DIGITAL CREATIVITY AND SOCIAL INNOVATION: MANAGING AI TOOLS FOR HUMAN-CENTERED CHANGE

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Introduction

Relevance Digital creativity – the use of digital technologies to generate new ideas, products, or solutions – is increasingly intertwined with social innovation, defined as the development of novel solutions to social problems that improve effectiveness, sustainability, or justice (Phills et all, 2008). In the European Union, there is a strong emphasis on leveraging AI for both economic competitiveness and societal benefit. The EU's approach to artificial intelligence centers on "excellence and trust," aiming to boost research and industrial capacity while ensuring safety and fundamental rights (European Commission, 2025). This human-centric philosophy positions AI as a means to achieve broader social goals in line with European values (Minevich, 2021). As a result, people and businesses are encouraged to enjoy the benefits of AI "while feeling safe and protected" under robust ethical and legal frameworks (European Commission, 2025). Despite high-level support, implementing digital creativity and social innovation through AI poses practical challenges. For example, how can organizations ensure that AI tools are designed and implemented with human needs in mind? What governance mechanisms are needed to ensure that AI-based innovations are aligned with ethical norms, societal values, and so on? How can users and stakeholders be involved in the innovation process to ensure that solutions truly meet societal needs? This study explores these questions through theoretical frameworks and case studies in the EU context (particularly Lithuania). We sought to identify how AI tools are managed in business and governance contexts to facilitate human-centred change, considering theoretical frameworks – namely human-centred design (HCD), socio-technical systems theory, responsible AI governance and innovation diffusion theory - to inform our analysis. We also produced case studies from the EU, particularly Lithuania, illustrating creativity and social innovation using AI in practice. Examples include a virtual assistant improving public services in Lithuania and an AI-driven "digital twin" for smart city management in Vilnius.

Research problem How can organisations in the EU - particularly in Lithuania - manage AI tools so that digital creativity translates into human-centred social innovation rather than purely technical or profit-driven gains?

Aim To develop and illustrate a management framework that aligns AI-enabled digital creativity with human-centred change, supporting social innovation in business and public-sector governance.

Tasks 1. Review theoretical approaches such as: human-centered design, sociotechnical systems, responsible governance using artificial intelligence, innovation diffusion). 2. Analyze the context of EU and Lithuanian policies in particular in the field of AI and social innovation. 3. Select and analyze practical examples (virtual assistant "Simas"; digital snow removal system in Vilnius). 4. Identify success factors and barriers to the implementation of human-centered AI.

Research methodology The study is based on a qualitative, interdisciplinary approach to examine how AI tools are governed for human-centred social innovation. This approach included a literature review of academic research, EU policy documents and industry reports (to identify the underlying concepts and current discourse at the intersection of AI, social innovation and human-centred governance). An analysis of the current state of play in AI adoption at the EU level and in Lithuania in particular was conducted. Data for the case studies was collected from secondary sources, including project reports, news articles and stakeholder interviews published in the media.

Theoretical assumptions

Academic discourse on human-centered AI and social innovation today reflects considerations that span design, ethics, and societal impact (Fraisl et al., 2025; Tomašev et al., 2020; Foffano et al. 2025).

The field of AI for social good has gained prominence through interdisciplinary initiatives that have linked AI research to the Sustainable Development Goals (SDGs) (Tomašev et al., 2020) with researchers like Rediet Abebe (Abebe & Goldner, 2019) and Yoshua Bengio (UK Government, 2025) demonstrating how AI can address issues such as poverty, climate change. A recurring theme in recent research is the importance of measuring real-world impact and engaging local stakeholders. That is, effective AI for good projects require strong collaboration between technologists and subject matter experts to ensure that solutions are contextually relevant and socially beneficial (Tomašev et al., 2020).

In the field of human-centered AI, scholars like Fei-Fei Li advocate for AI systems that complement, rather than replace, human capabilities. She emphasizes the role of AI designed "inspired by human intelligence and biology" in improving human well-being (NPR, Fei-Fei Li, 2023).

This approach is widely accepted, but researchers such as Anton Siegfrids et al. note ambiguity in how to operationalize human-centered principles in governance, calling for more explicit ways to embed human rights and empowerment goals into AI policy (Sigfrids et al., 2023).

In responsible AI governance, the debate focuses on balancing innovation with oversight. Virginia Dignum and Luciano Floridi (Floridi, L. et al., 2020) argue for embedding ethics, transparency, and accountability in AI development, in line with the EU's risk-based regulatory efforts. Others emphasize the risk of one-size-fits-all regulation and propose more adaptive, context-sensitive governance models.

