INFORMATION TECHNOLOGY READINESS AND ACCEPTANCE MODEL FOR SOCIAL MEDIA ADOPTION IN BLENDED LEARNING AMONG HIGHER EDUCATIONAL INTITUTIONS IN WEST JAVA, INDONESIA

FAHMI YUSUF

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FAHMI YUSUF

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ABSTRACT

Technological developments, including the internet, and learning opportunities are increasing. This also causes learning strategies and models to develop. The blended learning model is applied in almost all universities in Indonesia and throughout the world. With so many universities in Indonesia, implementing blended learning is a challenge because it requires a lot of technological preparation and human resources; this often needs to be solved by policymakers in higher education. Blended learning requires a lot of strategies and technology to be implemented well. One of them is social media because social media has become a lifestyle for urban and remote communities to communicate. Based on the above, this research investigates the readiness and acceptance of social media information technology in blended learning to determine the factors that influence it among students in higher education. This research uses quantitative methods to develop a model by adopting concepts, theories and models such as information processing theory, technology readiness, technology acceptance, perceived validity and perceived trust, and information literacy theory. The number of respondents used was 384, and the purposive sampling technique was used in the student population in West Java. The novelty of the model developed is the addition of three new variables, namely information literacy, perceived validity, and perceived trust in the social media technology acceptance model in the application of blended learning. In the data processing results based on statistical tests, results were obtained that explained the 31 hypotheses constructed, 19 hypotheses were accepted, and 12 hypotheses were rejected. Information Literacy, Optimism, Innovativeness, Perceived Validity, Perceived Trust, Perceived Usefulness, Perceived Ease of Use, Intention to Use, and Usage Behavior are the accepted factors. The findings in this study contribute to academic knowledge and provide actionable insights for policymakers, institutions, and educational practitioners seeking to increase the acceptance and adoption of social media technologies in blended learning. The identified factors provide a strong foundation for strategic planning, policy development, and learning initiatives to encourage the successful adoption of social media technology in blended learning among private university students in West Java, Indonesia.

Keywords: Technology readiness, TAM, blended learning, information literacy, social media

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the degree of Doctor of Philosophy

The student has been supervised by: **Prof Ts Dr Titik Khawa Abdul Rahman** and co-supervised by: **Dr A'ang Subiyakto**

The thesis has been examined and endorsed by:

Assoc Prof Dr Fariza Hanis
Universiti Teknologi Mara (UiTM)
Examiner 1

Assoc Prof Dr Ramlah Mailok
Universiti Pendidikan Sultan Idris (UPSI)
Examiner 2

This thesis was submitted to Asia e University and is accepted as fulfilment of the requirements for the degree of Doctor of Philosophy.

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Professor Dr. Siow Heng Loke
Asia e University
Chairman, Examination Committee
16 May 2024

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: Fahmi Yusuf

Signature of Candidate: **Date**: 16 May 2024

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I realize that this dissertation is far from perfect. Therefore, the author expects constructive criticism and suggestions from various parties for future improvements.

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LIST OF ABBREVIATION

AVE	Average Variance Extracted
COVID-19	CoronaVIrus Disease of 2019
CR	Composite Reliability
HTMT	Heterotrait-Monotrait
PLS	Partial Least Square
SEM	Structural Equation Modelling
TAM	Technology Acceptance Model
BPS	Central Bureau of Statistics
VIV	Variance-inflated factor

