

Editorial: Generative AI in business education: some future research directions

Generative artificial intelligence (GenAI) employs deep learning models to create human-like content (e.g. text, images and videos) in response to intricate prompts (e.g. questions, instructions and statements) (Lim *et al.*, 2023; Feuerriegel *et al.*, 2023). GenAI can both respond and learn patterns from training data, allowing it to generate new, similar content (Sengar *et al.*, 2025). These tools have become integral to daily life, transforming how individuals search for information, communicate and make decisions. In educational settings, GenAI can automate previously challenging tasks such as drafting and revising text, summarizing materials, reframing arguments and writing or debugging code (Graf and Bernardi, 2023; Van Dis *et al.*, 2023).

In business education, GenAI integration is particularly relevant given AI's widespread adoption across organizational functions, from marketing and human resources to finance, operations and customer service. This diffusion reinforces the need to incorporate AI-related knowledge and skills into business curricula (Sollosy and McInerney, 2022). Prior research has examined AI in education primarily through three stakeholder perspectives: students, lecturers and administrators (An *et al.*, 2025; Anderson *et al.*, 2025; Portuguese-Castro, 2024). For students, GenAI enables self-paced learning and personalized content aligned with individual interests. In online environments, AI-powered chatbots provide timely, tailored feedback (Abbas *et al.*, 2022), while interactive exercises stimulating real-world business problems can enhance engagement (Conklin *et al.*, 2024). For teachers, GenAI supports instructional design and automates assessment tasks such as scoring and feedback (Rahman and Watanobe, 2023). However, widespread GenAI access creates challenges in distinguishing original critical thinking from AI-generated or paraphrased content (Anderson *et al.*, 2025; Lim *et al.*, 2023). At the administrative level, frameworks have been proposed to embed AI into business programs and develop career-ready competencies (Bhalla, 2019; Sollosy and McInerney, 2022). Administrators must balance rapid curriculum evolution while ensuring AI implementation protects and enhances the autonomy of students and educators (Cassinadri, 2024). This tension has spurred new institutional policies, innovative pedagogical approaches and calls to update educational infrastructure for AI-driven contexts (Portuguese-Castro, 2024).

Building on these stakeholder perspectives, it is clear that while AI offers significant opportunities for business education, several critical research gaps remain. Five key areas warrant further exploration to advance both theoretical understanding and practical implementation. First, ethical considerations surrounding AI use require deeper investigation. The rapid proliferation of AI tools introduces complex ethical challenges, particularly regarding AI-generated misinformation. Students need guidance on recognizing and critically evaluating AI "hallucinations" (plausible-sounding outputs that contain fabricated facts, non-existent references or incorrect dates) (Alkaissi and McFarlane, 2023). Research is needed to develop pedagogical strategies that strengthen students' ability to validate AI-generated content. Second, empirical validation of GenAI effectiveness remains limited. Current literature lacks robust experimental and longitudinal studies examining how GenAI tools actually affect learning outcomes, student competencies and academic achievement across different educational settings (Anderson *et al.*, 2025). Future research should employ rigorous methodologies to assess both short-term and long-term effects of AI integration. Third, while existing research has examined AI integration from student, faculty and institutional perspectives, the policy dimension remains underexplored. Policymakers



play a vital role in advancing business education through funding mechanisms, incentive structures and regulatory frameworks (Portuguez-Castro, 2024). Future studies should document how educational policies can effectively support AI integration, examining their influence on curriculum development, faculty training, and overall learning outcomes (Anderson et al., 2025). Fourth, research on ChatGPT has significantly advanced the integration of GenAI into business education (George et al., 2025). However, different AI tools are based on varying underlying architectures. Future research should systematically compare the effectiveness of these models in enhancing business student engagement, knowledge retention and critical thinking. Rahman et al. (2025) found that AI models vary in accuracy, logical reasoning, numerical reasoning and response generation. Understanding how specific AI frameworks influence learning outcomes can help lecturers and institutions select the most suitable tools for their curriculum. Finally, the environmental sustainability of AI in education presents a critical paradox. Training large AI models consumes substantial electricity, contributing to increased carbon emissions and environmental degradation (Alnafrh, 2025). This creates tension with sustainability principles that have become central to modern business education (Avelar et al., 2025). Research exploring strategies to minimize AI's environmental footprint while maximizing its educational benefits represents an important frontier for the field.

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