# Student behavioural intentions to use eLearning system in Indonesian higher education during the COVID-19 pandemic: A structural equation model

Jullie Jeanette Sondakh
*Sam Ratulangi University, Indonesia*, julliesondakh@unsrat.ac.id

Sandra Ingried Asaloei
*Sam Ratulangi University, Indonesia*, sandraasaloei@gmail.com

Basilius R. Werang
*Ganesha University of Education, Indonesia*, lirang267@yahoo.co.id

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## Abstract

The rapid transformation in information and communication technology (ICT) has influenced change in other areas of human lives, including in the teaching and learning process in higher education institutions. This study explores: a) how student perceived usefulness, perceived ease of use, attitude toward use, and behavioural intention to use an eLearning system (using the Technology Acceptance Model (TAM)); and b) validity testing of the underlying causal relationships between perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use in the eLearning system context. To do so, a quantitative survey was used with 255 student participants, drawn conveniently from a local population of 745 accounting students studying at Sam Ratulangi University, Indonesia. The result of descriptive statistical analysis using the SPSS showed that all the items of perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use were highly perceived by the accounting students of Sam Ratulangi University. The result of confirmatory factor analysis using structural equation modelling in IBM's AMOS software showed that all the constructs developed in this study are feasible to examine the relationships between perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use in the eLearning system context. The findings have important implications for the successful implementation of online teaching and learning in higher education institutions. The findings could be critical for college and university leaders to investigate the merit of eLearning systems in terms of their utility in increasing students' intention to use eLearning systems in their learning journeys.

## Practitioner Notes

1. The eLearning system in an Indonesian context is still poorly understood, and student acceptance of this system is needed.
2. There is a need for university leaders to investigate the merit of eLearning systems in terms of their utility to increase student intention to use them for their studies.
3. This study identifies that the eLearning system usage may impact student academic performance.
4. This study incorporates new data on the impact of the COVID-19 outbreak on the teaching-learning process into existing body of knowledge on students' intention to use the eLearning system.
5. It is recommended that universities encourage their instructors to develop eLearning system efficacy.

## Keywords

# Introduction

The development of information and communication technology (ICT) has had a significant impact on people's lives and has become a basic human need alongside food, clothing, and shelter. Rapid changes in ICT are driving changes in various areas of human lives, including business practices and the teaching and learning process in higher education institutions. The digital transformation is no longer a phenomenon in higher education institutions as it has been happening for the last few years. The COVID-19 outbreak has further highlighted the importance of eLearning, and students' behavioral intention to use eLearning has become essential for their engagement in online classes. This study focuses on disclosing students' behavioral intention to use the eLearning system based on the Technology Acceptance Model (TAM), which has been one of the most influential models of technology acceptance. TAM provides a predictive ability to disclose factors affecting students' actual use of educational technology in the classroom environment, making it an appropriate model for this study. Prior studies have explored students' behavioral intention to use eLearning, but this study aims to address the specific context of North Sulawesi, Indonesia, and Sam Ratulangi University.

To achieve the study's objectives, a quantitative survey was conducted with 255 student participants drawn conveniently from a local population of 745 accounting students at Sam Ratulangi University. The results of the descriptive statistical analysis using SPSS indicated that all items related to perceived usefulness, ease of use, attitude towards use, and intention to use were highly perceived by accounting students at Sam Ratulangi University. Additionally, the results of confirmatory factor analysis using structural equation modelling in IBM's AMOS software demonstrated that all the constructs developed in this study are feasible in examining the relationships between perceived usefulness, ease of use, attitude towards use, and intention to use in the eLearning system context. The findings have important implications for the successful implementation of online teaching and learning in higher education institutions.

This study contributes to addressing two significant issues, the industrial challenge of 4.0 and the call of Indonesia's Minister of Education, Culture, Research, and Technology for a prompt transition to online teaching and learning during the COVID-19 outbreak. The study has also confirmed the feasibility of the TAM model in examining the relationships between perceived usefulness, ease of use, attitude towards use, and intention to use in the eLearning system context.

Prior studies have explored students' behavioural intention to use eLearning, but this study is the first to disclose students' behavioural intention to use an eLearning system within the context of North Sulawesi, specifically at Sam Ratulangi University. The study's main objective was to obtain relevant data in the most reliable and valid manner, which was achieved by conducting a quantitative survey with Cronbach's alpha used to test the internal reliability of all instrument

constructs. Collected data were analysed using the following two mode of analysis: (a) descriptive statistics analysis such as mean and standard deviation using the SPSS and AMOS software to answer the research questions:

> **Research Question 1.** To what extent do the accounting students of Sam Ratulangi University perceive the usage, ease of use, behavioural intention to use, and attitude towards use during the COVID-19 outbreak when all the classes were conducted online?

