilities, technological resilience, and alignment with industry trends. The analysis identified the following key indicators:

- Patent activity: Publicly available records of patents filed and granted, derived from databases such as the World Intellectual Property Organization (WIPO), reflect a company's commitment to innovation and intellectual property protection (Cricelli et al., 2021).
- Cybersecurity incidents: Reports of successful cyber-attacks or data breaches, available through news outlets and industry-specific databases, highlight vulnerabilities in a company's IT infrastructure (Meland et al., 2021).
- Technology partnerships: Public announcements of strategic technological alliances, such as collaborations with software providers or participation in innovation consortia, provide evidence of forward-looking strategies (Jansen, 2024).
- Research and development expenditures: Disclosures in annual reports or industry rankings indicate the level of investment in research and development, serving as a proxy for technological commitment (Herb et al., 2024).

These indicators are particularly relevant in industries where digital transformation and technological capabilities are key drivers of value creation.

4.1.2. Human Resource Indicators

Human resources are critical in determining target firms' operational stability and cultural fit. The following publicly accessible indicators provide insights into workforce dynamics:

- Employee turnover rates: Data from platforms such as LinkedIn and Glassdoor highlight workforce stability and organizational health (Mia et al., 2022).
- Job openings: Analysis of job postings reveals trends in talent acquisition and skill demands (Sobirovich, 2021).
- Workplace reviews: Employee feedback on platforms like Glassdoor provides insights into company culture, leadership effectiveness, and employee satisfaction (Cloos, 2021).
- Employee certifications: Publicly available data on employee qualifications and certifications, often listed on professional networking sites, reflect the skill level and expertise within the organization (Rivaldo & Nabella, 2023).

These indicators help assess the capacity of the workforce to meet operational demands and adapt to post-merger integration challenges.

4.1.3. Customer Satisfaction and Reputation Indicators

Customer satisfaction and brand reputation are critical for assessing target firms' market position and growth potential. The study identified the following indicators:

- Online customer reviews: Ratings and feedback on platforms like Trustpilot and Yelp reveal consumer sentiment and satisfaction levels (Nurhaliza et al., 2024).
- Social media sentiment: Analysis of social media activity, including brand mentions and user sentiment, provides a real-time view of public perception (Wang et al., 2023).
- Complaint records: Publicly available data on customer complaints, often maintained by regulatory bodies or consumer protection agencies, highlight areas of operational or service-related risk (Bazzan et al., 2020).
- Net promoter scores: Publicly disclosed metrics or industry benchmarking reports on customer loyalty and advocacy provide valuable insights (Dawes, 2024).

These indicators are particularly valuable for evaluating firms in consumer-facing industries where brand equity and customer trust drive competitive advantage.

4.1.4. Regulatory and Compliance Indicators

Regulatory compliance is a critical area of focus in due diligence, with significant implications for legal and reputational risks. Key indicators include:

- Litigation and fines: Public records of lawsuits, regulatory penalties, and settlements, accessible through legal databases and news archives, reveal potential liabilities (De La Bruslerie & Le Maux, 2018).
- Compliance certifications: Certifications such as ISO 9001 or GDPR compliance, often disclosed on company websites or industry publications, demonstrate adherence to regulatory standards (David, 2024).

These indicators are particularly relevant in industries with stringent regulatory frameworks like healthcare, finance, and manufacturing.

4.1.5. Market Positioning Indicators

Understanding a company’s competitive position is essential for evaluating its strategic potential. The analysis identified the following market positioning indicators:

- Market share: Publicly disclosed data in industry reports or rankings provides a snapshot of a firm's competitive standing (Bhattacharya et al., 2022).
- Strategic alliances: Public announcements of partnerships or joint ventures signal collaboration potential and strategic alignment (Ferreira et al., 2022).
- Industry awards: Recognition in industry-specific awards or rankings reflects leadership and excellence in specific domains (Deng et al., 2020).
- Geographic reach: Information about the firm's operational footprint, disclosed in annual reports or public filings, indicates market diversification (Wright, 2022).

These indicators help evaluate the target firm's growth prospects and alignment with the acquiring company's strategic goals.

