Combination E-learning and Knowledge Management System to Increase SMEs Knowledge

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Abstract

Limited Human Resources inherent in Most SMEs that grow traditionally and are family businesses that have been passed down from generation to generation. The limited human resources of SMEs, both in terms of formal education and knowledge and skills, affect the management of their business, so that it is difficult for SMEs to develop optimally. In addition, with limited knowledge, SMEs find it difficult to adopt new technological developments to increase the competitiveness of the products they produce. On the other hand, the evolution of KM and e-learning influence each

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other and its development is in accordance with the needs of the information society for the acquisition, exchange, and delivery of the specific knowledge needed. The need for organizations and institutions with new approaches encourages the development of KM and e-learning. The purpose of this research is to help SMEs increase their knowledge using information technology approaches, especially e-learning and KMS. The result of this research is an integration model of KMS and e-learning to increase the knowledge of SMEs. The research method uses a qualitative approach through observation and interviews as well as literature review.

Keywords
E- learning, Knowledge Management System, SMEs

1. Introduction
One of the basic and crucial problems of SMEs that hinder their business development is the limited knowledge they have. This problem is crucial because it affects almost all aspects of the SME business. Various attempts have been made by several researchers to increase the knowledge of SMEs, but research that combines e-learning with KMS is still little done, especially to increase the knowledge of SMEs. The idea to combine KMS and e-learning in SMEs is due to the fact that SMEs have the ability to create knowledge but cannot manage that knowledge for the benefit of the SME business. E-learning as a learning system has provided great benefits for individuals and institutions to support the learning process in various institutions such as schools, companies and communities. Many studies have shown the factors that influence the successful implementation of e-learning in several institutions and in several different countries (Inayatulloh 2021).

However, traditional e-learning teaching and learning models cannot ensure the transfer of knowledge, especially the most valuable tacit knowledge. E-learning introduces a new component of interactive social networks. This study aims to explore the important role E-learning systems play in tacit knowledge transfer that will result in improved knowledge management performance in companies. However, technology itself does not necessarily produce a competitive advantage unless it is properly aligned with the organization's human and business resources . This study aims to increase the knowledge of SMEs by using the advantages of SMEs in creating tacit knowledge and distributing knowledge through e-learning. The result of this research is a combination model of KMS and e-learning to increase the knowledge of SMEs. The research method uses a qualitative approach through literature review to identify problems and through observation and interviews to determine alternative solutions.

2. Literature Review
Knowledge Management System
Knowledge Management is a system used by an organization to identify, create, explain and distribute knowledge to be used and learned again for the success of the organization in the process of achieving goals (Manesh et al. 2020). It is hoped that all layers of the organization will easily absorb knowledge and insight about the organization's business or operations so that the organization is able to sustainably maintain and carry out its processes. Knowledge Management which involves 3 main factors, namely people, process and technology. In order for the company's business to increase and be successful in facing various kinds of challenges, sufficient and extensive knowledge is needed by the company (Iqbal et al. 2018). The application of Knowledge Management in the company can produce several benefits, including: Accelerating access to information and knowledge, Improving the decision-making process, Creating innovation and change, Increasing the efficiency of the organization's or company's business processes (Inayatulloh 2021). The process in KMS includes

a. Knowledge Identification
   The stage involves identification in generating knowledge assets, for example, physical or electronic documents of an organization. All evidence, both explicit and implicit, will be investigated through analysis and brainstorming with the team to find the potential knowledge that is the main basis. Along with the search for knowledge assets effectively, the next stage of identification will involve the analysis and valuation of assets based on organizational rules, culture, and certain evaluation criteria. It is important to emphasize quality and relevance at this early stage (Giraldo et al. 2018).
b. Knowledge Creation
   Knowledge requests can trigger data and information identified in the previous stage to be made into new knowledge. This knowledge update is needed to fulfil some of the previously unmet knowledge needs. Some organizations undertake the creation and creation of new knowledge assets by means of prototyping,

information and workflow analysis, and process mapping. The creation of new knowledge assets should follow the same principles and guidelines as analysing and assessing knowledge as outlined in the identification stage (Mehralian et al 2018).

c. Knowledge repository
Once knowledge has been deemed valuable to the organization, all knowledge will be stored as an active component in the organization. Beyond their intrinsic value, knowledge assets must be stored in a structured manner that allows knowledge to be efficiently manipulated, retrieved, and ultimately shared by the organization's internal parties. It should also be noted that this knowledge should not be leaked to competitors (Gumel et al. 2019)

d. Knowledge sharing
Knowledge assets are retrieved from organizational memory to be disseminated and communicated. This socialization process is crucial because employees usually need time to absorb and process existing knowledge. Various forms of knowledge can be encouraged through training programs and guidance in the work environment. It is also important to choose a knowledge sharing channel because various direct and indirect communication channels have their own strengths and weaknesses. The more mature an organization, the more efficient its communication channels and the faster the time to share knowledge. This phase can also be seen as a connecting bridge as well as an upstream to downstream flow in practicing knowledge (Iqbal 2021).

e. Knowledge utilization
Once shared, knowledge assets can be activated and deployed across the organization to solve
the assistance of an expert may be required to apply knowledge correctly and efficiently. An example of such an intervention is taking a general document and making it specific to the problem that needs to be solved, which is referred to as 'knowledge contextualization (shujahat et al. 2019).

