Quantifying the Benefits of Technology and Data Science in Higher Education: A Fuzzy Logic Approach

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Higher education is standing on the edge a of substantial revolution, compelled by rapid technological advancements and the growing field of data science. As civilization advances further into the 21st century, conventional educational approaches are struggling to encounter the requirements of modern students and the emerging job market. This study advocates a novel methodology to quantify the values of EdTech and data science in higher education using fuzzy logic principles. The article aims to demonstrate how strategic use of technology and data science can modernize the processes of teaching, learning, and knowledge acquisition in higher education. It discovers numerous applications, from personalized learning platforms to predictive analytics, artificial intelligence, and virtual reality simulations. Nonetheless, challenges such as digital disparity, data privacy disputes, and resistance to transformation among academics must be addressed. The current study highlights the value of a collaborative approach connecting all internal and external stakeholders to overcome these obstacles and usher in a novel era of more accessible, immersive, and operative higher education. By applying fuzzy logic, the study seeks to provide a framework for understanding and quantifying the intricate factors modeling the future of higher education. The ultimate goal is to inspire and guide institutions in their journey of innovation and transformation.

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