

Impact of Artificial Intelligence on Undergraduates' Academic Performance: Evidence from State Universities of Sri Lanka

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Abstract

Artificial intelligence (AI) is the highly demanding and widely used latest technology worldwide in almost all the sectors of the globe. This comprehensive study examined the prevailing impact on the academic performance of management undergraduates and their usage of artificial intelligence across seven state universities of Sri Lanka. With 297 responses, the study was conducted employing quantitative methodology with a structured questionnaire utilising a four-point Likert scale. The structural model analysis demonstrated highly significant positive correlations between AI usage and both perceived benefits and challenges. AI tools substantially enhanced learning outcomes through personalised educational support, improved research capabilities, and increased accessibility for diverse learner needs. The model explained 78.8% of variance in AI benefits, indicating strong predictive validity. However, the study identified critical concerns, including technological over-dependence, diminished critical thinking capabilities, reduced collaborative skills and potential academic integrity issues. Significantly, gender emerged as a significant moderating variable, with differential impacts observed across demographic groups. This suggests that AI's educational impact is not uniform but varies systematically based on user characteristics. The research contributes to the growing discourse on educational technology by providing empirical evidence for the need for structured AI literacy programmes, comprehensive governance frameworks and balanced integration strategies as appropriate institutional policies and student training initiatives.

Keywords: academic performance, artificial intelligence, higher education, undergraduates