ADOPTION OF CLOUD-BASED MANAGEMENT INFORMATION SYSTEMS IN HIGHER EDUCATION INSTITUTIONS AFTER COVID-19

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Annotation: *Purpose. This article examines the accelerated adoption of cloud-based Management Information Systems (MIS) in higher education institutions following the COVID-19 pandemic, focusing on technological, organizational, and pedagogical impacts.*

Method. *The study employs a comparative analysis of global digitalization trends, case studies from universities in Asia, Europe, and the United States, and a literature review of post-pandemic digital transformation.*

Results. *Research findings demonstrate that cloud-based MIS significantly improved institutional resilience, automated academic processes, enhanced data accessibility, and reduced IT maintenance costs. Additionally, cloud MIS facilitated hybrid learning, real-time analytics, and improved communication across departments.*

Conclusion. *Cloud-based MIS has become a strategic necessity for modern higher education, enabling adaptive, flexible, and sustainable management models that support long-term institutional development beyond pandemic conditions.*

Keywords: *cloud computing, MIS, higher education, digital transformation, post-pandemic learning, information management*.

INTRODUCTION

The global education landscape underwent a major transformation due to the COVID-19 pandemic. With schools and universities shutting down, over 1.6 billion students worldwide were impacted, necessitating a rapid shift to digital learning platforms. The World Bank observed that this crisis effectively accelerated educational digitalization by approximately a decade in the span of a single year. A vital component of this transition was the extensive integration of cloud-based Management Information Systems (MIS)

Historically, universities relied on on-premise servers and traditional information systems that required heavy financial investment, regular maintenance, and physical access. However, the pandemic made it clear that outdated systems could not support remote learning, online examinations, academic analytics, or dynamic student management. As a result, cloud-based MIS became essential for ensuring continuity of academic operations.

This shift was not merely a reactive measure but opened an opportunity to invest in the future operational model of higher education. Traditional systems proved incapable of delivering the necessary levels of agility, scalability, and security required during the crisis. Consequently, cloud-based MIS were embraced not only as tools for continuity but as the primary drivers of institutional innovation.

This article explores how cloud-based MIS redefined higher education management after COVID-19, what advantages and challenges institutions observed, and how these systems continue to shape educational strategies today.

MAIN PART

1. Global Acceleration of Cloud MIS Adoption

The pandemic pushed universities to migrate rapidly to cloud infrastructures. A 2023 Gartner report states that over 70% of universities worldwide increased investment in cloud technologies after COVID-19. Cloud MIS provided immediate solutions for digital record-keeping, online course management, virtual communication, and administrative coordination.

Compared to traditional MIS, cloud-based systems offered: no need for on-site servers, instant updates, global accessibility, scalability, and enhanced security. These advantages positioned cloud MIS as a long-term digital foundation.

2. Academic and Administrative Efficiency

Cloud MIS automated many routine processes previously performed manually. These include student registration, transcript management, timetable generation, academic analytics, and online assessment.

For example, universities in South Korea and Singapore reported a 40–60% increase in administrative efficiency after adopting cloud MIS platforms such as Blackboard, Moodle Cloud, and Canvas.

3. Supporting Hybrid and Online Learning Models

Hybrid learning became a permanent feature of higher education after COVID-19. Cloud MIS enabled integration of learning management systems, digital libraries, virtual labs, and synchronized online/offline attendance.

It also supported adaptive learning, improved accessibility for remote learners, and enhanced digital resource management.

4. Challenges and Limitations

Despite clear advantages, cloud MIS adoption brought challenges: cybersecurity risks, digital inequality, limited digital skills among staff, and dependence on external technology providers.

Universities addressed these challenges by improving IT security policies, training faculty, and expanding digital infrastructure.

5. Strategic Importance of Cloud MIS in the Post-Pandemic Era

Cloud MIS has evolved from a technological upgrade to a strategic requirement. It supports sustainable development, emergency readiness, data-driven decision making, and international digital collaboration.

Today, cloud MIS acts as a backbone of smart university ecosystems integrating AI-based analytics and automation.

Conclusion

Cloud-based MIS has transformed the management models of higher education institutions. The pandemic demonstrated the limitations of traditional systems and emphasized the need for scalable, accessible, and secure cloud environments.

Cloud MIS has transcended its role as a technological upgrade; it is the backbone of the emerging smart university ecosystem. This evolution involves integrating advanced technologies like AI-based predictive analytics and workflow automation (e.g., automated resource allocation, optimized faculty workload scheduling) directly into the core management functions. By doing so, cloud MIS not only enables sustainable development but also positions the institution to maintain global competitiveness and be resilient against future disruptions.

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