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THE IMPACT OF ARTIFICIAL INTELLIGENCE AND DIGITALISATION ON THE DEVELOPMENT OF INTELLECTUAL PROPERTY-BASED ORGANISATIONAL CREATIVITY

Aldona Małgorzata DEREŃ

Wroclaw University of Science and Technology; Aldona.deren@pwr.edu.pl, ORCID: 0000-0002-2377-4573

Purpose: This article analyzes the evolution of organizational creativity in the context of digitalization and artificial intelligence (AI).
Design/methodology/approach: Traditional models based on individual competencies and social interactions are being transformed by AI-driven digital ecosystems, which enhance innovation efficiency and accelerate time-to-market. Through a systematic literature review and case studies of medium and large enterprises (2015–2025), the study identifies technological, organizational, and cultural factors influencing AI-supported creative processes and intellectual property (IP) management.
Findings: The findings indicate that effective AI integration requires developing digital competencies, transformational leadership, and a culture fostering innovativeness. The study also highlights emerging legal and ethical issues, including authorship, accountability, and data licensing. It proposes a conceptual model that integrates technology, knowledge management, and organizational culture to support sustainable innovation.
Practical implications: The article contributes to theory by extending classical creativity frameworks (Amabile; Nonaka and Takeuchi) to the digital and AI context, while offering practical guidance for managers and decision-makers on leveraging human-AI co-creation alongside IP protection.
Social implications: What will be the impact on society of this research? How will it influence public attitudes? How will it influence (corporate) social responsibility or environmental issues? How could it inform public or industry policy? How might it affect quality of life? Not all papers will have social implications.
Originality/value: The article presents an original integrative framework linking artificial intelligence, digitalization, and intellectual property management within the context of organizational creativity. Unlike prior research, which treats AI primarily as a technological tool, the article conceptualises AI as a co-creative actor embedded within organisational knowledge ecosystems. By extending classical theories of creativity and knowledge creation to AI-driven environments, the paper offers a novel interdisciplinary perspective that integrates management theory, digital transformation, and intellectual property governance, thereby addressing a significant research gap in contemporary innovation studies.
Keywords: Organizational creativity, artificial intelligence, digitalization, intellectual property, innovation, knowledge management.
Category of the paper: Research paper.

1. Introduction

The contemporary economy is increasingly based on knowledge and innovation, and intellectual property (IP) constitutes a key strategic resource for organizations. Innovation is no longer merely a source of competitive advantage; in many industries, it determines an organization's survival and its ability to respond dynamically to market changes. The rapid development of digital technologies, such as artificial intelligence (AI), big data analytics, the Internet of Things (IoT), and blockchain, is transforming traditional models of organizational creativity. These technologies enable more efficient idea generation, product prototyping, knowledge management, and intellectual property protection, while simultaneously introducing new challenges related to data security and the risk of IP infringement. Despite the growing body of research on innovation and IP management, there is still no comprehensive and integrative understanding of how digital technologies affect creative processes in organizations. Addressing this gap requires consideration of both technological and organizational dimensions, including knowledge management models, innovation culture, and the implications of increasing automation in creative processes. Accordingly, this article addresses the following research question: How do digital technologies, particularly artificial intelligence, transform the processes of creating, developing, and managing intellectual property in organizations? The subject of this study is to review and synthesize existing knowledge and to develop a conceptual framework explaining the role of digital technologies in shaping organizational creativity and IP development. The study adopts an exploratory and conceptual perspective, focusing on the integration of technological, organizational, and process-oriented dimensions.

Scope of the Research

The scope of the study includes:

- the characteristics of technologies supporting innovation and IP creation,
- the identification of relationships between technology use and the effectiveness of creative processes,
- the analysis of challenges related to the implementation of digital technologies in IP management,
- the formulation of practical recommendations for innovation managers and IP strategists.

The analysis covers medium and large enterprises with formalized innovation and intellectual property management processes in place between 2015 and 2025. The study deliberately excludes startups and country-specific legal frameworks. While this allows for a more focused analysis of mature and structured organizational environments, it also limits the generalizability of the findings, particularly in relation to highly dynamic innovation contexts and diverse regulatory regimes. These limitations should be taken into account when interpreting the results and highlight important directions for future research.

