
Artificial Intelligence as a Catalyst for Social Innovation: A Literature Review

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Abstract:

Purpose: The aim of this paper is to identify and synthesise the contribution of Artificial Intelligence (AI) in the broad sense to the process of creating social innovation, based on a five-component model of the social innovation process (Lewandowski, 2023). An additional aim is to synthesise available academic publications on this subject. The study is an empirical continuation of the analysis initiated in the article 'The Strive to Social Innovation that thrives on the mobile application: A Case Study of Too Good To Go', where the model of the social innovation process, based on components (Challenge, Participation, Creative Solution, Empowerment, Change), was adapted and described.

Design/Methodology/Approach: The study is conceptual in nature and uses a qualitative approach. A literature review was conducted as a theoretical basis for the concept of social innovation. The analytical part was based on desk research, which resulted in a collection of articles meeting specific inclusion criteria. The selected publications are presented in a table. The articles were subjected to qualitative content analysis in the context of the selected social innovation model as an analytical framework and were subjected to descriptive synthesis.

Findings: The analysis showed that there are many ways of addressing social challenges with the help of AI, which have been described in scientific literature. Based on the analysis of the social innovation process model, the contribution of individual solutions described in publications was demonstrated, and it was possible to link these solutions to selected stages of the social innovation process.

Practical Implications: The results provide structured insights that inspire action, enhance implementation, and encourage the responsible use of AI's potential to solve pressing societal challenges.

Originality/Value: In this publication, the latest articles combining the topics of social innovation and artificial intelligence were analysed. The model used in the study was employed to verify how AI solutions can contribute to the creation of social innovation.

Keywords: AI, artificial intelligence, social change, social innovation, social innovation model;

JEL codes: I31, L86, O3

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1. Introduction

Broadly defined Artificial Intelligence (AI) is consistently playing new and increasingly significant roles in the daily lives of groups and individuals (Adere, 2023; Tveita and Hustad, 2025). The use of AI tools appears in a multitude of areas: from academic applications (Dupps, 2023), through business solutions (Rios-Campos *et al.*, 2023), for healthcare solutions (Kim *et al.*, 2025) and many more.

Researchers point out that unethical use of AI tools can create new problems and challenges, especially in the social sphere – employment, information reliability and privacy (Mahajan, 2023) but also in the sphere of legal practices (Zafar, 2024).

There is already discussion today about the need to raise public awareness of the threats posed by the use of AI tools for criminal purposes (Hasan and Marisna, 2024). This also implies the need to engage additional resources and establish regulations for the use of these tools, which is certainly in the growth phase (Salle and Rini, 2025).

However, there is also another side to the coin. The involvement of social entrepreneurs, either independently or as part of a collective group, can lead to the use of these tools to address and combat social problems. It is in their hands that these tools can have a positive effect and lead to systemic change. The process of social innovation and its effects depend not only on the originators of new solutions, but especially on the involvement of society.

Apart from creating solutions, the biggest challenge seems to be persuading stakeholders to work together, which leads to the solution being promoted on as large a scale as possible. In developing these solutions, there is potential not only for social and charitable innovations, but also for those that can successfully combine a business model and profit with social need, as has already happened in the past (François and Goi, 2023; Neessen, 2021; Tyagi *et al.*, 2023).

In the literature on the subject, there is a need for further validation and application of social innovation models that integrate the role of the social entrepreneur and collective stakeholder action. The social innovation process model, described in detail in a 2023 publication (Lewandowski, 2023), provides such a proposed analytical framework. This publication aims to test this five-component model in the context of artificial intelligence-based solutions and their contribution to social innovation.

The aim of this article is to identify and describe specific opportunities that broadly understood AI brings to the process of social innovation creation, based on a five-component model of the social innovation process. An additional aim is to synthesise available academic publications on this subject. The methods used in the study include literature review, desk research and qualitative content analysis.

2. Literature Review

The concept of social innovation in the literature on the subject is defined as a more effective way of solving social problems than before. Social innovation uses social resources and existing needs to build the position of excluded individuals and groups, and the changes it brings about are systemic in nature (Portales, 2019).

This definition treats social innovation, on the one hand, as a new outcome, satisfying a certain social need that has arisen, which is in line with the perspective of authors in this field (Anheier *et al.*, 2019). Social innovation is also recognised as a multi-stage process (Weerakoon *et al.*, 2016), which, in striving for the final result, involves the participation of many actors and groups and has a beneficial effect on relations between actors or groups, and may also contribute to the creation of new social, economic or cultural norms within the framework of systemic change (Oeij *et al.*, 2019; Velinov *et al.*, 2023).

