

Beyond the Introductory Course: Integrating the Investment Model and Expectancy-Value Theory to Explain AI Learning Persistence

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Abstract

Artificial intelligence (AI) is fundamentally redefining roles, tasks and skills in the modern workplace. For university students, this transformation presents both opportunities and uncertainties. In response, many universities have introduced AI-related courses aimed at equipping students with abilities and skills for effective human-AI collaboration. However, AI is a multifaceted and rapidly evolving domain that encompasses diverse technologies, algorithms, and applications. Completing only one or two AI courses is often insufficient for students to develop the breadth and depth of knowledge required in AI-driven workplaces. Sustained engagement in AI-related coursework is therefore critical to build the depth of understanding and the applied skills necessary in future careers. Despite the growing importance of AI education, limited research has examined the factors that influence university students' intentions to persist in learning AI. To address this gap, the present study proposes a conceptual framework integrating the investment model and expectancy-value theory to investigate the determinants of university students' continuance intentions in AI coursework. The model posits that utility value, intrinsic value, and perceived cost exert indirect effects on continuance learning intention through satisfaction, while investment size, perceived alternatives, and self-efficacy play vital roles in shaping this intention. The findings are expected to provide meaningful implications for higher education institutions striving to enhance sustained engagement in AI learning and to advance strategic initiatives for cultivating AI-ready talent.

Keywords: Artificial Intelligence; Continuous Learning Intention; University Students; The Investment Model; The Expectancy-Value Theory