

Factors Influencing User Acceptance of an AI-Based Future Skills Advisory System: An Application of UTAUT and Structural Equation Modeling

Sven Kottmann, Prof. Dr. Jürgen Seitz

Institute for Machine Learning and Analytics, Offenburg University of Applied Sciences, Germany

Abstract

The increasing demand for Future Skills requires innovative and scalable approaches to career guidance that can support individuals in identifying competencies and navigating rapidly changing labor market requirements. Artificial intelligence (AI)-based advisory systems have emerged as a promising solution; however, their successful implementation depends on users' acceptance of these technologies. Drawing on the Unified Theory of Acceptance and Use of Technology (UTAUT), this study investigates the determinants of user acceptance of an AI-supported career advisory system. A research model comprising Performance Expectancy, Effort Expectancy, Social Influence, Hedonic Motivation, and Trust was developed to explain users' Behavioral Intention to use the system. Data were collected from participants interacting with the AI-based advisory platform and analyzed using structural equation modeling (SEM). The results demonstrate that Performance Expectancy, Social Influence, Hedonic Motivation, and Trust exert significant positive effects on Behavioral Intention. The proposed model explains a substantial proportion of the variance in users' intention to adopt the AI advisory system, highlighting the importance of both utilitarian and affective determinants in AI acceptance. The findings contribute to technology acceptance research by extending the application of UTAUT to AI-supported career guidance and provide practical implications for the design of trustworthy, engaging, and user-centered advisory systems that promote equitable access to Future Skills development.

Keywords: artificial intelligence; behavioral intention; Future Skills; structural equation modeling; UTAUT