In their historical review of literature related to the concept of social innovation, Satalkina and Steiner (2022) point out that it is a complex phenomenon based on analytical reflection and interdisciplinary input, aiming at functional intervention (Satalkina and Steiner, 2022).

Conversely, a review comparing the concepts of social innovation and social entrepreneurship, as well as other publications on this subject, point to the links between this concept and transformation, development and implementation, or changes in social attitudes and practices (Sampaio and Sebastião, 2024; Grilo and Moreira, 2022).

Authors of these studies emphasise that social innovation is the result of research in various areas, including urban space, social growth, technology and social policy. The literature also refers to the process of social innovation and the challenges it addresses in relation to the goals of sustainable development (Qureshi *et al.*, 2021).

The essence of social innovation is also contained in the legitimacy of social cooperation and the satisfaction of social needs not only by the state, but especially by individuals and organisations working in the field of social need (Adro and Fernandes, 2020).

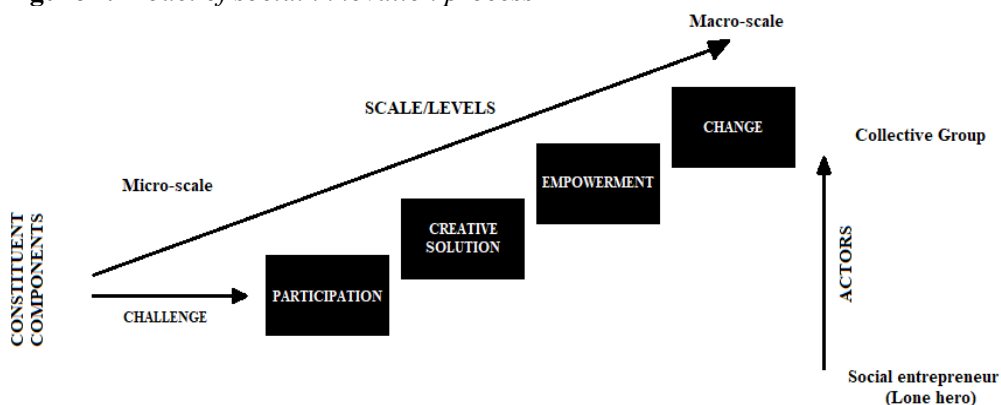
Howaldt and Schwarz (2010) point out that social innovation does not occur as a tangible technical effect, but rather manifests itself as a conscious combination of social practices used by actors or a group of actors (Howaldt and Schwarz, 2010). This approach considers innovation to be social depending on how widespread and accepted it is in society and whether the actions taken to address a social problem are conscious and coordinated.

The very concept of innovation in its interdisciplinary and cross-sectoral nature is presented on the basis of the Quadruple Helix Model (Steenkamp, 2019). The model explains the four main streams that drive the innovation process and, as a result, it can be applied to the formulation of concepts related to social innovation.

Based on research conducted in the field of social innovation modelling, there are many publications that address this issue from a business perspective (Fursov and Linton, 2022; Gasparin *et al.*, 2021).

In the context of technology and the development of social innovation in the digital sphere, attention is drawn to the emergence of products, services, processes and business models that result in the achievement of company goals, but also in the synergistic fulfilment of social needs (Lewandowski, 2023). When analysing the model of social innovation in the context of urban space, the most important social goals in its nature include networks, social relations, collaboration, social cohesion, satisfaction of human needs, improvements in quality of life, empowerment, sustainability, and scalability (Figueiredo *et al.*, 2022).

Figure 1. *Model of social innovation process*



Source: Own compilation based on van Niekerk and Manderson and Balabanova (2021).

The theoretical framework of this study is based on a five-component model of the social innovation process (Lewandowski, 2023), which itself is an adaptation of the model by Van Niekerk, Manderson and Balabanova (2021).

This model, illustrated in Figure 1, distinguishes the Social Entrepreneur as the initiator ('Lone hero') and divides the process into five main, cumulative components: Challenge, Participation, Creative Solution, Empowerment, and Change.

While the previous work focused on applying this model to a case study, the current analysis assesses the links present in the literature on the use of AI to create social innovation, specifically in the context of this model.

3. Methodology

Using a qualitative approach, this study is conceptual in nature. The methodology used in the study was based on a literature review, grounding the study in social innovation, which constituted the first stage of the study. The second stage consisted of an analysis of available publications combining the concepts of social innovation and artificial intelligence.

Analysis was conducted by combining desk research and qualitative content analysis methods using a five-component model of the social innovation process (Lewandowski, 2023) as an analytical framework.

