



**CRITICAL SUCCESS FACTORS FOR SUCCESSFUL
E-LEARNING IMPLEMENTATION:
A CASE STUDY IN DINAMIKA UNIVERSITY, INDONESIA**

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18 NOVEMBER 2021

**A Project Paper Submitted in Partial Fulfillment of the Requirement
for the Master in Information Communication Technology
Management**

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SEMESTER SEPTEMBER 2021

ABSTRACT

E-learning model for education despite having promising future, still have its own challenges to deal with. Based on this fact, this project paper aims to provide an understanding of success factors that are important to the implementation of e-learning, and how to comply with those success factors to minimize or even solve issues that come with it.

This project paper implements three main methodologies. First, common critical success factors are collected from previous researches. Second, collected critical success factors are compared with results of survey conducted in Dinamika University and analyzed. Finally, suggestions are made based on critical success factors found in the second methodology. Based on the survey results and findings of critical success factors from previous researches, ten critical success factors were found to be important for the success of e-learning implementation. These results are divided into two ranking lists based on students' perceptions and the lecturer's perception. Technology readiness, human readiness, and institution readiness are three critical success factors that need to be focused first because these three factors are ranked in the top five critical success factors from both student and lecturer's perceptions. Based on these ten critical success factors, actions to be taken are suggested.

Keywords: critical success factors, e-learning

ACKNOWLEDGEMENT

First of all, I would like to give my deepest gratitude to God, who have allowed to finish this project paper regardless how I started. I also would like to express my sincere and deepest gratitude to people who have supported me in the completion of this project paper:

- ✓ My Mother, My Brother, Mrs. Oktaviani, and Ms. Lorensia who have continuously reminded me about the importance and completion of this project paper.
- ✓ Prof. Dr. Titik Khawa Binti Abdul Rahman, who has spent a great deal of time to review my project paper and giving me supportive comments, guidance, and feedbacks during my project paper progress. I also very thankful for the patience given to me regardless of how I started this project paper.
- ✓ Prof. Dr. Budi Jatmiko, Rector of Dinamika University who has given me permission to conduct survey in Dinamika University, as well as the opportunity to study in AeU.
- ✓ All lecturers and students who have allocated their time to answer my survey questionnaire despite their own busyness.
- ✓ Ms. Fazilah Che Fauzi, who has helped me in connecting with AeU staff during the process of my project paper, and also still cheering me up during progress of my project paper.
- ✓ All friends and peers who have supported for me in finishing this project paper.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

This chapter elaborates on the background study and problem statement for this project paper. Based on the background study and problem statement, this chapter also describes the formulated research objectives and research questions for this project paper. This chapter also provides explanations on scope and limitation when working on this project paper, as well as the contribution of this project paper for others.

1.1 Background of Study

E-learning, also known as electronic learning has gained wide acceptance in all educational fields and academic institutions (Rodrigues et al., 2019). E-learning can be defined as an innovative web-based system based on digital technologies and other forms of educational materials whose primary goal is to provide students with a personalized, learner-centered, open, enjoyable, and interactive learning environment supporting and enhancing the learning processes (Rodrigues et al., 2019). E-learning could act not only as a complementary technology for currently running traditional classroom method, but also capable to become a complete substitute for the traditional classroom method. During its run and development, E-learning has promised several advantages over the traditional classroom model, including flexibility of time and space and cost reduction.

Based on E-learning Market Trends & Forecast 2014 - 2016 Report by Docebo, the E-learning Industries market growth rate has been 900% since 2000.

Also, findings by Global Industry Analysts in 2019, the global e-learning market will reach \$325 Billion by 2025. This number also has been increased in 2020, because of the emerging of the Covid-19 crisis. The market is projected to continue to grow and reach US\$499.1 billion by the year 2020, trailing a post-COVID-19 CAGR of 10.3% over the analysis period 2020 through 2027. Global industry Analyst stated that in comparison to traditional classroom learning, E-learning is more economical and affordable, as one online course could cost the only 1/10th of its offline counterparts.