2. Research Methodology

The purpose of this article is to develop a theoretical and conceptual model that integrates classical concepts of organizational creativity with contemporary approaches based on digitalization and artificial intelligence (AI). The study adopts a qualitative and exploratory research design, drawing on a critical synthesis of the literature and an analysis of selected organizational cases. The objective is not to test causal relationships empirically, but to identify key mechanisms, relationships, and patterns linking digital technologies with creative processes and intellectual property (IP) management. Accordingly, the findings should be interpreted as analytical generalizations, providing theoretical insights and a foundation for future empirical research, rather than statistically generalizable results.

2.1. Research Approach and Strategy

A conceptual - analytical approach was adopted, typical of exploratory research in the management sciences and oriented toward theory development through the integration of empirical and conceptual contributions (Jaakkola, 2020). The study employs a two-pronged methodological strategy:

- Systematic literature review – aimed at identifying key theoretical constructs, relationships, and research gaps.
- Illustrative case studies – used to contextualize and exemplify the application of digital technologies in real organizational settings.

The case studies follow a pattern-matching logic (Yin, 2018), enabling the comparison of observed practices across cases and the identification of recurring mechanisms. This combination enables both a structured synthesis of existing knowledge and a theory-informed interpretation of practice.

2.2. Stage 1 – Systematic Literature Review

The literature review was conducted using a systematic and thematic approach, ensuring transparency and methodological rigor. The analysis included 68 peer-reviewed scientific publications indexed in the Scopus and Web of Science databases.

Search Strategy

The literature search was conducted using the following keywords:

- organizational creativity,
- digital transformation,
- artificial intelligence,
- knowledge management,
- intellectual property.

Inclusion Criteria

- peer-reviewed journal articles,
- publications in English,
- thematic relevance,
- publication period: primarily 2015-2025, supplemented by seminal earlier works.

Exclusion Criteria

- non-peer-reviewed sources,
- purely technical AI studies without organizational context,
- publications not directly related to innovation or IP processes.

The analysis focused on identifying relationships between technological, organizational, and outcome variables.

2.3. Stage 2 – Case Study Analysis

The second stage involved the analysis of eight illustrative case studies: Estée Lauder, IBM Watsonx, Chiesi, Ontex, Walmart, ARM Ltd, Dyson, and Spotify.

The selection was purposeful and theory-driven, based on:

1. documented use of AI,
2. availability of reliable data,
3. Sectoral diversity.

The cases are illustrative rather than statistically representative. Data sources included industry reports, corporate publications, and academic studies.

The analysis focused on:

- AI in creative processes,
- digitization of innovation,
- IP creation and protection,
- risk and ethics.

2.4. Stage 3 – Conceptual Model Design

Based on the results of the systematic literature review and the case study analysis, a conceptual and integrative model was developed to explain how digital technologies and artificial intelligence (AI) influence organizational creativity and the creation of intellectual property (IP). The model integrates four interrelated dimensions:

- Technological dimension – digital infrastructure, AI systems, and digital tools enabling data processing, ideation, and simulation.
- Organizational dimension – innovation culture, leadership styles, and collaboration structures shaping the environment for creativity.

- Process dimension – knowledge creation, knowledge conversion (tacit–explicit), and co-creation mechanisms.
- Outcome dimension – innovation performance and intellectual property value (e.g., patents, know-how, and commercialization outputs).

The model assumes that organizational creativity emerges from the dynamic interaction between these dimensions, rather than from isolated factors. In particular, digital technologies act as enablers and accelerators of knowledge processes, while organizational factors condition and shape their effectiveness. Importantly, the model specifies directional relationships between variables. Technological factors (e.g., AI intensity and digital infrastructure) are assumed to positively influence process efficiency, particularly in terms of knowledge creation, recombination, and iteration speed. Organizational factors (e.g., innovation culture, leadership, and collaboration structures) act as moderating variables, strengthening or weakening the impact of technological capabilities on process outcomes. Furthermore, process-related variables mediate the relationship between AI adoption and innovation outcomes, including intellectual property value and innovation performance. This structure reflects a mediated - moderated relationship between the key dimensions of the model. In this study, artificial intelligence is conceptualized as an augmentative socio-technical agent that supports and enhances, rather than autonomously replaces, human creativity. Its role is embedded within organizational and processual contexts, where it contributes to hybrid human–AI systems of knowledge creation.

