



Integrated Reporting and Corporate Governance in the Digital Economy: Evidence from the Romanian Entrepreneurial Ecosystem

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Abstract: This paper aims to investigate how entrepreneurial ecosystems and innovation capabilities influence the adoption of integrated reporting and modern corporate governance practices among Romanian SMEs in the context of the digital economy. The study responds to an existing gap in understanding these dynamics in emerging economies. The research builds on existing models of entrepreneurial ecosystems, corporate governance and innovation in SMEs, extending them with empirical evidence from the Romanian entrepreneurial environment. A quantitative approach was used, based on a structured questionnaire addressed to Romanian SME managers, with the data analysed using structural equation modelling to analyse the relationships between ecosystem attributes, innovation levels, and financial performance. The results highlight that access to finance, entrepreneurial education and digital infrastructure significantly influence SMEs' tendency to adopt integrated reporting. Innovation mediates the relationship between entrepreneurial ecosystems and financial performance, highlighting the importance of digital transformation. The conclusions provide practical directions for policymakers, SME managers and researchers, emphasising the need to strengthen entrepreneurial support mechanisms to promote transparency and organisational sustainability. The study makes an original contribution by highlighting the interdependencies between entrepreneurial ecosystems, innovation and integrated reporting practices, consolidating the specialised literature and offering practical applicability in emerging economies.

Keywords: entrepreneurial ecosystem; innovation; integrated reporting; corporate governance

JEL Classification: M14; G34; L26; O33

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1. Introduction

The transformations brought about by the digital economy are changing stakeholders' expectations of companies, especially in terms of how they communicate performance and manage governance responsibilities (Nasiri, Saunila & Ukko, 2022; Li, Fu & Liu, 2024). The pressure on organisations to integrate financial information with sustainability, strategy, and risk in a coherent, accessible, and relevant framework is growing. These developments are reflected in the emergence of integrated reporting, in response to the limitations of traditional accounting paradigms. In parallel, corporate governance has moved from a formal and compliance-focused approach to a logic based on strategy, ethics and digital inclusion. Despite the accelerated pace of technological change, SMEs – especially those in Central and Eastern Europe – show important differences in the pace of adoption of these practices. In Romania, the context is characterised by a growing entrepreneurial dynamic, as well as institutional, educational, and financial constraints. Although large companies are the first to adopt sophisticated governance and reporting mechanisms, SMEs are the segment most affected by the imbalances between regulatory requirements and the capacity for effective implementation.

Over the past decade, the specialised literature has comprehensively documented the benefits of integrated reporting on information quality and the ability to attract investments (Oncioiu et al., 2020; Jejenywa, Mhlongo & Jejenywa, 2024). Similarly, corporate governance is recognised as a determinant of trust and sustainable performance. Therefore, contributions that simultaneously analyse integrated reporting and corporate governance in the SME environment are limited, especially in the context of the digital economy (Cokins et al., 2020). Applied research that explores how the local entrepreneurial ecosystem – as a space of resources, infrastructures and norms – influences a firm's ability to adopt these practices is lacking.

This research aims to analyse how entrepreneurial ecosystems influence the degree of digital innovation and, implicitly, the adoption of integrated reporting and corporate governance among small and medium-sized enterprises in Romania. In an economic environment subject to accelerated digitalisation, understanding these relationships becomes a priority for both academic and business practitioners.

The first objective is to investigate the direct impact of entrepreneurial ecosystem characteristics on innovation at the SME level. The research explores to what extent access to resources, entrepreneurial education, digital infrastructure and institutional support contribute to the intensification of innovative processes within firms. Another important objective is to assess the relationship between the degree of digital innovation and the adoption of integrated reporting, given that innovative organisations are generally more likely to integrate advanced forms of transparency and accountability.

The study also aims to determine whether the entrepreneurial ecosystem exerts a direct influence on corporate governance practices, independent of the level of innovation, and to identify the elements that can enhance or inhibit this relationship. Finally, the research aims to develop a conceptual model that describes how Romanian SMEs can use the opportunities offered by digitalisation to integrate reporting and governance practices into their sustainable development strategies.