4.1.6. Organizational Culture Indicators

Cultural compatibility is often a decisive factor in M&A success. The following indicators provide insights into the cultural dimensions of target firms:

- Diversity metrics: Public disclosures on workforce diversity, such as gender or ethnic representation, highlight inclusivity and alignment with modern organizational values (Castilla & Rho, 2023).
- Language in job descriptions: Analysis of publicly available job postings provides indirect insights into the organization's priorities, values, and cultural tone (Castilla & Rho, 2023).
- Leadership stability: Information about leadership tenure, derived from professional networking sites or news reports, indicates organizational stability and governance quality (Krug, 2020).

These indicators are particularly useful in assessing the likelihood of cultural alignment between merging entities and the potential for successful integration.

4.2. Application of AHP

Tables 1, 2 and 3 present the outcomes of the discussion with the experts and the related calculations. Each category of the indicators was compared.

Table 1 presents the outcomes of the discussion with experts, highlighting the pairwise comparisons of criteria based on the AHP methodology. Only half of the table is completed, as AHP requires input for one side of the matrix, with the remaining values derived as inverse. The scale used for the comparisons ranges from 1 to 9, where 1 represents equal importance between two criteria, and 9 represents extreme importance. The higher values indicate a stronger preference. Through this process, the experts rated the relative importance of each criterion over the others.

Table 1 Pairwise comparison table

	Technology	Human Resources	Customer Satisfaction	Regulatory Compliance	Market Positioning	Org. Culture
Technology	1	1/2	1/6	1/4	1/8	2
Human Resources	2	1	1/5	1/4	1/6	4
Customer Satisfaction	6	5	1	3	½	8
Regulatory Compliance	4	4	1/3	1	¼	5
Market Positioning	8	6	2	4	1	9
Organizational Culture	1/2	1/4	1/8	1/5	1/9	1

Source: Author's own work.

To normalize the matrix, each entry is divided by the sum of its column. The normalized matrix is as follows:

Table 2 Normalized matrix

	Tech	Human Resources	Customer Satisfaction	Regulatory Compliance	Market Positioning	Org. Culture	Average
Technology	0,047	0,030	0,044	0,029	0,058	0,069	**0,046**
Human Resources	0,093	0,060	0,052	0,029	0,077	0,138	**0,075**
Customer Satisfaction	0,279	0,299	0,261	0,345	0,232	0,276	**0,282**
Regulatory Compliance	0,186	0,239	0,087	0,115	0,116	0,172	**0,153**
Market Positioning	0,372	0,358	0,523	0,460	0,465	0,310	**0,415**
Organizational Culture	0,023	0,015	0,033	0,023	0,052	0,034	**0,030**

Source: Author's own work.

The weights (eigenvectors) are derived as the average of each row in the normalized matrix:

Table 3 Normalized values (weights) and priorities

Category	Weight	Priority
Market Positioning	**0,41**	1st
Customer Satisfaction	**0,28**	2nd
Regulatory Compliance	**0,15**	3rd
Human Resources	**0,07**	4th
Technology	**0,05**	5th
Organizational Culture	**0,03**	6th

Source: Author's own work.

The pairwise comparison matrix above assumes that Market Positioning and Customer Satisfaction are among the most critical for M&A success, followed by Regulatory Compliance, Human Resources, Technology and Organizational Culture.

The Consistency Ratio (CR) is calculated to ensure the reliability of the pairwise judgments:

- Consistency Index (CI):
  $CI = \frac{\lambda_{max}-n}{n-1} = 0{,}055 \mid \lambda_{max}: Maximum\ eigen\ value$
- Random Index (RI):
  $RI = 1{,}24 \mid For\ n = 6\ (based\ on\ the\ standard\ AHP\ table)$
- Consistency Ratio (CR): $CR = \frac{CI}{RI}$

After performing calculations, the CR value was found to be 0,044. According to the author of the AHP method, T. L. Saaty (1980), the CR should be equal to or less than 0.10. This indicates that the CR for the performed study is acceptable.

5. DISCUSSION

The findings of this study highlight the importance of integrating supplementary public indicators into the pre-M&A due diligence process. By categorizing the indicators into six domains - Technology, Human Resources, Customer Satisfaction, Regulatory Compliance, Market Positioning, and Organizational Culture - the study provides a comprehensive framework to evaluate organizational dimensions traditionally overlooked in financial and ESG analyses. The application of the AHP method further refines the prioritization of these categories, ensuring resources can be allocated efficiently during the due diligence process.

