



Implementation of Online Learning Platforms in Higher Education: Are the Users Satisfied? A Systematic Literature Review

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Abstract

Online learning methods have replaced face-to-face learning as a result of the present growth in technology and information. The purpose of this study is to review existing research on consumers' satisfaction with online learning systems, particularly in Indonesia. This study is important because Indonesia has a growing number of technologically illiterate teachers and students who are constrained in their ability to use technology-based learning online and because the region is demographically dispersed across many islands, both large and small islands. The study approach entails conducting a review of the literature using a number of publications from around the world as well as data at the national level gathered through Google Scholar, Science Direct, and other sources, which are then saved on the Mendeley desktop. According to the review's findings, ensuring that the learning process adheres to the learning objectives rather than just the knowledge transfer itself is the main challenge in online learning. Both teachers and students may experience both satisfaction and unhappiness as a result. The TAM model is one of numerous measurement techniques, both macro and micro, that can be used to gauge how satisfied consumers are with online learning platforms. Despite the fact that a higher education institution is a part of the public sector, public satisfaction is not one of the metrics used to measure user happiness. The TAM model by Davis can be improved in the future by adaptation to the various environmental factors affecting the study object. Future studies should gauge how satisfied teachers are with their experience using online learning platforms. Additionally, it is worthwhile to compare the satisfaction of teachers and learners.

Keywords: online learning platform, higher education, TAM model, customer satisfaction

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Intorduction

In this current era, information and technology are evolving so quickly. All facets of human life have been impacted by the development (Rifani et al., 2023). The change from traditional face-to-face classroom engagement to online classroom interaction is one of the obvious effects of the development. The rapid expansion of online learning in the twenty-first century is not unusual.

History and Development of Online Learning

Online accessibility and smartphone ownership are frequently connected to the rising usage of online learning. The use and application of the internet (including World Wide Web) in everyday societal activities has increased since its introduction. The Open University of Catalonia hosted a virtual university that served as the foundation for the first online learning program, which was introduced in 1985. Since then, enrollment has risen steadily, and numerous public and private universities now provide courses online at all levels.

The University of Phoenix was the first institution to introduce a bachelor's and master's degree program in online higher education in 1989. The first authorized, entirely online university, Jones International University, was established in 1996 by businessmen Glen Jones and Bernard Luskin. Since the establishment of this entirely online program and school, online learning has developed in a variety of ways. Over 6 million students in 55 countries received instruction from 40,000 professors through Blackboard Learning System in 2003, according to their report.

Nearly 93% of traditional schools in the US now offer online courses, making online learning another force driving changes in higher education. Universities like the University of California Berkeley, Harvard University, and MIT, which provide free online courses known as open courseware with video lectures and quizzes derived directly from class discussions, are embracing this teaching method at an increasing rate.

The Covid-19 outbreak led to a surge in online education in Indonesia. The arrival of Pandemic Covid-19 in Indonesia on March 2, 2020, did not immediately put an end to face-to-face instruction. According to the Indonesian Minister of Education and Culture (Kemendikbud Nomor 3, 2020), face-to-face instruction is still standard practice in Indonesia, including for higher education. The Director General of Higher Education issued a circular letter to the Indonesian Ministry of Education and Culture on March 16, 2020, to conduct an online-based learning system (Kemdikbud Nomor 1, 2020).

The widespread use of internet technology makes it simple to apply knowledge online without being constrained by time or geography. The Covid-19 pandemic hindered teaching and learning activities in higher education, but now those activities have been made possible by the availability of learning platforms like e-learning, zoom, Google Meet, Google Class, and other online learning platforms. The learning process can happen anywhere by using online learning tools. There is no longer a requirement for teachers and students to interact in person in the lecture hall. The development of a new educational model that produces graduates who are innovative, industrious, and unconcerned with money is thus currently extremely feasible. According to (Alastair Inglis, Vera Joosten, 2002), higher education institutions should stop being exclusive and start being more inclusive of public services.

