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The Role of Artificial Intelligence in NGOs: Challenges and Opportunities for Slovenia's Information Society

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Abstract:

As artificial intelligence (AI) emerges as a transformative global technology, its application by non-governmental organizations (NGOs), particularly those serving the public interest, is gaining significance. This paper examines AI's role in Slovenia's information society development, focusing on its potential benefits and challenges for NGOs. Using theoretical analysis and qualitative interviews, the study assesses AI's (potential) benefits and challenges, namely its impact on operational efficiency, decision-making, and societal engagement. While AI offers significant advantages, its adoption is hindered by financial constraints, limited technical expertise, and ethical concerns related to fairness and accountability of these systems. The findings highlight the need for a comprehensive, inclusive AI governance framework that prioritizes ethical considerations, enhances education and training, ensures adequate resource allocation, and fosters collaboration between the government, NGOs, and academic institutions.

Keywords:

advocacy, artificial intelligence, information society, NGO, public interest

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1. Introduction

Artificial intelligence (AI) has come to the forefront in recent years. While its applications are diverse, the body of literature on AI's use by NGOs remains limited. This can be attributed to the fact that AI adoption among NGOs is still in its early stages, particularly among those focused on developing an information society.

This paper presents research findings on the perceived opportunities and practical applications of AI among Slovenian NGOs working in the public interest within the field of information society development. Particular emphasis is placed on their advocacy role within AI policy discussions. Given that these NGOs specialize in digital transformation, they are well-positioned to leverage AI tools in their work. Since their activities are recognized as serving the public interest, it is essential to explore how AI can enhance their contributions to society.

The analysis follows a dual approach: first, it examines NGOs' advocacy role in AI-related policymaking; second, it assesses the impact of AI on their operational activities.

Nonprofit organizations worldwide have contributed to the development of AI in ways that serve the public interest, such as promoting diversity within the field and advocating for AI policies aligned with societal well-being (Cihon et al., 2021, p. 14).

While AI tools are widely available, their adoption and potential benefits remain poorly understood (Venkatesh, 2022). Existing literature explores specific applications of AI, such as its role in identifying, preventing, and combating human trafficking, where AI provides crucial support to law enforcement and NGOs in rescue and prevention efforts (Ijiga et al., 2024). Some scholars argue that over the past decade, AI has become an increasingly significant tool in enforcing international human rights law (Dulka, 2023). However, AI's impact on universal human rights depends on its use – whether benevolent or malevolent (Shope, 2022).

Further research examines AI's implications for various human rights dimensions, including ethical assessments in business (Kriebitz & Lütge, 2020), AI's role in humanitarian action (Pizzi et al., 2020), and the numerous legal challenges, gaps, and affected human rights principles associated with AI (Rodrigues, 2020).

A recent study highlights several ways in which AI can assist NGOs, including predictive analytics, supply chain optimization, real-time emergency response support, and program impact evaluation through outcome analysis. AI can also enhance outreach, expand access to vital services and information, free up human resources, and improve overall effectiveness. However, despite these advantages, significant challenges remain, such as sustainability concerns, data limitations, funding constraints, and a general lack of awareness (Efthymiou et al., 2023, pp. 2, 5, 6). The extent to which digital tools – such as AI, big data analytics, and blockchain – will transform NGO activities remains underexplored, yet it is an increasingly relevant area of study (Cordery et al., 2023, p. 7).

2. Literature review

The first focus of this paper is the advocacy role of NGOs, understood as any effort to influence public policy, institutional decision-making, or broader societal practices (Casey, 2011; GrantCraft, 2005; Jenkins, 2006; Casey & Dalton, 2006). In pursuing the public interest, NGOs engage in various aspects of information society development, such as advocating for a safer internet (Taraszow, 2013) and contributing to the prevention of digital violence, abuse, and disinformation (Silva et al., 2022).

Advocacy is a core NGO activity, and in the context of AI, NGOs play a crucial role in promoting the ethical and responsible use of AI across different sectors. Their efforts focus on ensuring that AI technologies are developed and implemented in ways that uphold human rights, promote transparency, and mitigate biases and risks. Key areas of NGO advocacy related to AI include ethical AI usage, human rights implications, data privacy and security, accountability and transparency, community engagement, and regulatory frameworks.