5.1. Theoretical Implications

This research contributes to the theoretical discourse on M&A by expanding the scope of due diligence frameworks to include publicly accessible non-financial indicators. The results align with previous studies emphasizing the limitations of traditional financial metrics (Damodaran, 2012) and the emerging relevance of non-financial factors, such as culture and technological readiness (Weber & Tarba, 2014; Iansiti & Lakhani, 2020). The integration of these indicators enhances the granularity of evaluations, enabling a more nuanced understanding of target firms. This is consistent with findings on organizational culture typologies, which indicate that cultural consistency correlates with better business performance, particularly during integration phases (Mečev & Grubišić,

2020). Including cultural indicators therefore becomes critical for predicting post-merger outcomes.

The use of AHP to determine the relative importance of the indicator categories adds methodological rigor to the framework. As demonstrated by Ho (2008) and Kabir and Sumi (2021), AHP's ability to incorporate both quantitative and qualitative inputs makes it an ideal tool for complex decision-making scenarios, such as M&A. The results of this study further validate AHP's applicability in prioritizing diverse organizational dimensions. Further, the structured decision-making approach supports the development of replicable and adaptable models that can be used across industries and geographies, contributing to the standardization of non-financial performance assessment in economic practice.

This study overall contributes to the broader field of institutional economics by illustrating how publicly available indicators reflect institutional quality, organizational governance, and stakeholder alignment. These dimensions are increasingly recognized as critical determinants of long-term economic performance and resilience.

5.2. Practical Implications

For practitioners, the proposed framework provides a practical roadmap for enhancing the evaluation processes conducted before M&A. The emphasis on Technology and Regulatory Compliance as pivotal categories highlights their role in addressing both operational vulnerabilities and reputational risks. Assessing technology through indicators such as patent activity, research and development expenditures, and cybersecurity readiness is essential for gauging a target company's innovation capacity and its ability to sustain competitive advantage (Ferreira et al., 2022). Evidence from broadband investment studies further indicates that technological infrastructure has multiplicative effects on economic outcomes, reinforcing the strategic importance of technology indicators in due diligence (Mikulić & Barbić, 2025).

Expanding the framework to include Human Resources and Customer Satisfaction indicators ensures that human capital and relational dynamics receive appropriate attention. The workforce stability, employee satisfaction, and leadership continuity of the target firm reflect its internal consistency and cultural resilience, closely linked to post-merger integration success. These considerations are especially relevant given that misaligned organizational cultures frequently lead to integration challenges, ultimately undermining M&A (David, 2024).

Customer satisfaction metrics also play a fundamental role in the evaluation process, providing an external perspective on organizational health. Metrics such as churn rates, customer retention levels, and brand loyalty scores offer critical insights into the sustainability of the target firm's market position, particularly in consumer-driven sectors (Nurhaliza et al., 2024). By addressing

these often-overlooked factors, the proposed framework offers another approach to M&A evaluation, integrating quantitative performance measures with qualitative relational and cultural alignment assessments.

In addition, this approach aligns with the increasing importance of ESG considerations in M&A practices. By incorporating ESG-related metrics, practitioners can align pre-merger evaluations with contemporary business imperatives, ensuring that the assessment framework remains relevant in a rapidly evolving economic and regulatory environment (Barros et al., 2022).

5.3. Limitations and Future Research

While the study provides a framework, certain limitations must be acknowledged. First, relying on publicly available data may exclude critical internal metrics, such as confidential operational insights or proprietary financial information. Future research could explore methodologies for integrating publicly accessible and internal data sources to create a more holistic evaluation framework.

Second, the AHP results are contingent on expert judgments, which, while rigorous, introduce an element of subjectivity. It is also necessary to acknowledge that the AHP results in this study were derived from a panel of only three experts. While their diverse professional backgrounds provided valuable insights, the limited number of participants may influence the generalizability of the obtained weights. Besides, certain indicators might be over-valued or under-valued due to a specific expertise or the interests of the experts. Expanding the pool of experts and conducting cross-industry comparisons could enhance the reliability and the mentioned generalizability of the weights assigned to indicator categories. Additionally, empirical validation of the proposed framework in real-world M&A transactions would provide further insights of its practical applicability and reveal how the categories of indicators and their weights may need to be adapted for different industries and transaction contexts. An exemplary method of validation of the framework is longitudinal analysis of M&A cases, which evaluates the framework's applicability over a certain period of time and across varying market conditions. Another exemplary method is cross-sectional validation, where the framework is applied to a diverse set of M&A cases from different industries and geographies at a single point in time.

