Insights on Mapping Knowledge Area Analysis in Cloud-Based E-Learning Systems

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Description

The rapid growth of information and communication technology has had a significant impact on traditional educational systems and learning. Furthermore, in our modern society, the learning process is becoming increasingly important for socioeconomic and business success. As a result, cloud computing is becoming increasingly important in the context of e-learning systems. The goal of this research is to conduct a thorough assessment of scientific production in the fields of e-learning and cloud technology using the quantitative approach of the bibliometric analysis method in order to comprehensively review and analyse the subject. The current study conducts a literature review, focusing on specific research areas and revealing trends.

The purpose of this study is to conduct a thorough assessment of scientific production in the fields of e-learning and cloud technology by employing a quantitative approach to review and analyse the subject using the bibliometric analysis method. There is currently no unified approach or extensive bibliometric review that addresses both of these topics concurrently; thus, this research aims to fill this gap. The findings shed light on the structure, evolution, main trends, and impact of the research field of cloud-based e-learning systems by intensively evaluating and analysing the scientific output, key contributions to the subject, and possible future research directions [1-3].

China is the most productive country in terms of scientific knowledge and citations. It is worth noting that researchers are interested from all over the world, with the most prolific authors hailing from Serbia, Japan, and Romania. The average number of citations per document is 6.8, with a highly influential article about critical factors influencing learner satisfaction for successful e-learning receiving the most citations. Regarding the conceptual structure that assists researchers to understand keyword evolution and trend, four clusters were identified, which reside around the topics "Technology", "Education", "Delivery Systems" and "Cloud services". Given these considerations, the current study's implications highlight the significance of cloud-based e-learning technologies, as well as the direct relationship between these two elements.

Overall, e-learning allows for the transfer of digitised knowledge from online sources to beneficiaries in the form of electronic educational materials via electronic devices such as laptops, desktop computers, and mobile devices. Non-electronic education based on books and lectures is unquestionably important, but it is also critical to recognise the value and effectiveness of technology-based learning. As a result of a number of inherent features, platforms based on cloud computing technology can provide flexibility and ease in the learning environment to supplement traditional learning pedagogies. Furthermore, cloud computing enables flexibility, scalability, pay-as-you-go, and measurable service by dynamically supplying and de-provisioning computing resources as needed.

In fact, it is difficult to provide a concise description of the concept of cloud computing because academics and industry consulting firms are constantly researching the subject. Furthermore, the new resource is still in its early stages, and no universally accepted definition exists. With this in mind, we examined 36 definitions of cloud computing technology in order to gain a thorough understanding of the subject. Present cloud computing as a new paradigm with distinct characteristics, promising market prospects, and new opportunities. Overall, cloud computing is a business model based on information technology that is provided as a service via the Internet [4,5].

As a result, e-learning systems are ideal for cloud computing. E-learning systems must integrate people, pedagogy, and technology to be effective. E-learning systems, on the other hand, include the use of the internet as well as other significant technologies to create educational materials, instruct students, and manage courses within a company or organisation. As an example, shows the simplified architecture of an e-learning system built with cloud computing technology.

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Conflict of Interest

Authors declare no conflict of interest.

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