

Chapter 1

Introduction: AI Tools for Sustainable Public Administration

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ABSTRACT

The integration of Artificial Intelligence (AI) tools into public administration presents transformative opportunities for enhancing sustainability and efficiency in governance. This edited volume explores how AI-driven solutions can address key challenges faced by public institutions, including resource management, decision-making, and citizen engagement. By leveraging artificial intelligence, machine learning, natural language processing, and predictive analytics, public administrators can make better decisions, optimize operations, reduce environmental impacts, and meet demands of citizens. The collection highlights successful case studies, identifies potential risks such as ethical concerns and data privacy issues, and outlines best practices for implementing AI in a transparent and equitable manner. Emphasizing the role of innovation in achieving sustainable development goals, this introduction to the edited volume serves as a roadmap for policymakers and practitioners aiming to harness the power of AI for a more sustainable and resilient public sector.

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1. AI AND PUBLIC ADMINISTRATION

In contemporary governance, public authorities are called to face some transformation challenges such as the enhancement of public service efficiency and the conveyance of a sustainable public administration based on justice, solidarity, and equity. Both of these challenges can be met with the aid of artificial intelligence. AI tools are aimed at rationalizing how to solve complex issues and problems, integrating functional competencies that are hard to find in one single person, and facilitating a trust-based interaction. In fact, these tools are capable of combining a high cognitive observance of reality with human capabilities, providing auto-explanatory evidence, so people can understand “why” and “how” an output has been reached. The described evolution scenario presents AI as a useful solution to meet governance needs in a public administration moving towards providing services (Onder & Saygili, 2018) that can “think” and “interact” with people.

To acknowledge the potential of AI, in this introductory chapter to the edited volume, we will outline some significant technologies capable of redefining the way public services are offered and citizens are engaged (Van Noordt & Misuraca, 2022). AI is too often associated with “robo-administration” and, consequently, with probable several risks and dangers in terms of justice, lawfulness, and administration. This may be due to some public administration innovation inertia in acknowledging the effective role of AI tools as a resource rather than a menace. Reports of these studies aim at investigating how AI technologies can really redefine the way public services are offered and citizens are engaged, enhancing public governance sustainability by respecting human dignity and the values charters, empowering citizens and public workers with a new level of non-algorithmic transparency (Lahdili, Önder, & Nyadera, 2024).

Operational AI has a deep history of evolution since its early automatic reasoning conception in the 1950s and evolved into AI symbolic methods and the modern statistical methods used recently (Shao et al.2022). With the increasing demand for e-government, AI tools have gradually become more important, which is useful to support public administration. The existing orientation, the context of countries, and their administration and society will be well served by AI in-house development, in ways that support the open governance models to the people.

Artificial Intelligence has the potential to revolutionize the services provided by public administration, natively tending to be automated, more efficient, responsive, and user-tailored, contributing to the productivity gains necessary for governments to do “more with less.” The recent evolution of Information and Communication Technology has transformed citizens more into customers, increasing their expectations in public service; they are looking for quality services provided quickly to serve their needs and cannot be patient for inefficient or non-transparent processes

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