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Project Management Strategies for Rising Resilience of the Romanian Organisations by Using the Complex Process of Digitalisation and AI Work Assistance

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Abstract

In the context of intensifying environmental, economic, and geopolitical instability, the imperative for Romanian organisations to develop resilient structures capable of absorbing, responding to, and recovering from crises has become increasingly pronounced. This article provides a critical analysis of project management strategies designed to foster organisational resilience through the systematic incorporation of digitalisation processes and artificial intelligence (AI)-supported work systems. A bibliometric analysis was also conducted using scientific articles indexed with DOI from the Web of Science database, selected for the period 1996-2025, and processed with the VOSviewer software. Centred on the Romanian case, the study investigates the structural and systemic factors underpinning Romania's persistent underperformance in European digitalisation indices. Moreover, it assesses the extent to which the implementation of tailored project management frameworks can contribute to advancing national digital transformation agendas and reinforcing cross-sectoral resilience capacities. The findings offer practical insights for project managers and business leaders seeking effective pathways to navigate the digital transition and support sustainable change across sectors.

Keywords: project management, resilience, digitalisation, artificial intelligence (AI), VOSviewer.

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1. Introduction

The Romanian business landscape is increasingly shaped by economic volatility, political transitions, and climate-related risks (World Bank, 2022). Strengthening organisational resilience has thus become a critical policy objective, aligned with Romania's broader goal of enhancing economic competitiveness within the European Union. Despite notable improvements, Romania remains behind many EU peers in the adoption of digital technologies, indicating a pressing need for targeted policy interventions to accelerate digital transformation and the integration of artificial intelligence solutions (European Commission, 2023; OECD, 2022). This paper analyses the structural factors contributing to this digital gap and outlines strategic project management measures to support policymaking and bolster national and cross-border resilience.

At its core, this research set out to answer the question: "What role can project management frameworks that integrate digitalisation and AI play in strengthening organisational resilience in Romania amid environmental, economic, and geopolitical challenges?" The research hypothesis is: "Integrating digitalisation and AI into project management frameworks significantly strengthens Romanian organisations' ability to foresee, withstand, and bounce back from environmental, economic, and geopolitical disruptions."

2. Literature Review

2.1 Organisational Resilience: Definitions and Dimensions

The syntagm organisational resilience emerged as a vital concept in contemporary management and policy discourse, reflecting the necessity for organisations to withstand, recover from, and adapt to increasingly frequent and complex disruptions. Originally framed as the capacity to "bounce back" after adverse events, more recent perspectives have reconceptualised resilience as a proactive, dynamic capability that encompasses anticipation of threats, shock absorption, effective recovery, and continuous adaptation to evolving circumstances (Duchek, 2020).

The International Organisation for Standardisation (ISO, 22316, 2017) defines organisational resilience as "the ability of an organisation to absorb and adapt in a changing environment to enable it to deliver its objectives and to survive and prosper." This definition emphasises not only survival during crises but also the strategic pursuit of long-term sustainability amid volatility. Similarly, the World Economic Forum (2020) underscores resilience as a competitive advantage, advocating for its integration into organisational strategies to enhance responsiveness to systemic shocks.

In parallel, scholars such as Burnard and Bhamra (2011) argue that organisational resilience should be conceptualised as an ongoing process of adaptive learning and transformation, rather than a static state. Boin and van

Eeten (2013) further stress the importance of proactive anticipation and decentralised decision-making as critical enablers of resilient responses. This evolution of the resilience concept necessitates a broader, systemic understanding that integrates strategic foresight, operational robustness, and organisational agility.

A comprehensive understanding of organisational resilience thus involves four core capabilities:

- Anticipation: Anticipation reflects an organisation's ability to foresee potential disruptions through environmental scanning, risk forecasting, and scenario planning (Boin & van Eeten, 2013; Duchek, 2020). By identifying early warning signals, organisations can proactively prepare for crises before their impacts fully materialise.
- Absorption: Absorption denotes the ability to endure and buffer the effects of disruptions without critical failure. This capacity relies on building robust infrastructures, redundancy mechanisms, and flexible processes that preserve essential functions under stress (Sheffi, 2013).
- Recovery: Recovery refers to the speed and effectiveness with which an organisation reinstates disrupted operations and returns to acceptable performance levels. Effective recovery mechanisms include crisis management protocols, coordinated leadership, resource mobilisation, and clear communication channels (Sheffi, 2013).
- Adaptation: Adaptation goes beyond restoring previous states, focusing on organisational learning, innovation, and strategic reconfiguration in response to new environmental realities (Duchek, 2020; Linnenluecke, 2017). Adaptive organisations are characterised by their continuous ability to realign operations and strategies to emerging challenges.

In sum, we can conclude that organisational resilience is not a static attribute, it is an integrated and dynamic set of capabilities, which work together to improve an organisation's ability to navigate uncertainty. In the Romanian context, where organisations are increasingly exposed to overlapping environmental, economic, and geopolitical threats, the deliberate development of these resilience dimensions is critical to achieving sustainable competitiveness within both national and cross-border frameworks.

2.2 Digitalisation and Artificial Intelligence in Project Management

Digitalisation and AI have significantly redefined project management practices, reshaping the organisational landscape, offering new opportunities for enhancing efficiency, decision-making, and strategic adaptability. Digitalisation refers broadly to the adoption and integration of digital technologies into business processes, enabling the transformation of operations, communication, and service delivery models (Bharadwaj et al., 2013). In the specific context of project management, digitalisation encompasses the use of digital tools and platforms to optimise project planning, execution, monitoring, and evaluation activities.

Artificial intelligence, on the other hand, is defined as the simulation of human intelligence processes by machines, particularly computer systems, involving learning, reasoning, and self-correction (Russell & Norvig, 2020). Within project management, AI encompasses a range of applications, including predictive analytics, automated scheduling, natural language processing for documentation, and machine learning algorithms that optimise resource allocation and risk assessment.

The incorporation of digital and AI technologies into project management significantly enhances operational efficiency and strategic planning capabilities in several key areas:

- Predictive Analytics: AI-driven predictive models analyse historical data to forecast project risks, budget overruns, or potential delays, enabling proactive risk mitigation.
- Automated Scheduling and Resource Management: Digital platforms powered by AI can automate the assignment of resources and dynamically adjust schedules based on real-time project developments.
- Enhanced Communication and Collaboration: Cloud-based project management systems, such as Asana, Jira, or Microsoft Project, facilitate seamless collaboration across geographically dispersed teams, improving information flow and stakeholder engagement (Patanakul, 2014).
- Strategic Decision-Making: AI algorithms support project managers in strategic decision-making by synthesising complex datasets, identifying optimal courses of action, and simulating potential outcomes in various scenarios.

These technological advances collectively enable more agile, data-driven project management approaches, which are particularly critical in volatile and complex environments such as those characterising Romania's economic and environmental context. Thus, digitalisation and AI integration are increasingly recognised as essential levers for building resilient and future-ready project management frameworks.

On the other hand, according to Naeni and Tumpa (2025), the fast progress of digital tech is creating interesting opportunities in different fields, including project management and sustainability. The fast progress of digital tech is creating interesting opportunities in different fields, including project management and sustainability. These new technologies are always changing, bringing better capabilities, and making things more efficient. For instance, the expansion of cloud computing provides greater computing power to process huge amounts of data, facilitating more complex analysis and simulations. Thus, she concluded that “these advancements open new possibilities for improving project management processes, enhancing decision making, and fostering greater sustainability” (Naeni & Tumpa, 2025).

2.3 Project Management Frameworks for Resilience Building

In an increasingly volatile and uncertain global environment, project management (PM) practices must evolve beyond traditional efficiency-driven models to incorporate resilience as a core organisational competency. Resilience-oriented project management focuses on embedding adaptive capacities, redundancy, flexibility, and proactive risk management into project structures and processes (Aven, 2015).

