Chapter 11
The Evolution of Public Administration in the AI Era

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ABSTRACT

This chapter explores the transformative impact of Artificial Intelligence (AI) and predictive analytics on public administration. It traces the evolution from traditional bureaucratic governance to AI-powered systems that enhance efficiency, transparency, and responsiveness. The chapter examines how AI automates administrative tasks, supports data-driven decision-making, and enables proactive policy formulation. It presents global case studies across sectors such as smart cities, healthcare, and law enforcement. Ethical concerns, including bias, transparency, and data privacy, are critically analyzed. The chapter concludes with future directions, emphasizing ethical frameworks, human-AI collaboration, and inclusive digital governance for the 21st century.

INTRODUCTION

Public administration, historically characterized by hierarchical structures, codified standards, and manual decision-making procedures, has experienced various phases of transformation in response to increasing political, social, and technical dynamics. The quick incorporation of artificial intelligence (AI) into public sector activities in the twenty-first century has ushered in a new stage of development (Joshi et.al, 2024). AI is transforming how governments comprehend and address

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complex societal demands, especially in the form of predictive analytics. Public organizations can now make decisions more quickly, accurately, and with data by using machine learning algorithms and massive datasets (Margetts & Dorobantu, 2019). This indicates a change to a more proactive and anticipatory type of governance and represents a substantial break from traditional administrative procedures.

The rise of e-government initiatives over the past 20 years has brought digital tools and platforms to improve service delivery, increase transparency, and improve citizen engagement; however, the introduction of AI represents a more profound change—one that not only digitizes processes but also introduces a layer of intelligence capable of learning, adapting, and optimizing administrative functions in real time (Wirtz, Weyerer, & Geyer, 2019). A subset of AI called predictive analytics enables governments to analyze patterns from historical and real-time data to forecast future events (Joshi et al., 2024), such as demand for public services, infrastructure usage, or potential risks in areas like healthcare, public safety, and disaster management.

There are many advantages for public administration from this AI-driven change. By automating repetitive operations, it improves operational efficiency, lowers human error, and promotes evidence-based policymaking. AI systems, for example, may evaluate traffic patterns to maximize urban mobility planning, forecast health outbreaks to better prepare hospitals, and analyze crime data to more efficiently distribute police resources (Joshi et al., 2025). Furthermore, AI can provide citizens with more timely and customized interactions with government entities by personalizing public services (Kempeneer, 2021). Public administrators must, however, also overcome new obstacles brought about by the incorporation of AI, such as worries about data privacy, algorithmic bias, accountability in automated decision-making, and the possible replacement of human labor.

A helpful framework for comprehending this technical change is provided by the historical development of public administration. Traditional theories of administration, including Max Weber's bureaucratic model, placed a strong emphasis on rule-based structures, hierarchical control, and reason. The New Public Management (NPM) movement came next, aiming to improve the efficiency of public services by implementing private sector techniques including customer orientation and performance evaluation. The role of technology in changing the composition and operations of the public sector has been brought to light more recently by the idea of Digital Era Governance (DEG) (Dunleavy et al., 2006). The next step in this growth is the integration of AI, which combines digital capabilities with predictive insights and intelligent automation.

In this chapter researchers examines how artificial intelligence is changing the fundamental ideas of public management. We look at its historical evolution, the present trends influencing the use of AI in governance (Joshi et.al. 2025), and the consequences for democratic principles, public accountability, and administrative