The Covid-19 pandemic has shown the viability of technology-assisted future schooling. The duties of teachers, lectures, and the learning exchanges between students and instructors still cannot be replaced by technology. Transferring knowledge is simply one aspect of education; it also involves the promotion of morals, teamwork, and academic proficiency. The pandemic condition was a challenge for each person, forcing them to use technology in more inventive ways to raise the level of schooling. As a result, lesson plans for online learning need to be prepared.

The quality of learning is intended to be improved by using lesson plans or learning models. A lesson plan is a process of selecting the learning strategies that best meet the goals of the learners in order to produce the anticipated changes in knowledge and abilities, according to (Reigluth, 1983). The learning model is comparable to an architectural blueprint for a structure or bridge. The blueprint should serve as the foundation for the entire building process. By choosing, establishing,

and improving the best learning strategies to produce the intended outcomes, the quality of learning can be improved (Dwiyoogo, 2018). Learning design models encompass multiple learning designs that have been designed by learning specialists.

Studying the trends of upcoming learning models connected to learning strategies and material is crucial when developing a learning strategy. From a traditional learning strategy to a future learning method known as the age of knowledge, future trends in learning strategies have altered. Anywhere can be a place of learning. This implies that it can be done at home, in a library, or in a classroom. Learning is not only a continuous process; it is also possible at any time. Anyone can teach pupils, therefore they could pick up knowledge from professors, doctors, or members of the public. Additionally, learning can be mediated via a variety of tools, including the internet, CD-ROMs, radio, television, laboratories, and first-hand experience. As for learning outcomes, (Dwiyoogo, 2018) states that problem-solving skills or talents are those that can be predicted in the future.

Analysis of Helplessness

During a pandemic, it becomes difficult to think creatively about how to use technology to transfer knowledge and how to make sure that learning is still effectively transmitted. This challenge offers individuals the chance to learn about how technology may help students and participants become more well prepared for the 21st century. Self-directed learning or the ability to learn independently is the most crucial 21st century skill. With thousands of islands in Indonesia, online learning presents a difficulty for the field of education. There are difficulties in using technology, such as how to provide internet connection in rural places where electronic products are still a luxury even with internet access. It is a challenge for all parties to be able to use technology to address the genuine issues that confront students, particularly those who are less fortunate in terms of their condition of the economy and lack of access to technology in rural regions.

According to data from Indonesia's statistical catalog (Badan Pusat Statistik Indonesia, 2022), there were 3,115 colleges in total among the public and private postsecondary schools that fall under the Ministry of Education and Culture. The total number of students is 7,665,516 whereas the total number of instructors is 265,452. Not all lecturers and students have a firm grasp of the online-based learning system, using e-learning, zoom, google meet, google class, and other online learning platforms,

The ability to develop and instill the habit of being an independent learner through numerous online classes or webinars gained momentum during the recent Covid-19 pandemic. Students can also collaborate with one another to deal with real-world issues as well as learning challenges. This arrangement presents difficulties for both students and student lecturers in the delivery of instruction because lecturers have to make sure that students comprehend the course material.

The analysis of strategy which has been conducted

Many academics, including (Andersen, 2007) and (Sultan, 2010), and others from other nations, have conducted studies on online learning systems and the rapid growth of education based on information technology. An innovative method that combines Internet-based and cloud technology for research at the College of Physicians and Surgeons Royal College of Canada was detailed in (Chan et al., 2015). Students favored using Voice Thread for studying and presentation, according to survey results published by (Thor et al., 2017) which looked at the effect of online formats on the quality of discussions. In their research, (Barak & Green, 2020) highlighted the need to reconsider how traditional online ethics courses are created and delivered, empowering

students to feel comfortable learning from a distance and involving them in active and interactive online experiences. According to (Kianmehr & Kamali, 2015), while educational institutions' interest in online education is declining, people's interest in it is rising. They believe that equipping students with suits is important to counteract the detrimental impacts of online education.