To answer the formulated objectives, the research addresses the following questions:

- How do the characteristics of the entrepreneurial ecosystem influence the level of digital innovation in Romanian SMEs?
- To what extent does the degree of digital innovation determine the adoption of integrated reporting by SMEs?
- Is there a direct relationship between the entrepreneurial ecosystem and the quality of corporate governance in small and medium-sized companies?
- What are the factors that facilitate or limit the implementation of modern reporting and governance practices in the digital economy?
- How can an integrated model of adapting Romanian SMEs to the requirements of reporting and governance in the digital era be conceptualized?

The present research addresses this gap through a quantitative investigation based on the application of a standardized questionnaire to a sample of 200 Romanian SMEs, based on the application of a standardized questionnaire to a sample of Romanian SMEs. The measurement instruments were calibrated using scales validated in the international literature, and the data analysis was performed using structural equation modeling (SEM), an appropriate method for testing the complex relationships between ecosystem, innovation and organizational performance. The course of the research involved both exploring the direct effects of the ecosystem on integrated reporting and governance, and examining the mediating role of digital innovation.

The results obtained highlight the fact that access to finance, entrepreneurial education and digital infrastructure contribute significantly to the level of innovation of SMEs, which, in turn, facilitates the adoption of advanced reporting and governance practices. The study also confirms the existence of direct effects of the entrepreneurial ecosystem on organizational transparency, independent of the mediation of innovation. This perspective provides an expanded conceptual framework on how SMEs in emerging economies can use digital ecosystems to strengthen their competitive position, thus promoting more transparent governance and integrated reporting adapted to the new requirements of the digital economy.

2. Literature Review and Hypothesis Development

Over the past two decades, integrated reporting and corporate governance have gained ground in response to the increasingly complex demands of stakeholders in an increasingly digitalised global economy (Odonkor et al., 2024; Antwi, Adhlakun & Eziefule, 2024). Traditional financial reporting models no longer meet expectations regarding transparency, sustainability, and integration of non-financial risks. Thus, companies are forced to adopt new practices in which financial and non-financial information is presented in a coherent and strategic manner.

Contemporary corporate governance goes beyond the classic monitoring and control functions, integrating aspects such as ethics, social responsibility, and digital resilience. In the digital economy, boards of directors must manage new types of risks, including cybersecurity, data protection, and technological volatility. Therefore, the relationship between corporate governance and integrated reporting is becoming increasingly close, both functioning as complementary tools for building trust and long-term value (Oprean-Stan et al., 2020).

In Romania, the entrepreneurial ecosystem has experienced accelerated development, supported by digitalisation and access to global markets. However, the adoption of integrated reporting and modern corporate governance by SMEs remains uneven. The local context, characterised by infrastructure challenges, limited capital access, and institutional fragmentation, influences the way companies build their transparency and corporate responsibility policies. This study proposes an integrated analysis of these dynamics, contributing to the understanding of the adaptation processes of Romanian SMEs in an emerging digital ecosystem.

Integrated reporting has its origins in the need to provide a holistic view of organisational performance, combining financial data with information on human, intellectual, social and natural capital (Antwi, Adhlakun & Eziefule, 2024). In the digital economy, this practice becomes not only relevant but indispensable. Digital platforms allow for the aggregation and analysis of data in a way that was previously not possible, giving companies the opportunity to provide more coherent and interactive reporting (Cokins et al., 2020; Cheng, Li & Zhao, 2024). At the same time, the integration of reporting is considered a vector of competitiveness, allowing companies to demonstrate accountability and transparency in an increasingly volatile and interconnected economic environment.

Thus, corporate governance has evolved from a set of minimal financial rules to a strategic approach to organisation management (Nasiri, Saunila & Ukko, 2022). Currently, governance models must respond to extensive requirements regarding sustainability, ethics and data protection. The digital economy has accentuated these pressures, forcing boards of directors to adapt quickly to new technological realities.

The governance standards applicable in Romania have been adopted predominantly

by listed companies, while SMEs are still undergoing a process of institutional maturation. Recent legislative initiatives and international recommendations seek to promote good practices in the unlisted private sector as well. Thus, effective governance, combined with integrated reporting, offers companies the opportunity to build trusting relationships with investors, employees and the community, increasing their resilience in a global competitive environment.

Entrepreneurial ecosystems represent complex infrastructures of resources, institutions, and support networks that shape the dynamics of business initiatives. The quality of these ecosystems directly influences the ability of firms to adopt advanced governance and reporting practices (Trabskaia et al., 2023; Fayolle & Gailly, 2015). In Romania, entrepreneurial ecosystems vary significantly by region, reflecting disparities in access to education, financing, and technological infrastructure. Areas with more mature ecosystems, such as Cluj-Napoca or Bucharest, have favoured the emergence of SMEs better prepared for integrated reporting and modern governance.