While the framework is designed to be universally applicable, it is customizable to specific industries. This would involve selecting and prioritizing indicators that are most relevant to the sector through increasing and decreasing weights of the indicators. Such customization would enhance the effectiveness of the framework and is a subject of the author's future research.

Future research could also explore the integration of behavioural economics into the framework, examining how cognitive biases and decision heuristics influence the interpretation of non-financial indicators during due diligence. This would further enrich the interdisciplinary nature of the framework.

6. CONCLUSION

This study presents a structured framework of supplementary public indicators to enhance the pre-M&A due diligence process, addressing gaps in traditional evaluation methods. By categorizing indicators into six domains and employing the AHP method to prioritize them, the research provides both theoretical and practical contributions to the field of M&A. As described in the Introduction, this study focused on indicators that are supplementary to financial and ESG indicators; thus, financial and ESG indicators were excluded from this research.

The findings underscore the importance of Market Positioning and Customer Satisfaction as primary focus areas, reflecting their impact on operations. Human Resources, Technology, Regulatory Compliance, and Organizational Culture further complement these dimensions, offering a view of organizational health and strategic alignment.

Despite its limitations, the framework provides a scalable and adaptable tool for M&A practitioners, particularly in leveraging publicly accessible data to inform decision-making. Future research should focus on empirical validation and internal data integration to enhance the framework's applicability and predictive accuracy.

As M&A transactions continue to grow in complexity, the adoption of comprehensive evaluation frameworks such as the one proposed in this study is essential for improving success rates and achieving strategic objectives. By incorporating supplementary public indicators into the process of pre-M&A due diligence, the proposed framework offers a comprehensive evaluation of target companies beyond traditional financial and ESG indicators. Such a broad perspective supports identification of hidden risks related to technology, human resources, customer satisfaction, regulatory compliance, market positioning, and organizational culture, which are factors that are often overlooked but can significantly impact integration of the companies and long-term success. As a result, this framework helps to directly reduce the risk of M&A failure by equipping decision-makers with data-driven insights that support more informed strategic decisions.

Author Contributions: The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Funding: The research presented in the manuscript did not receive any external funding.

Conflict of interest: None.

Acknowledgement of AI or AI-assisted tools use: During the preparation of this paper, the author used Grammarly in order to support the correction of English grammar. After using the tool/service, the author reviewed and edited the content as needed and take full responsibility for the content of the published article.

REFERENCES

Adejumo, A. P., & Ogburie, C. P. (2025). Financial statement manipulation: Ethical and regulatory perspectives. *GSC Advanced Research and Reviews*, *22* (3), 252-264. https://doi.org/10.30574/gscarr.2025.22.3.0087

Ahmad, K., & Zabri, S. M. (2016). The Application of Non-Financial Performance Measurement in Malaysian Manufacturing Firms. *Procedia Economics and Finance*, 35, 476-484. https://doi.org/10.1016/S2212-5671(16)00059-9

Amaka Peace Onebunne (2022). Algorithmic bias and media manipulation: A systematic review of AI's Role in shaping public perception and political discourse. *World Journal of Advanced Research and Reviews*, *16* (3), 1239-1249. https://doi.org/10.30574/wjarr.2022.16.3.1332

Baldwin, J. R., Pingault, J.-B., Schoeler, T., Sallis, H. M., & Munafò, M. R. (2022). Protecting against researcher bias in secondary data analysis: Challenges and potential solutions. *European Journal of Epidemiology*, *37* (1), 1-10. https://doi.org/10.1007/s10654-021-00839-0

Barros, V., Verga Matos, P., Miranda Sarmento, J., & Rino Vieira, P. (2022). M&A activity as a driver for better ESG performance. *Technological Forecasting and Social Change*, 175, 121338. https://doi.org/10.1016/j.techfore.2021.121338

Bazzan, J., Formoso, C. T., & Echeveste, M. (2020). Use of Complaint Records of Maintenance Departments for Continuous Improvement, 1009-1020. https://doi.org/10.24928/2020/0099

Beylin, R. (2025). Technology Due Diligence in Mergers & Acquisitions. *DueDilio*. https://www.duedilio.com/technology-due-diligence-in-mergers-and-acquisitions/

Bhattacharya, A., Morgan, N. A., & Rego, L. L. (2022). Examining Why and When Market Share Drives Firm Profit. *Journal of Marketing*, *86* (4), 73-94. https://doi.org/10.1177/00222429211031922