A recent study found that NGO documents, compared to those from the public sector, exhibit greater ethical breadth, engage more extensively with legal and regulatory matters, and are produced through more participatory processes (Schiff et al., 2021). Early research highlights the interdisciplinary challenges of implementing AI in public settings, which extend beyond technological considerations (Surya, 2019, p. 8). Even governments face significant difficulties in the widespread implementation of AI (Baek et al., 2016).

Recent studies have highlighted cases in which AI has perpetuated existing biases and deepened inequalities, further marginalizing certain groups in society. While AI presents significant opportunities, it also introduces new risks to human freedom, fairness, non-discrimination, privacy, and security, leaving critical questions about its human rights implications unresolved (Thinyane & Sasseti, 2020). Nevertheless, AI is widely regarded as a tool that can be harnessed for social good through the development of ethical applications, principles, and policies (Foffano et al., 2023).

Some scholars advocate for an ex-ante approach, emphasizing human-centered design as a fundamental principle (Mantelero, 2022). Research on AI-related documentation has found that NGO-produced documents tend to be more participatory in their creation, exhibit greater engagement with legal frameworks, and address a broader range of ethical concerns compared to those from private or public sector organizations (Schiff et al., 2021, p. 41).

There are frequent calls for AI policies and recommendations to be developed through independent, multi-stakeholder processes led by governments that include all affected parties, such as civil society and NGOs, to establish a framework for a 'good AI society' (Cath et al., 2018, p. 522). Similar arguments emphasize the benefits of fostering collaboration between public, private, and non-profit actors in public service delivery (Mikhaylov et al., 2018, p. 18). Additionally, some scholars have observed increased

participation by trade unions and traditionally less prominent NGOs in AI policy discussions within the EU (Niklas & Dencik, 2021).

Several scholars have also explored the second focus of this paper – the role and impact of AI on NGOs' activities. Policymakers have debated the advantages and drawbacks of AI for years, particularly as evolving laws and technological advancements increasingly influence the public sector. AI offers benefits such as efficiency, automation, enhanced decision-making, and innovation. However, it also raises concerns, including job displacement due to automation. While the long-term effects of AI on governance remain uncertain, its applications extend to knowledge evaluation, task completion, and pattern recognition across various sectors (Alhosani & Alhashmi, 2024, p. 10).

The adoption of AI in corporate settings for managing finance, human resources, and communication has also extended to NGOs (Guetzko, 2019). Certain areas of NGO activity have already begun integrating AI. For example, in environmental protection, AI plays an increasingly central role in analysing large datasets collected from satellites, drones, smartphones, and sensors worldwide. This technology supports environmental civil society organizations (CSOs) by enhancing knowledge production and field implementation capacity. AI applications in this sector include predicting climate change effects and storm trajectories, monitoring disease spread, analysing human decision-making processes related to energy consumption and environmental protection, and identifying areas most in need of intervention (Duberry, 2019).

Given such AI-driven advancements in other sectors, one might expect NGOs focused on developing an information society to exhibit a similar level of AI adoption. However, as our study demonstrates, this assumption is incorrect.

A report from the Google AI Impact Challenge (2018) also highlights the low rate of AI adoption among NGOs in their existing projects. Our research seeks to clarify the ongoing debate on the actual use of AI by NGOs and their related advocacy efforts, examining both the challenges and opportunities AI presents for Slovenia's information society development. The study focuses on a small group of NGOs engaged in information society development in Slovenia. These organizations were selected due to their explicit focus on digital transformation, including AI, which – in theory – should make them among the most likely to adopt AI tools in their advocacy activities.

3. Methodology

The theoretical section of this paper employs a descriptive approach, presenting existing literature to explain key concepts and established findings related to AI adoption by NGOs worldwide. The empirical part utilizes a qualitative research method – specifically, a focus group interview.

The focus group comprised six NGOs operating in the public interest within the field of information society development, along with their umbrella organization, the Network for an Inclusive Information Society (NVO-VID). Although the sample size is small, it is important to note that, out of more than 27,000 NGOs in Slovenia, only 32 are engaged in information society development. Of these, only seven hold the official status of an NGO working in the public interest in this field. One of these organizations, Duh časa, declined full participation in the interview, citing a lack of direct experience with AI but nonetheless providing valuable insights through a general response.