Resilient project management frameworks are structured around several key practices:

Flexible and Adaptive Planning: Rather than rigid adherence to initial plans, resilient PM emphasises iterative planning that accommodates changes in project scope, external conditions, and stakeholder needs (Conforto et al., 2016).

Proactive Risk Management: Anticipating, identifying, and preparing for potential disruptions is critical. Projects integrate continuous risk assessment and dynamic contingency planning throughout the project lifecycle (Hillson, 2016).

Stakeholder Engagement and Communication: Resilient project practices prioritise transparent, real-time communication among all stakeholders to enable faster collective responses to emerging issues (PMI, 2017).

Learning and Feedback Integration: Organisations institutionalise mechanisms for capturing lessons learnt during and after project execution to improve future resilience (Aldunce et al., 2014).

Several globally recognised project management frameworks offer principles or structures supportive of resilience-building:

Agile Project Management: Agile methodologies, which were developed, initially, for software engineering, prioritise responsiveness, incremental delivery, and customer collaboration. Agile's iterative cycles (sprints) and emphasis on adaptability make it particularly well-suited for managing projects in turbulent environments (Beck et al., 2001; Highsmith, 2009).

PRINCE2 (Projects IN Controlled Environments): PRINCE2, widely adopted internationally, structures projects around clearly defined stages, governance structures, and risk management protocols. Its emphasis on continuous business justification and adaptable control points supports resilience through proactive oversight and structured flexibility (Office of Government Commerce [OGC], 2009).

Hybrid Models: Emerging hybrid frameworks, which combine predictive (Waterfall) and adaptive (Agile) elements, aim to balance planning rigor with flexibility, making them particularly appropriate for projects operating under complex and dynamic conditions (Conforto & Amaral, 2016).

Table 1 compares key project management frameworks based on their capacity to support organisational resilience, emphasising how different approaches meet the challenges of ensuring flexibility, governance, and adaptive capability in evolving environments.

Table 1. Comparison of Agile, PRINCE2, and Hybrid project management frameworks in relation to resilience-building

Framework	Key Characteristic	Resilience Contribution
Agile	Iterative development, customer collaboration, high adaptability.	Enhances flexibility and rapid response to change; fosters continuous learning.
PRINCE2	Structured stages, governance-focused, risk management protocols.	Supports structured risk mitigation and proactive project governance.
Hybrid (Agile+Waterfall)	Combination of predictive planning with adaptive flexibility.	Balances stability with adaptability, allowing tailored responses to uncertainty.

Source: authors' own research.

The table outlines the key characteristics and resilience-related contributions of three major project management frameworks, highlighting their relevance for managing complexity and uncertainty.

Overall, the integration of resilience principles within project management frameworks equips organisations to better absorb shocks, recover quickly, and adapt project outcomes to shifting external demands.

In contexts such as Romania's evolving climate, energy, and migration landscapes, resilience-focused project management offers a vital tool for sustaining strategic initiatives amid uncertainty.

The preceding analysis has highlighted the foundational concepts of organisational resilience, the transformative potential of digitalisation and artificial intelligence, and the structuring of project management frameworks to enhance adaptive capacities. Building upon this conceptual groundwork, the following chapters critically examine the specific challenges and opportunities facing Romanian organisations in the context of digital transformation and resilience-building.

By situating the discussion within Romania's structural, economic, and geopolitical realities, the next chapters aims to contextualise the strategic integration of project management, digitalisation, and AI within national resilience efforts.

3. Methodology

A qualitative research framework is utilised in this study to examine and understand the processes through which digitalisation and AI are integrated into project management practices to enhance organisational resilience in Romania. A qualitative approach is appropriate to capture the depth and complexity of organisational experiences and strategies in this context (Creswell & Poth, 2018).

The primary data collection method involved document analysis of existing

literature, which includes academic journals, industry reports, governance documents, and case studies significant for digital transformation, AI integration, and resilience in Romanian organisations. This method allows for the examination of existing information to identify patterns, themes, and insights pertinent to the research objectives (Bowen, 2009).

To provide concrete examples and enrich the analysis, case studies of Romanian organisations which have initiated digital and AI integration within their project management practices have been examined. These case studies provide detailed insights into the practical applications, challenges, and outcomes of such initiatives.

The collected data were analysed using thematic analysis, a method suitable for identifying, analysing, and reporting patterns within qualitative data.

As the study is based on publicly available documents and reports, there were no direct interactions with human participants, and thus, ethical approval was not required. However, ethical standards were maintained by ensuring accurate representation of sources and proper citation of all referenced materials.

While the qualitative design provides in-depth insights, it also has limitations. The reliance on existing documents and case studies may not capture the most current developments or the full range of organisational experiences. Additionally, the findings may not be generalisable to all Romanian organisations due to the specific contexts of the case studies analysed.

A bibliometric analysis was also carried out using scientific articles indexed with DOI in the Web of Science database, covering the period 1996-2025. The data were processed using VOSviewer software, yielding a total of 1,493 results (996 articles, 268 proceeding papers, and 234 review articles, from which 775 being open access articles and 45 highly cited papers).

4. Bibliometric Analysis

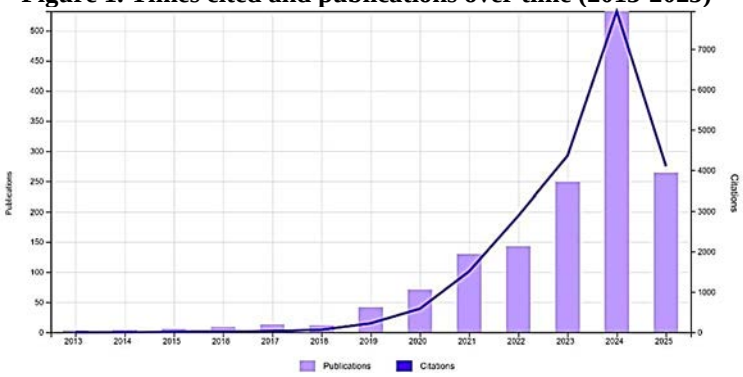
In the present bibliometric review, we analysed the relationship between the concepts of management, resilience, and artificial intelligence (AI) in different scientific papers. Web of Science database was used for gathering data and the search keywords were: “management” AND “resilience” AND “artificial intelligence”. The analysis was performed for a period from 1996 until 2025, including articles, proceedings papers, and review articles types, getting, as we have already mentioned, 1,493 results. Using the formula “management (All Fields) and digitalisation and artificial intelligence (All Fields)”, refining them by the key word artificial intelligence found in the publication’s titles, we got 90 papers focused on artificial intelligence.

Excluding articles published from 1996 to 2012 and refining the data for the period (2013-2025), we had 1474 results. After excluding again other Web of Science categories that had no significant number of published articles, so after another refining step, we got 1279 documents.

VOSviewer and Web of Science analysis tool were used for reviewing the gathered data, resulting into the following analysis: document types, categories,

research areas, times cited and publications over time, geographical spread, keyword map network visualisation, keyword map density visualisation, authors rank and most cited papers.