Electronic Learning

The use of information technology has developed in various fields, such as government (Anza et al. 2017), business (Ramadhan 2022), and education (Ramadhan et al. 2022). Electronic Learning is a way of teaching and learning using electronic media with the support of the Internet network as a transmission medium and hardware/software as the main learning system. In other words, e-learning broadly includes the learning process carried out using electronic media such as using the internet, both formally and informally. E-learning is formally such as learning with a curriculum, syllabus, subjects and others that have been prepared and arranged based on a schedule that has been agreed upon by parties related to E-learning. In addition, e-learning can also be done informally with simple interactions such as through a personal web, mailing list and others. Learning using e-learning is now widely used by schools, colleges, companies, institutions around the world (Inayatulloh 2022).

The benefits of e-learning are the flexibility of place and time, if conventional learning in the classroom requires students to be present in class at certain hours, then e-learning provide flexibility in choosing the time and place to access lessons. In addition, e-learning provides an opportunity for learners to be in control of their respective learning success, meaning that learners are given the freedom to decide when to start, when to finish, and which part of a module they want to learn first. If he has difficulty, he can repeat again until he feels able to understand. Another benefit of e-learning is cost, a lot of costs can be saved from the way of learning with e-learning. Financially, the costs that can be saved include transportation costs to study places and accommodation while studying, administrative costs for management, providing physical facilities and facilities for studying (Al Rawasdeh et al. 2019).

In addition to the flexibility of learning speed, e-learning can be adjusted to the learning speed of each student. If students do not understand and understand a particular module, then he can repeat it again until he understands. E-learning also has standardization of teaching, e-learning lessons always have the same quality every time they are accessed and do not depend on the mood of the teacher. Thus e-learning can improve teaching effectiveness, delivery of e-learning lessons can be in the form of simulations and cases, using the form of games and applying advanced animation technology (Colace et al. 2019).

3. Methods

Figure 1 explain the research method. The limited knowledge of SMEs is the trigger and background of this research. Research on e-learning models for SMEs has been carried out by many researchers, but other research is needed that can increase the knowledge of SMEs. After finding the problem regarding the limited knowledge of SMEs, the research was continued by determining methods to increase the knowledge of UKMA. After several alternative ways were found to solve the problem, the research continued with the identification of solutions using an information technology approach. The final stage of this research is building a KMS model combined with e-learning to increase SME knowledge. The research method uses a qualitative approach through observation and interviews to identify the problems of SMEs. Literature review is used as a way to find alternative solutions, especially solutions with an information technology approach.

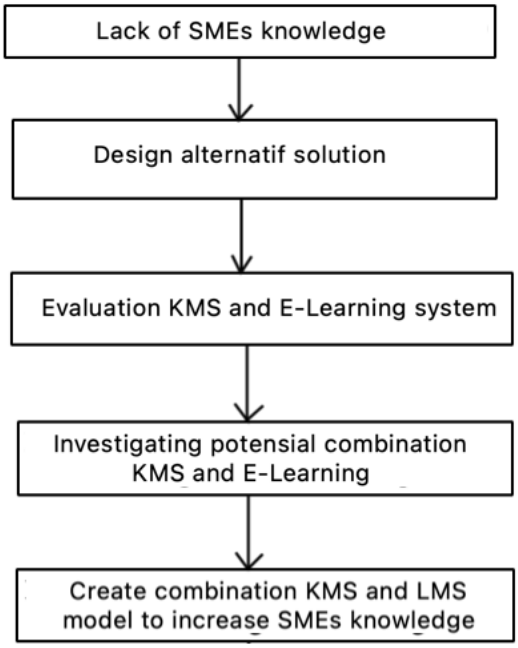

Figure 1. research method

Results and Discussion

Figure 2 is the proposes model. The model offered is a combination of an e-learning system with a knowledge management system where this model consists of several components with the following explanation:
Knowledge management system is the first part of the model. This section has the functions of a knowledge management system such as:

Knowledge identification is a function of the knowledge management system that identifies the knowledge needs of SMEs. After knowing the knowledge needs, the next step is to assign experts and UKM member communities to share their experiences and knowledge. This stage is the stage of knowledge creation or knowledge capture because at this stage new knowledge will emerge from the experience of UKM member community or expert knowledge. This section is a core component of the knowledge management system function because it implies that all KMS functions are in this section, so that when the knowledge that will be transferred to the knowledge course in the e-learning database has become knowledge that is ready to be used by UKM community members when using e-learning .