Although external pressures stimulate interest in integrated reporting, SMEs in Romania face multiple obstacles. The lack of financial resources and technical expertise, as well as the complexity of reporting requirements, limits large-scale implementation. In addition, the traditional organisational culture, predominantly focused on minimal compliance, represents an additional barrier to adopting an integrated perspective on corporate performance.

The digital economy is redefining the relationship between companies and their stakeholders, placing an increased emphasis on data protection, sustainability and digital inclusion. Companies must demonstrate not only economic performance but also the ability to create social value and protect the digital environment. For Romanian SMEs, integrating these dimensions into corporate reporting and governance becomes a strategic imperative for survival and growth in the globalised economy.

Figure 1 illustrates the conceptual framework proposed in this study. It includes three key variables: Entrepreneurial Ecosystem (EE), Digital Innovation (DI), and Integrated Reporting & Governance (IRG). The arrows in the diagram indicate the direct relationships hypothesized as H_1 – H_3 . Although not visually represented, H_4 addresses the indirect effect of EE on IRG through the mediating role of DI, a key aspect tested in the structural model.

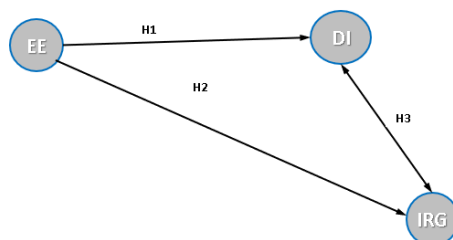


Figure 1. Conceptual Model with Hypotheses H1–H3

Note: H₄ represents the indirect (mediated) relationship between EE and IRG via DI.

Based on the theoretical framework and formulated objectives, the research advances the following hypotheses to test the relationships between the entrepreneurial ecosystem, digital innovation capacity and the level of implementation of integrated reporting and corporate governance within Romanian SMEs:

H₁: The entrepreneurial ecosystem positively influences the level of innovation of SMEs in Romania.

H₂: The entrepreneurial ecosystem positively influences the degree of adoption of integrated reporting and corporate governance.

H₃: The level of digital innovation has a positive effect on the adoption of integrated reporting and corporate governance.

H₄: Innovation mediates the relationship between the entrepreneurial ecosystem and the level of implementation of integrated reporting and corporate governance.

3. Research Methodology

This research aims to explore the relationship between the entrepreneurial ecosystem, digital innovation and the level of adoption of integrated reporting and corporate governance among Romanian SMEs. To achieve these objectives, a quantitative methodological strategy was adopted, based exclusively on a structured questionnaire, with the aim of capturing the complexity of organisational processes in the context of the emerging digital economy.

The target population is made up of small and medium-sized enterprises active in areas such as services (40% of the sample), manufacturing (30%), IT&C (20%), and trade (10%) that were selected from officially registered organisations in Romania. This distribution reflects the real structure of SMEs at the national level, thus ensuring the external relevance of the results obtained. The selection of analysis units was carried out using the stratified random sampling method in order to guarantee a

proportional and balanced representation of the main economic sectors.

The sample size was set at 200 firms, reflecting both the methodological requirements of structural equation modelling (SEM) and the need to obtain adequate accuracy of the results. This size was determined in accordance with the recommendations in the specialised literature, according to which a ratio of at least 5-10 respondents for each item in the measurement instrument is optimal for obtaining robust estimates. Given the complexity of the tested model and the number of latent variables involved, a sample of 200 respondents allows for both confirmatory factor analysis and modelling of structural relationships while maintaining an acceptable level of sampling error. The choice of this size is also aligned with good practices in recent research on European SMEs, where data access restrictions and structural heterogeneity justify samples of similar sizes.

The descriptive characterisation of the sample shows that approximately 15% of the firms are newly established (less than 3 years old), 45% are organisations with an age of between 3 and 10 years, and 40% have been operating for over a decade. In terms of the number of employees, 52% of the firms have between 10 and 49 employees, 38% between 50 and 149 employees, and 10% exceed the threshold of 150 employees. In terms of annual turnover, 60% of the companies have revenues below 2 million euros, 30% have revenues between 2 and 10 million euros, and 10% have revenues that exceed 10 million euros. This distribution ensures an adequate functional and structural diversity for the analysis of the proposed relationships.