Brynjolfsson, E., Rock, D., & Syverson, C. (2017). *Artificial Intelligence and the Modern Productivity Paradox: A Clash of Expectations and Statistics*, Working Paper 24001. National Bureau of Economic Research. https://doi.org/10.3386/w24001

Cartwright, S., & Schoenberg, R. (2006). Thirty Years of Mergers and Acquisitions Research: Recent Advances and Future Opportunities. *British Journal of Management*, *17* (S1). https://doi.org/10.1111/j.1467-8551.2006.00475.x

Castilla, E. J., & Rho, H. J. (2023). The Gendering of Job Postings in the Online Recruitment Process. *Management Science*, *69* (11), 6912-6939. https://doi.org/10.1287/mnsc.2023.4674

Cho, S., & Chung, C. Y. (2022). Review of the Literature on Merger Waves. *Journal of Risk and Financial Management*, *15* (10), 432. https://doi.org/10.3390/jrfm15100432

Cloos, J. (2021). Employer Review Platforms – Do the Rating Environment and Platform Design affect the Informativeness of Reviews? Theory, Evidence, and SuggestionsDate submitted: December 29, 2019Date accepted after double-blind review: December 2, 2020. *Management Revue*, *32* (3), 152-181. https://doi.org/10.5771/0935-9915-2021-3-152

Cricelli, L., Grimaldi, M., Rogo, F., & Strazzullo, S. (2021). Patent ranking indicators: A framework for the evaluation of a patent portfolio. *International Journal of Intellectual Property Management*, *11* (2), 185. https://doi.org/10.1504/IJIPM.2021.114619

Damodaran, A. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (3rd ed.). Wiley.

David, Y. (2024). Environmental, Social, and Governance (ESG) Factors in M& A Due Diligence: Legal Obligations, Risk Assessment, and Integration Strategies. https://doi.org/10.2139/ssrn.4862954

Dawes, J. G. (2024). The net promoter score: What should managers know?. *International Journal of Market Research*, *66* (2-3), 182-198. https://doi.org/10.1177/14707853231195003

Dragija Kostić, M., Čičak, J., & Ljubić, M. (2022). Non-Financial Reporting and Elements of Performance – Analysis of State Owned Enterprises in Croatia, Slovenia and Hungary. *Ekonomska misao i praksa*, *31* (2), 397-420. https://doi.org/10.17818/EMIP/2022/2.3

De La Bruslerie, H., & Le Maux, J. (2018). Litigation risk: Measurement and impact on M&A transaction terms. *Journal of Business Finance & Accounting*, *45* (7-8), 952-996. https://doi.org/10.1111/jbfa.12318

Deng, B., Liu, J., & Ji, L. (2020). Corporate awards and executive compensation: Empirical evidence from Chinese A-Share listed companies. *China Journal of Accounting Studies*, *8* (1), 66-96. https://doi.org/10.1080/21697213.2020.1813968

Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The Impact of Corporate Sustainability on Organizational Processes and Performance. *Management Science*, *60* (11), 2835-2857. https://doi.org/10.1287/mnsc.2014.1984

European Commission (2024). Open data. Shaping Europe's Digital Future. https://digital-strategy.ec.europa.eu/en/policies/open-data

Ferreira, A., Franco, M., & Haase, H. (2022). Strategic alliances and development of intellectual capital: A study of technology-based SMEs. *International Journal of Organizational Analysis*, *30* (6), 1644-1671. https://doi.org/10.1108/IJOA-10-2020-2440

García-Nieto, M., Bueno-Rodríguez, V., Ramón-Jerónimo, J. M., & Flórez-López, R. (2024). Trends and Risks in Mergers and Acquisitions: A Review. *Risks*, *12* (9), 143. https://doi.org/10.3390/risks12090143

Herb, W., Lotze, M., Schultze, W., & Sandner, P. (2024). Real effects of capitalized research and development expenditures: A leading indicator for future innovation performance?. *Review of Quantitative Finance and Accounting*. https://doi.org/10.1007/s11156-024-01310-3

Ho, W. (2008). Integrated analytic hierarchy process and its applications – A literature review. *European Journal of Operational Research*, *186* (1), 211-228. https://doi.org/10.1016/j.ejor.2007.01.004

Hossain, M. S. (2021). Merger & Acquisitions (M&As) as an important strategic vehicle in business: Thematic areas, research avenues & possible suggestions. *Journal of Economics and Business*, 116, 106004. https://doi.org/10.1016/j.jeconbus.2021.106004