The limited number of NGOs in the sample was partially offset by the inclusion of the Network for an Inclusive Information Society (NVO-VID), which serves as a key coordinating body for civil society organizations in this sector. The network plays a crucial role in advocating for a high-quality information society and empowering individuals through digital technologies. In total, the focus group comprised representatives from seven NGOs.

Table 1:

List of experts

Expert	NGO Affiliation	Role/Title And Years in the NGO Sector	Field of expertise	Examples of projects
No.1	NVO-VID	Head of Networking and Advocacy 10 years	- digital inclusion - digital transformation of the NGO sector	- Na-prostem.si: Free software for the digital inclusion of NGOs and their users (https://www.na-prostem.si/about-project/); - NGO thematic network of an inclusive information society (https://www.informacijska-druzba.org/english/)
No. 2	INePA	Executive Director 17 years	- digital democracy research and development - information society and digital transformation policy	- Co-deciding Europe: Civic tech for good governance and active citizenship! (https://codedecidingeurope.eu/) - Co-creating digital policies in Slovenia (https://www.inepa.si/tag/codis/) - Smart eDemocracy Against Fake News (https://smartedemocracy.org/) - European Citizens Crowdsourcing (https://www.inepa.si/eucrowd/)
No. 3	Danes je nov dan	Executive Director 8 years	participation, democracy, digital rights	- Member of the EDRI AI Act Working Group - Author of Elevating Citizens' Voices - Co-founder of the Legal Network for the Protection of Democracy (The network provides support to individuals and organizations in court proceedings related to non-violent civic action and conducts strategic litigation to protect democracy and human rights. Recipient of the European Citizen's Prize 2022)
No. 4	Društvo Duh časa (Zeitgeist, Slovenian Sustainable Society)	President of Society 14 years	- computer reuse and recycling, - sustainable development	- Computers 4 All (Norway Grants 2014–2015), - Project Na Prostem (2022–2023)
No. 5	LUGOS	Secretary General of Society 20+ years	- intellectual property, - FOSS licensing and governance	- NVO VID, Na Prostem – co-founded both - OSI's (WIP) definition of OpenSource AI - Coordinated Slovenian involvement and participated in the drafting of Fiduciary License Agreement 2.0

				• One of the main authors of the Software Package Data Exchange ISO standards, OpenChain ISO standard • Co-authored LUGOS Slo • Inofficial coordinator of sorts during its current grassroots status
No. 6	Beletrina	Head of Digital Accessibility Sector, Project Manager 8 years	• digital accessibility • social inclusion	• DATIS: pioneers of accessible tourism, Multimodal Mobility, Na-prostem.si (FOSS)
No. 7	Simbioza	CEO and Co-founder. 15 years	• digital inclusion • digital competencies • intergenerational cooperation • lifelong learning • work with elderly/youth	• Simbioza, e-literacy Slovenia • Girls Do Code, Work in Tech • Simbioza Mobiln@ • Spark Digi Girls • Cyber Safe Senior • ICT4Elderly • E4W • E-HEALTH literacy • Simbioza Digital Academy • Journey through the digital world, etc.

Source: Author’s own, 2024

The findings presented in this study highlight potential applications of AI for NGOs while also raising important questions about its use – questions that will need to be addressed by governments, legislators, and NGOs themselves in the future.

This paper offers an in-depth content analysis of Slovenian NGOs engaged in information society development, examining their perceptions, insights, attitudes, experiences, and beliefs regarding AI. The research particularly focuses on NGOs’ advocacy capabilities within the AI policy spectrum, assessing their perceived potential for AI applications in promoting information society development, as well as existing ethical dilemmas.

The theoretical framework relies on secondary sources, including scientific articles and reports. Given the small sample size, the empirical part of the study employs a qualitative research method – specifically, a focus group interview. These interviews were conducted in April 2024 and centred around four main research questions (RQs), which were further divided into 35 sub-questions. While the first RQ examines the advocacy role of NGOs, the remaining three focus on the role and impact of AI on NGO activities. The primary research questions, whose responses are discussed in the results chapter, are as follows:

- **RQ1:** *What is the advocacy role of NGOs in the field of information society development, with an emphasis on activities related to artificial intelligence (AI)?*
- **RQ2:** *How do you perceive the role and impact of artificial intelligence (AI) in advancing your advocacy activities?*
- **RQ3:** *As an NGO working in the public interest in the field of information society development in Slovenia, how do you perceive the role of artificial intelligence (AI) in fostering the broader development of the information society?*
- **RQ4:** *How does artificial intelligence (AI) affect your performance and activities?*

The methodological approach applied in this study proved effective in achieving the research objectives, providing a nuanced understanding of the relationship between AI and the activities of Slovenian NGOs. The combination of a qualitative approach and a strong theoretical foundation allowed for a comprehensive analysis, which is further explored in the subsequent chapters on research results and discussion. This framework not only addresses the research questions in depth but also establishes a solid basis for future studies in this emerging field.

4. Research results

The analysis of primary data collected through interviews indicates that responses to RQ1 highlight a challenging environment for NGOs advocating for supportive AI policies and regulatory frameworks. Collaboration with policymakers and legislators is often hindered by a lack of understanding of NGOs' roles, with the Ministry of Digital Transformation (MDT) primarily perceiving NGOs as service providers rather than key stakeholders in AI policy development. This has led to selective communication with individual NGOs and limited opportunities for meaningful participation in the policymaking process.

One NGO expressed this frustration, stating: "In our experience, policymakers and legislators themselves are not professionally competent to set substantive premises in the field of AI regulation, nor do they involve the necessary experts, particularly from NGO and academic circles, who, in addition to knowledge, also have 'on-the-ground' experience."

While some NGOs engage in digital communication and international collaboration, their overall influence remains restricted due to sectoral limitations and the absence of effective multi-stakeholder structures for dialogue. As a result, NGOs often find themselves in a passive role, unable to ensure that AI initiatives align with broader societal goals, despite their intention to increase active involvement.

Regarding national AI policy development, findings show that NGOs within the NVO-VID network actively participated in workshops and provided feedback on the National Program for Promoting the Development and Use of Artificial Intelligence in the Republic of Slovenia by 2025 (NpAI2025) ². However, they were excluded from the expert group responsible for drafting the program, limiting their participation to submitting comments and proposals. While some NGO contributions were considered, many were overlooked, and the Ministry's overall responsiveness was perceived as inadequate, with some proposals receiving no feedback at all.

One NGO explicitly noted: "Unfortunately, the MDT [Ministry of Digital

² Available on <https://nio.gov.si/nio/asset/nacionalni+program+spodbujanja+razvoja+in+uporabe+umetne+intelligence+rs+do+leta+2025+npiui>.

Transformation] is quite unresponsive, and there are no state grants available for advocacy work in the field of the information society. We face a major problem in carrying out our advocacy activities because the MDT does not invite us to consultations and meetings they organize, even though we are active in the fields of digitalization and AI. Despite reaching out to them multiple times, expressing our desire to be included, our requests have gone unanswered.”

Consequently, MDT’s support for NGO advocacy activities remains minimal. Public calls for proposals aimed at enhancing NGO involvement in information society development – although promised – have not been fulfilled. This lack of engagement and responsiveness has caused significant frustration among NGOs.

Given this situation, it is unsurprising that in June 2024, the NGO network NVO-VID awarded the “Digital Cactus” to MDT for poor governance, citing the Ministry’s failure to uphold the principles of good democratic governance in digital inclusion.

Despite these challenges, most NGOs remain committed to advocating for greater involvement in AI-related policymaking, recognizing the importance of multi-sectoral collaboration in shaping the future of AI in Slovenia. A more systematic and coordinated approach to integrating NGOs into AI development is essential – such as ensuring their inclusion in expert groups – to align AI initiatives with wider societal goals and incorporate diverse civil society perspectives.

In conclusion, the responses to RQ1 consistently reveal a difficult landscape for NGOs advocating for AI policies and regulatory frameworks, emphasizing the urgent need for structural improvements in policymaking processes.

Table 2:
Findings regarding NGO involvement in AI policy development

Area	Findings
Communication with policymakers	Limited engagement, selective communication, and a lack of responsiveness from MDT.
Participation in policymaking	NGOs are not included in expert groups, restricted to submitting comments on strategic documents.
Recognition of NGO role	Viewed primarily as service providers rather than key stakeholders.
International collaboration	Some NGOs engage in digital communication and international advocacy.
Advocacy challenges	Lack of financial support and limited opportunities for structured multi-stakeholder dialogue.

