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Factors influencing AI adoption by HE Faculty

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Abstract

This research project, conducted at a medium-sized university in the Midwest, explored the factors influencing the adoption of Artificial Intelligence (AI) by faculty in higher education. Using the Technology Acceptance Model (TAM), as detailed by Granic and Marangunic (2019), and incorporating insights from Chatterjee and Bhattacharjee (2020) on AI adoption in higher education, the study aimed to identify predictors of faculty adoption of AI technologies in teaching.

The study adapted TAM's concepts of perceived ease of use and perceived usefulness, integrated factors identified by Chatterjee and Bhattacharjee (2020) as self-efficacy, behavioral intention to adopt technology, and adapted Lai's (2017) findings of other influencing factors: openness to innovation, attitude towards technology, and concerns about AI adoption.

Survey responses from 83 faculty members revealed that 46% had implemented AI in their teaching. Reliability analysis, measured by Cronbach's alpha, confirmed that all seven constructs were reliable. A correlation analysis of the six factors with behavioral intention to adopt AI showed that all six factors significantly influenced adoption. Regression analysis, focusing on data from adopters, found that openness to innovation, perceived ease of use, and perceived usefulness were the primary factors driving AI adoption in teaching. Finally, qualitative analysis of the comments made highlighted key themes affecting the decision to adopt or not adopt AI in teaching.