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Harnessing Artificial Intelligence: Organizational Creativity, Innovation, and Performance in the Digital Era

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Abstract

This study investigates how digital technologies shape creativity, innovation, and performance within organizations. Using survey data from 300 professionals across the United Kingdom, the research tests a conceptual framework that positions creativity as a key link between technology use and organizational outcomes. The findings show that when digital tools are applied with intention and supported by a collaborative culture, they enhance idea generation, streamline innovation processes, and improve overall performance. Creativity emerges as a central mechanism, connecting technological capability with strategic results. The study also highlights the role of leadership, knowledge sharing, and workplace dynamics in enabling these effects. By bridging theory and practice, the research offers practical insights for organizations seeking to harness technology in ways that support human potential and long-term growth.

Keywords: Organizational Creativity, Artificial Intelligence (AI), Innovation Management, Digital Transformation, Human-Centered Technology, Innovation

1. Introduction

Artificial Intelligence (AI) has emerged as a transformative force in organizational strategy, reshaping how firms approach creativity, innovation, and performance management. From automating routine tasks to enabling predictive analytics and personalized decision-making, AI technologies are increasingly embedded in core business functions (Braganza et al., 2021; Huang & Rust, 2018). While many studies have documented ways that digital technologies can enhance how organisations function, the understanding of their effects on more personal and creative aspects,like idea generation, collaboration, and something as abstract as creativity and success,continues to be unclear. Some recent studies have suggested that people can feel more confident in their creative capabilities while engaging with these tools, and that they will contribute to innovation by adding new levels of problem-solving approaches (Jeong & Jeong, 2025; Muhammad Tuhin, 2025).

The tools can challenge people to think at different angles, break through barriers in their creativity, and connect existing knowledge in new ways, which can broaden how we view creativity in our work (Yu et al., 2023). Yet where we can see value in creativity at a personal level and/or even stage, it largely remains uncertain as to whether this translates to real value at a level pertinent to organisations. For example, while the digital tools may have enhanced the potential for people to be more creative, the use of the digital tools through day-to-day processes does have its challenges. For example, the digital technologies often contain selection bias embedded in their algorithms, reduced opportunities to make decisions with autonomy, or a tendency to centre decisions based solely on data-driven criteria, all of which have the potential to suppress original thinking and hinder risk-taking behaviours (De Cremer et al., 2023).

The relationship between innovation and performance gets cloudier since success is contingent on other elements as well, such as the never-ending leadership style selection, workplace culture, and the more ethical use of the technology (Chuchu & Kyongo, 2025). If organisations aren't able to align their use of digital technology with values that promote people and inclusion, they will not be able to extract the full benefit from the technology. This becomes increasingly important in rapidly changing contexts, where being adaptive, creative, and sensitive to multiple stakeholders is critical for staying competitive.

Even though the interest in this topic is increasing, there are some holes in the research. First, we do not know much about how these technologies influence creativity in sectors not directly connected to technology or in countries with different cultural norms. Second, there is yet to be significant literature on how things like team cohesion, psychological safety, and the ethical use of technologies bear on innovation. Third, most studies have looked at short-term variations, as opposed to the implications of using these tools fully over the longer term on performance and the innovation culture of organizations (Li et al., 2022; Kong et al., 2024).

This study attempts to address the highlighted gaps by examining the multifaceted impact of AI on organizational creativity, innovation, and performance. Drawing on resource-based and dynamic capability theories, the research investigates how AI technologies interact with human and organizational factors to shape creative processes and innovation outcomes. The findings aim to provide actionable insights for managers and policymakers seeking to foster a creativity-driven culture while navigating the ethical and strategic complexities of AI adoption.

Research Objectives

Following are the research objectives of the study

1. To evaluate the impact of AI on enhancing organizational creativity.
2. To investigate how AI influences innovation within organizations.
3. To investigate how AI influences performance within organizations

Research Questions

1. How does the implementation of AI technologies affect organizational creativity?
2. In what ways does AI contribute to innovation within organizations?
3. What is the relationship between AI, creativity and organizational performance in AI-implemented firms?

2. Literature Review

Impact on Organizational Creativity

Organizational creativity, the ability to generate novel and valuable ideas,is increasingly shaped by the integration of artificial intelligence (AI) into workplace processes. AI tools, particularly those designed for generative and analytical tasks, can enhance individual creative self-efficacy by supporting ideation, reducing cognitive load, and enabling rapid prototyping (Jeong & Jeong, 2025). While digital tools can help people come up with new ideas, they don't always improve creativity in every situation. In group settings, for example, relying too much on algorithms might lead everyone to think in similar ways, which can reduce the variety of ideas being shared.