Source: Author’s own, 2025

The responses to RQ2 indicate that NGO collaboration with relevant authorities and policymakers in the field of AI remains limited. As previously mentioned, while NGOs regularly submit comments and proposals on strategic documents, the

responsiveness of authorities is low. Although some NGO recommendations are considered, others are disregarded without clear justification, leading NGOs to perceive uneven treatment in the consultation process.

Furthermore, the Ministry of Digital Transformation (MDT) has not implemented measures to support NGOs or to promote public trust in AI. NGOs are excluded from significant events and are not provided with public calls for funding to support their advocacy work. This indicates limited institutional support for the advocacy role of NGOs in the development of the information society.

NGOs also emphasize that their advocacy role in AI remains underdeveloped, primarily due to limited capacities and inadequate funding. The general stance of NVO-VID underscores this reality: *“AI does not play a role in pursuing our goals within advocacy activities.”*

Nevertheless, instances of NGO advocacy do exist, particularly regarding the formulation and implementation of NpAI2025 and in addressing attempts to privatize public policy in the AI sector. Despite their limited capacities, some organizations remain active in advocacy efforts, particularly through the coordination of the NVO-VID network.

Additionally, NGOs highlight that informal meetings with policymakers have, at times, proven effective for exchanging opinions and influencing legislation and national strategies. These informal channels often provide greater opportunities for dialogue compared to formal consultation processes.

In conclusion, the responses to RQ2 reaffirm that NGO collaboration with authorities and policymakers in AI remains restricted. While NGOs continue to engage by submitting proposals on strategic documents, the lack of institutional responsiveness limits their impact.

Table 3:
Issues regarding NGO collaboration in AI advocacy

Challenge	Description
Uneven consideration of feedback	Some NGO proposals are acknowledged, while others receive no response.
Limited state support	MDT does not provide funding or structured support for NGO advocacy in AI.
Exclusion from major events	NGOs are not invited to significant policy discussions or AI-related events.
Limited advocacy capacity	Lack of funding and human resources hampers active participation in policymaking.

Source: Author's own, 2025

The responses to RQ3 and its sub-questions reveal that NGOs generally recognize AI's significant potential to advance the information society. However, they emphasize

that AI development is currently predominantly technologically driven, with political, regulatory, and social aspects lagging behind. This imbalance often places NGOs in a reactive position rather than a proactive one, although some innovative initiatives exist.

NGOs stress the importance of ethical AI development, arguing that AI should serve all members of society rather than being shaped primarily by government and tech industry interests, which could reinforce biases and inequalities. One NGO specifically highlighted concerns about “data and surveillance capitalism, the attention economy, behavioural and emotional manipulation, and biased and discriminatory AI algorithms.” More broadly, some NGOs critique the Society 5.0 concept, arguing that it is, in practice, “a synonym for a society of (in)voluntary surveillance”. Similar concerns have been raised in academic literature (McLaren, 2021, pp. 579–589).

While there is growing interest in AI in Slovenia, NGOs argue that insufficient attention is given to its broader societal consequences. AI is recognized as a valuable tool for solving complex problems and improving services, yet NGOs caution against the development of AI models without clear, beneficial applications, warning that this can lead to technological determinism.

To address these concerns, NGOs advocate for fundamental rights impact assessments (FRAIA) for new AI systems, greater transparency in public administration regarding AI deployment, and stronger accountability mechanisms.

AI is acknowledged as an important enabler of digital transformation, but NGOs stress that technological solutions alone cannot resolve all societal challenges. Instead, a combined technological and societal approach is necessary. Furthermore, NGOs highlight the importance of public trust in AI and call for open-source AI models, particularly for state-funded projects, to ensure transparency and inclusivity. They also emphasize the need for education and awareness initiatives on AI’s potential and risks, enabling informed decision-making.

Concerns remain about AI reinforcing biases, as well as privacy and security risks, particularly in sensitive domains such as legal and administrative processes, where careful implementation and oversight are critical. NGOs therefore advocate for stronger public policy governance on AI, the responsible use of AI, and rigorous verification of AI-generated outcomes to mitigate risks.