> **Research Question 2.** To what extent are the constructs developed in this study feasible to examine the causal relationship between perceived usage, perceived ease of use, behavioural intention to use, and their attitudes toward use?

The aim of this study was to fill the gap in the literature by examining students' perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use an eLearning system during the COVID-19 outbreak, specifically among accounting students at Sam Ratulangi University. This study is guided by two research questions: (a) To what extent do accounting students at Sam Ratulangi University perceive usefulness, ease of use, attitude towards use, and behavioural intention to use during the COVID-19 outbreak when all classes were conducted online?; and (b) To what extent are the constructs developed in this study feasible to examine the relationship between perceived usefulness, ease of use, attitude towards use, and behavioural intention to use? Descriptive quantitative analysis using SPSS software will be used to answer the first research question, while confirmatory factor analysis using structural equation modelling in IBM AMOS software will be used to answer the second research question.

Despite the effort to disclose accounting students' behavioural intention to use the eLearning system provided by the university, several limitations remain in this study. Firstly, the rapid changes in information and technology may have an impact on accounting students' perceptions of TAM. Secondly, the study's online questionnaire may have influenced students' responses, potentially leading to biased results. Thirdly, the study's population and sample size were limited to accounting students at Sam Ratulangi University. Future studies should address these limitations to generalize the results of the study.

# Literature

### eLearning

eLearning is a mode of learning based on official teaching using electronic resources such as computers, tablets, and smartphones (The Economic Times, 2022). Sangrá et al. (2012) defined eLearning as a type of learning based on ICT with pedagogical interaction between students and content, between students and instructors, or among students. Similarly, Alavi and Leidner (2001) defined eLearning as the use of technology as a channel for the delivery of training and education in which the learner's interaction with the learning materials, peers, and instructors are adequately mediated. In the same vein, Guri-Rosenblit (2005) defined eLearning as the use of electronic media for a variety of learning goals, ranging from supplementing traditional classrooms to completely replacing face-to-face sessions with online interactions. Based on these definitions, eLearning can be simply defined as technology-based learning in which students' interactions with instructors, peers, and learning materials are adequately facilitated.

eLearning is self-directed learning that is technology-based, particularly web-based technology with an emphasis on collaborative learning (Bleimann, 2004). Lecturers who use eLearning as a means of delivering learning materials to students are a step ahead of those who use the traditional approach toward learning (The Economic Times, 2022). Despite bearing the stigma of being lower quality than the traditional classroom (Hodges et al., 2020), eLearning has been recognized as the fastest-growing type of distance learning (Appana, 2008).

eLearning is a method for creating, advertising, distributing, and enabling learning regardless of time or place, and therefore, it is flexible. The samples of eLearning flexibility are the following: self-directed pace (McVeigh, 2009), just-in-time learning (Jönsson, 2005; Liaw & Huang, 2003; Rosenberg, 2001), and flexible format. The eLearning system offers several benefits for both students, instructors, and universities as it increases the quality of teaching and learning, as well as the interaction improvement between students and materials, between students and instructors, and among students themselves (Almaiah et al., 2020). Abed (2019) detailed several benefits of using eLearning as follows: (a) eLearning allows students to focus on important ideas while writing and compiling the lecture; (b) eLearning allows students who have difficulty concentrating and organizing tasks to benefit from learning materials because they are arranged and coordinated in an easy and important element in a specific way; (c) eLearning allows students to obtain and access the instructor as soon as possible outside the official working hours through email; (d) eLearning allows students to interact easily with their peers and instructors; (e) eLearning allows students to express their opinion at any time without embarrassment; and (f) eLearning allows students to receive scientific materials in a way that suits them. Similarly, Arkorful and Abaidoo (2014) outlined several benefits of using eLearning as follows: (a) eLearning allows students to have the luxury of choosing the time and place that suits them; (b) eLearning allows students to easily access a huge amount of information; (c) eLearning provides opportunities for relations between students through the use of discussion forums; and (d) eLearning is cost-effective in the sense that there is no need for students to go to schools/colleges/universities.