This model was used to identify and subjectively determine the role of solutions described in the literature using broadly understood AI in relation to individual components (Challenge, Participation, Creative Solution, Empowerment, Change).

The second stage consisted of three phases. The first phase involved selecting scientific publications that met the criteria of specific keywords and the simultaneous occurrence of artificial intelligence (or AI) and social innovation. In the second phase, selected publications were reviewed and categorised according to authorship and year of publication, and core findings on AI's potential to social innovation process were extracted. The results of the review are presented in the table. The final, third phase consisted of a descriptive synthesis of the presented results in relation to the five-component model.

4. Research Results and Discussion

Results of the selection and analysis of publications are presented in Table 1. It shows selected publications that combine the keywords of social innovation and artificial intelligence.

Table 1. Review of selected publications on social innovation and artificial intelligence.

Author/-s (Year)	Core findings on AI's contribution to social innovation process
Bokhari, S. A. A., Myeong, S.(2022)	The contribution of AI to social innovation relies on the fact that AI, utilising large data sets from sensors, significantly influences social innovation and intelligent decision-making in smart cities (Bokhari and Myeong, 2022).
Nicoletti, B., Appolloni, A. (2023)	AI's key contribution to social innovation lies in supporting the transformation of industry towards servitisation 5.0, enabling resource optimisation and ecosystem collaboration to create human-centred, sustainable and resilient services that are at the heart of social innovation in this sector (Nicoletti and Appolloni, 2023).
Adel, H. M., et al. (2024)	The key contribution of AI to the social innovation process lies in its significant positive impact on social innovation in the healthcare sector, which then fully mediates the relationship between AI implementation and the achievement of a favourable environmental image for hospitals (Adel, et al., 2024).
Bilkis, M., et al. (2024)	The key finding regarding the potential of AI in social innovation, boils down to a method that integrates technical and social knowledge (Challenge-Device-Synthesis (CDS)), which is essential for developing AI technologies that effectively serve society and generate common good (Bilkis, et al., 2024).
Calzada, I. (2024)	AI, combined with decentralised technologies, is seen as a tool for social innovation and digital justice, enabling local communities to control their digital resources and counteracting the dominance of centralised data monopolies (data-opolies) (Calzada, 2024).
Rengaraju, N., et al. (2024)	An essential contribution of technology (including AI) to the process of social innovation is enabling social entrepreneurs to address complex social challenges more effectively by expanding their reach, democratising access to resources, and fostering community engagement (Rengaraju, et al., 2024).
Vărzaru, A. A., Bocean, C. G. (2024)	AI's contribution to social innovation lies in strengthening organisational efficiency and generating revenue from innovation by streamlining decision-making and production processes, which stimulates companies' ability to respond quickly to social and environmental challenges (Vărzaru and Bocean, 2024).
Eyvazzadeh, E., et al. (2025)	AI strategically amplifies social innovation, accelerating its achievements and opening new pathways to poverty reduction by facilitating data-driven collective action and creating platforms for collaboration to scale collective capacity (Eyvazzadeh, et al., 2025).

Source: Own compilation.

The use of AI in the social innovation process addresses the Challenge component at the global, sectoral, public and even methodological levels. Key social challenges include the global drive to overcome multidimensional poverty, which requires new digital social innovations (Eyvazzadeh *et al.*, 2025), and the need for social entrepreneurs to respond to complex social challenges (Rengaraju *et al.*, 2024).

Companies must address environmental and social challenges, which are a fundamental driver of innovation, crucial to the survival of the organisation (Vărzaru and Bocean, 2024). Sectoral challenges include the need for manufacturing companies to transition from a traditional product model to a service model, taking into account the principles of human-centredness, sustainability and resilience (Nicoletti and Appolloni, 2023).

The implementation of sustainable and socially responsible practices in operations and supply chain management in the healthcare sector is considered important (Adel *et al.*, 2024). In the field of public management, the challenge is to improve the delivery of e-services and optimise knowledge management in smart cities (Bokhari and Myeong, 2022).

Importantly, some publications identify AI technology, algorithms and datafication themselves as key challenges for social innovation, emphasising the need to move beyond a technocentric approach (Calzada, 2024). The challenges also highlight the need to link AI development with its social dimension in the design process (CDS methodology) (Bilkis *et al.*, 2024).

The Participation component is defined as a mechanism in which AI acts as a tool or platform, enabling broader and more effective engagement of actors (Calzada, 2024; Rengaraju *et al.*, 2024). Participation is implemented on many levels, from bottom-up support for self-organisation and citizen engagement, which is essential to prevent digital exclusion and achieve the common good (Calzada, 2024). It also manifests itself by facilitating collective action based on data to overcome multidimensional poverty (Eyvazzadeh *et al.*, 2025).