The framework incorporates:

- feedback loops, reflecting iterative learning and continuous improvement in innovation processes,
- the non-linear nature of innovation, including parallel and cyclical development activities,
- the role of external actors (users, partners) in open innovation ecosystems, including crowdsourcing and platform-based co-creation.

To address the exploratory nature of the study and enable future empirical validation, the model is designed to be operationalizable in subsequent research. Potential indicators include:

- AI intensity – the extent to which AI supports tasks within innovation and creative processes,
- knowledge conversion efficiency – the speed and effectiveness of tacit–explicit knowledge transformation,
- IP value – measured through patent output, licensing revenues, or portfolio strength,
- innovation speed – reflected in time-to-market and iteration cycles.

The proposed model is conceptual rather than empirically tested and should be interpreted as a theoretical framework that organizes relationships between key variables. It provides a structured foundation for future quantitative and mixed-method studies aimed at testing causal relationships and refining measurement instruments.

2.5. Limitations and Nature of the Analysis

This study is a qualitative, exploratory, and theory-building investigation, based on a critical synthesis of existing literature and illustrative case analysis. The primary aim is to develop a conceptual framework that integrates technological, organizational, and process-oriented perspectives on creativity and intellectual property (IP) management, rather than to empirically test causal relationships. Several limitations should be explicitly acknowledged. First, the absence of primary empirical data limits the ability to validate the proposed relationships between variables, including the mediating and moderating effects identified in the conceptual model. As a result, the model should be treated as a theoretically grounded structure requiring further empirical verification. Second, the exclusion of startups reduces the applicability of the findings to highly dynamic, resource-constrained, and less formalized innovation environments. Consequently, the model may be more representative of medium and large organizations with established innovation and IP management systems. Third, the omission of country-specific legal and institutional frameworks limits the ability to capture regulatory influences on intellectual property creation, protection, and commercialization. This may affect the external validity of the findings across different legal and economic contexts. Fourth, the reliance on secondary data and illustrative case studies does not allow for statistical generalization or hypothesis testing. The case analysis follows an interpretative and pattern-oriented logic, which supports theory development but does not provide causal inference. Therefore, the results should be interpreted as analytical generalizations, offering theoretical insights and conceptual structuring rather than statistically generalizable conclusions. The proposed relationships between technological, organizational, process, and outcome dimensions remain indicative and require empirical validation. Despite these limitations, the study contributes to the literature by offering a systemic and integrative perspective on the relationship between artificial intelligence, organizational creativity, and intellectual property development. It advances existing research by proposing a multidimensional and operationalizable conceptual model. Future research should focus on:

- empirical testing of the proposed relationships using quantitative and mixed-method approaches,
- refinement and validation of measurement scales for constructs such as AI intensity and knowledge conversion efficiency,

- inclusion of startups and SMEs to assess the model's applicability in diverse innovation contexts,
- incorporation of institutional and regulatory variables to better capture cross-country differences in IP management.

3. Literature Review

3.1. Classical Approaches to Creativity and Innovation

Creative thinking and innovation have long been recognized as fundamental sources of competitive advantage in organizations, forming the basis for value creation in both private and public sectors. Classical theoretical frameworks provide a well-established foundation for understanding these processes. One of the most influential approaches is Amabile's componential model (1996), which conceptualizes organizational creativity as the result of the interaction between three key elements: individual competencies, intrinsic motivation, and a supportive work environment. This perspective highlights the importance of internal and contextual factors in shaping creative performance. Similarly, the SECI model developed by Nonaka and Takeuchi (1995) explains organizational knowledge creation as a dynamic and continuous process involving the interaction between tacit and explicit knowledge. Through the processes of socialization, externalization, combination, and internalization, individual knowledge is transformed into organizational innovation outcomes. While these models remain highly influential, they were developed in a pre-digital context. As such, they do not explicitly account for the role of contemporary digital technologies, particularly artificial intelligence (AI), in shaping knowledge creation and creative processes. This limitation creates a need to reinterpret classical frameworks in light of ongoing digital transformation.