Regardless of all the benefits offered by eLearning, students' behavioural intention to use eLearning remains critical for the success of eLearning itself. In other words, students' behavioural intention to use eLearning is very crucial as it links closely to one or more learning outcomes. Student behavioural intention is a brief statement that clearly describes what students should perform during a lesson (Fry et al., 2018). Similarly, Azjen and Fishbein (1980) described student behavioural intention as Warshaw and Davis (1985) viewed student behavioural intention as the level to which a student has made conscious strategies to perform or not to perform specific impending behaviour.

**Technological Acceptance Model**

The acceptance of information technology has received much attention in the last decade. To explain users' acceptance behaviour, several theoretical models have been proposed. Among them, the most widely used and experimentally verified is the technology acceptance model (TAM) proposed by Davis in 1986 (Cigdem & Topcu, 2015). TAM is believed to be more cost-

effective, predictive, and reliable than its competing models in illuminating the user's behavioural intention to adopt technology (Chang et al., 2017; Ma & Liu, 2004).

According to TAM, when people are introduced to new technology, many factors may influence their decision on how and when to use it. The most notable factors are perceived usefulness and perceived ease-of-use. Perceived usefulness is the extent to which a person thinks that implementing a given system would improve their ability to accomplish their work. It refers to whether someone believes that technology will be advantageous for their goals. Perceived ease-of-use is the extent to which a person thinks that employing a certain system would be effortless. It demonstrates that when the technology is effortless to use, then the problems are overcome. No one is fond of something if it has a confusing interface and, therefore, is difficult to use. Once TAM is in place, people will be willing to use the technology and have the intention to do so.

Davis (1989) conducted multiple studies to confirm TAM using perceived usefulness and perceived ease of use as two independent variables and system used as the dependent variable. He found a strong correlation between perceived usefulness and both self-reported current consumption and self-predicted future usage. Perceived ease of use was also strongly related to both past and present usage. In total, he discovered that perceived usefulness had a greater relation with system usage than that of perceived ease of use. The result of the regression analysis showed that perceived ease of use might be an antecedent of perceived usefulness rather than be a direct predictor of system utilisation. In other words, perceived ease of use influences technology acceptance indirectly through perceived usefulness.

TAM has undergone comprehensive testing using various sample sizes and user groups within or across enterprises, statistical analysis using various techniques, and comparison with other models (Almarabeh, 2014; Ma & Liu, 2004). Adams et al. (1992) claimed that perceived ease of use, in some cases, negatively correlated with technology acceptance, but in other cases, positively correlated with technology acceptance when the subjects were examined using different applications within the same study. Some existing studies claimed perceived ease of use has no discernible effect on technology acceptance, while others discovered that it does (Hendrickson & Collins, 1996; Subramanian, 1994; Venkatesh & Davis, 2000). In a similar vein, some studies discovered that perceived ease of use has a stronger influence on perceived usefulness than it does on technology acceptance (Lim et al., 2005). Even though TAM has been widely criticised on several grounds (Taylor & Todd, 2001; Bagozzi, 2007), it still serves as a valuable widespread framework and is consistent with some inquiries into the factors affecting students' intention to use new technology (Braun, 2013).

For testing purposes of the research question two, using confirmatory factor analysis, we hypothesised the following:

> **Hypothesis 1.** Perceived usage of eLearning will have suitable reliability and factorial validity.

> **Hypothesis 2.** Perceived ease of use of eLearning will have suitable reliability and factorial validity.

> **Hypothesis 3.** Attitude to using eLearning will have good reliability and factorial validity.

**Hypothesis 4.** Behavioural intention to use eLearning will have suitable reliability and factorial validity.

# Methods

## Research Design

The present study adopts a quantitative survey, which involves collecting and analysing numerical data to make predictions, test correlations between research variables, and generalise findings to a broader population (Apuke, 2017). According to Bryman (2012), quantitative research focuses on quantifying data collection and analysis. In this study, quantitative research was used to gain a better understanding of students' behavioural intention to use eLearning during the COVID-19 outbreak. Survey-questionnaires were used as the tools to gather data, as suggested by Williams (2007), as it allows for participant comments on a specific subject. Recent studies (e.g., Asaloei et al., 2020; Wea et al., 2020; Werang et al., 2021; Wula et al., 2020; Wullur & Werang, 2020; Yunarti et al., 2020) have shown that surveys have several benefits, such as easy data access, low cost, good statistical results, and no explorer subjectivity.