Measuring Satisfaction and Dissatisfaction of users of online Learning Platform Numerous studies examining online learning satisfaction have also been conducted, according to (JC Roca, CM Chiu, 2006). The study's findings indicate that users' perceptions of the course usability and quality, the platform and website services' quality, and the expected degree of achievement all play a significant role in how satisfied they are with their online learning experiences. According to the findings of his study, (Wang, 2012) found that student happiness was influenced by technological acceptance, instructor qualities, student characteristics, and courses. As (Panchenko, 2013) stated, the instructional model of A Massive Open Online Course (MOOC) can advance teachers' career, enhance their instructional abilities, and give them the tools to think about and analyze their teaching activities from a variety of angles. Through applications like Master Room, the most recent educational technology platform, known as MOOC, enables students to obtain additional training outside of the classroom. (D Kravvaris, KL Kermanidis, 2016) assert that social networks aid the growth of MOOCs.

Macro Model of Customer Satisfaction Measurement

Numerous research on established models—which may be further separated into macro and micro models—and consumer satisfaction have been conducted. Many nations have measured their national customer satisfaction indexes as part of their work to assess customer satisfaction using the macroeconomic model. These national customer satisfaction indices are used as macroeconomic indicators to gauge how satisfied customers are with a product or service. A customer satisfaction index was presented by (Fornell, 2016) by taking into account consumer expectations, post-purchase perceptions, and purchase value. We conducted an annual customer survey of more than 100 businesses in more than 32 categories under the direction of Fornell and Birger.

The Fornell concept and calculation method were used to construct the Swedish Customer Satisfaction Barometer (SCSB). America published the American Customer Satisfaction Index (ACSI), which is based on SCSB, under the direction of Anderson and Fornell. In addition to measuring customer happiness and product or service reliability, ACSI also takes into account perceived quality (Gorst et al., 1998).

Germany developed the Deutche Kundenbarometer (DK) model, which included 31 industries, in 1992. By using a comparative advantage over other nations, the European Union creates the European Customer Satisfaction Index (ECSI). By separating perceived quality into perceived hardware quality and perceived software quality, this model reduces customer complaints while enhancing the company's reputation (Biesok & Wyrod-wrobel, 2018).

Micro Model of Customer Satisfaction Measurement

In the micro sector, there have also been a variety of models for assessing consumer satisfaction. A variation model was proposed in 1974 by Tversky, A., and Kahneman. In 1980, (Oliver, 1980) developed a general framework for assessing subjective inconsistency. (Sasser, 1974) suggested a service level-based customer model. The SERVQUAL scale was developed by (Zeithaml et al., 1993) to assess service quality. Reliability, responsiveness, assurance, empathy, and tangibility are the five categories they use to group the characteristics that characterize service quality.

Technology Acceptance Model (TAM)

Online learning, which combines interactive visual media with the internet, is beginning to overcome the space and time constraints of direct or face-to-face learning offline. Because it affects the field of education, this change in behavior is interesting to research.

Since twenty years ago, studies on consumer behavior related to technology have been conducted. The Technology Acceptance Model (TAM) by (Davis et al., 1989) is the idea that is frequently cited as a source. TAM is thought to be able to foresee how well technology will be adopted by users.

One person may see certain aspects of technology differently than another. Their attitudes and cognitive processes concerning technology influence how they see it. Information systems literature has been dominated by the TAM model, which was originally put forward by (Davis, 1989) and further developed by (Bagozzi et al., 1992), and other scholars. The model mandates that individual opinions about the usage of technology determine the influence of the variables in the TAM model.