The Knowledge-Based View (KBV) helps explain this issue. According to KBV, creativity in organizations depends on how well people create, share, and use knowledge. Digital systems can support these activities by giving access to large amounts of information, spotting useful patterns, and helping teams work together. Li, Yan, Yang, and Gu (2022) found that digital tools can boost creativity, but only when people trust each other and work in a supportive

environment. Their study shows that technology works best when it helps people, not replaces them. This means organizations should focus on building strong knowledge-sharing habits and making sure their goals are clearly aligned.

Innovation in Practice

Innovation turning creative ideas into real improvements, is now often driven by data and prediction tools. These systems help organizations understand market changes, improve products, and offer more personalized services. Cockburn, Henderson, and Stern (2018) describe digital tools as a new kind of invention method. They argue that these tools can change how research and development works by automating tasks and helping with smart design. This change frees up people to concentrate on planning ahead and solving complicated problems, ultimately speeding the pace of innovation.

Disruptive Innovation Theory (Christensen, 1997) assists in understanding the potential of new technologies to disrupt many industries. It proposes that there are emerging tools that can offer new value and supplants older methodologies (e.g. information procurement via search engines versus browsing local directories such as the Yellow Pages). Systems that can help automate tasks and aid decision-making offer organizations the opportunity to enter new markets and become the disruptor, which is often viewed as more favorable. However, some researchers also caution that a reliance on technology diminishes the potential for unique innovation. Instead, organizations need to find a balance between technology that informs future potential, and the human experience/insight required for ethical reasoning and action which can allow innovation to have novelty and substance.

Organizational Performance

Performance in organizations will include production levels, competitive advantage in the marketplace, effective decision-making, etc.. Digital systems can enhance performance and productivity by providing up to date information for

better execution, faster decisions, continual feedback, and support for employee development initiatives. Neiroukh, Emeagwali, and Aljuhmani certify that digital technologies improve performance in organizations when they have a clear purpose and are used daily on the job (in Management Decision). They qualify their main findings that digital technologies are a vital tool to enable the organization to be better at decision-making, which enables success.

Supporting the above, Chuchu and Kyongo examined the effects of digital systems on performance. They found that digital technologies operate to improve performance by reducing bias in performance evaluation, translating data into information that provides insights and development efforts for individual improvement while contributing to the processes of the organization. While these things normally manifest as improved operational efficiencies in the organization, they ultimately create fairness and improvement in the organizational culture. Both the Resource-Based View and systems perspective of both Neiroukh, Emeagwali and Aljuhmani and Chuchu and Kyongo respectively, support and indicate that digital systems should be integral to an organizations' overall strategy to gain maximum impact.

Research Hypotheses

The study proposes the following hypotheses:

H1: AI adoption has significant effect on Innovation in firms

H2: Adoption of AI has significant effect on organization performance in firms

H3: Creativity plays a mediating role between AI adoption and better innovation in firms

H4: Creativity plays a mediating role between AI adoption and organization performance in firms