We base our analysis on a comparison of theoretical frameworks related to AI governance, from a micro-level focus on users (HCD) to macro-level models of innovation diffusion. Drawing on theories of human-centered design (HCD), socio-technical systems, responsible AI governance, and innovation diffusion, we attempt to present an AI governance framework for human-centric social innovation (Figure 1).
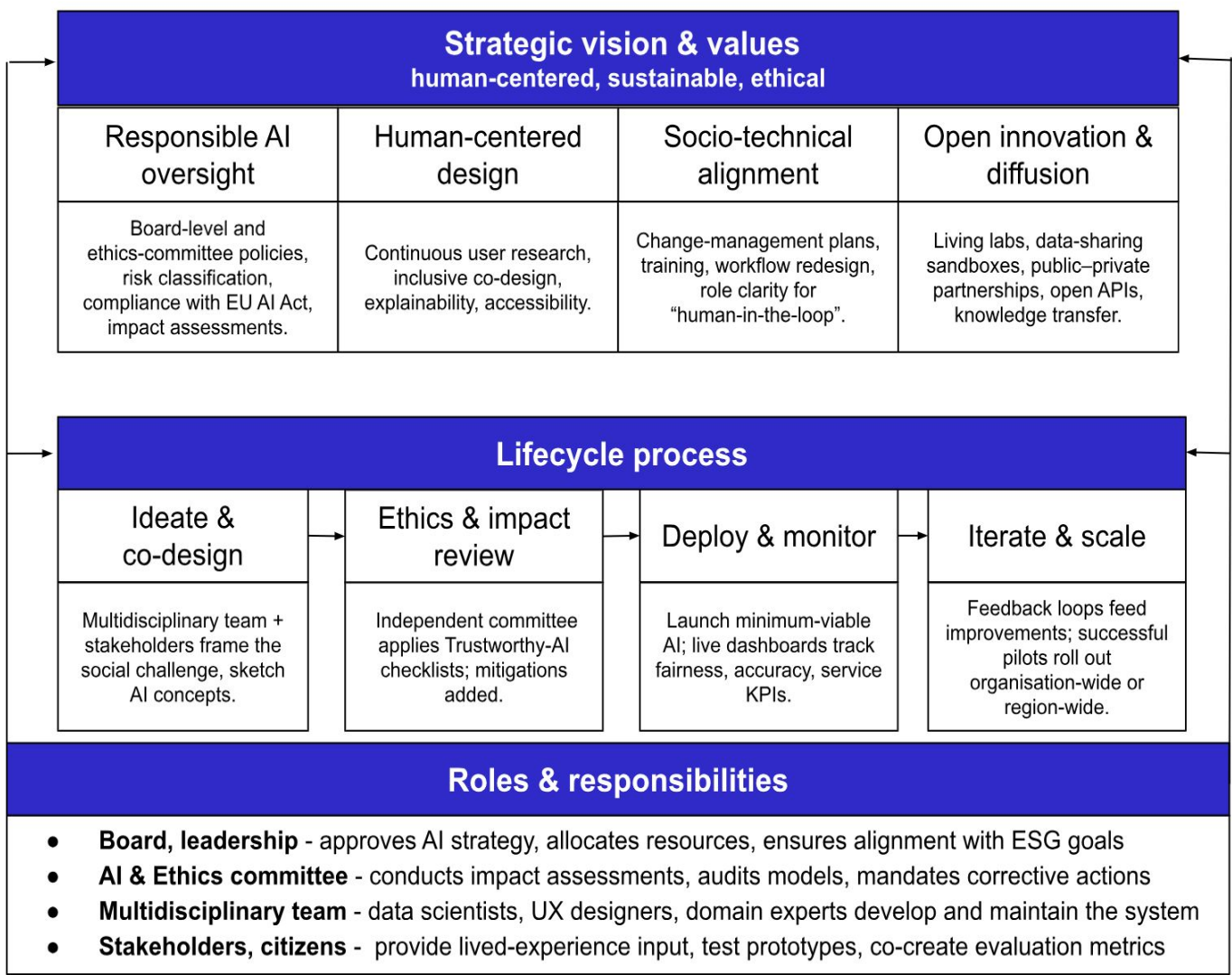

Figure 1 - An AI governance framework for human-centric social innovation
Source: created by author

Research results

The COVID-19 pandemic has accelerated the cross-sector adoption of AI to deliver people-centric solutions, with 2020 marking a turning point. Technology initiatives across Europe have focused on human-centric outcomes, ushering in what some are calling a new era of AI-powered social innovation. EU countries such as Denmark, Slovenia and Estonia have led the way, demonstrating how AI can drive digital government and improve citizens' lives. Table 1 provides key statistics on AI adoption, public attitudes and use in specific sectors in the EU and Lithuania.