Knowledge repository is a knowledge storage media that comes from UKM knowledge and expert knowledge. The repository function in this model is not limited to storage but knowledge management so that knowledge is ready to be distributed. Knowledge stored in the repository is a process that has passed the validation and standardization process of knowledge in accordance with the provisions made by the institution.

Knowledge distribution is the conversion of a knowledge repository which is part of the Knowledge Management System to a course database in e-learning. This database is of course part of the overall database system in e-learning

so that its existence is integrated with other databases. As we know that there are many components of data or information in e-learning systems such as student data, course data, lecturer data and others, so that this section functions as an integration process for two databases from two different systems.

E-learning system is represented by 2 main components, namely LMS or Learning Management System and Database. LMS is the main system in e-learning that manages the computer-based learning process. LMS manages all parts that support online learning such as information about students, instructors, course schedules, syllabus and others.

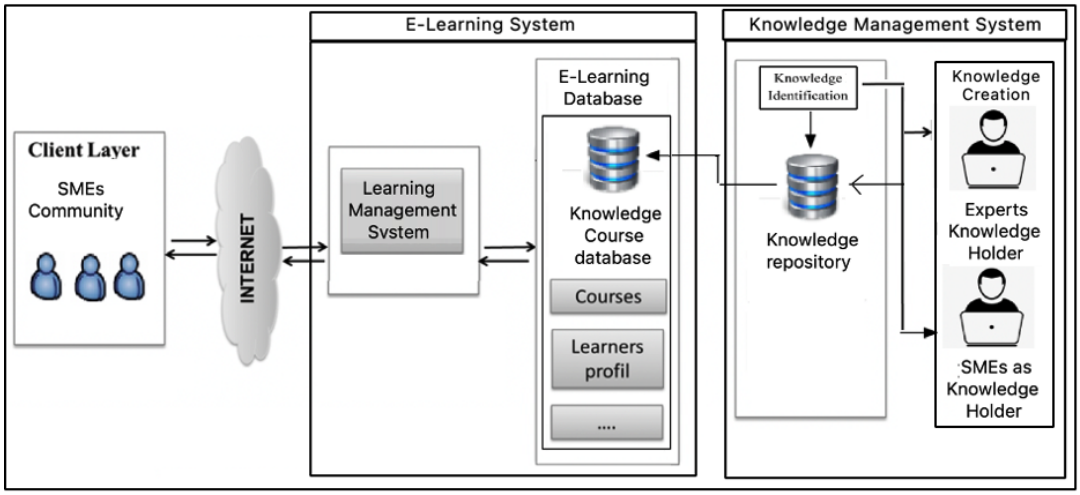

Figure 2 . The proposed Model

4. Conclusion

This research resulted in a combination of KMS and LMS to increase the knowledge of SMEs. The resulting model is a solution to the problem of the low knowledge of SMEs while on the other hand other SMEs who are members of the SME community have knowledge that is useful for other SMEs but there is no one medium that SMEs can use to share their knowledge. On the other hand, e-learning provides a solution for SMEs to gain knowledge systematically and the structure provided by the LMS which is part of this model.

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Biography

Inayatulloh SE.MMSI,CDMS.CSCA is a lecturer at Bina Nusantara University, School of Information System Jakarta Indonesia and also a doctoral candidate of computer science, experienced in managing systems in the retail, automotive, convection and education industries. research domain in e-learning, e-business, e-commerce, cloud computing, IoT and block chain technology.

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Sugeng Riyanto, found that my passion was to become an educator. I decided to take a master's degree at the university of IPB by taking a concentration in Small and Medium Industry Management (MPI). It was a big decision in my life that would change everything. I am currently a lecturer at the College of Economics (STIE) PERTIWI Bekasi, I have started the teaching profession since 2014 until now. Apart from being a lecturer, I am also the deputy principal of the industrial relations field at a private vocational school in Bogor district. I have a responsibility to establish relationships and cooperation between schools and the industrial world, agencies, and other institutions, both government and private institutions

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Destiana Kumala, S.kom, M.M., C. HR. Adm. Completed Bachelor of Information Systems Education (2009) and Master of Management with a concentration on Human Resources (2012), besides that the author has also completed training in Human Resources Administration (2021). Currently active as a permanent lecturer at STEBIS Bina Mandiri Cileungsi in the sharia business management study program and focuses on the field of management science. Apart from being the vice chairman of the academic field, the author is also a researcher in the fields of economics, management and computers