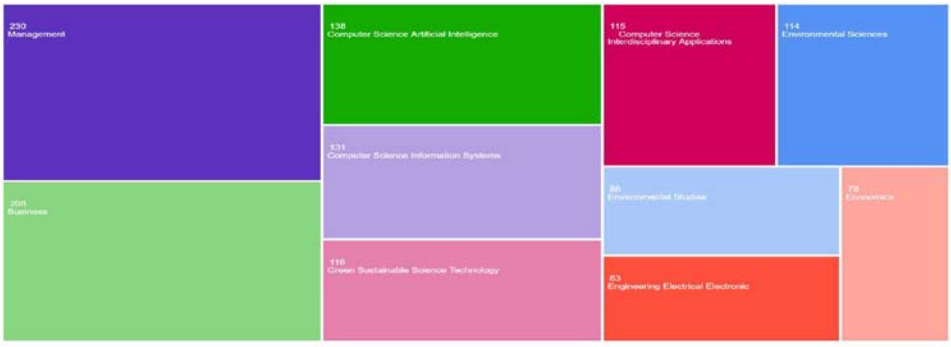
Figure 1. Times cited and publications over time (2013-2025)



Source: Web of Science database.

Figure 1 shows that in 2013, 8 documents, in 2016, 9 documents were published; in 2017, 13 papers; in 2019, 42 papers were released; in 2020, 71 papers were written, followed by 143 in 2022, 249 in 2023, 532 in 2024, and 264 in 2025.This upward trend demonstrates a rapidly increasing academic interest in the topic, particularly after 2020, highlighting the growing relevance of artificial intelligence and digital transformation in addressing complex challenges related to management and organisational resilience. The year 2024 recorded the highest number of publications addressing topics such as artificial intelligence, digitalisation, and resilience.

Figure 2. Categories/Research areas



Source: Web of Science database.

Figure 2 illustrates the interdisciplinary character of the field of study, by presenting the main research areas associated with the selected publications. The most represented domains include: management (230 papers), business (208 papers), computer science - information systems (131 documents), computer

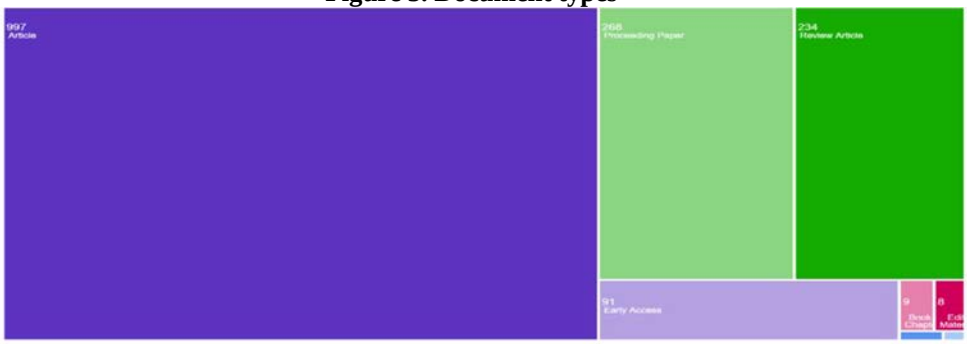
science - artificial intelligence (138 documents), green and sustainable science and technology (116 papers), and environmental sciences (114 papers), among others.

The distribution of publications in these domains underscores the interdisciplinary nature of research at the intersection of artificial intelligence, management, and organisational resilience. The strong presence in fields such as Management and Business reflects a growing emphasis on strategic and operational applications of AI, while the significant representation in Computer Science and Environmental Sciences points to the role of AI-driven systems in enhancing adaptive capacity and sustainable resilience across diverse sectors.

This demonstrates that sustainability and strategic management concepts were studied from diverse perspectives, such as managerial, social, ecological, and technologic point of view.

The majority of the documents were written in English (1,380), followed by Spanish (5), Chinese (2), and the remaining ones in German and Russian. Following a fourth round of data refinement in Web of Science, during which the keyword "Romania" was added, the search yielded only 9 documents written by Romanian authors. This linguistic distribution reflects a strong interest among researchers, particularly from English-speaking countries, in exploring the integration of artificial intelligence across various domains such as management, sustainability, and organisational resilience. Only in recent years, particularly in 2024-2025, it was a noticeable increase in interest in addressing topics such as artificial intelligence, digitalisation, and resilience within the context of Romanian project management, an area that has remained largely underexplored until now and only 9 Romanian authors wrote about.

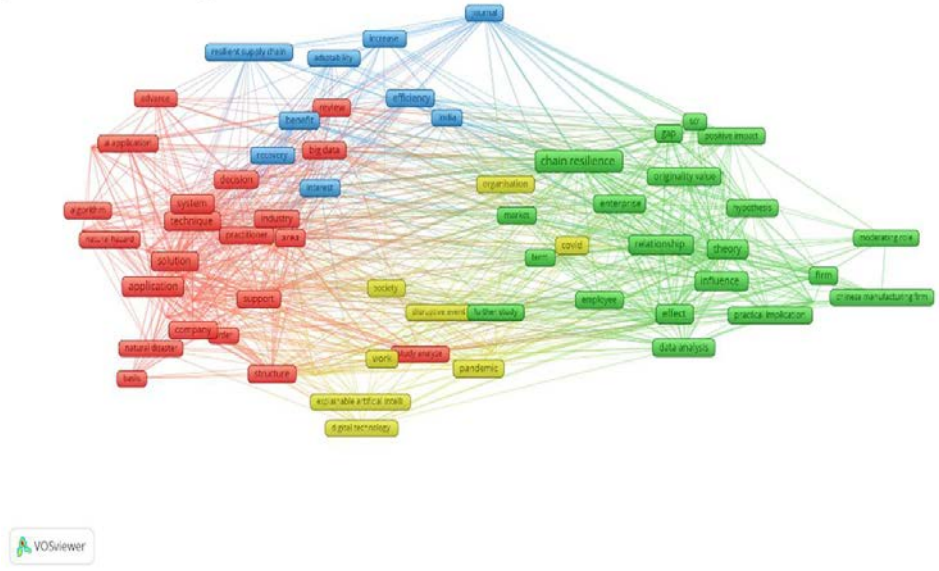
Figure 3. Document types



Source: Web of Science database.

In Figure 3, the analysed documents are mainly articles (997), followed by proceeding papers (268), review articles (234), early access documents (91) etc., all of which reflect a blend of highly theoretical and empirical research, as well as active engagement and exchange within academic communities.

Figure 4. Keyword map network visualisation



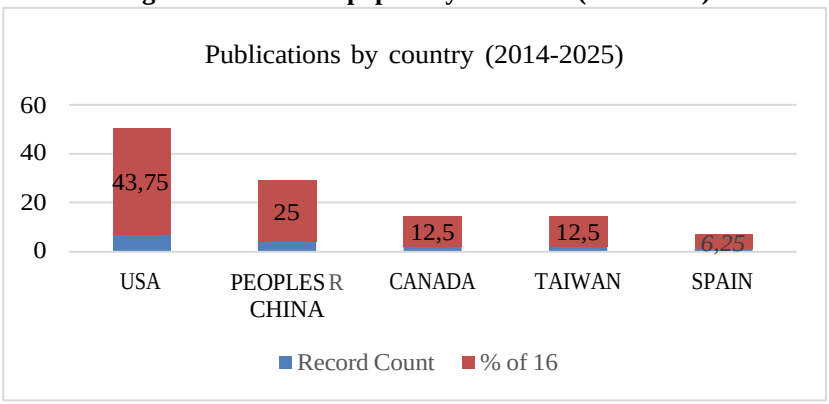
Source: performed by authors with VOSviewer tool.

Figure 4 illustrates the formation of four distinct clusters, comprising 964 links and a total link strength of 1,365, reflecting the interconnectedness and thematic structure of the analysed publications.

By analysing the four clusters identified through the bibliometric mapping, we observe the following thematic groupings: Cluster 1 (28 items) is dominated by keywords such as “AI application”, “AI technique”, “algorithm”, “climate change”, “organization”, and “sustainability”. Cluster 2 (25 items) is characterised by terms including “chain resilience”, “employee”, “enterprise”, “relationship”, “gap”, and “design methodology application”. Cluster 3 (10 items) highlights keywords such as “adaptability”, “efficiency”, “increase” and “resilient supply chain”. Finally, Cluster 4 is centred on concepts like “block chain”, “digital technology”, “disruptive event”, “explainable artificial intelligence”, “organisation” and “society”. These clusters suggest a potential interconnection between themes such as technological advancement, organisational resilience, sustainability, and the social implications of digital transformation.