## Sample

The study was conducted at the Accounting Department of Sam Ratulangi University, located in Bahu, Manado City, North Sulawesi, Indonesia (see Figure 1). Historically, Sam Ratulangi University was initially named the College of Manado (also known as Perguruan Tinggi Manado), founded on August 1, 1958. The College of Manado changed its name to the University of North-Central Sulawesi four months later. The population of this study consisted of 745 accounting students enrolled in the academic year 2020 at the Accounting Department, Sam Ratulangi University, Indonesia. From this population, 260 accounting students were conveniently invited to participate in the study, of which 255 agreed to participate. The sample comprised 162 females and 93 males aged 16 to 18 years old, with computer use experience ranging from 1 to 3 years and internet usage frequency ranging from once a week to daily. The study targeted students aged 16 to 18 years old because they were new students and had never used the eLearning system provided by the university.

**Figure 1.**
*Indonesia's Map*

**Data Collection**

The aim of this study was to investigate the behavioural intention of accounting students to use the eLearning system provided by Sam Ratulangi University. To collect data, four survey questionnaires were used. Since this study was conducted in Indonesia, there was no requirement for institutional review board (IRB) approval. However, informed consent was obtained from the students, and data confidentiality was maintained. The study was voluntary, and the survey questionnaires were distributed in Indonesian using Google Form to 255 accounting students enrolled in the academic year 2020.

**Measures**

To measure students' perceived use of eLearning, five items were modified from Gardner and Amoroso's (2004) questionnaire. Sample questions in English include "The eLearning system is very useful for my studies" and "The eLearning system can increase my learning effectiveness." The coefficient value of Cronbach's alpha was used to test the internal reliability of the instrument.

To measure students' perceived ease of use of eLearning, five items were modified from Gardner and Amoroso's (2004) questionnaire. Sample questions in English include "The eLearning system is easy to use" and "It is easy for me to be skilled at using the eLearning system."

To measure students' attitude towards the use of eLearning, four items were modified from Shroff et al.'s (2011) questionnaire. Sample questions in English include "I enjoy using the eLearning system" and "It is a good idea to use an eLearning system to enhance my learning productivity."

To measure students' behavioural intention to use eLearning, four items were modified from Shroff et al.'s (2011) questionnaire. Sample questions in English include "I intend to use eLearning for this semester" and "I intend to use the eLearning system frequently in the future."

# Results

**Students' Behavioural Intention to Use eLearning**

Table 1 shows that all the items of behavioural intention to use were perceived highly by the accounting students, with means between 3.59 and 4.11 (standard deviation between .54 and 0.78). Students' willingness to recommend others to use the eLearning system received the highest mean (*M = 4.11, SD = .54*), while students' intention to frequently use the eLearning system in the future received the lowest mean (*M = 3.59, SD = .78*). It demonstrates that the majority of accounting students of Sam Ratulangi University agreed about their behavioural intention to use the eLearning system as well as to recommend others to use it too, regardless of the fact whether they have the same intention to frequently use the eLearning system in the future or not.

**Table 1.**

*Perception on behavioural intention to use eLearning*

| Item | Mean | Std. Deviation |
|---|---|---|
| 1. I intend to use the eLearning system for this semester-long | 3.74 | .66 |
| 2. I intend to frequently use the eLearning system for my study | 3.90 | .65 |
| 3. I intend to frequently use the eLearning system in the future | 3.59 | .78 |
| 4. I will strongly recommend others to use the eLearning system | 4.11 | .54 |

## Students' Perceived Usefulness

Table 2 shows that all the items of perceived usage were perceived highly by the accounting students, with the mean ranging from 3.88 to 4.47, and standard deviation between .54 to .78. Students' view of the usefulness of the eLearning system for their studies attained the highest mean (M = 4.47, SD = .55), while students' belief of using the eLearning system can improve their learning performance attained the lowest mean (M = 3.88; SD = .72). It demonstrates that most accounting students of Sam Ratulangi University agreed about the usefulness of the eLearning system for their studies, regardless of the fact whether the use of the eLearning system can improve their academic performance or not.

**Table 2.**

*Perception on the Usefulness of the eLearning system*

| Items | Mean | Std. Deviation |
|---|---|---|
| 1. eLearning system can increase my learning effectiveness | 4.26 | .61 |
| 2. Using the eLearning system can improve my learning performance | 3.88 | .72 |
| 3. Using the eLearning system increased my productivity | 3.91 | .70 |
| 4. Using the eLearning system can increase the quality of output for the same amount of effort | 4.40 | .64 |
| 5. An eLearning system is very useful for my studies | 4.47 | .55 |

## Students' Perceived Ease of Use

Table 3 shows that all the items of perceived ease of use were perceived highly by the accounting students, with mean scores ranging from 3.93 to 4.18, and standard deviations between .65 and .59. Students' view of the easiness to become skilful in using the eLearning system attained the highest mean (*M = 4.18, SD = .59*), while students' belief of the easiness of getting what they need from the eLearning system attained the lowest mean (*M = 3.93; SD = .65*). It demonstrates that most accounting students of Sam Ratulangi University agreed about the perceived use of the ease of the eLearning system, regardless of the fact whether the use of the eLearning system makes it easy to get what they need or not.