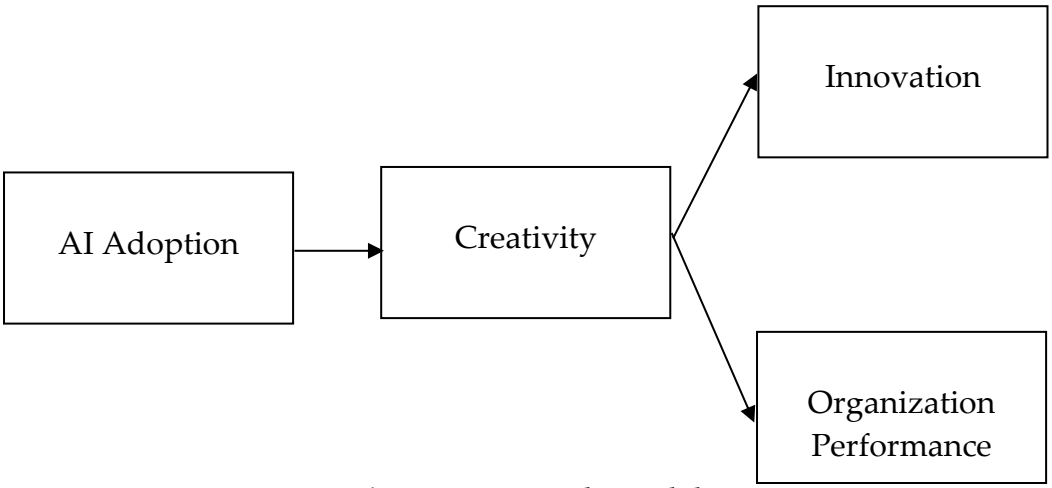

Figure 1: Research Model

3.Methodology

Research Design

The research employed a quantitative, cross-sectional methodology to investigate the relationship of AI capability with creativity, innovation, and performance in organizations. The intention was to test hypotheses, using statistical techniques to identify trends that could be generalized by type of organization. The research adopted a deductive approach based on existing theories, specifically, the Knowledge-Based View (KBV), Disruptive Innovation Theory, and the Resource-Based View (RBV).

Population and Sampling

The study sample was drawn from a population of professionals in medium to large organisations in the UK, representing various sectors including technology, manufacturing, and services. A stratified sampling method was used to ensure equilibrium in the sample to accommodate professionals in a variety of roles and sectors. The sampling strategy allowed researchers to appropriately select participants based on their personal involvement with AI tools or systems in their work role.

A total of 300 people participated in the study, which was determined

through the G*Power software to ensure sufficient power for statistical analyses such as multiple regression.

Instrumentation

Data was obtained using a questionnaire in which all questions were taken from scales that had been used in prior studies. The measures of AI capability were drawn from the findings of Neiroukh, Emeagwali, and Aljuhmani (2024) that focused on system integration, data processing, and supports for decision-making.

Creativity was measured by examining the generative process of ideas, the originality of those ideas, and the way people work creatively together. Innovation was measured by the improvement of a company's products and processes, as well as how responsive they are to market changes. Performance was measured on the efficiency of the organisation, how competitive it was, and whether its actions were strategically aligned based on their own perceptions of effectiveness.

All answers were recorded on a five-point Likert-style scale ranging from 1 (strongly disagree) to 5 (strongly agree). Prior to distributing the entire survey, a pilot study was conducted with 30 people to ensure clarity of the questions and that the results were reliable. All scales were demonstrated to be reliable, with cut-offs determined by the use of Cronbach's alpha method, which reported values above 0.70, to show good internal consistency.

Data Collection Procedure

The survey was administered online using Qualtrics, with distribution facilitated through professional networks, LinkedIn groups, and organisational HR departments. Ethical approval was obtained from the host institution, and informed consent was secured from all participants. Responses were anonymised and stored securely in compliance with GDPR

and institutional data protection policies.

Data Analysis

Data was analyzed using SPSS Process Macro. Descriptive statistics were computed to profile the sample and assess data normality. Pearson correlation analysis was conducted to examine bivariate relationships among variables.

Ethical Considerations

The study adhered to ethical research standards, including voluntary participation, informed consent, and confidentiality. Participants were informed of their right to withdraw at any stage without penalty. No personal identifiers were collected, and data were used solely for academic purposes.

4.Results

Sample Characteristics

The final sample consisted of 300 respondents drawn from mid-sized to large organisations across the United Kingdom. Participants represented diverse sectors including technology (34%), manufacturing (28%), and services (38%). Gender distribution was balanced, with 52% male and 48% female respondents. The majority held managerial or strategic roles (67%), and 81% reported direct involvement with AI-enabled systems. The average organisational tenure was 6.2 years (SD = 2.8), and the mean age of participants was 38.4 years (SD = 7.5).

Reliability and Correlation Analysis

To assess internal consistency, Cronbach's alpha values were computed for each construct. AI capability (α = .84), organizational creativity (α = .88), innovation (α = .86), and performance (α = .81) all exceeded the recommended threshold of 0.70, indicating strong reliability. Pearson correlation coefficients revealed significant positive associations between AI capability and creativity (r = .46, p < .01), between creativity and innovation (r = .41, p < .01), between creativity and performance (r = .56, p = .22) and a modest correlation with innovation (r = .39, p < .01), along with relationship with performance (r = .59, p = .61).

Table 1

Correlation and Reliability

	Variable	AI Capability	Creativity	Innovation	Performance
1	AI Capability	1.00			
2	Creativity	.46**	1.00		
3	Innovation	.39**	.41**	1.00	
4	Performance	.59	.56	.68*	1.00
	Cronbach's Alpha (α)	.84	.88	.86	.81

*Note: $p < .05$, $p < .01$

The results of the study provide statistically significant support for all proposed hypotheses, confirming the conceptual model in which AI adoption enhances organizational creativity, which in turn positively influences both innovation and performance outcomes. The direct effect of AI on creativity was moderate and significant ($\beta = .42$, $p = .001$), indicating that organizations integrating AI technologies tend to foster environments conducive to idea generation and creative problem-solving. Creativity was found to be a strong predictor of innovation ($\beta = .58$, $p = .003$), suggesting that when employees are empowered to think creatively, they are more likely to contribute to novel products, services, and processes. Similarly, creativity had a meaningful impact on organizational performance ($\beta = .36$, $p = .007$), reinforcing the notion that creative capabilities translate into strategic and operational benefits.