Primary data were collected through a structured questionnaire, addressed to SME managers and founders. The research instrument was built using items adapted from international literature, each measured on a 5-point Likert scale, from “totally disagree” to “totally agree”. To validate the instrument and adjust the wording, a pilot test was conducted on a small sample of 30 respondents, and the feedback obtained was used to improve the clarity and relevance of the questions.

The research model included the following operationalised variables: entrepreneurial ecosystem (assessed through perceptions regarding access to financing, quality of entrepreneurial education, availability of digital infrastructure and institutional support); digital innovation (measured by the degree of use of new technologies, development of innovative products or services and transformation of internal processes); integrated reporting and corporate governance (analysed by the degree of integration of non-financial information in official reporting, transparency of the decision-making process and the functional structure of the boards of directors).

Quantitative data analysis was performed using SPSS (version 27) for descriptive analysis and preliminary tests and AMOS (version 26) for validation of the measurement model and estimation of structural relationships. The characteristics of the sample were described by descriptive statistics, the validity of the constructs was

assessed by confirmatory factor analysis (CFA), and testing of the hypothetical relationships was performed within the structural model by applying the structural equation modelling (SEM) technique.

The research complied with the ethical norms applicable to social and economic studies. Participation in the study was voluntary, and all respondents were informed about the purpose of the research. Informed consent was obtained before completing the questionnaire, and confidentiality and anonymity of the data were guaranteed throughout the research process.

4. Results

To ensure the robustness of the measurement model used in the research, construct reliability, convergent validity and discriminant validity were assessed. The internal reliability of the constructs was assessed by the composite reliability coefficient (CR), and the convergent validity was estimated by the average variance extracted (AVE). The results presented in Table 1 indicate that all CR values exceed the threshold of 0.70, and the AVE values are superior to the threshold of 0.50, which confirms the adequate internal consistency and convergence of the indicators used.

Table 1. Construct Validity and Reliability

Construct	Composite Reliability (CR)	Average Variance Extracted (AVE)
Entrepreneurial Ecosystem	0.88	0.65
Digital Innovation	0.91	0.72
Reporting and Governance	0.87	0.62

Discriminant validity was tested by applying the Fornell–Larcker criterion. According to this, the square root of the AVE for each construct must be greater than its correlations with the other constructs in the model. Table 2 demonstrates that this condition is met for all the constructs analyzed.

Table 2. Fornell–Larcker Criteria of the Reflective Constructs

Construct	Entrepreneurial Ecosystem	Digital Innovation	Reporting and Governance
Entrepreneurial Ecosystem	0.81	0.62	0.59
Digital Innovation	0.61	0.85	0.67
Reporting and Governance	0.57	0.68	0.79

In addition to the discriminant validity analysis, the Heterotrait–Monotrait (HTMT) ratio was calculated. Table 3 shows that all HTMT values are below the threshold of 0.85, confirming adequate separation between constructs and thus strengthening the robustness of the model.

Table 3. Heterotrait–Monotrait Ratio (HTMT)

Construct	Entrepreneurial Ecosystem	Digital Innovation	Reporting and Governance
Entrepreneurial Ecosystem			
Digital Innovation	0.71		
Reporting and Governance	0.65	0.73	

The modelling of relationships between variables was carried out using the structural equation modelling (SEM) technique. The results obtained indicate a satisfactory fit of the proposed model to the empirical data, according to the following adjustment indicators: CFI = 0.945, TLI = 0.931 and RMSEA = 0.046. The validation of the measurement model provided the necessary premises for a more profound analysis of the proposed theoretical relationships.

At this stage, attention was directed towards testing the formulated hypotheses, aiming to evaluate the structural connections between the entrepreneurial ecosystem, digital innovation and the adoption of integrated reporting and corporate governance within small and medium-sized enterprises.

Testing the hypotheses formulated within the research model indicated the existence of relevant relationships between the analysed variables. The entrepreneurial ecosystem exerts a positive influence on the level of digital innovation in small and medium-sized enterprises, a relationship supported by the statistical results ($\beta = 0.62$, $p < 0.001$). This association suggests that a business environment characterised by adequate resources, infrastructure and institutional support facilitates innovation processes at the organisational level.