With all the facts and advantages found, implementation of E-learning still prone to failure. E-learning is not just about moving all the course materials and assignments to the internet, but there is more about e-learning that needs considerations. There are various issues regarding the implementation of E-learning, including but not limited to adequate infrastructures, and the ability to accept change, appropriate digital skills, and a suitable program design which meets the students' learning needs (Rodrigues et al., 2019).

Based on all the information above, this project paper aims to provide an understanding of factors that are important to the implementation of E-learning, and how to comply with those factors to minimize or even solve issues that come with it.

1.2 Problem Statement

Even though e-learning could provide advantages rather than the traditional classroom model, e-learning implementation still prone to fail. Some issues accompany the implementation of e-learning, that needs to be dealt with.

Keibritchi (2017) identifies three major categories for the issues on e-learning implementation, which are issues related to online learners, issues related to instructors, and issues related to content developments. Meanwhile, Shahmoradi (2018) identifies issues on e-learning implementation in higher education, which can be categorized into issues related to policymaking, difficulties in accessing the technology producing digital divide, and lastly issues related to a cultural difference between global learners. In another research, Mustiya and Makokha (2016) identifies several different challenges on e-learning adoption in Kenya public universities. Challenges identified are categorized as challenges ranked by students and challenges ranked by lecturers. Challenges ranked by lectures start with a heavy workload on lecturers, followed by insufficient internet connection, denial of the copyright for e-learning module, limited ICT Skills, lack of incentives to increase lecturer motivation, shortage of adequate infrastructures, in this case, laptops and computer laboratories for creating or accessing the online contents, and lacking time for online interaction. The learners ranked insufficient internet connectivity as the main challenger for them in e-learning, followed by inadequate tools and devices, limited ICT skills, and lastly, insufficient time for online interaction. Mustiya and Makokha (2016) also mentioned several other problems that were mentioned by students and lectures, which is the negative attitude towards e-learning, non-compensation for the internet outside the university, and lecturer's fear of criticism. Rodrigues et al. (2019) also mentioned several requirements in adopting e-learning, which is the ability to accept change, adequate infrastructures, appropriate digital skills, a suitable program design that meets the learner's needs.

Based on the mentioned problems by previous researches, issues in the e-learning implementation can be classified into several categories:

1. Issues related to the learner's readiness on participating in e-learning. These issues including technology self-efficacy and cultural differences between the faculty and the learners.
2. Technology issues, including but not limited to issues in internet access and the need to prepare suitable devices and computers for executing the e-learning adoption.
3. Difficulties found in the lecturer's side including, but not limited to lack of ICT skills, shortage of time needed to plan and execute the e-learning adoption, and acknowledgment of their efforts in e-learning execution
4. Issues related to the course designs, including but not limited to, design of course material, and selection of technology to ensure that the knowledge is transferred based on the course goal while maintaining the satisfaction and retention rate of the learners.

1.3 Project Objectives

The objectives of the project are:

1. To identify the critical factors that could lead to issues in e-learning implementation.
2. To provide suggestions on actions that need to be taken to overcome the issues.

1.4 Research Questions

1. What are the factors that lead to the issues of e-learning implementation?
2. Based on the findings, which factors are considered critical for e-learning implementation?

3. What are the suggestions or solutions done by previous researches to handle issues in each found factor?

1.5 Scope and Limitations

As this project paper provides a critical literature review of previous researches and news about e-learning from 2015 to 2021, accompanied by a simple survey conducted at Dinamika University to verify identified factors, it is believed that even though numerous articles have been compiled, the review is not perfect or probably not exhaustive. The factors and suggestions that are written in the project paper are produced based on results in the searched database using keywords (will be mentioned later) and findings based on the survey.

1.6 Contributions

This project paper provides a knowledge base for new research related to the issues mentioned. As this project paper suggests solutions to solve the issues regarding the e-learning implementation, further research could be done based on the suggestions to take concrete actions or products to handle the mentioned issues. This project paper also identifies factors and problems for educational institutions planning to implement e-learning as their education model. By reading this project paper, educational institutions are expected to get prerequisites information about critical factors before their planning phase of e-learning implementation and also possible issues that will arise during the e-learning implementation, so that they can plan more carefully. The suggestions that are written in this project paper also can be used as an option by the institution to deal with the issues.

