

Beyond Lectures: The Rise of Intelligent Assistants in Management Learning- a Systematic Literature Review

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Abstract

From traditional chalkboard pedagogy to technology-integrated ecosystems with chatbots, AI tutors, and adaptive learning platforms in learning environments, business and management education has evolved over the last ten and a half years. Using the PRISMA 2020 framework, this study performs a Systematic Literature Review (SLR) of 92 peer-reviewed publications that were published between 2010 and 2025. It distinguishes three main technological waves: AI-powered educational systems, especially chatbots; immersive/microlearning tools; and e-learning platforms. According to the analysis, this digital transformation has changed institutional strategies and instructional roles in addition to improving learner engagement and personalisation. A thorough synthesis and critical road map for the future of business education are provided in this paper.

Keywords: Business education, E-learning, immersive tools, chatbots, AI-powered educational systems, instructional roles, learner engagement.

1. Introduction

Rapid developments in digital technology and artificial intelligence (AI) have caused a significant shift in the field of management education in recent years. Intelligent digital tools that provide context-aware, personalised, and interactive learning experiences are increasingly replacing traditional lecture-based pedagogies, which were once the mainstay of management education (Baker et al., 2020; Holmes et al., 2019). Of these developments, intelligent assistants—such as chatbots, online tutors, and AI-driven learning management systems—are becoming more and more well-known as crucial instruments in changing the way management education is imparted and retained. Higher education trends that prioritise learner-centric approaches, digital fluency, and real-time feedback mechanisms are in line with the rise of

intelligent assistants in educational settings (Luckin et al., 2016). Intelligent assistants' rise in educational settings is consistent with larger trends in higher education that prioritise digital fluency, learner-centric approaches, and real-time feedback systems (Luckin et al., 2016). These tools are being used in management education to help students become more engaged and develop their critical thinking abilities by simulating real-world decision-making, providing personalised support, and fostering collaborative learning environments (Sharma & Kitchens, 2022). In order to preserve instructional continuity and student engagement, institutions around the world were forced to experiment with AI-enabled learning technologies as a result of the COVID-19 pandemic, which further accelerated this digital shift (Dwivedi et al.,

2021). The scholarly literature on intelligent assistants' function in management education is still dispersed, despite the growing interest in and use of these tools. The focus of current research frequently varies, encompassing everything from the technical advancement of AI tools to their effects on psychology and education (Zawacki-Richter et al., 2019). As a result, a systematic review that summarises the existing data, charts current patterns, and suggests future lines of inquiry in this developing field is desperately needed. In order to critically analyse the integration of intelligent assistants in management learning from 2010 to 2025, this paper performs a Systematic Literature Review (SLR). Using an evidence-based methodology, this paper examines the revolutionary shift in education, highlighting its trends, advantages, and difficulties.

2. Objectives of the study

- To examine and compile research on the use of technology in business and management education from 2010 to 2025.
- To determine new trends in digital teaching.
- To evaluate how AI and chatbots affect the roles of instructors and the efficacy of learning.
- To make recommendations for future tactics based on the combined results.

3. Methodology

3.1 Research Design

This study follows the PRISMA 2020 SLR framework. Figure 1 shows the PRISMA 2020 flow diagram.

3.2 Search Strategy

- Databases: Scopus, Web of Science, ERIC, JSTOR, Google Scholar
- Keywords: "business education", "chatbots", "AI tutors", "digital learning", "e-learning", "LMS", "VR in classrooms", "smart learning", "management education", "adaptive learning", "technology in business education"

3.3 Inclusion Criteria

- Published from 2010–2025

- Peer-reviewed journal articles
- Focused on higher education in business/management
- Written in English

3.4 Exclusion Criteria

- Articles before 2010
- K-12 or non-business education contexts
- Non-peer-reviewed literature (e.g., blogs, opinion pieces)

3.5 PRISMA Summary

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only

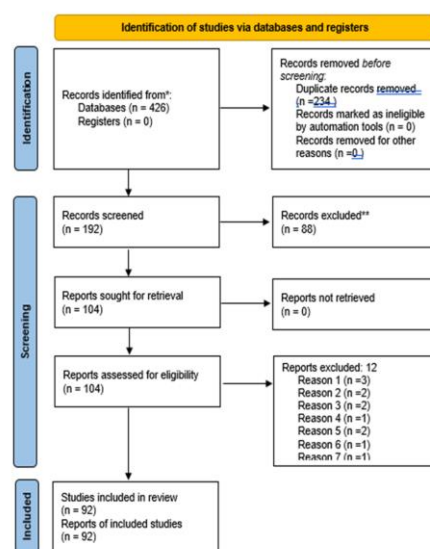


Figure 1 Prisma 2020 flow diagram

Table 1 Prisma Summary

Phase	Count
Records identified	426
After screening	168
Full-text articles read	104
Studies included	92

4. Thematic Trends (2010–2025)

4.1.Wave 1: E-learning and LMS Integration (2010–2015)

- Introduction of Blackboard, Moodle, and Canvas
- Rise of asynchronous delivery and blended learning

- Case studies and digital simulations

4.2.Wave 2: Gamification, Mobile Learning, MOOCs (2015–2020)

- Use of Kahoot, edX, Coursera in business curricula
- Mobile-first strategies
- Emphasis on micro-credentials and skill tagging