These groups indicate a possible synergy among areas such as technological innovation, organisational adaptability, sustainable development, and the socioeconomic impacts of digital transformation—emphasising the current need, especially in today’s disruptive times, for project management strategies that aim to improve the resilience of Romanian organisations through the advanced integration of digitalisation and AI-assisted work systems.

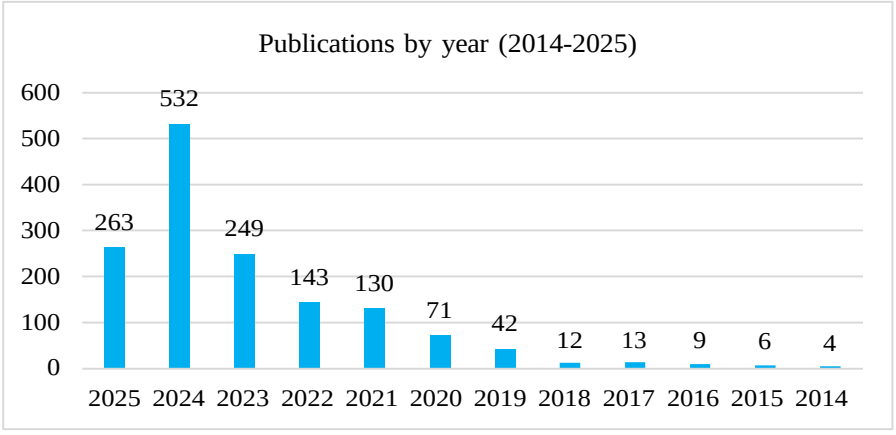
Figure 5. Published papers by countries (2014-2024)



Source: performed by authors based on data from Web of Science.

In the chart titled Publications by country (Figure 5), it is evident that between 2014 and 2025, the earliest contributions came from the USA (7 publications), followed by China (4), Canada (2), Taiwan (2), and Spain (1), all addressing themes related to artificial intelligence, management, and resilience.

Figure 6. Published papers by countries (2014-2024)

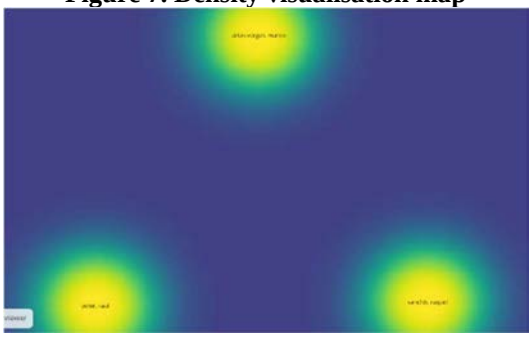


Source: performed by authors based on data from Web of Science.

In the chart titled 'Publications by Year' (Figure 6; 2014–2025), we observe a relatively low number of publications in the pre-pandemic period. For example, 13 papers in 2017, 12 in 2018, 42 in 2019, and 71 in 2020. However, following the COVID-19 pandemic period, there was a marked increase in academic interest related to themes such as AI, resilience, and management strategies within organisations, this being reflected in the significant growth in the number of publications: 130 in 2021, 143 in 2022, 249 in 2023, peaking at 532 in 2024, and 263 recorded in 2025.

This trend suggests that the global crisis acted as a catalyst for research focused on strengthening organisational resilience and integrating AI-driven strategies into management practices.

Figure 7. Density visualisation map



Source: performed by authors with VOSviewer tool.

According to data from VOSviewer (Figure 7), a distinct collaborative cluster has been identified among authors Marco Arias-Vargas (from Costa Rica), Raúl Poler (from Spain), and Raquel Sanchis (from Spain). The cluster comprises three co-authorship links with a total link strength of 6, as visualised in the VOSviewer density mapping. The trio has collaborated from 2022 to 2023 on several publications indexed in the Web of Science, focusing on themes such as artificial intelligence, enterprise resilience, and supply chain management.

Several authors appear completely disconnected from the rest, publishing either in isolation or with groups not reflected in the Web of Science data. Therefore, the dataset reflects a limited interest and collaboration in the areas of AI, resilience, and project management among these authors. The research appears to be more concentrated in materials science and related fields, with minimal cross-disciplinary collaboration in the aforementioned areas.

5. Romania's Context: Challenges and Opportunities

The successful integration of digitalisation and artificial intelligence into project management frameworks requires a thorough understanding of the structural, economic, and geopolitical environment in which organisations operate. In Romania, a complex interplay of systemic barriers, external pressures, and emerging opportunities shapes the potential for resilience-building initiatives. This research critically examines the national context by analysing Romania's digitalisation challenges, economic vulnerabilities, environmental risks, and geopolitical dynamics, while also identifying strategic opportunities that could accelerate the country's digital transformation and organisational resilience efforts. By situating these factors within a broader European framework, the analysis provides a foundation for contextualising the strategic interventions proposed in subsequent sections.

5.1 Structural and Systemic Barriers to Digitalisation and AI Adoption

Despite the growing recognition of digitalisation and AI as key drivers of organisational resilience and national competitiveness, Romania continues to face significant structural and systemic barriers that impede widespread technological adoption. These barriers are multifaceted, encompassing issues of digital literacy, infrastructure, policy frameworks, and organisational culture.

Low Digital Literacy: Digital literacy constitutes a fundamental prerequisite for successful digital transformation initiatives. However, Romania consistently ranks among the lowest in the European Union in terms of digital skills among its population and workforce. According to the European Commission (2023), only 28% of Romanians possess basic digital skills, significantly below the EU average of 54%. This gap hampers the effective implementation of digital tools and AI systems within organisations, as employees often lack the competencies needed to leverage new technologies. Furthermore, insufficient investment in continuous professional development exacerbates the skills gap, particularly in rural and marginalised communities (OECD, 2022).

Infrastructure Gaps: Infrastructure deficiencies present another major obstacle to digital advancement. Although urban areas in Romania have made considerable progress in broadband connectivity and digital services, rural regions remain underserved. As highlighted by the European Investment Bank (2022), disparities in digital infrastructure, including access to high-speed internet and cloud computing services, limit the scalability of AI-driven solutions and constrain project management modernisation efforts. Inadequate technological infrastructure also undermines efforts to build data-driven decision-making capacities essential for organisational resilience.

Policy and Regulatory Challenges: Although Romania has developed several national strategies aimed at promoting digitalisation, such as the National Strategy for the Digital Agenda for Romania 2020 (2015), its implementation has been fragmented and inconsistent. Regulatory frameworks often lag behind technological developments, creating uncertainty for organisations seeking to invest in AI and digital solutions (World Bank, 2022). Moreover, bureaucratic inefficiencies and limited inter-ministerial coordination have delayed the rollout of critical initiatives funded through the European Union's Recovery and Resilience Facility (RRF). Such governance challenges weaken the strategic coherence necessary for a comprehensive digital transformation.

Organisational Culture and Leadership Gaps: Internal organisational factors further constrain digital and AI adoption. Many Romanian organisations exhibit hierarchical cultures resistant to change and innovation, with leadership styles that prioritise short-term operational efficiency over long-term strategic adaptation. The lack of visionary leadership and limited risk tolerance inhibit investments in emerging technologies and the integration of AI-supported project management practices. Furthermore, a failure to embed digitalisation into organisational values, incentives, and learning processes undermines efforts to cultivate a resilient, future-oriented workforce.