1.7 Chapter Summary

In this chapter, the background, research problems, and research objectives of the project paper are described. E-learning, also known as electronic learning, has gained wide acceptance in all educational fields and academic institutions. E-learning could act not only as a complementary technology for currently running traditional classroom method, but also capable to become a complete substitute for the traditional classroom method. There are advantages that accompany e-learning implementation, like the flexibility of time and cost reduction, but without proper planning and preparation, e-learning could bring these disadvantages to the faculty or the learner themselves, thus prompting failure in execution. There are issues related to the learners, lecturers, technology used, and content designs that accompany the e-learning adoption, that need to be dealt with first, before e-learning can be considered as successfully implemented. This project paper aims to identify the critical success factors that could lead to major issues in e-learning implementation and provide suggestions on how to handle the factors in order to overcome the issues.

1.8 Structure of the Project Paper

Below is the structure used to write this project paper report:

1. Chapter 1: Introduction.

This chapter describes the background of the research and enlists the research problems and questions that the research aims to solve. This chapter also describes the contribution the research gives.

2. Chapter 2: Literature Review.

This chapter consists of theoretical knowledge from previous researches related to current research.

3. Chapter 3: Methodology.

This chapter provides an explanation regarding how the research will be done.

This chapter explained the steps taken to do the researches.

4. Chapter 4: Result and Discussion.

This chapter explains findings during the research process as well as the connection between this project paper findings and previous researches findings.

5. Chapter 5: Overall Conclusion.

This chapter explains the overall result of the research based on research finding and its relation to the research questions.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

This chapter discusses some e-learning concepts, the benefits obtained by adopting e-learning, as well as problems that persist throughout the adoption phase of e-learning. This section also explains the importance of understanding critical success factors in e-learning adoption.

2.1 E-Learning

Based on the definition by Prasojo (2011), E-Learning, an abbreviation from electronic learning, is a popular term for internet and intranet-based online study. E-Learning technology is a technology supported by the use of the internet to provide media for distributing course materials, quizzes, while also providing communication tools between educator and learner. While Efendi (2005) stated that the term “E-Learning” can refer to training activity that implements electronic media and information technology. In the different research, Rodrigues et al. (2019) proposed a definition for E-Learning as “an innovative web-based system based on digital technologies and other forms of educational materials whose primary goal is to provide learners with a personalized, learner-centered, open, enjoyable and interactive learning environment supporting and enhancing the learning processes”.

2.1.1 Advantages on E-Learning Adoption

Efendi (2005) stated several advantages of e-learning adoption, which are cost reduction, time and place flexibility, teaching standardization, increase in teaching effectiveness and learner experience, increased learner’s responsibility,

insurance in updated learning material, and reduced burden on the environment. On the other hand, Wotto and Bélanger (2018) enlisted advantages on e-learning implementation, at which some of them are similar to advantages stated by Efendi (2005). The advantages mentioned including easiness of access, individual instructions, new and different learning style, flexibility, motivating and interesting teaching model, the capability of online, offline, and live interactions, support self-learning and self-improvement, feedback, and evaluation, and allows efficient and cost-effective strategy. Mukthar et al. (2020) also found several advantages in e-learning adoption during the COVID-19 pandemic era. Mukthar et al. (2020) described that according to the lecturers and learners, online learning is a flexible and effective model of teaching and learning as most of them agreed upon the fact that this helps in distance learning with administration easiness and accessibility along with the reduction in resource and time. E-learning also offers flexibility in accessing learning material as well as encouraging learners to become self-directed learners, an important competency for encouraging lifelong learning among health professionals. In another research, Sadeghi (2018) also mentioned some advantages of e-learning, which include the possibility to study from anywhere at any time, a significant decrease in fees, requires no commuting, flexibility to choose, time-saving, and e-learning enables employees to improve their qualification without quitting employment.

2.1.2 Issues on E-Learning Adoption

With all the advantages that accompany e-learning implementation, some issues make e-learning implementation have its challenges. Kebritchi et al. (2017) introduced three major categories of issues on e-learning adoption, which consist

of learner issues, instructor issues, and content issues. Issues related to the learner are:

1. Learner readiness in participating in e-learning model
2. Learner expectation on the e-learning model,
3. Learner sense of identity in e-learning model, and
4. How the e-learning could support and further enhance the learner's participation.