3.2. Digital Transformation of Creativity and Innovation

The emergence of digital technologies has significantly reshaped traditional innovation paradigms. Artificial intelligence, in particular, enhances creative processes by enabling large-scale data analysis, pattern recognition, and predictive modeling, thereby increasing the speed and efficiency of innovation activities (Davenport, Kirby, 2016). From a strategic perspective, AI reduces uncertainty in decision-making processes and supports more precise resource allocation in product and service development (Agrawal, Gans, Goldfarb, 2018). When integrated with agile methodologies, such as Lean Startup (Ries, 2011), AI facilitates iterative experimentation, rapid prototyping, and continuous validation of innovation hypotheses. Recent studies also indicate that generative AI systems contribute to the transformation of tacit knowledge into explicit knowledge, extending the applicability of the

SECI model in digital environments (Secundo et al., 2024). In this context, AI supports knowledge codification, recombination, and diffusion, thereby accelerating creative processes. Importantly, AI should be understood not as a substitute for human creativity, but as an augmentative system that expands cognitive and analytical capabilities. This perspective aligns with the concept of human–AI collaboration, where creativity emerges from hybrid socio-technical systems rather than isolated human or technological inputs.

3.3. Critical Perspectives on AI-Driven Creativity

Alongside optimistic perspectives, a growing body of literature highlights the risks and limitations associated with AI in creative processes.

One of the key concerns is the potential homogenization of creative outputs. Since AI systems are trained on historical datasets, they tend to reproduce dominant patterns and statistically probable solutions, which may reduce diversity and originality (Sham, 2024; Manovich, Arielli, 2024; Staszewska-Jedynasty, 2025). This may limit exploratory and non-linear forms of innovation. Empirical evidence supports this concern. A meta-analysis by Holzner, Maier, and Feuerriegel (2025) indicates that while AI-assisted processes may increase efficiency, they may simultaneously reduce the diversity of generated ideas, suggesting a trade-off between efficiency and creative variety. In addition, AI introduces new challenges related to authorship, accountability, and intellectual property governance. The increasing involvement of algorithmic systems in content generation complicates traditional frameworks for assigning ownership and responsibility (Crawford, 2023; Lucchi, 2025; Mammen et al., 2024).

3.4. Organizational and Institutional Conditions of AI-Enabled Creativity

The effectiveness of AI in creative processes is highly context-dependent. Empirical studies suggest that technological capabilities generate value only when embedded in supportive organizational and institutional environments. From an organizational perspective, factors such as innovation culture, knowledge sharing, collaboration, and leadership play a critical role in enabling AI-supported creativity (Gazi et al., 2024; Florek-Paszkowska, Ujwary-Gil, 2025). At the same time, institutional and regulatory frameworks are increasingly important. The governance of AI-driven creativity requires clear rules regarding intellectual property rights, data licensing, and algorithmic transparency. These elements are essential for ensuring accountability, trust, and sustainability in innovation systems (Lucchi, 2025; Mammen et al., 2024).

3.5. Synthesis and Implications for the Conceptual Model

The literature indicates that artificial intelligence is reshaping organizational creativity towards hybrid human–technology systems. However, this transformation is characterized by both enabling and constraining effects, and its outcomes depend on contextual conditions rather than technological adoption alone. Three key insights emerge from the literature:

- Technological dimension – AI enhances data processing, knowledge recombination, and innovation speed.
- Organizational dimension – culture, leadership, and collaboration determine the effectiveness of AI use.
- Institutional dimension – legal and ethical frameworks shape the governance and legitimacy of AI-driven creativity.

These findings provide the theoretical foundation for the conceptual model proposed in this study. In particular, they support the assumption that organizational creativity results from the interaction between technological, organizational, and process-related factors, and that the relationship between AI adoption and innovation outcomes is mediated and moderated by contextual variables.

4. The Impact of Artificial Intelligence and Digitization on Creative Processes – Case Studies

Case studies of medium-sized and large enterprises demonstrate that artificial intelligence (AI) and digitization serve as important catalysts for change in organizational creative processes. The cases were analysed using a comparative and pattern-matching approach, aimed at identifying recurring mechanisms of AI-enabled creativity across different organizational contexts.

