The Rise and Saturation of Artificial Intelligence in Talent Management: A Bibliometric Life Cycle Analysis

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Abstract

The influence of artificial intelligence in human resource management has been examined through broad systematic reviews, while a dedicated bibliometric analysis focusing specifically on the strategic subset of talent management remains conspicuously absent. This study addresses this gap by conducting a comprehensive bibliometric analysis of scholarly literature on AI in talent management, mapping its intellectual structure, evolutionary trajectory, and emerging research frontiers. By utilizing the Web of science core collection, 120 documents published between 1998 and 2026 were analyzed using R studio to examine performance indicators, science mapping, and thematic evolution. The analysis reveals a distinct life cycle characterized by over two decades of dormancy, exponential growth from 2022 to 2025 peaking at 53 annual publications, followed by sharp decline to 7 articles in 2026, with logistic growth modeling confirming 99% progress toward theoretical saturation (K=121). The intellectual structure rests on methodological classics (Fornell & Larcker, 1981; Hair et al., 1998), dynamic capabilities theory (Teece et al., 1997), and labor economics (Autor et al., 2015). The six thematic clusters emerge anchored by “artificial intelligence” (betweenness: 598.085) as the conceptual hub connecting human capital, performance outcomes, and implementation challenges. The geographic analysis reveals China’s volume dominance (1,449 citations, 20 articles in 2025) while France and Cyprus exhibit exceptional citation impact (188.0 and 183.5 averages). The findings confirm that AI in talent management has transitioned from an emerging frontier to a mature scholarly domain, necessitating a future research shift toward contextual refinement, ethical implications, and integration of AI capabilities with human-centered talent management practices.

Keywords: Artificial Intelligence, Talent Management, Bibliometric Analysis, Life Cycle Analysis, Intellectual Structure