



The Effectiveness of E-Learning Management Through Online Learning Information Systems : An Integrative Approach Model

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Abstract: This study aims to analyze the effectiveness of e-learning management through online learning information systems called *siberling* at the Faculty of Economics, Jakarta State University. The research used a qualitative approach using the case study. Determination of informants in this study using purposive and snowball techniques. Informants in the research were lecturers, students, and e-learning administrators. Data collection techniques in qualitative research were carried out in natural conditions, using primary sources (directly providing data) and observation, interview, documentation, and triangulation methods. The data analysis technique in this study was the data analysis of the Miles and Huberman models, including data collection, data reduction, data display, and conclusion/verification. The results of the data analysis concluded that *siberling* had a positive and effective impact on the implementation of e-learning. The results of the system approach model analysis concluded that the learning objectives and the preparation of learning plans were by university standards. The QAIT approach model includes learning system governance that refers to quality operational standards, and the Kirkpatrick approach model includes program evaluations taken from learning outcomes and student satisfaction, which has shown changes in student graduation rates in each course.

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Introduction

Advances in technology as a global issue in education have provided opportunities for developing a more qualified education administration through the development of science and the changing times. Technological advances in tertiary institutions can be seen in the implementation of e-learning, which many universities have carried out for a long time and, in Indonesia, has been pioneered by open universities. Even now that the Covid-19 pandemic has ended, online learning activities (e-learning) or blended learning are still being implemented. However, the implementation of e-learning certainly faces various obstacles. In general, technological infrastructure and technical and financial support are the main obstacles to implementing e-learning in developing countries (Almaiah et al., 2020; Almaiah & Alismaiel, 2019; Subaidi et al., 2021). Some of the infrastructure constraints that can be mentioned include inflexible e-learning systems, poor internet service, high costs, and the lack of compatible computers and laptops for educators and students.

This obstacle is also felt at a state university in Jakarta. The result of pre-research concluded that some of the challenges for educators related to e-learning, namely inexperience in designing e-learning learning, lack of e-learning teaching training and skills, difficulty changing and determining appropriate assessment/evaluation methods for e-learning learning, difficulty adjusting the curriculum, not having technology use skills and



technical knowledge of technology, lack of progressive interaction between learners and learners, and difficulty keeping students motivated. In addition to the two obstacles above, other obstacles were also found in the implementation of e-learning, namely the lack of interest and motivation of students to take part in e-learning learning, as well as the lack of knowledge of parents about the mechanism of using technology, so that they cannot help students in the e-learning process. The next obstacle affecting the success of e-learning is digital literacy skills (Rahayu, 2021). In this case, educators, as learning managers, are more required to be able to utilize various digital resources to design interesting and effective learning (Al-Fraihat et al., 2020). Other obstacles sufficient to support the successful implementation of e-learning are students' motivation and parental cooperation (Nafrin & Hudaidah, 2021).

From these problems, e-learning management is critical and must be a major consideration by tertiary institutions so that e-learning management can be of high quality. Therefore, the management of e-learning in tertiary institutions must be evaluated periodically so that the e-learning carried out has quality (Anwar et al., 2019; Giatman et al., 2020; Yanuschik et al., 2015). There are many things that universities must pay attention to in implementing e-learning using a learning management system basis such as curriculum (Twining et al., 2021), human resource management (Subaidi et al., 2021), quality of teaching resources (Clements & Pawlowski, 2012; Krajka, 2018), instructional quality in online learning (Margaryan et al., 2015; Pannen, 2019), internal quality assurance (Rahmania et al., 2020), and teacher qualifications (Maimun & Hakim, 2021; Nurochim, 2017; Sahlén et al., 2020; Scholes et al., 2017). Sari et al. (2016) concluded that quality tertiary institutions have a good administrative system and make changes according to needs.

From the description of the problems that have been identified and previous research studies, it is concluded that tertiary institutions must have management of quality e-learning implementation, including the provision of learning management system facilities. Of course, this quality must continually be improved through periodic evaluations. Moreover, Jakarta State University is not a tertiary institution that organizes distance education such as e-learning, which an open university organizes. Therefore, studying learning management systems at Jakarta State University, Sibering, is an interesting phenomenon. Several reasons for the urgency of this research are 1) Sibering is one of the learning management systems created by the Jakarta State University even though learning activities are carried out face to face, 2) Jakarta State University is one of the long-established higher education institutions has careful planning to develop the quality of teaching and learning, 3) *sibering* is made to support the implementation of teaching and learning that is not mandatory.

Especially during the COVID-19 pandemic, *sibering* became very useful in supporting the implementation of e-learning. However, not all teachers use *sibering* applications. From the results of interviews with the Deputy Dean for Academic Affairs, it is known that the Faculty of Economics, Jakarta State University, is the first Faculty to have a *sibering* application. However, it has yet to be appropriately used in the implementation of e-learning. Therefore, the gap in this study that distinguishes it from other research is a comprehensive study of cyber management for e-learning through an integrative approach including planning, implementation, and evaluation carried out by the Faculty of Economics. The integrative approach models used in studying the effectiveness of e-learning management using *sibering* are the systems approach model, the QAIT model, and the Kirkpatrick model so that the research study results are more in-depth.