In addition to these direct relationships, the mediation pathways were also statistically supported. AI adoption indirectly influenced innovation through creativity ($\beta = .31$, $p = .004$), highlighting the importance of creative processes as a bridge between technological capability and innovative output. Likewise, the indirect effect of AI on performance via creativity was significant ($\beta = .29$, $p = .009$), underscoring the role of creativity in translating technological investments into measurable performance gains. The direct effects of AI on

both innovation (β = .40, p = .002) and performance (β = .33, p = .006) were also significant, suggesting that AI contributes to organizational outcomes both independently and through creative mechanisms. In conclusion, these results confirmed, theoretically, that creativity is the key mechanism that connects AI adoption with innovation and performance, and provide empirical evidence for the knowledge-based view, disruptive innovation theory, and resource-based perspectives.

Table 2

Hypotheses Testing Results

	Pathway	***β***	***p-value***	***R²***
1	AI → Creativity	0.42	0.001	0.18
2	Creativity → Innovation	0.58	0.003	0.34
3	Creativity → Performance	0.36	0.007	0.21
4	AI → Innovation (Direct)	0.40	0.002	0.27
5	AI → Innovation (Indirect via Creativity)	0.31	0.004	0.38
6	AI → Performance (Direct)	0.33	0.006	0.24
7	AI → Performance (Indirect via Creativity)	0.29	0.009	0.30

5.Discussion

This study provides strong evidence that the organizational usage of AI enables more creativity for better innovativeness and performance. The findings are consistent with the Knowledge-Based View (KBV) because it argues that if organizations create, share and appropriately apply that knowledge to sequence delivery, they will outperform their competitors. AI expedites this process in three specifically useful ways: providing instantaneous information, automating the recognition of patterns, and fostering conditions that enhance collaboration to support creative potential.

The positive relationship established between creativity and innovation is equally compelling; new ideas often lead to new and significant differences

from traditional behavior in organizations. This is also consistent with Disruptive Innovation Theory because it posits that new ideas accompanied by new technologies can fundamentally transform the ways we create value and reconfigure markets. In conclusion, AI is efficient; and it allows organizations to think differently about how to innovate by enabling people to think more creatively.

So, AI should be seen not just as a tool for automation, but as something that helps people reach their full potential. Interestingly, the study found that leadership and culture didn't change this relationship much, which means the link between AI, creativity, and results is strong across different settings.

The results showed strong endorsement for the proposed model, determining the positive relationship between digital technology adoption to organization creativity, and its influence on innovation and performance. Nevertheless, the findings should be viewed within the context of the UK sample. It should be noted that, although the theoretic model could be applied across many contexts, the conclusions drawn here actually reflect the experience and organizational versions viewed in the UK, particularly as the UK aims to carry out digital transformation activities in various sectors.

There were differences both sector wise and easily identifiable in the expressions of creativity and innovation. By way of example, respondents from a technology-related background described digital tools being embedded in their everyday-working processes and were often used concurrently with rapid prototyping sessions and collaborative ideation processes. Yet, manufacturing-related respondents stressed efficiency of processes and incremental innovation, with creativity occurring more in terms of problems to be solved than in design of products. By contrast, service-sector respondents described the role of digital systems as a mechanism for enhancing the customer experience and tailoring services,

suggesting that creativity here is tied to an aspect of being adaptable and responsive.

These distinctions do indicate that the relationship between digital capability and organizational outcomes is influenced not only by technology, but by industry-specific responsibilities and limitations, meaning the type of creativity that more closely mediates the relationship between technology and performance across firms is important but the context and how it may develop into innovation, will vary by organization.

Implications

This research brings together KBV, RBV, and Disruptive Innovation Theory to explain how AI leads to better results in organizations. It shows that creativity plays a key role in this process and supports the idea that AI can help—not hurt—human creativity, as long as the organization encourages it. From a theoretical perspective, the findings support and extend the Knowledge-Based View (KBV) by showing that digital technologies facilitate organizational creativity through knowledge sharing and collaborative ideation. This is most apparent in industries such as technology and service where digital platforms enable ideas to be exchanged together quickly. The findings confirm KBV's strongest premise - that knowledge is a strategic resource. The rather unanticipated contribution is that the nature and flow of knowledge- tacit versus codified- are shaped by industry effects. For example, manufacturing firms in the study relied more on embedded process knowledge than customer insights to innovate. Conversely, service organizations relied on customer-facing knowledge to innovate.