**Table 3.**

*Perceived Ease of Use of eLearning*

| Items | Mean | Std. Deviation |
|---|---|---|
| 1. eLearning system is easy to use | 4.18 | .59 |
| 2. eLearning system is very clear to me | 4.07 | .60 |
| 3. eLearning system is understandable for me | 4.09 | .57 |
| 4. It is easy for me to be skillful using the eLearning system | 3.93 | .65 |
| 5. It is easy for me to get what I need from the eLearning system | 4.10 | .60 |

## Students' Attitude Toward Usage

Table 4 highlights the attitudes towards use were perceived highly by the accounting students with mean scores ranging between 4.14 to 4.34 (standard deviation ranging from .53 to .53). Students' view of having fun in interacting with the eLearning system attained the highest mean ($M = 4.34, SD = .53$), while students' view of enjoying the use of the eLearning system attained the lowest mean ($M = 4.14; SD = .53$). It demonstrates that most accounting students of Sam Ratulangi University agreed about their attitudes toward the use of the eLearning system, regardless of the fact whether they enjoy the use of the eLearning system or not.

**Table 4.**
*Students' Attitudes Toward the Usage of the eLearning System*

| Items | Mean | Std. Deviation |
|---|---|---|
| 1. I have a generally favorable attitude toward using the eLearning system | 4.21 | .55 |
| 2. It is a good idea to use the eLearning system for my study | 4.25 | .54 |
| 3. I enjoy using the eLearning system | 4.14 | .53 |
| 4. I have fun interacting with the eLearning system | 4.34 | .53 |

## Confirmatory Factor Analysis

In this study, a CFA was used to figure out which model-fit-indices were most important to look for. The Chi-Square ($\chi^2$), significance probability, chi-square per degree of freedom ratio (CMIN/DF), the Tucker-Lewis index (TLI), the comparative fit index (CFI), the normed fit index (NFI), the parsimonious normed fit index (PNFI), and the root mean squared approximation of error were used to check the model's overall fit (RMSEA). The CFA estimated results for exogenous variables are presented in Figure 2 and Table 5.

**Table 5.**

*Goodness of Fit Indices*

| Goodness-of-Fit Indices | Cut-off Value | Perceived usage and perceived ease of use (Fig. 2) | Attitude to use and behavioural intention to use (Fig. 3) |
|---|---|---|---|
| $X^2$ | < 214.477 | 89.610 | 37.928, $p$ = .006 |
| $p$ value | $p \geq 0.05$ | $p < .001$ | |
| RMSEA | 0.05 – 0.08 | .077 | .060 |
| CMIN/DF | < 3 | 2.64 | 2.00 |
| TLI | ≥ 0.90 | .89 | .94 |
| CFI | ≥ 0.90 | .93 | .97 |
| NFI | ≥ 0.90 | .90 | .94 |
| PNFI | 0.6 – 0.9 | .56 | .49 |

The fit indices presented in Table 5 suggest that the proposed measurement model demonstrated a good fit with the data collected. The result of this statistical analysis was close enough to disclose that the model fit was good enough to access the results for the measurement model. It demonstrates that the constructs developed in this study are feasible to examine the causal relationship between perceived usage, perceived ease of use, attitude towards use, and behavioural intention to use that have been described in TAM.

The fit indices presented in Table 5 suggest that the proposed measurement model demonstrated a good fit with the data collected. The result of this statistical analysis was close enough to disclose that the model fit was good enough to access the results for the measurement model. It demonstrates that the constructs developed in this study are feasible to examine the causal relationship between perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use that have been described in TAM.

**Hypotheses Testing**

The data obtained from the distribution of survey-questionnaire would be considered as reliable and valid if the Cronbach's alpha coefficient value is 0.7 or above (Hair et al., 2013) and the corrected item-total correlation is 0.4 or above (Nunnally & Bernstein, 1994). The overall results of validity and reliability test of the items of questionnaires. In individual subscale tests all showed suitable validity.