So, this research aims to analyze the effectiveness of e-learning management through online learning information systems called *sibering* at the Faculty of Economics, Jakarta



State University. This research is also expected to positively contribute to developing *siberling* applications to facilitate the implementation of e-learning in the economics faculty. Practically, the research results can contribute to educators in managing learning, increasing the effectiveness of e-learning management, and can be used as a basis for educational institutions to make e-learning policies that align with the needs of education delivery.

Research Method

This study used a qualitative approach with a case study. In particular, case study research aims to explain and understand the object under study as a 'case' (Creswell & Creswell, 2018). This research is more than just answering questions about the object under study but is more thorough. So, in this study, researchers wanted to explore the meaning of every utterance and expression conveyed by research subjects and understand the facts, data, and phenomena obtained from the field related to the effectiveness of e-learning using *siberling*. Qualitative research departs from a case that exists in a particular social situation. This social situation includes places, actors, and activities that interact synergistically with each other (Emzir, 2012) So, this research examines the use of *siberling* in implementing e-learning with three integrative approach models, namely the systems approach model, the QAIT model, and the Kirkpatrick model, so the analysis results are more comprehensive.

Determination of informants in this study using purposive and snowball techniques. Informants in the research were lecturers, students, and e-learning administrators. This research was conducted at the Faculty of Economics, Jakarta State University, because it was the first faculty to build an Online Learning Information System (*SIBERING*) and apply blended learning before the Covid-19 pandemic. The research was conducted for six months, from October 2022 to March 2023. Data collection techniques in qualitative research were carried out in natural conditions, using primary sources (directly providing data) and observation, interview, documentation, and triangulation methods (Sugiyono, 2016). The data analysis technique used by researchers in this study is interactive analysis. Qualitative data analysis was carried out interactively and continues continuously until the data was saturated. Interactive data analysis techniques used in this research are coding, data reduction, data presentation, data triangulation/data validity, and concluding (Miles et al., 2014).

Results and Discussion

The findings of important points regarding the effectiveness of e-learning management using *siberling* from an integrative approach model are as follows.

Table 1. Findings of E-Learning Management Analysis Using *Siberling* Given Three Integrative Approach Models

System Approach Model	QAIT Model	Kirkpatrick Model
Learning Objectives that have been used for face-to-face learning activities and e-learning are the same	Governance for the e-learning learning system is carried out according to a predetermined time, namely 16 meetings.	The learning evaluation system is determined according to the learning objectives including quizzes, midterm exams, final semester exams and assessments related to attitudes and behavior.
Preparation of Learning Plans and teaching materials are presented in the form of learning videos	Interaction and communication are carried out through <i>siberling</i> and WhatsApp	Student satisfaction is carried out randomly and randomly at the end of the learning meeting. To find out satisfaction is also done through the



	groups.	provision of monitoring and evaluation links from the quality assurance of learning. The points of student satisfaction are enjoyment in discussion, high curiosity to ask questions or comment, students are independent in learning and lecturers must better guide students even though they study independently.
The learning method involves the use of multimedia technology and contextual learning to the needs of achieving learning objectives. Each teacher uses a different learning method and adapts it to class conditions.	Learning activities on <i>siberling</i> are also equipped with the use of Zoom, and learning videos uploaded on YouTube and email. So, the e-learning learning activities used in the learning governance system are synchronous and asynchronous.	Learning outcomes are seen from the scores of quizzes, final exams and final exams and it can be concluded that overall, there has been an increase, students are more active in learning, and student participation has increased.

According to data analysis findings from observations, the Faculty of Economics, State University of Jakarta, is developing an e-learning system to support learning services for students and lecturers, which can be accessed through the Faculty of Economics website <http://www.feunj.ac.id>. As a result of interviews with the Deputy Dean for Academic Affairs, the researchers discovered that the Faculty of Economics was the first faculty at Jakarta State University to propose and use *SIBERING* before the COVID-19 pandemic. This initiative arose not only as a result of the 4.0 industrial revolution, which pushed education 4.0 and the need for innovation in learning through the use of ICT, but also as a result of government encouragement through the issuance of Ministerial Regulation Number 24 of 2012 concerning the Implementation of Distance Education by Higher Education and the availability of e-services. In the Regulation of the National Higher Education Accreditation Board Number 3 of 2019 concerning Higher Education Accreditation Instruments, learning is an indicator for assessing self-evaluation and university performance reports (Suhud, 2022). The researchers conducted interviews with LMS managers to obtain more specific information. It was discovered that *SIBERING* at the Faculty of Economics had been initiated in 2017 but was only implemented around 2018 due to the training process and others for lecturers (Roni, 2022) According to the findings of the researcher and student interviews, the Faculty of Economics had already implemented blended learning before the COVID-19 pandemic (Aslamah, 2022). However, because only a few lecturers use blended learning, *SIBERING* is only used for a few courses or study programs (Marbun, 2022).