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

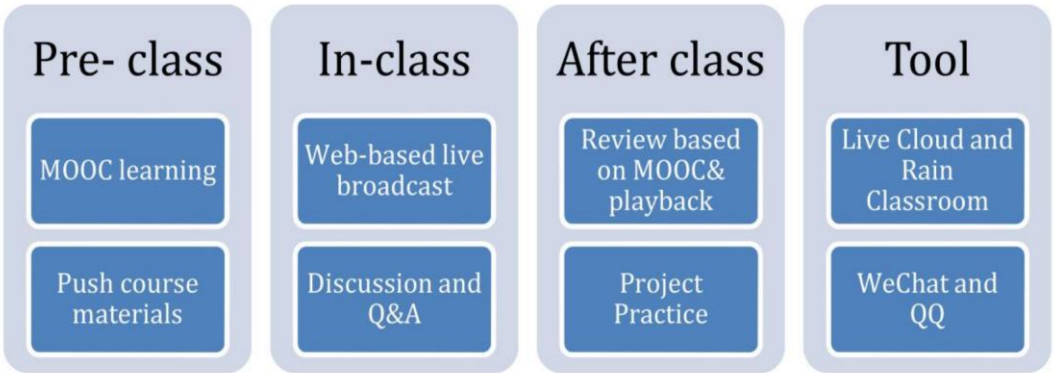
Indonesian education has now entered the 4.0 era since 2012; where in this era, development and transformation are being carried out towards digital to create convenience and comfort in teaching and learning activities, marked by the development of internet use (Adiningsih, 2019; Hamidi & Riswandi, 2020; Nastiti & ‘Abdu, 2020). The internet, accompanied by the use of information and communication technology (ICT), has been used as a digital learning medium that allows learning and teaching processes to be carried out anywhere, not limited to locations and without the need for face-to-face meetings (Delić-Zimić & Gadžo, 2018).

Using ICT provides opportunities for every student to be more active and better, offering greater motivation. The teaching process can be more engaging, clear, and of higher quality for any subject. ICT provides excellent advantages in preparation, setting learning classes, and teaching students using modern technology to offer better performance, visual observation, perception and faster learning (Delić-Zimić & Gadžo, 2018).

The Minister of Research, Technology, and Higher Education (Ristekdikti), Muhammad Nasir, in his statement in 2018, encouraged universities to start implementing online distance learning by applying the blended learning method, namely an instructional approach that combines online learning and face-to-face learning (Anthony et al., 2020; Hamidi & Riswandi, 2020). This follows the Regulation of the Minister of Education and Culture (Permendikbud) of the Republic

of Indonesia number 24 of 2012, which is related to the implementation of distance education in tertiary institutions (Pradana et al., 2015). In addition, the blended learning method is also applied due to the coronavirus pandemic (COVID-19) that has occurred for the past three years throughout the world; governments around the world have made policies to study and work from home to prevent the spread of the virus. The application of blended learning is appropriate in teaching and learning activities in current conditions to optimise the integration of oral communication, such as in face-to-face learning in class and written communication through online learning (Aji et al., 2020; Usman, 2018). This study was conducted after the pandemic ended by looking at the tendency of blended learning to decrease. The Chinese Ministry of Education did research in 2020 by submitting a call to stop classes and replace them by making good use of online courses using blended learning methods. The COVID-19 pandemic has changed their way of life and sparked a revolution in universities' teaching and learning processes (Han et al., 2020). The implementation of blended learning by adopting the model can be seen in Figure 1.1. This model describes blended learning where pre-class, after-class, and tools are online and in-class is face-to-face (F2F) (Usman, 2018).

Figure 1.1: Blended learning process



Source: Usman (2018)

Direct application of blended learning also provides opportunities for lecturers and students to expand their learning interactions anywhere without being limited by space and time if they are connected to information technology (ICT), communication applications, and the internet. However, in blended learning, it will be a challenge for lecturers to innovate and have skills in using ICT and the internet properly and correctly. Students are required to be more independent in learning and find good sources of learning. In this case, lecturers and students who are challenged in developing innovation and skills in its application and the universities themselves. Moreover, in Indonesia, tertiary institutions are divided into state universities managed by the government and private universities controlled by the community. The Central Statistics Agency (BPS) released Statistics Indonesia 2022, and in the report, there are 3,115 tertiary institutions spread throughout Indonesia in 2021. The number of these tertiary institutions is dominated by private tertiary institutions (PTS). Of the 3,115 existing tertiary institutions, 2,990 have the status of private universities. Meanwhile, the other 125 are state universities. With the distribution of provinces in West Java (PTN: 12; PTS: 380; Total: 392); East Java (PTN: 17; PTS: 321; Total: 338); Jakarta (PTN: 4; PTS: 275; Total: 279). Many of the universities mentioned above, especially Private Universities (PTS), need to be challenged to open up opportunities that can influence increased competitiveness as well as challenges for implementing blended learning, most of which currently still use direct face-to-face learning so that this can support the continuity of learning. In the future, especially the existence of universities (Belov et al., 2018; Satsyk, 2018; Simina, 2022).

