Chapter 2
Advancing Digital Competencies in Public Administration Empowering Civil Servants in the Digital Age

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ABSTRACT

In the contemporary digital era, public administration is transforming through technologies like big data analytics, cloud computing, and artificial intelligence (AI). These advancements improve efficiency, transparency, and service delivery but rely on the development of digital competencies among civil servants, such as digital literacy, data analysis, cybersecurity, and AI skills. This chapter examines the importance of continuous upskilling in public administration, drawing on global and European initiatives like the Digital Skills and Jobs Coalition and national programs like Portugal's "Incode 2030." It also explores ethical and regulatory challenges, particularly in AI, and highlights the need for strategic human resource development. Effective training programs, partnerships, and blended learning approaches are suggested to address skill gaps. Ultimately, the research emphasizes a

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comprehensive strategy for digital competency development as vital for navigating the complexities of digital governance and achieving sustainable transformation in public services.

INTRODUCTION

In the rapidly evolving digital era, the effectiveness of public administration increasingly hinges on the digital competencies of civil servants. As digital transformation reshapes various sectors, equipping public servants with the necessary skills to adapt to emerging technologies is vital for maintaining and enhancing the efficiency and quality of public services (Venkatesh et al., 2003). Technologies such as big data analytics, cloud computing, and artificial intelligence (AI) offer powerful tools for improving service delivery but also necessitate a comprehensive reconfiguration of skill sets (Curtis, 2019; Barcevičius et al., 2019). Public organizations must prioritize upskilling and reskilling initiatives to address these demands and seize the opportunities presented by digital transformation (Ahmad et al., 2021).

The journey toward digital proficiency in the public sector is both multifaceted and complex, requiring a strategic approach to human resource development. Public organizations must evaluate existing skill levels, identify competency gaps, and implement tailored training initiatives to remain competitive in an increasingly digitalized world (Bannister & Connolly, 2014). By embracing digital technologies, public administrations can effectively manage governance complexities and gain a competitive edge in service delivery. A culture of continuous learning is indispensable for keeping pace with the rapid advancements in digital technologies and ensuring that public servants are equipped to utilize tools such as AI, machine learning (ML), and cybersecurity solutions effectively (Henman, 2020; Carretero et al., 2017).

Digital competencies in public administration span a wide range, from basic digital literacy to advanced technical skills. Basic literacy allows civil servants to use digital tools for communication and information management, while advanced skills—such as data analysis, cybersecurity, and proficiency in AI—are becoming indispensable for public sector innovation (Meijer & Bolívar, 2016). These advanced competencies enable civil servants to analyze large datasets for informed policymaking, protect sensitive information from cyber threats, and leverage AI to enhance service delivery (Salah et al., 2023).

At both European and national levels, governments have launched initiatives to foster digital skills development in the public sector. For example, the European Union (EU) established programs like the Digital Skills and Jobs Coalition and the Digital Education Action Plan, which emphasize the integration of digital training into education and professional development frameworks (European Commission,