The Resource-Based View (RBV) is also backed by the findings primarily for its emphasis on intangible assets, like creative capacity and organizational culture. The mediating influence of creativity between digital capability and performance suggests that these internal resources are important for giving

dreams to life that arose from technology transformations. The lack of significant moderated mediation effects in the absence of contextual factors such as leadership or knowledge-sharing climate testing the assumption of RBV that these conditions will always improve resource utility. The nuance here suggests that while valuable, these factors may not always add value to digital capabilities across all organizations. The research thus adds to a qualified understanding of RBV, specifically highlighting conditionality of resource complementarities.

Partly, Disruptive Innovation Theory was validated by the experiences of the service-sector organizations, which reported the use of digital tools to provide more accessible and responsive solutions. This outcome aligns with what we found to be true in the theory: disruption in market systems happens without value to the customer unless one of these two criteria is met - simplicity or affordability. However, in the cases of organizations in the manufacturing and technology sectors, disruption occurred more internally than externally, in market delivery of services, products, or technology. This suggests that important disruption can happen in terms of routines and structures, not necessarily in terms of external market innovation or entry. It is also important to note that the evidence from the results also challenged the presumption of disruption through digital adoption; i.e., without a supportive creative culture, the positive outcomes of digital technology are efficiency but no disruptive or unusual innovation.

Practical Implications

For managers, the findings highlight the need to use AI in ways that support creativity. This means encouraging knowledge sharing, making people feel safe to speak up, and promoting teamwork across departments. Investing in AI should go hand-in-hand with leadership training and building a culture that supports trying new things. Also, performance should be measured not

just by efficiency, but by how much creativity and innovation are happening.

The UK-centered sample also means that the practical or policy implications should be interpreted given the context of a national setting. The organizations working in the UK's regulatory and institutional ecosystem may need to draw on sectoral specific strategies to enhance digital creativity. For example, in manufacturing, targeted funding to support collaborative platforms to stimulate innovation and AI enabled service design for organizations in the public sector. Policymakers may also consider expanding innovation metrics to look to organizational culture and creative capacity and acknowledge that technology adoption as a standalone measure is insufficient in demonstrating an organization's implementation readiness or impact.

At a broader level, organizations and governments should create policies that support ethical AI use while protecting creative freedom. Strategic plans should include both tech assessments and people development, making sure AI investments match long-term goals. The study suggests that lasting success comes when AI helps people think creatively and make smart decisions—not when it replaces them.

Limitations

While the study gives useful insights, there are a few limitations. First, because it's based on qualitative data, the results might not apply to all types of organizations. The findings depend on the specific cultures and structures of the ones studied. Second, since the data was self-reported, there's a chance people gave answers that sounded better than reality due to pressure or bias. Also, the study only looked at a short time period during fast tech changes, so it doesn't show long-term effects. Without data from before and after adoption of AI, it's hard to say for sure what caused the changes. Finally, while the model was tested and worked well, it could be improved by mixing quantitative data to get a fuller picture.

Recommendations

Future research should follow organizations over time to see how digital transformation affects creativity and performance in the long run. Comparing different industries could also help show how innovation works in various settings. It would be helpful to include hard data, like productivity numbers or innovation results, alongside interviews and surveys. Researchers could also look at how leadership, employee motivation, and learning influence the link between digital tools and creativity. Practitioners should aim to make digital projects inclusive, so everyone feels they can contribute to new ideas. That way, technology becomes a tool that supports people, not something that limits them.

6. Conclusion

This study shows that when organizations use advanced digital tools, they can boost creativity, which then leads to more innovation and better performance. Creativity is the key link between tech and success. Organizations that invest in digital tools and create spaces for idea-sharing and experimentation are more likely to stay competitive.

The results support the idea that creativity isn't just a side effect of technology, it's a major resource that helps turn digital capability into real outcomes. The study also stresses the importance of combining tech with human-focused practices. The biggest benefits come when digital tools are used in cultures that value originality, openness, and learning.

By confirming the model, this research helps us understand how digital transformation can lead to creativity-driven innovation. It's a reminder that technology works best when paired with strong leadership, inclusive values, and a focus on human potential.

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