**Table 6.**
*Summary of Hypotheses Test Data*

| Subscale (n = 255) | Cronbach α | Corrected item-total correlation range |
|---|---|---|
| Perceived Usefulness | .78 | .56-.73 |
| Perceived Ease of Use | .80 | .72-.78 |
| Attitudes Towards Use | .81 | .68-.77 |
| Behavioural Intention to Use | .80 | .52-.75 |

Table 6 highlights the Cronbach's alpha coefficient value is above 0.7 and the corrected item-total correlation is above 0.4. Thus, the items were considered reliable and valid. Therefore, all the research hypotheses proposed in this study are verified. Using IBM's AMOS 24, a confirmatory factor analysis was carried out to evaluate the measurement model's validity (Borsboom and Cramer, 2013; Doty & Glick, 1998). The outcomes of confirmatory factor analysis' evaluation of the measurement validity are represented by AVE ($P^{vc}$) and standardized regression weights ($\lambda$).

**Figure 2**
*The CFA's estimated results*
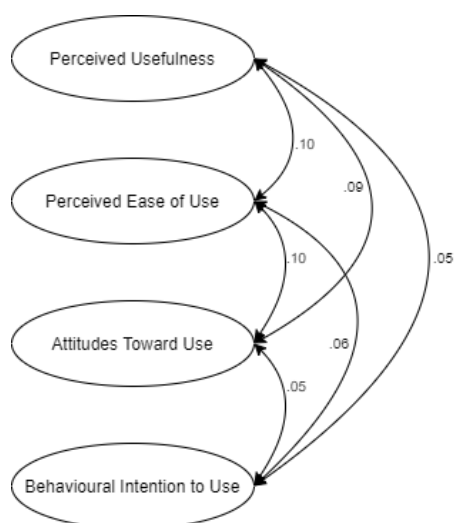


The overall model showed suitable model fit: $X^2$ = 280.96, p < .01, CMIN/*df* = 2.18, TLI = .88, CFI = .91, PNFI = .64, RMSEA = .066. Data presented in Table 7 and Figure 2 showed the standardized regression weights ($\lambda$) value ranging from .57 to .79 and the AVE's ($\rho^{vc}$) value ranging from .62 to .73, which all were within the recommended range. The loading value are more than .50 means that all the constructs develop in this study are valid and reliable and, therefore, are feasible to examine the causal relationship between perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use that have been described in the technology acceptance model.

**Table 7.**
*The outcomes of CFA's evaluation of the measurement validity*

| Subscale (n = 255) | Items | λ |
|---|---|---|
| **Perceived Usefulness** (α = .78, P$^{vc}$ = .62) | 1. eLearning system can increase my learning effectiveness | .64 |
| | 2. Using the eLearning system can improve my learning performance | .69 |
| | 3. Using the eLearning system increased my productivity | .58 |
| | 4. Using the eLearning system can increase the quality of output for the same amount of effort | .57 |
| | 5. An eLearning system is very useful for my studies | .61 |
| **Perceived Ease of Use** (α = .80, P$^{vc}$ = .73) | 1. eLearning system is easy to use | .75 |
| | 2. eLearning system is very clear to me | .70 |
| | 3. eLearning system is understandable for me | .79 |
| | 4. It is easy for me to be skillful using the eLearning system | .70 |
| | 5. It is easy for me to get what I need from the eLearning system | .73 |
| **Attitude Towards Using** (α = .81, P$^{vc}$ = .71) | 1. I have a generally favorable attitude toward using the eLearning system | .68 |
| | 2. It is a good idea to use the eLearning system for my study | .79 |
| | 3. I enjoy using the eLearning system | .69 |
| | 4. I have fun interacting with the eLearning system | .64 |
| **Behavioural Intention to Use** (α = .81, P$^{vc}$ = .67) | 1. I intend to use the eLearning system for this semester-long | .73 |
| | 2. I intend to frequently use the eLearning system for my study | .70 |
| | 3. I intend to frequently use the eLearning system in the future | .75 |
| | 4. I will strongly recommend others to use the eLearning system | .58 |

# Discussion

The internet has significantly increased opportunities to participate in the global scope (Solberg, 2011). The lockdown of universities due to the COVID-19 pandemic has forced lecturers to go beyond by adopting virtual teaching to facilitate their students' learning (Kaqinari et al., 2020; Pozo et al., 2021). Universities provided lecturers with varying degrees of support to create an online teaching and learning environment, including task forces for online teaching, lists of best practices, and newly released software (Kaqinari et al., 2020). However, it is still the lecturers' duty to adapt to the online learning environment and make sure that the curriculum meets the needs of their students. On the other hand, when students decide to engage in virtual teaching, their ownership of a computer or smartphone and internet access is very crucial (Werang & Leba, 2022). The greater the internet access, mobile and PC functionality are, the more positive students' attitudes toward the use of technology (Martinez as cited in Andrew et al., 2018).