The analysis reveals several recurring mechanisms:

- Automation of analytical tasks – AI systems support data analysis, pattern recognition, and prediction, enabling faster and more informed decision-making in product development processes (e.g., Estée Lauder).
- Iterative learning and prototyping – AI-enabled environments facilitate rapid hypothesis testing and knowledge conversion, consistent with SECI and Lean Startup approaches (e.g., IBM Watsonx).
- Human–AI co-creation – organizations increasingly integrate AI tools into collaborative innovation ecosystems, supporting distributed creativity and IP development (e.g., ARM Ltd).

- R&D process optimization – AI systems enhance prioritization and efficiency in research and development activities, particularly in data-intensive sectors such as pharmaceuticals (e.g., Chiesi).
- Decision support in operational and strategic processes – AI applications support forecasting, personalization, and resource optimization (e.g., Walmart, H&M, Zara).
- Simulation and virtual prototyping – AI-based modelling tools enable faster iteration and reduced reliance on physical prototyping (e.g., Dyson, Tesla).
- Platform-based creativity – AI systems shape both content production and consumption in digital ecosystems (e.g., Spotify, Netflix, Electronic Arts).

These examples should be interpreted as illustrative cases supporting the identification of broader mechanisms, rather than as isolated empirical observations or statistically representative evidence. Importantly, the identified mechanisms correspond to the dimensions of the conceptual model proposed in this study, particularly:

- the technological dimension (AI systems and digital infrastructure),
- the process dimension (knowledge conversion and iterative innovation),
- the organizational dimension (collaboration, culture, and learning),
- the outcome dimension (innovation performance and IP value creation).

4.1. Synthesis and Conclusions

The comparative analysis indicates that artificial intelligence transforms organizational creativity across four interrelated dimensions:

- Epistemological dimension – redefining how knowledge is generated, structured, and recombined.
- Process dimension – accelerating innovation cycles and enabling iterative experimentation.
- Cultural dimension – increasing the importance of learning, collaboration, and openness.
- Strategic dimension – embedding AI within competitive strategies and resource allocation decisions.

However, these effects should be interpreted as context-dependent patterns rather than universally generalizable causal relationships. The effectiveness of AI in creative processes depends on the alignment between technological capabilities, organizational conditions, and governance frameworks.

To fully leverage AI, organizations must ensure:

- alignment between technology and organizational culture,
- continuous development of employee competencies,
- implementation of robust governance frameworks addressing legal, ethical, and intellectual property issues.

The findings provide empirical support for the conceptual model proposed in this study, reinforcing the assumption that organizational creativity emerges from the interaction between technological, organizational, and process-related factors. The case analysis therefore serves as an illustrative empirical foundation for theory development, rather than a basis for hypothesis testing.

5. Theoretical Research Framework / Conceptual Model

Organizational creativity is currently understood as the result of complex interactions between individual employee competencies, their internal motivation, and a supportive work environment (Amabile, 1996). The SECI model of Nonaka and Takeuchi (1995) indicates that knowledge generation in organizations is based on the dynamic exchange of tacit and explicit knowledge, enabling the transformation of individual experiences into product and process innovations. However, contemporary approaches need to be expanded in the context of the growing role of digital technologies and artificial intelligence (AI), which are redefining the nature of creative and organizational processes. In the proposed model, digital technologies—including AI, virtual and augmented reality (VR/AR), and online collaboration platforms—act as catalysts for creative and innovative processes. They enable the generation of ideas, automation of analysis, identification of patterns, and faster verification of hypotheses (Davenport, Kirby, 2016; Füller, Hutter, Krüger, 2020).The integration of these technologies with Agile and Lean Startup methodologies (Ries, 2011) promotes iterative concept testing and the effective creation of intellectual property, including products, services, and know-how. The effectiveness of creative processes also depends on a culture of innovation, transformational leadership, and the capabilities of dynamic organizations (Bass, Avolio, 1994; Teece, Pisano, Shuen, 1999).

