

Chapter 11

Digital Innovation in Higher Educational System:

Application of Information and Communication Technology

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ABSTRACT

Information and communication technology (ICT) connected to digital global educa-

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tion is crucial for sustainable education management and has a significant impact on all aspects of human life. Digital transformation has improved students' experiences and pedagogy changed institutional models and applied digital abilities, maturity and initiatives. This leads to progressive and sustainable institutional approaches in higher education. In common sense, it is positively associated with digital contests, maturity, and digital initiatives taken in higher educational institutions, which is also a discovery that promotes students adopting digital transformation. The path model promotes the adoption of the digital efforts of educational institutions, using maturity and initiative by ICT architecture, virtual labs, participant involvement, digital culture, and strategic foundation.

INTRODUCTION

The Use of Information and Communication Technology (ICT) has seeped into all walks of human activity. Digital transformation is the integration of digital technology across all areas of a business, fundamentally changing how it operates and delivers value to customers. Digital competence is fundamental to fostering the preconditions to successfully integrate digital education. Digital maturity is the ability of a business to evolve, which influences its workings at the firm level. Digital innovation opens up the most conducive and welcoming way, leading to operational changes for enriching the exposure of students and pedagogy while delivering quality education. How the new digital model has changed the institution model, requesting digital competencies, digital maturity, and some ideas on digital initiatives (Venkatasubramanian et al., 2024).

Digital change of the global education industry is changing as educational institutions operate and serve, operated by information and communication technology (ICT). This progress enriches the learning experience of students and pedagogy, while at the same time, the demands of the 21st century are revolutionizing institutional patterns. The growth of digital tools and platforms has created numerous opportunities to unite progressive and sustainable approaches to higher education institutions. These roadmaps rely on digital capability building, technology adoption maturity, and institution-building through digital initiatives. It analyzes the positive relationship between them and their combined effect on ensuring an environment optimal for digital transformation in higher education (Singh Madan et al., 2024).

With innovative pedagogies, ICT has immensely enhanced the learning experiences of the students. These innovations take the form of Digital tools, e.g. interactive learning modules, online collaborative platforms, virtual labs, etc. In recent times, EdTech tools, an umbrella term for digital tools used to enhance learning, have received a lot of attention within education systems. For example, virtual labs

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