"Today's students are digital natives" (Palfrey & Gasser, 2011, p. 281), which highlights the crucial role of lecturers in designing comfortable learning approaches using technology (Denker et al., 2018). This mode of involvement expands the boundaries of the university classroom into cyberspace (Denker et al., 2015) where students and lecturers are connected virtually using technology (Denker et al., 2018).

The available research on students' behavioural intention to use technologies has shed light on how important technologies are in improving access and opportunity for students (Dianati et al., 2020). This study sought to examine students' behavioural intention to use eLearning during the COVID-19 outbreak, and whether the construct developed in this study is feasible to examine the causal relationship between perceived usefulness, perceived ease of use, attitude towards use, and behavioural intention to use technologies that have been described in the technology acceptance model. According to the technology acceptance model, a person's behavioural intention to use an eLearning system is influenced by its perceived value and simplicity (Mahdizadeh et al., 2008).

The adoption of technology is greatly affected by the following two perceptions: the perceived usefulness and the ease of use (Chen et al., 2013; Gefen & Straub, 2000). The results of descriptive statistical analysis showed that the accounting students of Sam Ratulangi University seemed to agree about the perceived usefulness of the eLearning system provided by the university as the coefficient value of mean (*M)* ranged from 3.88 to 4.47. Perceived usefulness is a student's perception of how the eLearning system provided by the university improves their learning and, as a result, academic performance. The level at which a student believes that the eLearning system used to become a sole factor toward attaining their learning goals is the perceived usefulness of the eLearning system Xia et al. (2019).

The result of this study is in line with the Novarita and Srikandi's (2021) research findings that the use of technology can improve students' learning activities and productivity. The results of descriptive analysis also showed that the accounting students of Sam Ratulangi University seemed to agree with the perceived ease of use of the eLearning system provided by the university as the coefficient value of *M* ranged from 3.93 to 4.18. The perceived ease of use is concerned with the usability of the eLearning system. The result of this study is in line with the argument of Barat et al.'s (2009) that the easier a tool is to use, the user is more likely to use it; the more difficult a tool is to use, the more likely the user is to reject it.

The perceived usefulness and the ease of the use may, in turn, affect greatly both their attitude toward the use and their behavioural intention to use the eLearning system provided by the Sam Ratulangi University. The results of descriptive analysis showed that the accounting student seemed to agree both the behavioural intention to use (behavioural intention to use) and the attitude toward the use of the eLearning system provided by the university. The results of this study are, among others, in line with the Almahasees et al.'s (2021) research findings that faculty and students agreed that the use of an eLearning system is helpful during the COVID-19 outbreak.

Though the accounting students of Sam Ratulangi University differ in their understanding of and comfort with using eLearning systems for educational purposes, most of them believe that using the eLearning system has a positive impact on their studies, regardless of whether it helps them receive what they need or improves their academic performance. In this study, it seems that the accounting students of Sam Ratulangi University used the eLearning system mainly for studying and having fun. This finding is in line with Thakre and Thakre (2015) which explained that students use their technology devices for communication, learning, and entertainment. Most accounting students of Sam Ratulangi University are aware of these benefits and recommend others to use them for studies, communication, and entertainment; but they are unsure whether they will use them in the future.

The confirmatory factor analysis using IBM's AMOS software revealed that all constructs generated in this study are feasible for examining the causal relationship between behavioural intention to use, perceived usage, perceived ease of use, and attitude towards use. Rupak et al. (2014) discovered a positive and significant link between perceived usefulness and perceived ease of use, and that these two factors had a beneficial effect on the behavioural intention to use. In their study, Cheung and Vogel (2013) concluded that the students' positive attitude towards use of technology might lead them to a greater behavioural intention to use. And given rapid changes in educational technology (e.g., Crawford et al., 2023; Perkins, 2023), this is critical. The greater the behavioural intention to use, in turn, is more influenced by students' attitude towards use and perceived ease of use (Sharma & Chandel, 2013).