Iansiti, M., & Lakhani, K. R. (2020). Competing in the age of AI: Strategy and leadership when algorithms and networks run the world. *Industries Journal*, *33* (15-16), 1473-1494. https://doi.org/10.1080/02642069.2011.634905

Jansen, D. (2024). Maximizing Innovation: Analyzing The Influence of Technology Partnership Portfolios on Firm Performance. *The American Journal of Management and Economics Innovations*, *6* (5), 8-13. https://doi.org/10.37547/tajmei/Volume06Issue05-02

Kooli, C., & Lock Son, M. (2021). Impact of COVID-19 on Mergers, Acquisitions & Corporate Restructurings. *Businesses*, *1* (2), 102-114. https://doi.org/10.3390/businesses1020008

Krug, C. A. (2020). A selective analysis of board and superintendent co-governance pillars in Kansas. https://www.proquest.com/docview/2489224773?pq-origsite=gscholar&fromopenview=true&sourcetype=Dissertations%20&%20Theses

Lee, H.-S., Degtereva, E. A., & Zobov, A. M. (2021). The Impact of the COVID-19 Pandemic on Cross-Border M&A Determinants: New Empirical Evidence from Quasi-Poisson and Negative Binomial Models. *Economies*, *9* (4), 184. https://doi.org/10.3390/economies9040184

Lee, W.-S. (2013). Merger and acquisition evaluation and decision making model. *The Service Industries Journal*, *33* (15-16), 1473-1494. https://doi.org/10.1080/02642069.2011.634905

Li, Q., Lourie, B., Nekrasov, A., & Shevlin, T. (2022). Employee Turnover and Firm Performance: Large-Sample Archival Evidence. *Management Science*, *68* (8), 5667-5683. https://doi.org/10.1287/mnsc.2021.4199

Mečev, D., & Grubišić, D. (2020*). Organizational Culture and Company Performance: A Competing Values Perspective in the Context of the Croatian ICT Sector. Ekonomska misao i praksa*, *29* (2), 327-346. https://doi.org/10.17818/EMIP/2020/2.1

Meland, P., Tokas, S., Erdogan, G., Bernsmed, K., & Omerovic, A. (2021). A Systematic Mapping Study on Cyber Security Indicator Data. *Electronics*, *10* (9), 1092. https://doi.org/10.3390/electronics10091092

Mia, M. A., Ahmad, N. H., & Halim, H. A. (2022). The impact of employee turnover on the financial performance of microfinance institutions: A global evidence. *Business and Society Review*, *127* (4), 863-889. https://doi.org/10.1111/basr.12291

Mikulić, D., & Barbić, T. (2025). Different Countries, Different Outcomes: Multiplicative Effects of Broadband Investments in Western Balkan Countries. *Ekonomska misao i praksa*, *34* (1), 43-63. https://doi.org/10.17818/EMIP/2025/3

Mortkovitch, N. (2024). *Assessing the Impact of ESG Scores on M&A Performance: A Theoretical and Empirical Examination* (Doctoral Dissertation, Saint Mary's College of California). https://digitalcommons.stmarys-ca.edu/cgi/viewcontent.cgi?article=1002&context=executive-dba

Munier, N., & Hontoria, E. (2021). *Uses and Limitations of the AHP Method: A Non-Mathematical and Rational Analysis*. Springer International Publishing. https://doi.org/10.1007/978-3-030-60392-2

Nian, H., & Said, F. F. (2025). The Impact of ESG on Firm Risk and Financial Performance: A Systematic Literature Review. *Journal of Scientometric Research*, *13* (3s), s144-s155. https://doi.org/10.5530/jscires.20041187

Nurhaliza, N., Yusup, M., & Sanurdi, S. (2024). The Influence of Online Customer Reviews and Online Customer Ratings on Purchase Decisions with Trust as the Intervening Variable. *MANAZHIM*, *6* (2), 425-450. https://doi.org/10.36088/manazhim.v6i2.4707

Rivaldo, Y., & Nabella, S. D. (2023). Employee Performance: Education, Training, Experience and Work Discipline. *Quality – Access to Success*, *24* (193). https://doi.org/10.47750/QAS/24.193.20

Saaty, T. L. (2008). Decision making with the analytic hierarchy process. *International Journal of Services Sciences*, *1* (1), 83. https://doi.org/10.1504/IJSSCI.2008.017590