On top of that, the entrepreneurial ecosystem has a direct effect on the adoption of integrated reporting and corporate governance ($\beta = 0.37$, $p < 0.01$). This result indicates that firms exposed to a favourable entrepreneurial environment show a greater willingness to implement extensive transparency practices and more adaptable organisational structures.

On the other hand, digital innovation has a significant influence on the adoption of integrated reporting and corporate governance ($\beta = 0.51$, $p < 0.001$). SMEs that develop technological capabilities and innovate at the product or process level demonstrate better integration of financial and non-financial information within reporting systems.

The mediation effect analysis highlighted that digital innovation mediates the relationship between the entrepreneurial ecosystem and reporting and governance practices ($\beta = 0.32, p < 0.001$). Thus, the indirect relationship shows that the impact of the entrepreneurial environment on organisational processes is strengthened by stimulating internal innovation capacity.

5. Conclusion

The adoption of integrated reporting and modern corporate governance in SMEs cannot be understood without analysing their entrepreneurial context and internal innovation processes. The present research brings an applied perspective on these phenomena in Romania, highlighting how the ecosystem dynamics and innovation capacity are reflected in organisational decisions regarding transparency and corporate responsibility. In an economy marked by accelerated digital transformations, the development of sustainable governance and reporting strategies is no longer an option but a necessary condition for strengthening long-term competitiveness.

The positive link identified between the characteristics of the entrepreneurial environment and the level of digital innovation supports previous conclusions from the specialised literature, according to which external resources, technological infrastructure and institutional support influence the internal transformation initiatives of organisations (Autio et al., 2014; Stam, 2015). In the case of the analysed firms, the data suggest that a better-developed entrepreneurial ecosystem facilitates the integration of new technologies and the development of innovative products and services.

The analysis further highlighted that the entrepreneurial ecosystem directly influences the adoption of integrated reporting and corporate governance. This relationship indicates that a favourable business environment stimulates not only innovation processes but also the assumption of more transparent and accountable organisational standards, an aspect also confirmed by the observations of Eccles and Krzus (2018).

The importance of digital innovation in explaining organisational behaviour becomes even clearer through its effect on the adoption of integrated reporting. The data show that firms that demonstrate a constant concern for the modernisation of internal processes and the integration of emerging technologies are better positioned to implement coherent reporting practices adapted to the current requirements of stakeholders. These results are consistent with recent perspectives on digitalisation and advanced corporate reporting (Audretsch & Belitski, 2017).

From a practical perspective, the results indicate that public policies aimed at supporting SMEs should combine measures to develop entrepreneurial ecosystems with strategies to stimulate internal innovation. Interventions such as supporting investments in technology, developing digital skills and facilitating access to innovation networks can contribute to accelerating the process of adapting firms to the new demands of the digital economy.

Last but not least, the results suggest that firms that treat innovation as an integral part of their development strategy are more likely to adopt integrated reporting models, capable of reflecting not only economic performance but also the social and environmental impact of the activities carried out. Managers are encouraged to invest in training their teams, in developing digital skills and in building organisational structures that support continuous adaptation to the dynamics of the business environment.

As with any empirical approach, this research presents certain limitations that must be taken into account when interpreting the results. The first limitation is related to the cross-sectional nature of the study, which captures the relationships analysed at a specific point in time without being able to catch dynamic developments or subsequent contextual changes. A longitudinal approach could bring a deeper understanding of how entrepreneurial ecosystems and digital innovation influence reporting and governance practices in the long term.

Another limitation lies in the use of self-reported data, which may introduce a certain degree of subjectivity in the assessment of the analysed constructs. Although steps were taken to minimise this effect by validating the instruments and controlling the quality of the data, the influence of individual perceptions on the results cannot be completely excluded.

Regarding future research directions, expanding the study to a larger sample, including firms from other geographical regions or from other emerging economies, would allow for a broader comparison and further validation of the identified relationships. Also, the integration of objective data on financial performance and organisational sustainability could strengthen the analysis and provide a complementary perspective on reporting and governance processes in the digital age.

Exploring additional variables, such as organisational culture or the digital skills of management teams, could add depth to the proposed model and contribute to a more complete understanding of the mechanisms through which SMEs manage to integrate responsibility and innovation into their development strategies.

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