


# The Mediation Role of Technology Systems in the Relationship Between Education Technology Antecedents on Student Satisfaction

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## ABSTRACT

The purpose of this paper is to explore the influence of education technology antecedents and perceptions of usefulness and ease of use of educational technology systems on attitudes towards computer-based teaching in Egyptian universities. The study is built upon on deductive quantitative approach where structured questionnaires were designed and distributed to the students in Egyptian universities. Results based on SEM analysis identify that the technology dimension partially affects the design dimension, as well there is a partially significant association between the technology dimension and attitude towards technology-based teaching. While the design dimension does not have a significant association with attitude towards technology-based teaching, attitude towards technology-based teaching does not have a significant relationship with student satisfaction. Furthermore, there is a partially significant association between course dimensions and student satisfaction.

## KEYWORDS

Computer-Based Teaching, Ease of Use, Education Technology, Educational Technology Systems, Perceptions of Usefulness

It became crucial to use information technology (IT) in higher education settings and online academic programs. Additionally, universities have always worked hard to develop and integrate IT usage into the curriculum and to encourage undergraduates to use IT tools like the Internet, computers, laptops, and educational technology tools in their learning processes regardless of the time as it is considered necessary (Alao & Brink, 2023). All of this has been made possible thanks to the current government's encouragement. In addition, the quick worldwide innovation, financial advancement, and economic development put an incredible investment into education (Verma, 2022; Lubua et al., 2017).

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Higher education is acknowledged as a major pillar of the knowledge economy due to its crucial role in the development of society and the expansion of its knowledge skills. It is also closely related to the need to concentrate on quality assurance and improvement, which was historically the domain of a select few highly esteemed universities on a global scale. Quality assurance in these institutions is a recent entry adopted by the developed countries to then reach the third world countries due to globalization and the openness of universities to global competition to keep pace with technological development and progress, and thus keep pace with advanced and distinguished universities (Arokiasamy et al., 2024; Casado et al., 2022; Al-Shboul et al., 2017).

It is essential to pay attention to this at a time when educational systems, particularly in developing nations, are going through considerable changes in all of their many components because of the data and communication technology revolution. Higher education institutions are growing their use of data and communication techniques in the classroom and view it as a critical component in improving the process' quality (Boulmaiz et al., 2022; Alotaibi et al., 2022; Castro et al., 2021).

Therefore, this paper evaluates the critical factors that inspire Egyptian universities' attitudes to using educational technologies in their classrooms and courses. This paper throws light on technology dimensions and course dimensions, student satisfaction, design dimensions, and attitudes toward technology-based teaching. Notably, no research has previously studied the correlation between educational technology antecedents and perceptions of the utility and usability of educational technology systems on attitudes toward computer-based teaching using these dimensions for each variable. Additionally, relatively few literary evaluations highlight such a crucial subject. This paper involved examining the influence of education technology antecedents and perceptions of usefulness in addition to ease of use regarding educational technology systems on attitudes towards computer-based teaching through an applied study on students in Egyptian universities. Since a significant portion of previous investigations were conducted in affluent nations such as the United States and China, rising nations, particularly those in Africa, have gotten less attention when this subject has been addressed.

## **LITERATURE REVIEW**

Information technology in higher education is the technology related to the storage, retrieval, circulation, and dissemination of information with the production of oral, pictorial, textual, and digital data by electronic means through the integration between electronic computers and visual communication systems (Sabando et al., 2018). Student satisfaction is linked to a set of factors associated with the educational process, especially the educational system followed, where students' satisfaction and response to the traditional education system differs from the modern education system, as each system is based on achieving high rates of student satisfaction and a high proportion of the educational service quality that results in the attainment of a high level of student satisfaction (Almaiah and Alyoussef, 2019).

### **The Relationship Between Technology Dimensions and Design Dimensions**

John (2015) indicated the effect of technology anxiety on perceived ease of use and perceived usefulness among 116 electronic spreadsheet users, and it was proved that individuals with high technology anxiety perceive computer-based applications are less easy to use. The study found that there was a significant effect of technology anxiety on perceived ease of use and perceived usefulness. Ozturk et al. (2016) investigated the effect of technology self-efficacy and compatibility on perceived ease of use and perceived usefulness in the mobile hotel booking field. 396 questionnaires were collected from travelers from the United States who used to book via their mobile devices a hotel room during the previous six months. The finding found that there was no significant relationship between self-efficacy and perceived ease of use. While there was a positive significant impact of compatibility on both perceived ease of use and perceived usefulness.

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