Table 1 - AI-enabled social innovation in EU and Lithuania

Indicator	EU	Lithuania	Source
1. Enterprises using AI technologies , %	13.5 % of enterprises (2024)	4.9 % of enterprises (2023)	Eurostat (13, 14)
2. Workers seeing AI as beneficial at work , %	66% of employees (2024)	76 % of employees (2024)	Euronews (15)
3. Local governments adopting AI, %	27 % (survey of EU regions)	(n/a: national data not available)	JRC AI Watch survey (16, p. 4)
4. Large cities with "smart city" AI initiatives	~ 90% of cities > 500 k pop. (2021)	100 % (Vilnius, only > 500k city)	EUsurvey (16, p. 10)

Source: created by author

Thus, AI adoption among businesses in Lithuania remains below the EU average. However, public opinion in Lithuania is relatively optimistic – 76% of Lithuanian employees rated the impact of AI at work positively, one of the highest in Europe (the EU average is 66%). This suggests a receptive environment for human-centred AI innovation. In the public sector, approximately 27% of local/regional authorities across Europe report implementing some form of AI. In urban planning, almost 90% of large European cities (with a population of over 500,000) have launched smart city initiatives, including Vilnius, which uses AI for traffic management and public services, highlighting the widespread adoption of AI in urban innovation.

The study looked at two case studies: "Simas" - a virtual customer service assistant implemented by the State Tax Inspectorate (STI) of Lithuania, and the AI-powered digital twin of the city of Vilnius (the city uses drones and AI in a "digital twin" system to improve city services such as snow removal) - Table 2. We analysed each case taking into account: (a) the socio-technical context (stakeholders, objectives, technologies used, and social setting), (b) how human-centred principles and ethical considerations were taken into account in the development or management of the AI tool, (c) the innovation process, including stakeholder engagement and user adoption, and (d) the outcomes and impacts in terms of social innovation (improved services, inclusiveness, increased efficiency, benefit to society)

Table 2 - Case studies human-centric AI projects: Lithuanian experience

Dimension	"Simas" (Tax Chatbot)	Vilnius digital twin
Human-centred design	Iterative training on citizen queries; Lithuanian language support	Drone imagery & AI mapped to colour-coded dashboard for planners
(a) Socio-technical fit	Human-in-the-loop for complex issues	City staff interpret AI outputs; manual verification tier
(b) Governance & ethics	Transparency about AI use; data-privacy limitations	Public communication; human accountability for final decisions
(c) Impact	94 000+ queries answered in 5 months; reduced waiting lines	4-hour post-blizzard street clearance; faster resource allocation
(d) Diffusion factors	Clear advantage & 24/7 access increased adoption	Visible results (clean roads) and cross-department data sharing accelerated uptake

Source: created by author based on In Lithuania's Capital, 2024 ; Artificial intelligence, 2022

CONCLUSIONS AND RECOMMENDATIONS

With careful and forward-looking management, AI tools can help generate creative solutions to long-standing societal challenges, enhance human creativity, and optimize processes in ways that unlock human potential. The European Union, through its policies and countless experiments on the ground, is blazing a trail that combines technological excellence with social responsibility. The study yielded the following key findings.

1. Focusing on human values is essential at every stage. Defining goals in terms of societal value, involving users and stakeholders in development, and ensuring that AI remains a tool that enhances human activity rather than replacing or displacing it. 2. Good governance and ethics build the trust and legitimacy needed for AI solutions to be accepted by users and society. The EU's leadership through frameworks such as the Trustworthy AI Guidelines and the forthcoming AI Act provide a foundation that organizations can integrate into domestic policies and a culture of responsibility.

3. Contextual adaptation and capacity building are critical. What works in one region or sector may need to be adapted in another. Local AI capabilities, regulatory environments, and cultural attitudes towards technology need to be considered.

4. Enterprises/corporate sectors should integrate AI governance into corporate governance, treating AI risks and ethics with the same seriousness as financial or security oversight. Opportunities should be sought where AI can advance corporate social innovation, such as increasing service availability, reducing environmental impact, or enhancing stakeholder engagement, thereby aligning digital transformation with societal needs.

Governments should support interdisciplinary research (bringing together technical and social sciences), funding pilot projects that solve community problems with AI.

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