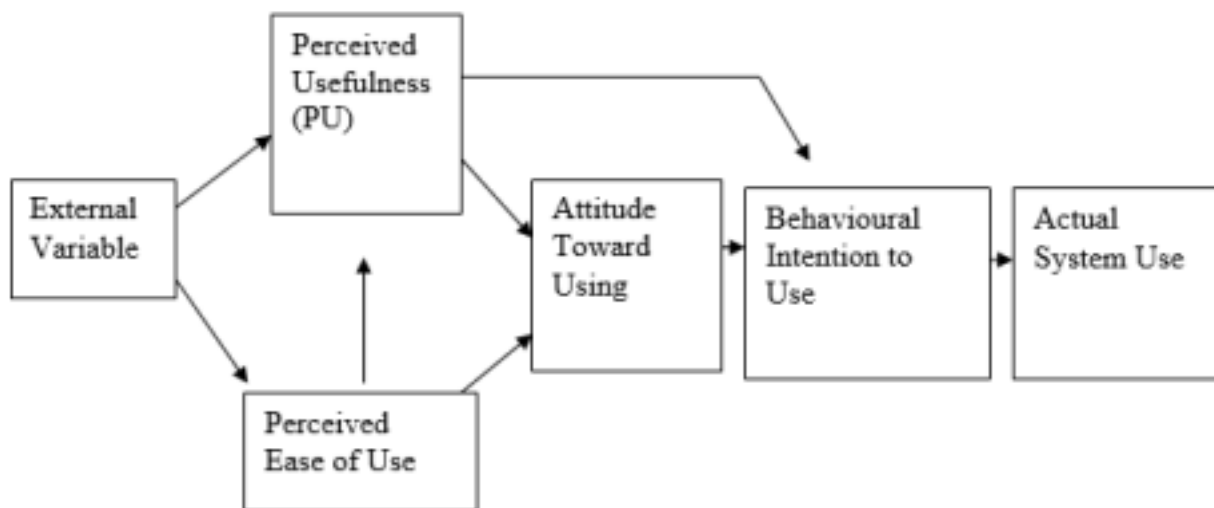


Figure 1. Technology Acceptance Model (TAM), (Davis, 1989)

According to Davis' theory, "Technology Acceptance Model (TAM) is a model to predict and explain how technology users accept and use technology related to the user's work" (Davis, 1989). The TAM model, which was developed from psychology theory, uses the concepts of trust (belief), attitude (attitude), intention (intention), and user behavior relationship (user behavior relationship) to explain how information technology users behave. The user's perception of the utility and simplicity of information technology as an action in the context of information technology users is one factor that can have an impact, so that someone's motives for believing in the advantages and simplicity of use make the person's actions acceptable to the use of information technology.

By utilizing and refining the TAM model, numerous academics and research institutions from different nations have examined customer satisfaction assessment systems. The idea of customer satisfaction or the usage of macro and micro models, on the other hand, has been largely

utilized in earlier studies. Meanwhile, it is necessary to assess the appropriateness of the education sector component of public services using public sector user satisfaction metrics.

Article Purpose

There is a need for research on user satisfaction of online learning systems in Indonesia because many teachers and students in Indonesia's higher institutions have low proficiency with online-based learning technologies. Indonesia's regional populations are dispersed throughout a variety of islands, both big and small. This research is significant to investigate because of the power of various internet networks.

The TAM model from (Davis, 1989) is one of many evaluation models that many scholars who study online learning have defined. However, numerous additional issues have surfaced in new types of online learning because of the implementation of online learning since the Covid-19 pandemic up until this point. This necessitates those additional factors of significant user satisfaction be considered in this study. User satisfaction in the public sector, which has only seldom been achieved up to this point, has to be used to measure user satisfaction in the public sector, such as higher education.

Conclusion

The University of Phoenix was the first organization to develop an online higher education institution offering bachelor's and master's degrees, and online learning has been around for a very long period. The Covid-19 epidemic marked the start of widespread online learning in Indonesia. In order to carry out an effective online learning process and in accordance with learning goals and achievements, learners and teachers must be able to adjust to new habits in a variety of ways.

Both psychological and social barriers existed among students as well as teachers. The TAM theory created by (Davis, 1989) has been used extensively thus far in research that gauges the degree of user acceptance of technology, in this case the online learning model. The TAM theory from (Davis, 1989) can be developed for user acceptance of online learning models in future study.

More customer or user satisfaction measurements from the Macro and Micro models are used for assessing user happiness in online learning. The use of public sector satisfaction measurement tools can potentially be created for future research. Since students have been the primary focus of user satisfaction research to date, future studies can also analyze teachers as users of online learning systems that use the same platform as students. The level of satisfaction among students and instructors who use online learning systems has also never been compared in prior study. It is also possible to do a comparison examination of the level of student satisfaction with the teacher when using the same learning platform.

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