In sum, Romania's digital transformation and AI adoption efforts are impeded by a constellation of interrelated barriers spanning educational, infrastructural, regulatory, and organisational domains. Addressing these systemic challenges is essential for fostering organisational resilience and ensuring that Romanian enterprises and public institutions are equipped to thrive amid increasing global volatility.

6. Economic, Environmental, and Geopolitical Pressures

While structural and systemic barriers within Romania critically hinder the internal capacity of organisations to adopt digitalisation and AI-driven practices, external factors further exacerbate the challenge of resilience-building. Economic volatility, environmental risks driven by climate change, and geopolitical instability collectively create a turbulent operating environment that places additional stress on organisational systems. The following section explores these broader pressures, emphasising their implications for strategic project management and the urgent need for adaptive resilience frameworks in the Romanian context.

In addition to internal structural and systemic barriers, Romanian organisations must navigate an increasingly complex external environment shaped by economic volatility, environmental risks, and geopolitical instability. These external pressures not only exacerbate organisational vulnerabilities but also demand the integration of resilience-oriented strategies into project management practices. Understanding the multifaceted nature of these challenges is essential for designing adaptive frameworks that can ensure organisational survival and competitiveness amid uncertainty.

Table 2 offers an overview of the principal external factors influencing Romania's resilience landscape, focusing on economic, environmental, and geopolitical dimensions.

Table 2. Economic, environmental, and geopolitical pressures

Economic Volatility and Structural Vulnerabilities	• Overview of Romania's Economic Context: Dependence on EU markets, foreign direct investment, and structural funds (European Commission, 2023); High exposure to global supply chain disruptions (World Bank, 2022). • Challenges for Organisational Resilience: Economic instability increases operational risks; Inflation, labour market pressures, and funding uncertainties. • Implications for Project Management: Need for flexible budgeting, scenario planning, and agile resource allocation.

Environmental Risks and Climate Change Impacts	• Climate Vulnerabilities in Romania: Increased frequency of extreme weather events: floods, droughts, heatwaves (OECD, 2022; European Environment Agency, 2022); Pressures on critical sectors: agriculture, energy infrastructure, water management. • Resilience Challenges: Physical risks to projects and operations; Need for climate risk assessment, adaptive infrastructure planning, and green transition strategies. • Relevance for Strategic Project Management: Integration of sustainability and resilience goals in project design.
Geopolitical Instability and Regional Security Risks	• Regional Geopolitical Dynamics: Effects of the Russia-Ukraine conflict on energy security, trade routes, and migration flows (International Crisis Group). • Security Risks for Romanian Organisations: Increased cyber threats, political uncertainties, cross-border disruptions. • Implications for Organisational Strategy: Strategic diversification, supply chain resilience, cybersecurity integration in project planning.

Source: authors' own research.

6.1 Current Status of Digital Transformation in Romanian Organisations

Digital transformation is increasingly recognised as a strategic imperative for enhancing organisational resilience and competitiveness. Despite some recent progress, Romania remains among the European Union's (EU) laggards in digital maturity, both in the public and private sectors. An analysis of the latest data from the European Commission, the OECD, and the World Bank highlights persistent gaps that constrain the full potential of digitalisation across Romanian organisations.

6.1.1 Digital Transformation Indicators

According to the European Commission's Digital Economy and Society Index (DESI, 2023), Romania ranks 27th out of 27 EU Member States, indicating a continued need for structural reforms and strategic investments (European Commission, 2023). Key weaknesses identified include:

- Human Capital: Only 28% of Romanians possess basic digital skills, compared to the EU average of 54%.
- Digital Public Services: Romania scores well below the EU average in the provision of e-government services and the uptake of digital identification tools.

Integration of Digital Technology by Businesses: Romanian enterprises demonstrate low levels of adoption of advanced digital technologies such as cloud computing (17% vs. the EU average of 34%) and artificial intelligence (4% versus the EU average of 8%).

Table 3 provides a comparative overview of Romania's performance against the EU average in critical DESI domains, underlining the structural gaps that hinder comprehensive digital transformation.

Table 3. Comparison of key DESI indicators: Romania versus EU average (2023)

Indicator	Romania (%) or Score	EU Average (%) or Score
Basic Digital Skills	28%	54%
Cloud Computing Adoption	17%	34%
Artificial Intelligence Adoption	4%	8%
Digital Public Services Score	46.3	75%

Source: authors' own research.

The table presents selected Digital Economy and Society Index (DESI) indicators, highlighting the gaps between Romania's digital performance and the European Union average across essential digital transformation dimensions.

The OECD (2022) further emphasises that while larger Romanian firms are gradually adopting digital tools, small and medium-sized enterprises (SMEs), which represent over 90% of the business landscape, lag considerably behind in digital readiness. Disparities between sectors (e.g., finance vs. agriculture) and between urban and rural regions remain pronounced.

6.1.2 Gaps in the Public and Private Sectors

Public Sector Gaps: Despite national strategies such as the National Strategy on the Digital Agenda for Romania 2020–2030, implementation has been slow and fragmented. Key obstacles include outdated IT infrastructures, insufficient inter-agency data integration, and limited digital competencies among public servants (World Bank, 2022). The lack of a coherent, citizen-centric approach to digital government services hampers both efficiency and public trust.

Private Sector Gaps: While multinational corporations operating in Romania have generally driven digital transformation, domestic enterprises—particularly SMEs—continue to show low levels of investment in digital and AI technologies. Barriers include high costs of technology adoption, limited access to financing, and a shortage of digitally skilled labour (European Investment Bank, 2022). Furthermore, strategic digitalisation is often treated as an isolated IT upgrade rather than an organisation-wide transformation aligned with resilience and innovation goals.

6.1.3 Implications for Organisational Resilience

The persistent digital divide across Romanian organisations has significant implications for resilience-building. Limited adoption of digital tools and AI

systems restricts the ability of organisations to anticipate risks, optimise resource allocation, maintain operational continuity, and adapt to rapidly changing environments. As the volatility of economic, environmental, and geopolitical conditions intensifies, bridging these digital gaps becomes critical for ensuring both organisational survival and long-term competitiveness.

The persistent structural barriers to digitalisation, combined with the limited progress observed in key digital transformation indicators, highlight the pressing need for a coordinated and strategic response. Without addressing these internal weaknesses, Romanian organisations remain highly vulnerable to external economic, environmental, and geopolitical shocks. The following section synthesises the identified challenges and opportunities, outlining strategic imperatives necessary to accelerate digital transformation, foster organisational resilience, and enhance Romania's long-term competitiveness within the European and global arenas.

6.2 Strategic Imperatives for Romania

The preceding analysis has highlighted significant internal vulnerabilities and external pressures that impede Romania's progress toward a resilient, digitally enabled economy. Addressing these challenges requires a set of coordinated and forward-looking strategic imperatives capable of transforming systemic weaknesses into opportunities for sustainable growth.

Table 4 outlines the critical strategic priorities necessary to strengthen digital capacities, modernise infrastructure, improve governance, and cultivate organisational cultures that embrace resilience and innovation. These imperatives are essential to positioning Romania for long-term competitiveness within an increasingly volatile European and global environment.

Table 4. Strategic imperatives for Romania

	Strengthening Digital Skills and Workforce Capacities	**Accelerating Infrastructure Modernisation**	**Enhancing Policy Coherence and Governance Framework**	**Cultivating Resilient and Innovative Organisational Cultures**
Imperative	Expand national and organisational initiatives to build digital literacy, technical skills, and AI competencies across all sectors	Prioritise investment in digital infrastructure to close rural-urban divides and enable universal access to high-speed, resilient digital networks.	Streamline regulatory frameworks, improve inter-ministerial coordination, and ensure agile governance to support rapid digital and AI adoption.	Embed resilience, adaptability, and digital transformation into organisational cultures and leadership practices.

