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Artificial Intelligence in Cultural Management: Opportunities, Challenges and Strategic Perspectives for Sustainable Development

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ABSTRACT

The rapid advancement of artificial intelligence (AI) technologies is reshaping cultural management by transforming the ways cultural resources are preserved, managed, interpreted and disseminated. Although the number of studies addressing AI applications in the cultural sector has increased considerably in recent years, the intellectual structure, thematic evolution, and strategic implications of this research domain remain insufficiently explored. Therefore, the aim of this study is to conduct a comprehensive bibliometric and science mapping analysis of scientific publications devoted to artificial intelligence in cultural management, identify the principal research trends and thematic clusters, and evaluate the opportunities, challenges and strategic prospects associated with AI adoption in the context of sustainable development. The study is based on a dataset of 6,869 publications indexed in the Scopus database. Bibliometric and science mapping techniques were applied using Biblioshiny and VOSviewer, including publication trend analysis, thematic mapping, co-occurrence analysis, factorial analysis, Bradford's Law and Three-Field Plot visualisation. In addition, a SWOT analysis was employed to assess the strategic implications of AI implementation in cultural management. The findings reveal a substantial increase in scientific interest in the field, particularly since 2017, and identify cultural heritage preservation, museums, machine learning, deep learning, virtual reality and digital transformation as the dominant research themes. The results demonstrate that AI has considerable potential to contribute to sustainable development through the preservation of cultural heritage, enhancement of cultural accessibility, support for creative industries and stimulation of innovation. At the same time, important challenges associated with ethics, copyright, algorithmic bias and digital inequality require continued scholarly and policy attention.

KEY WORDS

Artificial intelligence, cultural management, cultural heritage, sustainable development, science mapping

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