The potential benefits of AI in sectors such as education, healthcare, and tourism are recognized, but realizing these benefits requires strategic guidance to align AI development with societal needs. In a recent global student survey, a majority of students (61%) anticipated that AI technologies like ChatGPT would increase demand for employees with AI-related skills, whereas a smaller proportion (36%) acknowledged AI’s potential to reduce skills shortages (Ravšelj et al., 2025).

NGOs view AI as a tool for enabling a fair digital transformation rather than an end goal in itself. They advocate for transparency, responsible implementation, and the promotion of open-source solutions to ensure AI serves the public interest. NGOs

emphasize the importance of a balanced and thoughtful approach to AI's role in the information society, prioritizing its equitable deployment while mitigating associated risks.

Regarding RQ3, NGOs generally perceive AI as having significant potential to advance the information society. However, they also stress that its development is currently dominated by technological considerations, with political, regulatory, and social dimensions lagging behind.

Table 4:
NGO perspectives on AI development

Area	Perspective
Ethical AI development	NGOs stress the need for AI to be developed ethically and inclusively.
Risks of AI	Concerns over data privacy, surveillance, and biased algorithms.
AI as a tool, not a solution	AI should support but not dictate public policy and governance decisions.
Limited consideration of societal impact	AI development remains largely detached from broader social needs.

Source: Author's own, 2025

Regarding RQ4 and its sub-questions on how AI affects NGOs' performance and activities, the general stance of NGOs is that AI impacts their operations by increasing efficiency and optimizing workflows. While not all NGOs currently use AI – mainly due to ethical or financial constraints – those who do find it valuable for automating necessary tasks such as manual data entry, scheduling meetings, and sending follow-up emails. This automation allows them to complete work more quickly and frees up time for other activities. However, they do not expect AI to solely enhance organizational efficiency or to measure and achieve their public interest goals.

Most NGOs also reject technological determinism and the notion that societal problems can be solved solely through technological solutions. They are concerned that relying on AI might exacerbate existing issues or create new ones. One NGO stated, “We are thoughtful in developing AI-based products, involving both technologists and non-technologists such as designers, sociologists, political scientists, and PR professionals.” It is crucial to consider multiple perspectives, especially given the limited resources in the NGO sector, to ensure the safe and quality use of AI.

NGOs also emphasize that the NpAI2025 has not supported their work, as the programme has not been fully implemented. All NGOs state that the adoption of NpAI2025 had little or no impact on their usage of AI tools. From the NGO perspective, this represents a missed opportunity for Slovenia to establish standards and a supportive infrastructure for AI usage.

Thus, while AI has the potential to streamline NGO operations, its broader impact is tempered by the need for thoughtful application and supportive national policies. Generally, NGOs do not see a significant impact of AI on their current ongoing operations. However, there is a consensus on several potential benefits, such as the automation of routine tasks, which can save time and resources. AI’s ability to analyse various data sets can also assist in measuring the impact of projects and ensuring sustainability. Moreover, AI can support NGOs in writing project proposals and correspondence, especially in foreign languages, enhancing their ability to secure funding and communicate effectively with international partners.

Despite these perceived benefits, there is caution among NGOs about over-relying on technological solutions, as their implementation needs to be aligned with their core values and public interest objectives. Regarding RQ4, the impact of AI on NGO operations and activities remains mixed. While some NGOs use AI tools for efficiency gains, many face financial and ethical constraints.

Table 5:
Impact of AI on NGO operations

Aspect	Impact
Workflow optimization	AI automates tasks, freeing time for strategic activities.
Resource constraints	Financial limitations prevent the adoption of advanced AI tools.
Ethical considerations	NGOs stress responsible AI use and transparency.
Policy impact	AI has not significantly influenced NGO policy engagement due to limited support.

Source: Author’s own, 2025

Slovenian NGOs face various challenges in adopting and using AI technologies due to limited financial and human resources. For instance, the NGO network NVO-VID lacks basic operational funding, leaving the AI field largely untapped. Most NGOs do not encounter specific AI-related challenges because they do not use AI, but they acknowledge the potential difficulties of implementation. The major challenges are linked to financial constraints, as AI tools are often paid services, representing a significant expense for NGOs with limited budgets.

