

ORIGINAL ARTICLE

School management model based on artificial intelligence in a meta-synthesis manner

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ABSTRACT

The purpose of this research was to present a school management model based on artificial intelligence. The research method was applied in terms of purpose and qualitative in terms of data collection and based on the meta-synthesis method. The research field included all articles published between 2015 and 2025, and the sampling method was purposefully criterion-based until data saturation reached 43 articles. Validation was carried out using the triangulation method. The research tool was reading the text of the articles. Information was collected by referring to reputable domestic and foreign scientific databases. Data analysis was carried out using the open concepts, subcategories, and main categories method. In general, the results showed that the school management model based on artificial intelligence consisted of eight dimensions (personalization of learning, quality, futures studies, educational transformation, time management, learning opportunities, justice-centered, and educational decision-making).

KEYWORDS

School Management, Artificial Intelligence, Educational Decision-Making.



Introduction

AI-based school management is a new concept in the educational management literature that emphasizes the systematic use of AI technologies for data analysis, intelligent decision-making, trend prediction, and optimization of educational and administrative processes (Adams and Thompson, 2025). In this approach, the school is considered as a “learning system” that uses educational, behavioral, and performance data for continuous learning, decision-making, and quality improvement (Motta et al., 2024). AI-based management allows managers to make their decisions based on data and algorithmic analysis. In this approach, managers become “data-driven leaders” who make human and ethical decisions using intelligent systems. The goal of this type of management is to create synergy between human intelligence and AI to improve school performance and increase stakeholder satisfaction.

Method

The research method was applied-qualitative and based on the integrative review method. Purposive sampling was carried out and continued until data saturation, which ultimately resulted in 43 articles being analyzed. Data were collected by careful reading of articles and qualitative content analysis, and triangulation was used to increase validity. Data analysis was performed in the form of open coding, subcategories, and main categories to analyze the data in a systematic and structured manner.

Results

The study identifies eight key dimensions of an AI-based school management model, each contributing to improved management quality and enhanced learning experiences. Personalized learning enables AI to adapt instruction to individual student needs, aligning with Bhimdiwala et al. (2022). Educational quality and decision-making demonstrate how AI supports data-driven processes, consistent with findings by Celik et al. (2022) and Tyson and Sauers (2021). The futures dimension highlights the need for schools to anticipate emerging trends and future skills. Educational transformation and expanded learning opportunities show that AI not only enhances school performance but also fosters innovative teaching methods, as noted by Kim and Kim (2022) and Camarena (2022). Additionally, time management increases efficiency through intelligent planning, while equity-orientation underscores the role of AI in ensuring fair access to educational opportunities. Overall, the model illustrates that AI can transform schools into smart, adaptive, and equitable environments by improving management efficiency and providing more personalized, diverse, and fair learning experiences. The results align with recent research emphasizing the importance of data-driven and technology-based school management frameworks.

Discussion and conclusion

The research results show that the AI-based school management model offers a comprehensive and multidimensional framework that includes eight key dimensions: learning personalization, which uses artificial intelligence to adapt educational content and teaching methods to the needs, interests, and abilities of each student; quality assurance, which helps improve educational processes and outcomes by analyzing data, providing intelligent feedback, and continuously evaluating the performance of teachers and students; futures, which adapts programs to environmental and technological changes by predicting educational trends and

future skill needs; educational transformation, which enables innovation in teaching methods, active learning, and promoting students' creativity and critical thinking; time management, which increases school efficiency by optimizing the scheduling of activities and allocating resources through intelligent systems; learning opportunities, which provides diverse and flexible learning opportunities for students by utilizing digital and intelligent tools; Equity-based, which ensures equal access to educational resources and opportunities for all students and reduces educational gaps; and Educational Decision Making, which supports management and educational decisions by analyzing accurate data, predicting trends, and providing optimal solutions. Overall, this model shows that AI can transform schools into intelligent, responsive, and equity-based environments, so that both individual student needs and broader educational goals are managed and achieved.

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