Social media dramatically influences learning purposes (academic), especially as a learning tool, but in some uses in higher education, it still needs to be improved (Sobaih et al., 2016). Implementing social media in blended learning independently by

lecturers has yet to be included in planning massive learning. The use of social media in online education is considered unusual for students because social media is unusually used for communication in some cases; internet problems and the digital divide still need to be clarified (Ahmmed et al., 2022).

Because social media is open source, where information can be obtained from many information sources, it is considered necessary for users to increase their information literacy (Khan & Idris, 2019). Also, when planning or delivering courses in blended learning, lecturers must first understand students' digital literacy level (Khan & Idris, 2019; Tang & Chaw, 2016). A level of digital literacy that matches the expectations of learning materials is necessary for successful blended learning. Information literacy is the literacy level for information as measured by its ability to search, share, verify, and understand. Information literacy influences the habits of lecturers in sharing information on social media towards the application of blended learning. Perceived validity and perceived trust are needed to support validity and trust in the information received in blended learning activities. Namely, individual confidence and trust in the information they receive is accurate (Irhashon et al., 2018).

Therefore, this research investigates and examines the factors influencing information technology readiness and acceptance of social media technology in implementing blended learning among students. Based on the above, this research aims to provide an overview of information technology readiness and acceptance of social media technology in blended learning among students in Indonesia by developing a model and knowing the factors that can influence information technology readiness and acceptance of technology implementing social media in blended learning. The results of this research can be used as reference material for research areas in developing and managing information systems related to the readiness and

acceptance of information technology in the unique context of Indonesia, investigating and examining the factors influencing information technology readiness and acceptance of social media technology in implementing blended learning among students. The results of this research can serve as a valuable reference for research areas in developing and managing information systems related to the readiness and acceptance of information technology, particularly in the Indonesian context.

The use of the technology acceptance model in this research as a theoretical framework in looking at external factors that influence technology acceptance is that Technology Acceptance Model (TAM) has important advantages, including, this model is a parsimonious model, namely a simple model but its validity value is very high (Noviarni, 2017), therefore, until now the Technology Acceptance Model (TAM) theory is still relevant for translating user readiness in utilising information technology.

The Technology Acceptance Model (TAM), which was first introduced by Davis et al. (1989), modifies belief, attitude, intensity and user behaviour relationship by adopting the Theory of Reason Actioned (TRA) components, with the aim of explaining the determining factors for the acceptance of information-based technology in general. Apart from that, the Technology Acceptance Model (TAM) can also explain the behaviour of end users from information technology with quite wide variations and user populations, which can provide a basis for knowing the influence of external factors on psychological foundations.

The Technology Acceptance Model (TAM) is used to explore how a person makes progress in using new technology, and what variables can influence the use of this technological innovation (Purwanto & Budiman, 2020). The Technology Acceptance Model (TAM) theory also states that the intention to use a particular technology determines a person's willingness to use the technology or not (Tumsifu &

Gekombe, 2020). The Technology Acceptance Model (TAM) provides a theoretical basis that is used to find out what factors can influence the acceptance of a technology in an organization.

Apart from that, the Technology Acceptance Model (TAM) also explains the existence of a causal relationship between beliefs (benefits and ease of use) and behaviour, goals and needs, and actual use of users of an information system (Tira et al., 2016). The Technology Acceptance Model (TAM) is a theory that can be used as a basis for developing empirical studies regarding readiness for the use of new technology.

Also in the research of (Novendra et al., 2021) In their research entitled Assessing the Acceptance of Blended Learning Implementation at Lancang Kuning University Using the Technology Acceptance Model in their research, they produced 92 samples; The results of this research state that the multiple regression analysis variables that influence the actual conditions of information users are the variables of benefits of using information systems, ease of use, and user attitudes which have a significant influence on actual conditions.

Research conducted by (Hsieh et al., 2014) entitled Using The Technology Acceptance Model to Explore the Behavioral Intentions Toward Blended Learning aims to explore the relationship between blended learning programs and behavioral intentions using TAM. This research shows that perceived ease of use and usefulness, perceived ease of use and blended learning attitudes, perceived benefits and blended learning attitudes, perceived usefulness and behavioural intentions, as well as blended learning attitudes and behavioural intentions, are positively correlated.