In a business and industrial context, AI actively supports collaboration on sustainable development and the capacity for customer co-creation as part of the transition to Servitisation 5.0. (Nicoletti and Appolloni, 2023). Furthermore, digital technology democratises access to resources and knowledge (Vărzaru and Bocean, 2024), which enables broader participation of actors and stimulates engagement in digital processes, such as the use of user-oriented e-services in smart cities (Bokhari and Myeong, 2022). Even in the operational sphere of healthcare, AI-enhanced processes facilitate the integration and sharing of information between stakeholders in the supply chain (Adel *et al.*, 2024).

AI as a Creative Solution enables the use of modern solutions to support new digital social innovations. It manifests itself in the area of alleviating multidimensional poverty (Eyvazzadeh *et al.*, 2025) and creating innovative processes in healthcare (Adel *et al.*, 2024). It also contributes to the provision of public e-services and knowledge management in smart cities (Bokhari and Myeong, 2022).

In the business sphere, AI can enable the transition to the Everything-as-a-Service (XaaS) model (Nicoletti and Appolloni, 2023) and automation of decision-making

processes to achieve competitive advantage and sustainable development (Vărzaru and Bocean, 2024). A critical aspect is the role of AI in reconceptualising social innovation (Calzada, 2024), where technology can serve to support local democracy by pursuing social goals in a responsible and ethical manner. Even in a methodological context, the solution requires the development of a device that integrates both technical and social aspects (Bilkis *et al.*, 2024).

Empowerment through AI manifests itself in supporting citizens and local communities, providing them with autonomy and tools for bottom-up problem solving (Calzada, 2024). In the context of global challenges, AI contributes to empowering beneficiaries by scaling collective capacities and facilitating collective action to reduce poverty (Eyvazzadeh *et al.*, 2025).

Empowerment applies to companies and institutions that gain increased operational and strategic capabilities: hospitals strengthen their ability to offer 'green healthcare' (Adel *et al.*, 2024), and manufacturing companies gain the ability to integrate resource optimisation (Nicoletti and Appolloni, 2023).

Public institutions improve the efficiency and quality of e-services, increasing residents' satisfaction (Bokhari and Myeong, 2022). Empowerment also takes place at the educational level, where students become more responsible and innovative engineers thanks to the integration of a social perspective into the process of designing AI solutions (Bilkis *et al.*, 2024).

Change, which is the culmination of AI-based innovation processes, signifies a profound transformation on many levels. At the public level, the Change can be a transformation of public service delivery, leading to more innovative and intelligent cities and a direct improvement in the quality of life of residents (Bokhari and Myeong, 2022).

In the economic sphere, there is a transformation of the business model towards outcome-based (Nicoletti and Appolloni, 2023) and human-centred and sustainable servitisation, which contributes to improving social welfare. Systemic change is also seen as a necessity for transformation towards decentralisation and technological responsibility, where AI serves to create the common good (Calzada, 2024).

In a social context, Change encompasses a transformative impact on social entrepreneurship, enabling more effective and scalable responses to complex challenges (Rengaraju *et al.*, 2024). It also accelerates social innovation and opens up new avenues for poverty reduction (Eyvazzadeh *et al.*, 2025).

Furthermore, AI can contribute to changes in design culture, minimising social risks and leading to more responsible technological development (Bilkis *et al.*, 2024).

5. Conclusions, Proposals, Recommendations

The purpose of this article was to identify and synthesise the contribution of AI to the process of social innovation, based on a five-component model of social innovation. The study was based on a literature review, desk research and qualitative content analysis.

The analysis showed that there are many ways of addressing social challenges with the help of AI, which have been described in scientific literature. Based on the analysis of the social innovation process model, the contribution of individual solutions described in publications was demonstrated, and it was possible to link these solutions to selected components of the social innovation process.

Among the most important challenges identified in the analysed publications are the need for a responsible approach to AI, the necessity to transform business and operational models, and challenges in the public and social sectors. The main contextual frameworks in the analysed publications were sustainable development and social responsibility, digital transformation and public services, scaling up social action, and ethical and design aspects.

It should be emphasised that the study is conceptual in nature, and the desk research was based on a selective selection of publications that met the keyword criteria. The conclusions from the analysed publications are synthetic, and the publications themselves emphasise the potential and declarations of AI capabilities rather than their long-term effects. This is due to the limitations of the still developing field of AI use in social innovation.

Future research in this area could be based on real case studies in primary research. It would also be worthwhile to develop a methodology for identifying the maturity of artificial intelligence solutions in the process of creating social innovation.

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