	Strengthening Digital Skills and Workforce Capacities	**Accelerating Infrastructure Modernisation**	**Enhancing Policy Coherence and Governance Framework**	**Cultivating Resilient and Innovative Organisational Cultures**
Focus Points	• Targeted reskilling and upskilling programs. • Digital education reforms aligned with labour market needs. • Inclusion of rural and marginalised populations.	• Expansion of broadband coverage. • Development of smart grids and data infrastructure. • Public-private partnerships to scale technology access.	• Strengthening implementation of the National Digital Agenda. • Creating regulatory • Sandboxes for AI innovation. • Institutionalising resilience-building as a cross-sectoral policy priority.	• Promote visionary leadership and change management capabilities. • Foster cultures of innovation, flexibility, and continuous learning. • Align organisational incentives with long-term digital and resilience goals.

Source: authors' own research.

In summary, Romania's path toward building organisational and national resilience is shaped by a complex interplay of structural barriers, external pressures, and emerging opportunities. Persistent gaps in digital literacy, infrastructure, governance, and organisational culture underscore the urgent need for comprehensive strategic interventions. At the same time, targeted investments in skills development, infrastructure modernisation, regulatory coherence, and cultural transformation present viable pathways for accelerating digital transformation and enhancing resilience capacities. These strategic imperatives provide a critical foundation for the next phase of analysis, which explores how project management frameworks, when integrated with digitalisation and AI, can operationalise resilience across Romanian organisations and institutions.

6.3 Analysis: The Role of Digitalised and AI-Enhanced Project Management in Building Resilience

The growing volatility of contemporary operating environments has necessitated a reconfiguration of traditional project management practices. Digitalisation and artificial intelligence (AI) offer transformative pathways for

enhancing organisational resilience, enabling proactive risk management, dynamic decision-making, and strategic adaptation. The present article analyses how digitalised and AI-supported project management frameworks can operationalise resilience capacities within Romanian organisations, aligning technological innovation with strategic crisis preparedness and response.

6.3.1 Pathways through Which Digitalisation and AI Strengthen Resilience

The integration of digitalisation and AI into project management practices offers four primary pathways for strengthening organisational resilience: improved early warning systems, faster data-driven decision-making, enhanced resource allocation and crisis response, and increased flexibility and adaptation.

- Improved Early Warning Systems: One of the most significant contributions of digitalisation and AI to resilience-building is the development of enhanced early warning systems. By leveraging real-time data streams, machine learning algorithms, and predictive analytics, organisations can identify emerging risks and vulnerabilities before they escalate. For instance, AI models trained on environmental, financial, and operational data can forecast disruptions such as supply chain interruptions, climate-related threats, or market volatility, allowing for earlier and more effective preventive measures.
- Faster, Data-Driven Decision-Making: AI-supported decision-making systems enable project managers to process large volumes of complex information rapidly, generating insights that would be unattainable through traditional analysis. Tools such as predictive modelling, scenario simulations, and real-time performance dashboards facilitate more agile responses to evolving conditions. By reducing decision latency, organisations can adjust strategies dynamically, improving their ability to absorb shocks and sustain critical operations during crises.
- Enhanced Resource Allocation and Crisis Response: Digital platforms and AI tools optimise resource management by providing accurate, real-time visibility into project assets, supply chains, and human capital. Automated resource allocation algorithms ensure that critical inputs are directed where they are most needed, particularly during periods of disruption. Furthermore, AI-driven crisis management systems can coordinate emergency responses, optimise logistics, and support communication with stakeholders, thereby enhancing organisational recovery capacities.
- Increased Flexibility and Adaptation: Agile project management methodologies supported by digitalisation enable iterative development, continuous feedback integration, and modular project structures (Conforto et al., 2016). AI tools enhance these capabilities by enabling predictive adaptation, such as adjusting project scopes in response to new risk assessments or shifting resources in real time. These capabilities allow organisations to not merely recover from crises but also to evolve, learning from disruptions to emerge more competitive and resilient.

6.3.2 Project Management Strategies for Integration

To fully leverage the resilience-enhancing potential of digitalisation and AI, organisations must adopt deliberate project management strategies that embed these technologies systematically.

6.3.3 Practical Steps for Embedding Digital and AI Tools into Projects

Effective integration requires a multi-phased approach:

- Assessment of Digital Maturity: Organisations must begin by evaluating their current digital and AI readiness, identifying capability gaps across infrastructure, skills, and processes (Fitzgerald et al., 2014).
- Strategic Technology Selection: The careful alignment of digital and AI tools with organisational resilience objectives is crucial. Tools should be selected based on their potential to enhance foresight, decision-making, resource optimisation, and adaptability.
- Governance and Ethical Frameworks: Integration strategies must include governance structures to ensure data security, ethical AI usage, and compliance with evolving regulations (European Commission, 2019).
- Capacity Building and Change Management: Successful adoption depends on workforce training, leadership engagement, and fostering a digital culture that supports experimentation and iterative learning (Westerman et al., 2011).

Examples of Digital and AI Tools for Resilience:

- Digital Twins: Virtual representations of physical assets or processes enable predictive maintenance, risk simulation, and operational optimisation, enhancing resilience against technical failures (Fuller et al., 2020).
- Predictive Analytics: AI-based predictive tools forecast project risks, enabling pre-emptive adjustments and dynamic contingency planning.
- Smart Project Dashboards: Real-time dashboards integrate data from multiple project streams, providing enhanced situational awareness and facilitating rapid, informed decision-making during disruptions (Mordecai & Kantsepolsky, 2018).

By embedding such tools within project management frameworks, organisations can transform traditional reactive crisis management approaches into proactive, adaptive resilience strategies.

6.4 Case Illustrations from Romanian Organisations and Sectors

While Romania's digital transformation journey is still in its early stages, a number of pioneering organisations have begun integrating digitalisation and artificial intelligence (AI) into their project management practices. These early adopters provide valuable insights into the practical opportunities and persistent challenges associated with digital resilience-building. This study presents illustrative mini-case examples from key sectors, drawing lessons that can inform broader strategic efforts to scale digital transformation and strengthen organisational resilience across the Romanian economy.

Although Romania remains at an early stage of large-scale digital and AI integration, selected organisations and sectors have demonstrated promising initiatives toward embedding digital technologies into project management practices.

Digitalisation in the Energy Sector – Hidroelectrica: Hidroelectrica, Romania's leading producer of renewable energy, has initiated several digital transformation projects aimed at optimising asset management and operational resilience. Through the integration of digital monitoring systems, predictive maintenance platforms, and SCADA (Supervisory Control and Data Acquisition) upgrades, the company has improved real-time decision-making capabilities and reduced downtime risks (Hidroelectrica, 2023). The use of digital twins for key infrastructure components has further enhanced risk anticipation and preventive action planning.

AI-Driven Logistics Optimisation – FAN Courier: FAN Courier, a leading Romanian logistics company, has implemented AI-supported route optimisation and predictive demand forecasting to enhance project execution efficiency. By adopting machine learning algorithms, FAN Courier reduced operational delays and optimised resource allocation during high-volume periods, such as Black Friday and the winter holiday season (FAN Courier, 2023). Their digitalisation strategy also includes real-time tracking dashboards for improved client communication and crisis response. As Laura Iane, Creative Director pastel within this company, declared, "the integration of artificial intelligence in the anniversary campaign perfectly complements the trust FAN Courier has cultivated for 25 years and reinforces its commitment to maintaining this extraordinary tandem between human values and innovation" (Macsim, 2023).