There are many more studies that use Technology Acceptance in research on the acceptance of other technologies. Until now, the Technology Acceptance Model

(TAM) theory is considered the most relevant theory in predicting the desire and readiness to adopt technology; this is because the Technology Acceptance Model (TAM) has been widely used in various studies and has been verified by several situations, conditions and Different research objects are used to study individual technology acceptance behaviour in various information system constructions (Setiawan & Achyar, 2013)

One of the conveniences offered by utilising ICT and the internet for learning activities is the use of social media, which is a digital platform that can facilitate users to be able to communicate with each other and allow them to share writings, photos, documents, and videos, either directly or indirectly. Social media has the potential to enhance and facilitate student learning interactions, develop skills, and increase satisfaction with participant involvement in learning (Romero, 2014; Sobaih et al., 2016). With 192 million social media users in Indonesia in 2022, social media is an everyday activity for people in Indonesia to work, study, entertain, or find information about user needs (data Indonesia.id, 2022).

Social media that is used for learning, as in the blended learning model, is very flexible and affordable for students to be able to communicate with lecturers or have real-time discussions, get students involved in critical thinking, and improve skills in problem-solving which are well-learned through experience that can help students to show ideas and allow them to express their views on the instructions given, and will enable students to learn on their own (Suebsom, 2020). Social media has great value for academic purposes, especially as a learning tool. Still, its use in the policy of using social media in learning has not become much of a policy for higher education leaders, so it is still not known with certainty how the level of acceptance of its use by students and teachers in tertiary institutions in general (Sobaih et al., 2016).

The use of social media as a learning aid in blended learning is believed to be very helpful in increasing the quality and acceptance of learning, as has been done in research on students at tertiary institutions in Malaysia, with research results showing that the use of social media is positive and significantly related to collaborative writing through collaborative learning between researchers in universities (Alenazy et al., 2019). This is also in line with research conducted on students at Malaysian tertiary institutions, with the overall results that active collaborative learning and engagement through social media enrich student learning activities and facilitate group discussion. Therefore, their use should be encouraged in teaching and learning in higher education institutions (Al-Rahmi & Zeki, 2017).

Social media is a source of information that uses internet networks to distribute information so that it is free to be accessed or used, and this shows that internet user skills and internet experience are determining factors (Shen et al., 2019). Other results from the study determined that most of the social and heuristic cues of online credibility (e.g., source trust, bandwagon, and intermediary trust) had no significant impact (Shen et al., 2019). In this case, the research has different views that source credibility must receive attention (Djafarova & Trofimenko, 2019; Li & Suh, 2015).

Research was also conducted in the field of marketing. The results showed that sWOM (social word of mouth) emerged with broad accessibility and the ability to be evaluated and measured easily by other consumers. The information generated through social media will remain online until other customers need and refer to it. This study also provides practical implications for the business sector on using social media to develop online communities. We can analogise this to the credibility of learning resources on social media (Hajli, 2018).

In addition, the expertise that is considered important to support the application of blended learning is information literacy. For example, when planning or delivering blended learning courses, lecturers must first understand students in terms of their level of digital literacy for learning (Khan & Idris, 2019; Tang & Chaw, 2016). A level of digital literacy that matches the expectations of learning materials is necessary for successful blended learning.

Information literacy is defined as the level of literacy for information as measured by its ability to search, share, verify, and understand information, so information literacy influences lecturers' habits in sharing information on social media towards the application of blended learning. Perceived validity and perceived trust are needed to support validity and trust in the information received in blended learning activities. Namely, the level of individual confidence and trust in the information they receive is accurate. Research that has been conducted states that perceptions of validity and trust can influence acceptance of the use of technology, in this case, the use of social media for implementing blended learning (Irhashon et al., 2018).

1.1 Problem Statement

The application of blended learning directly provides opportunities for students to expand their learning interactions anywhere without being limited by space and time, as long as they are still interconnected with information technology (ICT) applications, communications, and the internet. Students are required to be more independent in learning and finding learning resources. In this case, lecturers and students who are challenged in developing innovation and skills in its application and the universities themselves. The large number of tertiary institutions, around 3,115 (BPS 2022), and with a very large number of students, will be a challenge in itself to use technology in