


Chapter 7

Leveraging Cloud Computing for Enhanced Efficiency and Collaboration in Education Institutions

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ABSTRACT

The desire for increased productivity, teamwork, & creativity is driving a major revolution in the education industry. Cloud computing, which offers institutions an inexpensive, flexible, & scalable platform for delivering excellent instruction, has played a significant role in enabling this shift. The potential of cloud computing to improve communication & collaboration between administrators, professors, & students is one of its main advantages for institutions. Cloud computing can improve educational outcomes by giving students access to top-notch digital resources. However, there are many issues with cloud computing adoption in institutions. The chapter discusses these issues & offers recommendations on how institutions might

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reduce these risks. It offers a thorough overview of the potential of cloud computing in institutions, highlighting its advantages, difficulties, & best practices. By utilizing cloud computing, institutions can lower costs, improve collaboration & communication, and outcomes—all of which will ultimately increase their competitiveness in the digital age.

1. INTRODUCTION

Cloud computing is being used by many businesses because of its dynamic scalability and utilization of virtualized resources as a service through the Internet. The future of education will probably be significantly impacted by it. In order to run their information systems efficiently without having to invest more funds in computers and network equipment, educational institutions, particularly those with tight budgets, can benefit greatly from cloud computing. Utilizing cloud-based software made available by service providers, universities allow their users/students to complete academic and business-related tasks (Ercan, 2010).

From textbooks to the internet today, the availability and accessibility of academic resources have changed over time. The shift from in-person to online instruction has also been seen in tuition. This is in addition to the scholarly materials offered in a variety of formats and by different organizations. Both opportunities and problems are presented by these phenomena. This phenomenon has been facilitated by cloud computing and information and communication technology (ICT). Communication dynamics have been brought about by the availability and accessibility of academic resources by different entities and in different media. Therefore, in order to provide their customers with better service, organizations and people should base their activities on the availability and accessibility of academic materials (Odhiambo, 2024).

Higher education greatly benefits from the use of virtual desktops in cloud environments. These days, it appears that transferring labs to the cloud is required in order to keep students' dedication in this novel situation. The aim is to empirically use the technology acceptance model and the system usability scale in a population of students who use a virtual desktop platform that has been tailored to present the laboratories of a computer science programming course in a bachelor's degree program in computer science. Lera et al. (2021) performed a thorough examination of their platform's system usability scale (SUS) and the technology acceptance model (TAM). The results of this study shed light on the direct relationship between perceived usefulness, convenience of use, and attitude toward technology.

Active learning approaches encourage students to actively participate in their own education, foster collaborative learning, and create a shared understanding of the subject as a whole. Cloud computing both enhances and changes the learning environment

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