A Model for Assessing and Enhancing Efficiency of E-learning systems

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Abstract

There are few studies on evaluation of Learning Management Systems (LMS) within higher educational organizations. Moreover, most of earlier studies have many shortages in its evaluation methods. For example, it focuses on the unilateral view of the evaluation method; it doesn’t show weights for each different criterion effecting LMS and doesn't rank its importance. This research proposes an evaluation criteria model that avoids all shortcomings on earlier studies as follows: By evaluating the LMS on multidimensional way, discovering new relations between different criteria, determining weights for each criterion and ranking most critical criteria effecting on LMS. The evaluation criteria consist of six dimensions technology, system and service quality, communication, effectiveness of content, instructors and students dimensions. Each dimension encompasses of set of other criteria. A survey questionnaire based on these evaluation criteria and its relations has been applied to 100 learners of the British university of Egypt, 125 learners on Helwan University and set of instructors at both universities. Then, verifying questions by holding a meeting with set of experts. Descriptive statistics were run to
analyze the collection of data, delete outlier of it and test data reliability. Collective of Artificial intelligence (AI) methods are used for ranking each criterion and Dempster-Shafer theory is used to compare between different results of AI for obtaining the most critical ten ranking criteria based on achieving satisfaction for both students and instructors. The results of research showing that communication dimension, responsiveness and availability of instructors on LMS and degree of interactive courses are the highest three critical criteria for British university. It also sheds light on the attitude of instructors and students towards technology in addition to the easy access of any services or content and responsiveness of instructors on Helwan University.

References

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Index Terms
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