Saaty, T. L. (1980). *The analytic hierarchy process: Planning, priority setting, resource allocation*. McGraw-Hill International Book Co., New York , London. http://archive.org/details/analytichierarch0000saat

Saaty, T. L., & Vargas, L. G. (2012). *Models, Methods, Concepts & Applications of the Analytic Hierarchy Process* (Vol. 175). Springer US. https://doi.org/10.1007/978-1-4614-3597-6

Saha, A., Sreekumar, & Satpathy, B. (2024). Evaluating Post-Merger and Acquisitions Financial Performance in Selected Indian Sector: A Topsis Study. *International Development Planning Review*, *2*. https://www.researchgate.net/profile/Ananya-Saha-7/publication/383156580_EVALUATING_POST-MERGER_AND_ACQUISITIONS_FINANCIAL_PERFORMANCE_IN_SELECTED_INDIAN_SECTOR_A_TOPSIS_STUDY/links/66bf174c311cbb09493d6b90

Sobirovich, T. B. (2021). New Uzbekistan: Socio-Philosophical Analysis of the Strategy of Human Indicators. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3949264

Thietart, R. (2016). Strategy dynamics: Agency, path dependency, and self-organized emergence. *Strategic Management Journal*, *37* (4), 774-792. https://doi.org/10.1002/smj.2368

Wang, Z., Hu, Z., Li, F., Ho, S.-B., & Cambria, E. (2023). Learning-Based Stock Trending Prediction by Incorporating Technical Indicators and Social Media Sentiment. *Cognitive Computation*, *15* (3), 1092-1102. https://doi.org/10.1007/s12559-023-10125-8

Weber, Y., & Tarba, S. Y. (2014). Strategic Agility: A State of the Art Introduction to the Special Section on Strategic Agility. *California Management Review*, *56* (3), 5-12. https://doi.org/10.1525/cmr.2014.56.3.5

Wright, R. (2022). Scope, Value Chain and Location-Specific Determinants of the Mnc Subsidiary's Geographic Reach. *Journal of Management & World Business*, *15* (1), 1. https://openurl.ebsco.com/contentitem/gcd:160640775?sid=ebsco:plink:crawler&id=ebsco:gcd:160640775

Adela Zborilova, mag. ing.
Češko sveučilište za biotehničke i društvene znanosti u Pragu
Odjel za menadžment
E-mail: Sramkovaad@pef.czu.cz
Orcid: https://orcid.org/0009-0002-7595-6747

DODATNI JAVNI POKAZATELJI ZA UČINKOVITU DUBINSKU ANALIZU PRIJE SPAJANJA I PREUZIMANJA

Sažetak

Spajanja i preuzimanja (M&A) često ne uspijevaju zbog nedostatne dubinske analize koja daje prednost financijskim te okolišnim, društvenim i upravljačkim (ESG) pokazateljima, dok pritom zanemaruje nefinancijske dimenzije. Ovo istraživanje prikazuje predloženi okvir dodatnih javno dostupnih pokazatelja, svrstanih u šest kategorija: Tehnologija, Ljudski resursi, Zadovoljstvo kupaca, Usklađenost s propisima, Pozicioniranje na tržištu i Organizacijska kultura. Korištenjem Analitičkim hijerarhijskim procesom (AHP), uz doprinos stručnjaka, istraživanje identificira Pozicioniranje na tržištu i Zadovoljstvo kupaca kao najvažnije kategorije, što odražava njihovu važnost u ublažavanju rizika i osiguravanju operativne otpornosti. U istraživanju se predlaže pristup za poboljšanje evaluacija spajanja i preuzimanja korištenjem javno dostupnim podacima, čime se rješavaju nedostaci u tradicionalnim metodama. Iako se oslanja na javne podatke i stručne procjene, ovaj okvir pruža uvide za praktičare, a potrebna su buduća istraživanja kako bi se potvrdila njegova primjena u svim industrijama. Čitatelji bi također trebali biti svjesni ograničenja ovog istraživanja, a to je da su težine pokazatelja određene na temelju profesionalne procjene triju stručnjaka, što može unijeti određenu razinu subjektivnosti.

Ključne riječi: spajanja i preuzimanja, dubinska analiza, AHP, javni pokazatelji, tehnologija, ljudski resursi, zadovoljstvo kupaca, usklađenost s propisima, pozicioniranje na tržištu, organizacijska kultura.

JEL klasifikacija: G34, G32, M21, C44.