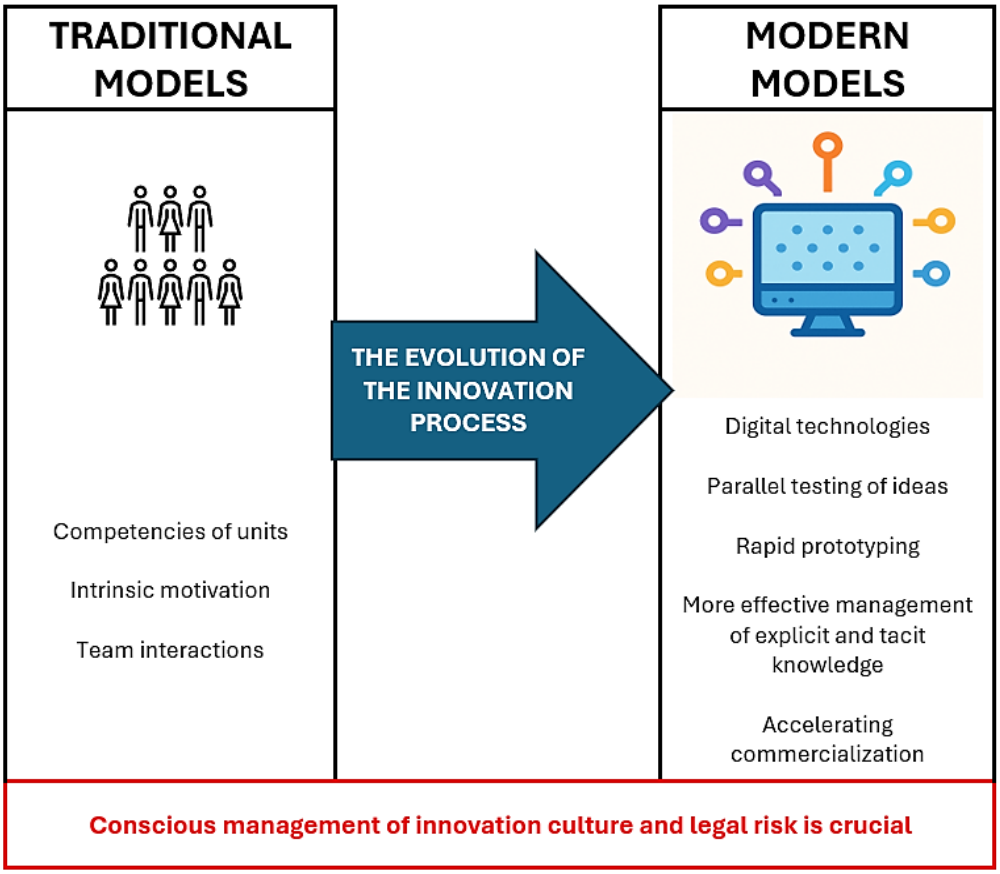

Figure 1. Conceptual model of the impact of digital technologies and AI on creative processes and organizational value creation.

Source: Prepared based on Amabile (1996), Nonaka, Takeuchi (1995), Teece et al. (1999), Davenport, Kirby (2016), Holzner et al. (2025).

The Conceptual Model views organizational creativity as a multi-level system in which digital technologies form the foundation and catalyst for creative activities. This foundation supports the development of processes for generating ideas, transferring knowledge, and co-creating in digital environments. The result of these processes is the creation of intellectual property—patents, products, services, and know-how which generate organizational value in the form of competitive advantage, improved operational efficiency, and the development of a sustainable culture of innovation. At the same time, these processes further strengthen the development of an organization's creative capabilities, creating a feedback mechanism between technology and organizational creativity. The model emphasizes the role of supporting factors such as leadership, knowledge management, and organizational culture, which strengthen the interactions between technology, processes, and the effects of innovative activity. The whole forms a coherent system in which the integration of people, knowledge, and digital technologies plays a key role in generating sustainable value in a knowledge-based economy. This model provides a theoretical foundation for further empirical research, including the operationalization of variables and the analysis of relationships between digital technologies, organizational factors, and innovation outcomes.

6. Analysis and Discussion of Results

An Analysis of literature and case studies indicates a significant impact of digital technologies, including AI, online collaboration platforms, and digital simulation tools, on creative processes in organizations. Generative AI systems enable parallel testing of multiple solution variants, reducing prototype development time by as much as 30-50%. Digital tools also streamline the collection of feedback from teams and users, improving the effectiveness of innovation processes and the quality of final products and services. The development of digital technologies opens up new opportunities for knowledge management and intellectual property protection. The use of cloud computing, blockchain, and advanced analytical tools enables the tracking of intellectual property rights and the identification of potential infringement risks.