According to the researcher's interview with the Deputy Dean for Academic Affairs, no decree requires lecturers to learn at the *SIBERING* Faculty of Economics. The researchers then interviewed lecturers who actively used the Faculty of Economics *SIBERING* to confirm that the leadership's policy regarding the use of the Faculty of Economics *SIBERING* was only an appeal. On the other hand, the reason for using the Faculty of Economics *SIBERING* is to take advantage of and maximize the platform provided by the Faculty of Economics. Aside from that, the features available on the *SIBERING* Faculty of Economics are more beneficial than those on other platforms, such as Google Classroom (Fidhyallah, 2022). According to other lecturers, the Faculty of



Economics directed, instructed, and advocated for using the Faculty of Economics *SIBERING* in learning. However, the reason for using *SIBERING* is as a form of faculty loyalty, appreciating and appreciating the Faculty of Economics' innovations or work. Furthermore, the *SIBERING* Faculty of Economics is worth continuing to use because it is easy to understand and learn, and the learning process is perceived to be effective and efficient and quite comfortable when used (Febriantina, 2022). The documentation study also reveals that the Faculty of Economics continued to conduct *SIBERING* workshops and training in February 2021 by issuing Assignment Letter No. 264.b/UN39.2.FE/KP/2021 and No. 307.a/UN39.5.FE/KM.04.01/2021.

The researcher recommends that the Jakarta State University Faculty of Economics develop the *SIBERING* platform that has been created by adding supporting features, one of which is video conferencing, where educators and students can meet in person (face to face) online. Thus, it is hoped that e-learning using *SIBERING* will become increasingly more effective. These findings have provided an in-depth understanding of the importance of managing e-learning by the level of current needs and the capabilities of each party involved, especially competence in mastering technology for learning. Thus, the strategy in organizational management is the starting point for improving the quality of graduates in the future according to their abilities and weaknesses (Sallis, 2011). Also, in this study, the governance of the learning system has referred to standards and quality assurance systems. So, internal quality assurance also plays a vital role because it impacts increasing outsiders' trust (Praraksa et al., 2015). Therefore, e-learning management has also referred to quality assurance standards to implement quality e-learning according to global demands.

One of the previous studies adopted the Building Information Modeling (BIM) methodology in the education delivery management planning process (Häußler & Borrmann, 2020). In the managerial realm, educational activities can be considered high quality if they meet organizational quality standards, including educational output in the form of students (Indriyenni, 2017). Thus, this research provides an understanding of the process of managing e-learning through *SIBERING* that must be carried out comprehensively and meet the quality standards of education delivery. Thus, the most influential factors for E-learning are technology management, management support, increasing students' awareness of the E-learning system, and demand for a high level of information technology from instructors, students, and universities (Alqahtani & Rajkhan, 2020). According to several studies, blended learning has motivated students to learn, allowing them to become more creative, active, participatory, communicative, independent, and able to solve problems in learning, thereby improving learning outcomes (Setiawan, 2019). Schools and other educational institutions are similarly prepared for digital transformation (Deja, Rak, & Bell, 2021; Christensen & Knezek, 2017; Matukhin & Zhitkova, 2015). At the institutional and national levels, it is critical to adequately prepare and support teachers and students in online teaching (Markovi , Pavlovi , & Mamutovi , 2021; Lebedeva, 2020).

The conceptual implication of this research is the development of knowledge about learning website models for e-learning, especially e-learning management knowledge that managers of educational institutions must understand. This means that this management provides systematic stages in presenting e-learning activities. While practically, the results of this study have implications for educators in managing learning to increase the effectiveness of e-learning learning management. The results of this study can also become the basis for leaders and administrators of educational institutions as education providers to create a conducive learning atmosphere and process to increase the effectiveness of e-learning learning management.



Conclusion

The data analysis results concluded that the use of *SIBERING* in e-learning activities was effective and helped educators during the teaching process. Even the students also have quite high enthusiasm during the learning process. The system approach model analysis results concluded that the learning objectives and preparation of lesson plans, which included study materials (materials), learning methods, time allocation, and assessments (techniques or assessment instruments) that educators had carried out, were appropriate. The QAIT approach model includes governance of the learning system, which means, in this case, the arrangement of educators in carrying out e-learning learning using *SIBERING* for students referring to quality operational standards set by universities. The Kirkpatrick approach model includes program evaluations taken from learning outcomes and student satisfaction, showing changes in student graduation rates in each subject.

Recommendation

The researcher recommends that educators who manage e-learning using *SIBERING* pay more attention to the methods used in teaching. Even though students are required to be more independent in learning, this does not mean that they are free from supervision (monitoring); the role of educators in the learning process must truly be felt by students, both in the form of mentoring and the provision of new and valuable knowledge for students. In addition, educators who manage e-learning using *SIBERING* should be more aware of all forms of fraud that students may commit. Even though student learning outcomes tend to increase due to several factors, such as technological advances (the internet), which make it easier for students to find reference materials or learning resources, it cannot be denied that this also facilitates cheating in learning. Future researchers can utilize research results to develop *SIBERING* products into a learning management system that all tertiary institutions can widely use. Recommendations for policymakers or campus leaders include adding features in *SIBERING* such as video conferencing so that educators and students can meet online face-to-face and consider the need for more effective e-learning.

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