AI Knowledge Diffusion and Student Innovation in Higher Education Institutions in Oman: Conceptual Framework

Hussain AL Rashdi
The Military Technological College, Muscat, Oman

Hiba Sha
The Military Technological College, Muscat, Oman

Abstract:

Higher education institutions see Artificial Intelligence (AI) as a game-changing element because it holds the potential to increase student innovation. Oman's Vision 2040 strategic agenda supports digital transformation but shows inconsistent AI knowledge distribution within its academic entities. This study investigates the connection between AI knowledge dissemination and student innovation development within Omani academic institutions. The new conceptual framework combines technology adoption models, TOE and UTAUT, with constructivist learning principles while recognising institutional readiness as a crucial contextual enabler and educational culture as a socio-cultural moderator. Research based on case studies, combined with stakeholder feedback and grey literature, uncovers essential deficiencies in faculty development programs, curriculum implementation, and organisational policies. The framework supplies actionable methods to incorporate AI into teaching approaches and organizational planning. The research presents essential guidance for policymakers and academic leaders who want to develop educational ecosystems that support innovation through AI technology.

Keywords:

AI Knowledge Diffusion, Student Innovation, Higher Education.