Issues related to the instructor are:

1. Changes in faculty role from traditional classroom lecturer into online instructors, which also brings new responsibilities and tasks,
2. The non-existence of institutional expectation which leads to failure in assessing the current e-learning effectiveness;
3. Lecturer's lack of experience in online teaching environments;
4. Lecturers find difficulties in content delivery and engagement with the learner, due to lack of visual and face-to-face contact with the learner;
5. Communication barrier between faculty and the learner;
6. Lecturers found that online courses are more time-consuming than the traditional classroom, as they have to prepare course material from the traditional classroom, into a more-suitable form in e-learning;
7. Lecturer's lack of interest in the e-learning model, as their accustomed model is the traditional classroom and their fear of the unknown.
8. The institution failed to prepare the instructor for online education, which made instructors bring their traditional model into the online environment.

9. Faculty needed a double amount of time to prepare and teach in the online environment than the traditional classroom, despite the number of class participants
10. Teaching styles that applied by the instructors to the classroom

Lastly, issues related to content development are:

1. Lack of instructor's involvement in e-learning content development.
2. Inappropriate application of multimedia in e-learning content that likely to distract the learner from the course objectives.
3. Instructional strategies influencing the content development are still lecturer-centered, while e-learning should have been more learner-centered.
4. Insufficient consideration of e-learning content development, for example, unclear explanation of course trajectory, unclear assignment instruction, and disconnection between course objectives, learning outcome, and assignments.

Shahmoradi et al. (2018) also mentioned some issues regarding e-learning adoption in higher education, which are:

1. Difficulties in accessing the technology required for online learning.
2. Skill challenges in using the technology required for e-learning.
3. Lack of policy implementation and monitoring plan as policy-making for e-learning courses lacks for specific trustee.
4. The cultural difference between the faculty and the learners, which could affect the communication, interaction, and participation of the learners.

Mustiya and Makokha (2016) also found several challenges in e-learning adoption in Kenyan public universities. The challenges themselves can be divided

into Instructor's perspective and learner's perspective. From Instructor's perspective, challenges on e-learning adoption are ranked with the following result:

1. Heavy workload
2. Insufficient internet connectivity
3. Denial of copyrights for developed e-learning modules
4. Limited ICT skills
5. Lack of incentives
6. Shortage of computer/laptops
7. Inadequate computer laboratories
8. Insufficient time for online interactions.

Meanwhile, learners ranked challenges on the e-learning model with the following result:

1. Insufficient internet connectivity
2. Lack of computers/laptops
3. Inadequate computer laboratories
4. Limited ICT skills
5. Insufficient time for online interaction

Other than the ranked challenges mentioned above, Mustiya and Makokha (2016) also found other challenges mentioned by lecturers and learners.

1. Negative attitudes towards e-learning adoption, as some learners and lecturers are technology antipathetic, phobia, or conservative to e-learning implementation.
2. No monetary support for the internet outside the university, as public universities only provide internet facilities within the university premises.

Lecturers and learners are only left with options to use modems, cyber cafes, or personal internet connections, which are beyond reach for some learners and lecturers.

3. Lecturers having fear of criticism by colleagues and learners as they have to post their course material online.
4. Learners are having the fear that employers are sceptical about degrees earned by e-learning mode. It was reported that some employers insisted that e-learning was not very well developed in the country.

There are other challenges and issues on e-learning implementation such as inadequate infrastructures, inability to accept changes by instructors or learners, insufficient digital skills for instructors and learners, and poor program designs that do not comply with the learner's needs (Rodrigues et al., 2019). Also, Sadeghi (2018) enlisted several disadvantages on e-learning adoption:

1. A high chance of distraction during the learning process as learners must keep themselves motivated to complete the course.
2. As e-learning completely depends on computer technology, a malfunction with the technology used can interrupt the learning process. On the other hand, the required computer/digital skill on e-learning could limit its participants to learners who are computer and tech-savvy.
3. No Social Interaction.
4. Learner's difficulties in communicating with the lecturer
5. Job Markets do not accept online degrees.