Chapter 1
Algorithmic HRM: Opportunities and Ethical Challenges in AI-Driven Talent Acquisition

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ABSTRACT

This chapter examines the emergence of Algorithmic Human Resource Management (HRM) within the framework of AI-driven talent acquisition. It analyzes the incorporation of artificial intelligence, machine learning, and natural language processing into recruitment procedures, emphasizing the prospective advantages of enhanced efficiency, bias mitigation, and astute candidate alignment. The chapter critically examines the ethical dilemmas associated with algorithmic systems, such as discrimination, opacity, and data privacy concerns. The chapter underscores the necessity for responsible AI governance in Human Resource Management by referencing worldwide legislative frameworks like the GDPR and the EU AI Act. It also examines the transforming role of HR professionals as ethical custodians and delineates prospective research trajectories toward inclusive, human-centered algorithmic systems. This chapter integrates theoretical ideas with practical implications, fostering a more equal and transparent future for AI in human resources.

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INTRODUCTION: FOUNDATIONS OF ALGORITHMIC HUMAN RESOURCE MANAGEMENT

1.1 Defining Algorithmic HRM in the Digital Era

The advent of the digital economy has significantly altered how corporations administer human capital. Leading this transition is Algorithmic Human Resource Management (Algorithmic HRM)—a novel methodology in which decision-making within HR activities is progressively automated and informed by data, enabled by advanced algorithms and artificial intelligence (AI). Algorithmic HRM denotes the methodical utilization of algorithms, machine learning models, and big data analytics to conduct fundamental HR functions including talent acquisition, performance assessment, promotion, remuneration, and workforce planning (Meijerink et al., 2021). This paradigm shift is transforming the conventional duties of HR professionals by delegating aspects of judgment-based decision-making to computer algorithms.

Algorithmic HRM functions within the overarching framework of digital transformation and the platform economy, necessitating firms to swiftly and accurately manage substantial amounts of organized and unstructured data. Utilizing AI and predictive analytics, algorithmic systems may discern trends in applicant behavior, evaluate role appropriateness, and anticipate employee outcomes. This capability is especially apparent in AI-enhanced talent acquisition, where algorithms assess resumes, rank prospects, analyze social media profiles, and even do preliminary interviews via natural language processing (NLP) interfaces (Tambe et al., 2019).

Defining algorithmic HRM necessitates differentiating between simple automation and sophisticated decision-making systems. In contrast to traditional HR software that merely automates administrative functions, algorithmic HRM involves independent decision-making and adaptability. It functions not merely as a tool but as a decision-making agent—capable of learning from data and impacting crucial conclusions that previously necessitated human discretion (Leicht-Deobald et al., 2019).

The implementation of algorithmic systems in Human Resource Management is influenced by technology capabilities and socio-organizational decisions. Algorithms lack neutrality; they include the values, assumptions, and priorities of their creators and data origins. Consequently, comprehending algorithmic HRM requires a socio-technical viewpoint that acknowledges its integration within institutional norms, power dynamics, and ethical implications. As firms increasingly implement algorithmic tools for efficiency, scalability, and objectivity, it is imperative to explicitly define and rigorously assess algorithmic human resource management. This description will establish the conceptual basis for the following parts, which will examine opportunities, ethical risks, and governance difficulties in greater depth.