Public Sector Digitalisation – Romanian Tax Authority (ANAF): The National Agency for Fiscal Administration (ANAF) launched the SAF-T (Standard Audit File for Tax) project, a major step toward digitalising tax reporting and audits. Although primarily a compliance initiative, SAF-T also represents an early example of digital project management modernisation within the Romanian public sector. Through automated data collection and standardised reporting structures, ANAF aims to enhance transparency, risk detection, and responsiveness (World Bank, 2022)

Lessons Learned:

- Targeted Digital Initiatives Deliver Tangible Gains: Focused investments in digital monitoring, predictive analytics, and automation have led to measurable improvements in project efficiency, risk management, and client satisfaction.
- Leadership Commitment Is Crucial: In each case, digital transformation efforts were championed by leadership teams committed to innovation, resilience, and long-term strategic vision.
- Incremental Implementation Is Effective: Pilot programs and phased adoption strategies allowed organisations to test digital solutions and build internal capabilities before full-scale deployment.

Identified Gaps:

- Limited Strategic Integration: Many initiatives remain isolated projects rather than being embedded within comprehensive organisational resilience strategies.
- Skills and Cultural Challenges Persist: Despite technological advancements, workforce digital skills gaps and cultural resistance to change continue to slow broader adoption, especially in traditional industries.
- Fragmented Public Sector Progress: While initiatives like SAF-T represent important steps, the broader Romanian public sector remains characterised by slow digitalisation, limited interoperability between institutions, and underinvestment in digital talent development (European Commission, 2023).

The case illustrations presented demonstrate that while early initiatives in digitalisation and AI integration offer promising results for enhancing project management efficiency and resilience, their adoption remains uneven and often isolated. Key lessons underline the importance of leadership commitment, phased implementation, and capacity building, while persistent gaps highlight the need for greater strategic coherence and cultural transformation. These findings reinforce the necessity for a broad framework in view to guide the systematic integration of digitalisation and AI across Romanian organisations. In the following, we propose such a strategic framework with the aim of operationalising resilience building through structured approaches to technology-based project management.

6.5 Strategic Framework for Enhancing Organisational Resilience through Digitalised and AI-Integrated Project Management in Romania

Building on the challenges, opportunities, and case illustrations discussed in the preceding chapters, in this section proposes a strategic framework designed to enhance organisational resilience through the systematic integration of digitalisation and AI across project management practices. Aiming to provide Romanian organisations with a structured and phased approach in view on how to integrate digital and AI capabilities, the framework strengthens their ability to anticipate, absorb, recover, and adapt to complex disruptions. By aligning technological innovation with resilience-building objectives, the proposed framework addresses critical gaps identified in the national context and offers a scalable model for future organisational development.

6.5.1 Strategic Framework Proposal

In response to the identified need for strengthening organisational resilience in Romanian organisations, this section proposes a strategic framework that systematically integrates digitalisation and AI into project management practices. The framework aligns directly with the research hypothesis, which posits that

such integration can significantly enhance organisations' ability to anticipate, absorb, and recover from complex crises.

Step 1: Organisational Assessment: Organisations must initiate the process by evaluating their current digital maturity, AI readiness, and existing resilience capacities. This diagnostic phase provides a critical baseline for targeted strategic planning.

Step 2: Strategic Planning for Digital and AI Integration: Based on assessment outcomes, organisations should define clear digitalisation goals aligned with resilience objectives. This includes the selection of appropriate AI tools and the identification of project management enhancements necessary to bridge existing gaps.

Step 3: Project Management Reengineering: Project workflows must be redesigned to incorporate digital tools and AI systems. Simultaneously, adjustments to project governance structures, risk management protocols, and internal communication mechanisms are essential to embed resilience systematically.

Step 4: Implementation and Change Management: Following reengineering, organisations should deploy digital and AI solutions through pilot projects to validate approaches. Critical to this phase is comprehensive staff training, fostering a digital organisational culture, and managing resistance to technological change.

Step 5: Resilience Monitoring and Metrics: Key performance indicators (KPIs) should be established to measure organisational capacities related to anticipation, absorption, recovery, and adaptation. Advanced AI tools can enhance resilience monitoring by enabling predictive analytics and continuous feedback mechanisms.

Step 6: Continuous Improvement and Scaling: The final stage emphasises the iterative refinement of digital and AI systems based on feedback, performance data, and evolving risk landscapes. Successful pilot models should be scaled across broader organisational or sectoral domains.

The proposed strategic framework offers a structured, phased approach to embedding digitalisation and AI technologies into project management practices to strengthen organisational resilience. By addressing critical gaps identified in Romania’s digital transformation landscape, the framework emphasises proactive assessment, strategic planning, adaptive implementation, and continuous improvement. Its application can enable Romanian organisations not only to withstand and recover from disruptions more effectively but also to evolve and thrive in increasingly volatile and complex environments. The following chapter provides an overall synthesis of findings, outlining key recommendations, and future research directions.

7. Conclusions and Strategic Recommendations for Advancing Organisational Resilience through Digitalised and AI-Enhanced Project Management in Romania

This closing section summarises the main conclusions of the study provides strategic recommendations for enhancing organisational resilience through the digitalisation and AI integration of project management in Romania. Drawing on the analysis of structural barriers, external pressures, case illustrations, and the proposed strategic framework, this study highlights critical actions for policymakers, organisational leaders, and researchers. It also acknowledges the limits of the current study and suggests directions for further exploration, with the goal of supporting more resilient, adaptable, and digitally capable organisations in an increasingly complex and volatile environment.

This study has explored the intersection of digital transformation, AI, project management practices, as well as organisational resilience within Romanian context. Several key findings emerge from the analysis of structural barriers, external pressures, early case illustrations, technological pathways, and the development of a strategic framework.

Structural and systemic barriers to digitalisation and AI adoption: The analysis revealed that Romania continues to face significant structural barriers to digital transformation. Low levels of digital literacy, particularly outside major urban centres, infrastructural deficits, fragmented policy implementation, and culturally ingrained resistance to innovation collectively impede the widespread adoption of digital and AI technologies (European Commission, 2023; OECD, 2022; World Bank, 2022). These systemic weaknesses limit the ability of Romanian organisations to modernise project management practices and hinder the development of resilience capacities.

External pressures impacting organisational resilience: Beyond internal barriers, Romanian organisations operate within a volatile external environment shaped by economic, environmental, and geopolitical forces. Economic vulnerabilities tied to external market dependencies, increasing exposure to climate change risks, and regional security instabilities exacerbate organisational fragility (OECD, 2022; EEA, 2022; International Crisis Group). These conditions highlight the urgent need for proactive resilience strategies supported by adaptive project management frameworks.

Early organisational initiatives and case illustrations: The selected and presented case studies illustrate that certain Romanian organisations – such as Hidroelectrica, FAN Courier, and the National Agency for Fiscal Administration (ANAF) – have initiated projects to digitise and integrate AI with tangible operational benefits. These cases highlight the potential of digital tools to enhance efficiency, risk anticipation, and service delivery, while also exposing current challenges in terms of strategic coherence, skills development, and cultural adaptation (Hidroelectrica, 2023; FAN Courier, 2023; World Bank, 2022).

Pathways through which digitalisation and AI strengthen resilience: The study identified four critical pathways through which digitalisation and AI integration contribute to resilience-building: improved early warning systems, accelerated data-driven decision-making, enhanced resource allocation and crisis response, and increased organisational flexibility and adaptation. These pathways demonstrate how technology adoption can shift project management from reactive crisis response to proactive and dynamic resilience strategies.

7.1 Presentation and Rationale of the Proposed Strategic Framework

The research results have led to the need to propose a strategic framework to guide the systematic integration of digitalisation and AI into Romanian project management practices. Structured into six phases—from organisational assessment to continuous improvement—the framework emphasises the need for a holistic, iterative approach that aligns technological innovation with resilience-building objectives. It directly addresses the barriers and gaps identified in Romania's digital landscape while offering scalable, actionable steps for transformation.

