

Chapter 7

A Research on the Effective Use of AI Technologies by Public Officials in Türkiye

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ABSTRACT

This study investigates the adoption and effective use of artificial intelligence (AI) technologies in the public sector, focusing on the Ministry of Industry and Technology (MoIT) in Türkiye. Through literature review and field research, including interviews with public officials, the study highlights the potential of AI tools in transforming public service delivery and improving efficiency, transparency, and citizen satisfaction. Despite the increasing awareness of AI's benefits, the findings reveal significant challenges, including low digital competencies among public officials, data privacy concerns, and the absence of institutional strategies for AI integration. The research underscores the need for targeted training programs, robust legal frameworks, and strategic alignment to enhance AI adoption. A case study of the MoIT's AI-based e-Market Surveillance and Inspection project exemplifies AI's potential to modernize public services. The results aim to guide future research and practical efforts in leveraging AI for public sector innovation in Türkiye and beyond.

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INTRODUCTION

The transformative potential of artificial intelligence (AI) in the public sector extends beyond its impact on government employees to affect citizens and society as a whole. As AI increasingly participates in public decision-making, it prompts a fundamental shift in the role and function of public administration within society (Madan & Ashok, 2023). The purpose of public administration, which refers to the implementation of the administrative function of the state, including all processes, tools and actions carried out by public organizations to achieve their objectives, is to provide public services that citizens need. Technological advances, the internet, social networks, technology-driven changes in human behavior and demands for digital public services necessitate the appropriate use of new technologies in public administration (Demirkıran, 2023). Service delivery, efficiency, transparency and citizen satisfaction in the public sector are undergoing a radical transformation with the impact of technological developments. In this context, the relationship between public administration and technology is getting stronger and the adoption of innovative approaches and solutions is becoming imperative (Çaptuğ, 2021; Nachit et al., 2021).

AI technologies are very useful in increasing the efficiency and speed of services provided by the public sector and can be used in a wide range of areas. By automating repetitive tasks, AI allows staff to focus on more strategic tasks and saves time. Through AI and data analytics, public institutions can better understand citizens' preferences and needs and better design services accordingly. Personalized services are designed in accordance with citizens' preferences and needs. This increases citizen satisfaction and enables services to be delivered more effectively (Uslu, 2023).

These innovations offered by AI offer significant opportunities for the transformation of the public sector. Governments worldwide are increasingly embracing the use of AI-based technologies to streamline operations, improve decision-making, and enhance citizen engagement (AI Index, 2024). The integration of AI into public sector ecosystems enables organizations to harness the power of advanced analytical capabilities, gain deeper real-time insights into complex processes, and establish more responsive feedback loops to facilitate more effective and efficient governance across all levels of administration (Majrashi, 2024).

The aim of the study is to determine the degree of adopting AI tools/applications in the public sector in Türkiye in terms of the areas of use, the benefits and opportunities it provides to public services and the obstacles to the effective use of AI tools, and to reveal the activities carried out by public institutions on the subject and the efforts in this field. The study first conducted a literature review on the effects of AI tools on business processes in the public sector. The study also carried out field research by interviews with public officials in the Ministry of Industry and

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