As can be seen from the responses, the use of AI in Slovenian NGOs presents a mixed picture. While AI has the potential to enhance efficiency and optimize workflows, not all NGOs currently utilize these technologies. Those that do mostly find AI valuable for automating routine tasks, thereby freeing up time for more strategic activities. However, there is a consensus that AI alone cannot significantly enhance organizational efficiency or achieve public interest goals.

Despite recognizing AI’s potential, NGOs face challenges due to limited financial and human resources, which hinder the implementation and effective use of AI

technologies. There is also an emphasis on the importance of open-source AI, transparency, and the need for adequate training and education. One possible answer to this challenge could be nonprofits themselves, as they and research institutions offer the public access to world-class research and new releases of open-source machine intelligence programs, which allow users to scale their use of AI inexpensively (Mehr, 2017, p. 12).

5. Discussion

Looking at secondary sources, we can conclude that most findings from our study align with the findings of some authors who warn about various financial restraints. For example, NGOs in (developing) countries may perceive the AI field as dominated by powerful nations due to a lack of financial means (Latonero, 2018, p. 20). As the interview results show, these financial limitations are not confined to developing countries and do not only affect the ability to purchase AI tools but also impact the hiring and training of staff who can effectively use these technologies. As a result, many NGOs lack experienced personnel capable of implementing and utilizing AI technologies efficiently.

In addition to financial and staffing constraints, NGOs also face time shortages, as they are preoccupied with other urgent tasks within their projects. This hinders further education on potential AI technology usage and its implementation. Due to these challenges, many organizations are forced to postpone or abandon plans for AI adoption, despite recognizing its potential to enhance efficiency and achieve their goals. Despite the recognized opportunities that AI brings for improving operations and achieving public interest goals, the challenges associated with limited resources remain a significant factor hindering progress in this area.

Both literature and our research note other barriers or limitations, such as a lack of technical expertise and inadequate training, in addition to the high cost of AI tools (Latonero, 2018). Furthermore, both sources emphasize that NGOs face difficulties engaging with policymakers and have limited influence in AI policy development due to a lack of understanding and involvement (Cordery et al., 2023).

In addressing the ethical aspects and potential dilemmas associated with using AI in their work, most Slovenian NGOs shared that they have limited or no direct experience with implementing AI solutions, resulting in fewer immediate ethical concerns. However, they do express awareness and strategies for addressing potential issues should they arise. One significant commonality is the preference for not using AI extensively. One NGO explicitly stated, "We do not utilize AI tools, which naturally limits our exposure to ethical dilemmas related to AI."

For those contemplating the adoption of AI, there is a strong inclination towards using open-source AI solutions. And for organizations that have begun integrating AI,

its use is primarily limited to automating routine tasks rather than influencing decision-making processes. This application minimizes the ethical concerns related to algorithmic bias and decision transparency. Nonetheless, employees are trained to be vigilant about data protection and mindful of potential biases in AI tools.

Similarly, the literature stresses the need for transparency, accountability, and human rights protections, calling for AI systems to be developed and implemented in ways that avoid biases, manipulation, and discrimination (Thinyane and Sasseti, 2020). Literature analysis shows that NGOs are more engaged with ethical issues and legal frameworks than other sectors, reflecting a broader ethical perspective on AI (Schiff et al., 2021). AI has specific applications in various sectors relevant to NGOs (Duberry, 2019), some of which could be used to develop an information society further. Some NGOs worldwide are already working to build AI systems that align with public interest values, ensuring these systems are inclusive and representative of diverse groups (Cihon et al., 2021). Slovenia is lagging at this point.

Some literature emphasizes the potential benefits of public, private, and non-profit actors collaborating on AI-related projects, leading to innovative solutions for public service delivery and societal good (Mikhaylov et al., 2018). This aligns with our study results, where NGOs emphasize that involving experts, particularly from NGO and academic circles, is a necessity if we want to ensure that AI technologies are developed and implemented in a manner that is both socially responsible and beneficial to all.

The literature, similar to our interview results, reveals both possible opportunities and challenges in the use of AI by NGOs. Opportunities mostly seem to lie in operational efficiency, the use of sector-specific applications, promoting diversity, and collaborative engagement. However, these are countered by challenges such as limited resources, data quality issues, ethical concerns, low utilization rates, and the need for more inclusive policy development.