At the same time, the implementation of generative AI presents legal and organizational challenges, especially in determining authorship and protecting the content created. Organizations must strike a balance between an open innovation model that fosters creativity and the protection of strategic intellectual resources. Digital technologies accelerate the commercialization of innovation, shortening the time from idea to market launch. Digital prototyping and predictive analytics support quick and accurate decision-making on Rand D priorities, increasing organizational flexibility and adaptability to change.

Case studies show that AI supports creative processes on several levels:

- Creativity catalyst – AI automates repetitive tasks and models data, freeing up the cognitive potential of teams.
- Learning by doing – digital tools support iterative testing of solutions in line with Lean Startup and SECI logic.
- Human-machine collaboration – humans contribute intuition and context, while AI provides computing power and data analysis, creating a hybrid creative process.
- The importance of culture and leadership – successful AI implementation requires an open, trusting culture and transformational leadership.
- A new paradigm of systemic creativity – creativity becomes a distributed capacity among people, data, and algorithms, with new roles such as data curator and co-creation architect.

Table 1.
Comparison of traditional and modern models of organizational creativity

Comparative category	Traditional model (SECI, Amabile, classical approaches)	Modern model (digital, AI, Lean/Agile, open innovation)	Effects and potential risks
Sources of creativity	Individual competencies, internal motivation, experience	Data, algorithms, simulations, human-AI interaction	Greater scalability of ideas, but the risk of dehumanizing the creative process
The nature of knowledge	The dominance of hidden knowledge (tacit knowledge), social communication	Integration of explicit and tacit knowledge supported by technology (AI, IoT , VR)	Faster knowledge conversion, but with the risk of losing context and uniqueness
The process of creating innovation	Sequential, linear (ideation → prototype → implementation)	Iterative, parallel, automated (Lean Startup, Agile)	Shorter innovation time, but higher risk of incorrect algorithmic decisions
The role of technology	Supporting (communication and analysis tools)	Central – AI, big data, VR/AR, blockchain, cloud	Automation and personalization, but also the risk of cyber threats and loss of control
Organizational culture	Hierarchical, based on experience and routine	Agile, based on collaboration, openness and experimentation	Greater adaptability, but with the risk of instability and dispersion of responsibility
Knowledge management	People-to-people exchange (meetings, mentoring, documentation)	Digital platforms, collaborative tools, generative AI	Increased access to knowledge, but the risk of information overload
IP Creation	The result of long-term RandD processes and individual creativity	The result of human-AI collaboration, automation of ideation and prototyping	The result of human-AI collaboration, automation of ideation and prototyping
The pace of commercialization	Slow – long project cycles	Fast – thanks to digital prototyping and data analysis	Increased market flexibility, but quality risk with accelerated implementation
Organizational effectiveness	Moderate, depending on employee competences	High – supported by data, automation and predictive analytics	Increased productivity, but potential risk of homogenizing creativity
Risks and limitations	Limited pace of innovation, dependence on key people	Excessive automation, copyright issues, ethical issues	The need for balance between technology and a culture of innovation

Source: Prepared based on: Nonaka, Takeuchi (1995), Amabile (1996), Davenport, Kirby (2016), Agrawal et al. (2019), Secundo et al. (2024).

In summary, the evolution of creative models is moving from individual competencies and social interactions towards digital and hybrid systems. Contemporary approaches increase efficiency and shorten time-to-market, but require the development of digital competencies, transformational leadership, and conscious management of organizational culture. Success depends on the ability to integrate technology with human creativity and to protect strategic knowledge assets, which is the foundation for sustainable innovation in the digital economy.

7. Conclusions and Recommendations

The analysis of the literature and illustrative case studies provides a coherent basis for understanding the role of artificial intelligence (AI) and digital technologies in shaping organizational creativity and intellectual property (IP) development. The findings suggest that AI and digital tools act as important enablers of change, influencing both the dynamics and structure of innovation processes. At the same time, their implementation introduces significant organizational, legal, and ethical challenges, requiring deliberate design of human–technology collaboration models. Importantly, given the qualitative and exploratory nature of the study, the conclusions should be interpreted as analytical generalizations, reflecting recurring patterns rather than empirically tested causal relationships.