Collectively, these findings demonstrate that digitalised and AI-enhanced project management represents a critical enabler of resilience-building. However, the full realisation of this potential requires coordinated, strategic adoption efforts supported by national policies, organisational leadership, workforce development, and a cultural shift toward continuous innovation and adaptability. Without these complementary efforts, technological tools alone will not be sufficient to close Romania's resilience gap in an increasingly volatile and complex global environment.

Table 5. Strategic recommendations

Recommendations for Policymakers	Invest in Digital Skills Development Across Sectors	Policymakers must prioritise national programs aimed at enhancing digital competencies across the workforce. Special attention should be given to digital literacy in rural and marginalised areas, as well as the promotion of advanced digital skills, such as AI and data analytics, in strategic sectors (European Commission, 2023; OECD, 2022). Tailored training initiatives, public-private partnerships, and incentives for lifelong learning are essential to closing the digital skills gap.

	Modernise Digital Infrastructure (Especially in Underserved Regions)	Investment in broadband connectivity, smart infrastructure, and secure digital platforms must be expanded beyond major urban centres. Equitable access to digital technologies is a prerequisite for fostering resilience across sectors and regions, particularly in critical infrastructure domains such as energy, transportation, and public administration (European Investment Bank, 2022).
	Streamline Regulatory Frameworks to Support Agile Digital Innovation and AI Governance	An enabling regulatory environment is crucial for accelerating digital and AI adoption. Policymakers should focus on simplifying procedures for technology deployment, creating regulatory sandboxes for AI experimentation, and adopting ethical guidelines aligned with European standards (European Commission, 2021). Enhanced inter-ministerial coordination and greater responsiveness to technological change are also required.
Recommendations for Organisations	Conduct Resilience-Oriented Digital Maturity Assessments	Organisations should systematically evaluate their current digital capabilities, resilience levels, as well as degree of readiness for AI integration. Digital maturity assessments must extend beyond IT functions to encompass governance, leadership, culture, and project management practices (Fitzgerald et al., 2014).
	Embed Digital and AI Capabilities Systematically in Project Management Practices	Rather than implementing isolated digital initiatives, organisations must integrate digital and AI tools into the core of project management frameworks. This includes leveraging predictive analytics, smart dashboards, and digital twin technologies to enhance planning, monitoring, and crisis response functions (Fuller et al., 2020).

	Cultivate Adaptive Leadership and Organisational Cultures Focused on Innovation and Learning	Successful digital transformation requires a cultural shift toward openness, experimentation, and continuous learning. Leadership development programs, change management strategies, and incentive systems must be aligned with digital innovation and resilience- building objectives (Westerman et al., 2011).
Recommendations for Academia and Research Institutions	Promote Interdisciplinary Research on AI, Resilience, and Digital Transformation in Eastern Europe	There is a critical need for expanded interdisciplinary research exploring the interactions between AI, digitalisation, project management, and resilience in the Eastern European context. Comparative studies, longitudinal analyses, and sector-specific research initiatives would provide valuable insights to support evidence-based policymaking and organisational strategy (Bughin et al., 2018).
	Develop Case Study Repositories to Disseminate Best Practices and Lessons Learned	Academic institutions and research networks should work collaboratively to document, analyse, and disseminate successful case studies of digital and AI integration. Such repositories would serve as valuable resources for practitioners, policymakers, and future researchers seeking to understand and replicate effective resilience-building strategies.

Source: authors' own research.

7.2 Limitations and Directions for Future Research

The study presents a comprehensive analysis about the role of digitalisation and AI in improving organisational resilience in the context of project management in Romania. However, several limitations must be acknowledged.

Firstly, the research is mainly based on secondary data sources, which include reports from the European Commission, the OECD, and the World Bank. Although these sources provide valuable information, the absence of first-hand data collection, such as interviews or surveys with Romanian organisations, limits

the depth of understanding of the practical challenges and successes of digital transformation initiatives.

Secondly, the study focuses on a select number of case illustrations from Romanian organisations that have begun integrating digital and AI tools into their project management practices. This limited scope might not reflect the full range of experiences from the different sectors, organisations of different sizes, or regional contexts in Romania.

In the third place, the fast-changing nature of digital technologies and AI means that the results presented here might become out of date as new tools or practices emerge. The dynamic landscape of digital transformation necessitates continuous research to keep pace with technological advancements and their implications for organisational resilience.

In order to exploit the findings of this present study as well as address some of its limitations, we suggest that future research should consider the following directions:

- Longitudinal Studies: Conducting longitudinal research would provide insights into how the integration of digitalisation and AI in project management influences organisational resilience over time. Such studies could track the progression of digital transformation initiatives and their long-term impacts on organisational adaptability and performance.
- Sector-Specific Analyses: Future studies could focus on specific sectors within Romania, such as healthcare, education, or manufacturing, to explore how digital and AI tools are being adopted and the unique challenges faced in each context. For instance, the Romanian health system's digitalisation efforts present distinct opportunities and obstacles that warrant detailed examination (Staiculescu, 2024).
- Comparative Studies: Comparative analyses between Romanian organisations and those in other European countries could shed light on best practices and common pitfalls in digital transformation efforts. Understanding how different national contexts influence the adoption and effectiveness of digital and AI tools can inform more tailored strategies for resilience building.
- Primary Data Collection: Incorporating primary data through interviews, surveys, or case studies would enrich the understanding of organisational experiences with digital transformation. Gathering first-hand accounts from project managers, IT professionals, and other stakeholders can provide nuanced perspectives on the enablers and barriers to successful integration of digital and AI technologies.
- Policy Impact Assessments: Evaluating the effectiveness of government policies and initiatives aimed at promoting digital transformation and resilience can provide useful insights into how public policies can help make organisational changes happen. Looking at the results of programmes such as the Digital Decade initiative can help shape future policy strategies.

By following these research directions, both practitioners and researchers could deepen the understanding of the complexity of the interplay with digitalisation, AI, project management, and organisational resilience. This knowledge is essential for developing effective strategies that enable organisations to cope with the challenges of an increasingly digital and uncertain world.

At a time of growing uncertainty in the environmental, economic, as well as geopolitical spheres, the ability to build organisational resilience has become a fundamental strategic priority. This study examined the integration of digitalisation and AI in project management as a strategic approach to improving organisational resilience in Romania. By identifying systemic barriers, analysing external pressures, and presenting illustrative case studies, this research highlighted the challenges as well as the opportunities inherent to this transformation.

The proposed strategic framework offers a structured pathway for organisations to systematically adopt digital and AI tools, thereby strengthening their capacity to anticipate, respond to, and adapt to disruptions. Although significant challenges remain, a strategic adoption of digital technologies, supported by coherent policies, leadership commitment, and cultural transformation, can enable organisations to not only survive disruptions, yet also to evolve as well as to thrive. Advancing this agenda requires sustained collaboration among policymakers, practitioners, and researchers, ensuring that resilience-building becomes a dynamic and integral component of Romania's future development.

In terms of the results provided by the bibliometric analysis conducted using the Web of Science tools and VOSviewer software, despite the initial focus on Romanian organisations, the data reveal a significant gap in the existing literature, with only nine relevant documents specifically referencing Romania. The overwhelming dominance of English-language publications and the scarcity of country-specific research suggest that the intersection of artificial intelligence, digitalisation, and resilience in Romanian project management remains an underexplored area. This highlights both a limitation in current academic coverage and a clear opportunity for future research to address the unique challenges and strategic needs of Romanian organisations in the context of digital transformation.

Declaration of Generative AI and AI-assisted technologies in the writing process:

During the preparation of this work, the authors used DeepL Translate in order to assist with the accurate and context-sensitive translation of academic sources.

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