4.3.Wave 3: AI and Conversational Agents (2020–2025)

- Emergence of chatbots (e.g., Jill Watson, Ada)
- NLP and personalized tutoring
- AI-based performance analytics and grading systems

4.4.Breakdown of 92 studies into

- E-learning & LMS – 27%
- AI & Chatbots – 24%
- MOOCs & Gamification – 20%
- Immersive Tech (AR/VR) – 16%
- Mobile Learning – 13%

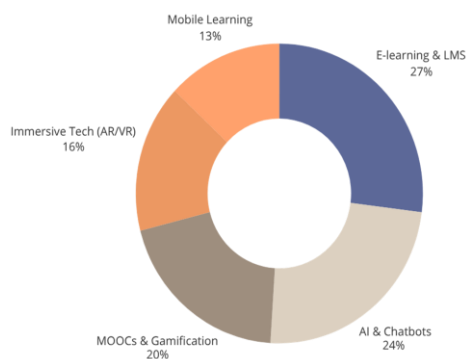


Figure 2 Breakdown of 92 studies

5. Key Findings

- Research shows that using chatbots increases student participation by more than 30% (Sharma et al., 2022; Li & Tan, 2021).
- By adapting to each learner's unique pace and learning preferences, adaptive learning systems improved results (e.g., Alavi et al.,

2020).

- AI tutors and MOOCs made prestigious business education more widely available.
- Teachers became tech-mentors and content facilitators instead of knowledge-transmitters.
- Concerns included algorithmic bias, digital fatigue, and student privacy.

6. Discussion

According to the results of this Systematic Literature Review, integrating intelligent assistants into management education represents a paradigm shift in instructional design and delivery rather than just a technical improvement. The development of AI-driven tools like chatbots and adaptive learning systems from the early adoption of e-learning platforms shows how educational institutions are becoming more sophisticated in meeting the demands of contemporary students. LMSs (e.g., Blackboard, Moodle) and other technologies that were first adopted for operational efficiency have progressively developed into intelligent systems that can provide scalable access to high-quality education, personalised learning experiences, and real-time feedback. Both students and teachers have been significantly impacted by this shift. Through personalisation and interaction, intelligent assistants have been demonstrated to dramatically improve learning outcomes, participation, and engagement (Sharma et al., 2022; Alavi et al., 2020). However, they have reinterpreted the role of the educator as a digital mentor and learning facilitator rather than a traditional content provider. Although these changes are encouraging, they also bring with them new challenges. Data privacy, algorithmic bias, and student surveillance are just a few of the ethical issues that have become major concerns. Furthermore, there is a digital divide in access and efficacy because different institutions lack the necessary resources to deploy AI solutions. This suggests that in order to promote the fair and long-term integration of intelligent technologies in management education, there is a need for professional development, strategic investment,

and inclusive policies. Additionally, according to the review, intelligent assistants have an impact on the larger framework of educational delivery outside of the classroom. In order to incorporate experiential learning modules, micro-credentials, and AI literacy, educational institutions are currently reevaluating their curricula. The emergence of MOOCs, mobile learning, and AI-based tests also portends a shift to lifelong learning models, in which management education is flexible, modular, and industry-aligned rather than restricted to traditional degrees. But little is known about how these innovations will affect learning environments over the long run, especially when it comes to cognitive load, motivation, and human-computer interaction. Therefore, in order to assess the long-term effects of integrating AI into management learning environments, future research must use longitudinal and interdisciplinary approaches.

7. Implications for Stakeholders

- Teachers become more proficient in data analytics, chatbot integration, and artificial intelligence.
- Institutions spend money on digital curricula, cybersecurity, and AI-powered infrastructure.
- Makers of Policy provide standards for AI-augmented learning accreditation.
- Researchers investigate the psychological aspects and long-term effects of AI learning.

Conclusion

This comprehensive review of the literature emphasises how management education has changed over the last 15 years and how intelligent assistants are increasingly influencing teaching methods. The field has seen a shift from passive content delivery to personalised, interactive, and data-driven learning experiences, starting with the early adoption of Learning Management Systems (LMSs) and continuing with the current integration of AI-powered chatbots and adaptive learning technologies. The sector's dynamic response to technological advancements and the evolving

expectations of digitally native learners is reflected in the thematic evolution that spans e-learning platforms, gamification, MOOCs, and now conversational AI. Notably, intelligent assistants have played a key role in expanding student involvement, expanding access to high-quality education, and changing the role of teachers in the classroom. Notwithstanding the many advantages, this review also identifies important shortcomings and difficulties, such as data privacy issues, ethical issues, and the requirement for institutional preparedness. AI integration in business education necessitates significant infrastructure investments from institutions, new competencies from educators, and regulatory oversight from legislators. To fully utilise intelligent assistants in management learning going forward, a comprehensive and strategic approach is needed. To ensure that AI adoption in education stays both innovative and human-centered, future research should examine the long-term effects of these technologies on learning outcomes, equity, and learner well-being. The years 2010–2025 mark a pedagogical renaissance in business education, from chatbots to chalkboards. This systematic review emphasises how AI and digital tools are essential to curriculum innovation and learner empowerment, not just as technological accessories. Future developments will depend on institutional flexibility, human-AI cooperation, and ethical design.

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