The study underscores a critical gap in the integration of NGOs into AI policy development and implementation processes. Despite being at the forefront of information society development, Slovenian NGOs working in the field are often excluded from key discussions and decision-making processes related to AI policy. This exclusion is symptomatic of a broader issue where NGOs are seen more as service providers rather than as essential stakeholders in shaping AI policy and ethical frameworks. This presents a missed opportunity since, at the international level, NGO proposals are usually considered. Lately, a wide range of international AI initiatives have been taken, most legally not binding, comprising instead principles, guidelines, recommendations, and self-regulatory initiatives taken by a range of actors – most notably NGOs, inter-governmental organizations, and multinational corporations (Lane, 2023, p. 313).

The limited involvement of NGOs in the drafting and feedback processes for the NpAI2025 illustrates this challenge. Although some NGO inputs were considered, the overall engagement and responsiveness from policymakers were inadequate, which has

led to frustration within the NGO sector. The attitude is reflected in the response of one NGO (Duh časa), which stated, “Decision-makers may invite NGOs to collaborate, but the foundations of these ‘interest groups’ are built on economic interests and lobbying connections. There is little room for dialogue, decisions are made before discussions with stakeholders even take place, and the NGO sector is largely overlooked. One of our members was a representative of the NGOs in the strategic council for AI, but he mentioned that so far, he had received one email on this topic, to which he replied, but he never received any feedback about whether it went anywhere or if anyone even read what he wrote.”

In general, a comparison of our findings with secondary sources confirms that NGOs globally face similar barriers to AI adoption and that our identified key challenges align with those identified in the literature.

Table 6:
Comparison of our study findings with existing literature

Challenge	Findings from study	Findings from literature (e.g., Latonero, 2018; Cordery et al., 2023)
Financial constraints	Limited funding restricts AI adoption.	Developing countries face financial barriers to AI.
Lack of technical (AI) expertise	NGOs lack trained personnel for AI implementation.	NGOs globally struggle with AI training.
Limited policy influence	NGOs excluded from AI policymaking.	NGOs have minimal influence on AI regulation.
Ethical concerns	NGOs emphasize responsible AI use.	Literature highlights concern over bias and transparency.

Source: Author’s own, 2025

6. Conclusion

Our empirical findings, combined with secondary source analysis, provide insights into AI adoption in NGOs worldwide and in Slovenia’s public interest NGOs. While AI’s potential benefits are recognized, implementation is hindered by resource constraints, particularly financial and human capital limitations. This aligns with literature identifying resource constraints as a major barrier to AI adoption in the NGO sector.

Ethical concerns, including bias, transparency, and accountability, also shape NGOs’ cautious approach to AI. Slovenian NGOs advocate for open-source AI and greater transparency to align AI use with the use of public interest concepts, rather than

government or corporate priorities. These concerns to some extent echo the global AI ethics discussions, particularly regarding algorithmic bias, data privacy, and societal inequalities.

The gap between AI's perceived potential and practical limitations is a key theme. While AI could improve efficiency and decision-making, its successful implementation requires policy support, stakeholder collaboration, and ethical safeguards. Multi-sector cooperation – among NGOs, government bodies, academia, and private entities – is crucial for responsible AI development.

Further research should expand the sample (ours encompassed only seven NGOs) to include more NGOs and AI projects to understand evolving AI applications better. The study underscores the need for NGOs' stronger role in AI policy discussions, particularly given their limited influence on the NpAI2025 adoption process in Slovenia. This and similar cases of exclusion reinforce the perception of NGOs as service providers rather than key stakeholders in shaping AI governance (Alnamrouti et al., 2022).

Despite financial and human resource challenges, some NGOs demonstrate AI's potential when strategically implemented. However, AI is not a universal solution and technological determinism cannot resolve complex societal issues. NGOs emphasize the importance of promoting digital inclusion, transparency, and public trust in AI (Winfield & Jirotko, 2018). Ethical dimensions such as sustainability, dignity, and solidarity remain underexplored in mainstream AI ethics debates (Jobin et al., 2019).

Slovenian NGOs advocate for fundamental rights impact assessments (FRAIA) for AI systems and responsible AI deployment in public governance to prevent reinforcing biases. A balanced approach is needed to align AI advancements with societal needs and ethical considerations.

Both literature and our findings highlight AI's opportunities and challenges for NGOs. Successful adoption requires inclusive governance, (national) policy support, comprehensive training, and transparency.

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