7.1. Research Conclusions

The study indicates that digital technologies, particularly AI, contribute to the transformation of creative processes in several ways. First, AI acts as a catalyst for creativity by accelerating idea generation, supporting data-driven decision-making, and enabling rapid testing of alternative solutions. These effects are particularly visible in iterative and experiment-based innovation processes. Second, the effectiveness of AI-enabled creativity is strongly conditioned by organizational factors, including innovation culture, leadership, and collaboration practices. Organizations characterized by openness, learning orientation, and interdisciplinary cooperation are more likely to realize the potential of AI in creative processes. Third, the findings highlight the importance of human competencies in AI-supported environments. The development of digital, analytical, and interpretative skills is essential for effective human–AI collaboration and for the meaningful use of AI-generated outputs. Fourth, the study identifies emerging legal and ethical challenges related to authorship, accountability, and transparency in AI-assisted creativity. These issues remain underdeveloped and require further conceptual and regulatory clarification. Overall, the results support the assumptions of the proposed conceptual model, indicating that the relationship between AI adoption and innovation outcomes is mediated by process-related mechanisms and moderated by organizational conditions.

7.2. Recommendations for Management Practice

Based on the findings, several implications for management practice can be identified.

- Human-centered AI integration – AI should be implemented as an augmentative tool supporting human creativity, while strategic decision-making and evaluation processes remain human-driven.

- Development of knowledge management systems – organizations should invest in digital platforms that support knowledge sharing, learning, and interdisciplinary collaboration.
- Organizational culture and competencies – fostering a culture of experimentation, openness, and continuous learning is critical, alongside investment in digital and managerial capabilities.
- Governance and ethical frameworks – organizations should develop internal policies addressing intellectual property, transparency, and accountability in AI-supported processes.
- Interdisciplinary innovation structures – integrating technical, managerial, and legal expertise enhances the effective use of AI in complex innovation ecosystems.

These recommendations should be interpreted as context-dependent guidelines, rather than universally applicable solutions.

7.3. Recommendations for Public Policy and Future Research

The rapid development of digital technologies creates new challenges for public policy and research. From a policy perspective, there is a need to strengthen institutional capacities for monitoring and regulating AI-driven innovation. This includes the development of frameworks addressing intellectual property rights, data governance, and algorithmic transparency. Supporting collaboration between academia, industry, and public institutions is also essential for building sustainable innovation ecosystems. Public policy should additionally promote:

- access to digital technologies and innovation infrastructure,
- support for SMEs and diverse innovation actors,
- development of digital competencies at the societal level,
- alignment with broader sustainability goals, including responsible and inclusive innovation.

From a research perspective, future studies should focus on:

- empirical testing of the proposed conceptual model using quantitative and mixed-method approaches,
- development and validation of measurement instruments for constructs such as AI intensity and knowledge conversion efficiency,
- analysis of AI's impact on innovation performance, diversity of ideas, and organizational structures,
- exploration of legal and ethical dimensions of AI-assisted creativity across different institutional contexts.

8. Conclusion

This article provides a conceptual and integrative perspective on the role of artificial intelligence and digital technologies in transforming organizational creativity and intellectual property development. The findings indicate that AI contributes to faster idea generation, enhanced knowledge processing, and more iterative innovation processes. At the same time, its impact is not autonomous but depends on the interaction between technological capabilities, organizational conditions, and process dynamics. The study advances the literature by proposing a multidimensional conceptual model that captures these interactions and introduces a structured framework for analysing AI-enabled creativity. In particular, it highlights the importance of mediated and moderated relationships between technological, organizational, and outcome variables. However, due to the exploratory and qualitative nature of the research, the conclusions should be interpreted as theoretical propositions rather than empirically validated findings. Overall, the study suggests that effective creativity management in the digital era requires a balanced and context-sensitive approach that integrates technology, organizational culture, and governance mechanisms. While AI plays an increasingly important role in innovation systems, human actors remain central as interpreters, decision-makers, and creators of meaning.

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