Despite the important role played by the perceived usefulness and perceived ease of use in affecting students' behavioural intention to use, Hussein (2017) argued that students' attitude towards use plays the most important role in affecting students' behavioural intention to use. The result of this study is in line with Dianati et al.'s (2020) research finding that students are more likely to be satisfied in using technology when they perceived usefulness and perceived the ease of use of technology for studying, communicating with peers and teachers, and/or just having fun. The result of this study is also in line with Brezavšček et al.'s (2017) assertion that factors outside the technology, such as motivation, can determine the perceived usefulness and the perceived ease of use, and, in turn, affect one's attitudes toward technology.

The technology acceptance model portrays the causal correlation between two key independent variables, the perceived usefulness and perceived ease of use, and the attitude towards use and behavioural intention to use (Kusumadewi et al., 2021). The attitude towards use is a critical element for the accounting students of Sam Ratulangi University to decide whether to use or not to use the eLearning system provided for studying, communicating with their lecturers and peers, and having fun. For new students in their first year of study, this may support students to be prepared for a changing online education landscape (Midford et al., 2023). As several current studies (Fathema & Sutton, 2013; Fathema et al., 2015; Park et al., 2012) revealed that the perceived usefulness, the attitudes towards use, and the behavioural intentions to use were significantly affected by the quality of the eLearning system, it is crucial for the management of Sam Ratulangi University to continuously ensure that the quality of the eLearning system services is constantly satisfactory.

## Conclusion

The study provides insights into the successful implementation of online teaching and learning in higher education institutions. The conclusion depicted from the results of statistical analysis is that all the constructs developed in this study were agreed by the majority of all the accounting students surveyed and, therefore, were feasible to examine the causal relationship between the behavioural intention to use, perceived usage, perceived ease of use, and attitude towards use. Even though the accounting students surveyed are unsure if they will use the eLearning system in the future, they indicated that the use of eLearning system is very important for their studies and recommend their fellow students to use it as well. Based on this finding, it can be claimed that the accounting students will be more willing to use the eLearning system provided by the Sam Ratulangi University and engage actively in online teaching and learning.

The findings could be critical for college and university leaders in general, and Sam Ratulangi University in particular, to investigate the merit of eLearning systems in terms of their utility in increasing students' intention to use eLearning systems in their learning journeys. Since no study, to the best of our knowledge, has empirically investigated this topic in relation to the Sam Ratulangi University and North Sulawesi in general, the findings may supposedly fill the knowledge gap in the accessible literature and add the relevant studies in other parts of Indonesia as well as in other countries.

## Conflict of Interest

The author(s) disclose that they have no actual or perceived conflicts of interest. The authors disclose that they have not received any funding for this manuscript beyond resourcing for academic time at their respective university.

# References

Abed, E. K. (2019). Electronic learning and its benefits in education. *EURASIA Journal of Mathematics, Science and Technology Education, 15*(3), 1-8. https://doi.org/10.29333/ejmste/102668

Adams, D. A., Nelson, R. R. & Todd, P.A. (1992). Perceived usefulness, ease of use, and usage of information. *MIS Quarterly, 16*(2), 227-247. https://doi.org/10.2307/249577

Ajzen, I., & Fishbein, M. (1980). *Understanding attitude and predicting social behavior.* Upper Saddle River, NJ: Prentice-Hall.

Alavi, M., & Leidner, D.E. (2001). Knowledge management and knowledge management systems: conceptual foundation and research issues. *MIS Quarterly, 25*(1), 107-146. http://www.jstor.org/stable/3250961

Alkandari, B. (2015). *An investigation of the factors affecting students' acceptance and intention to use eLearning systems at Kuwait University: Developing a technology acceptance model in eLearning environments* (Doctoral dissertation, Cardiff Metropolitan University).

Almahasees, Z., Mohzen, K. & Amin, M. O. (2021). Faculty's and students perceptions of online learning during COVID-19. *Frontiers in Education, 6*, 638470. https://doi.org/10.3389/feduc.2021.638470

Almaiah, M. A. Al-Khasawneh, A. & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the ELearning system usage during COVID-19 pandemic. *Education and Information Technologies*, 1-21. https://doi.org/10.1007/s10639-020-10219-y

Almarabeh, T. (2014). Students' perceptions of eLearning at the university of Jordan. *International Journal of Emerging Technologies in Learning, 9*(3), 31-35. http://doi.org/10.3991/ijet.v9i3.3347

Andrew, M., Grange, A., Taylorson, J., & Williams, N. G. (2018). Student attitudes towards technology and their preferences for learning tools/devices at two universities in the UAE. *Journal of Information Technology Education: Research, 7,* 309-344. https://doi.org/10. 28945/4111

Appana, S. (2008). A review of benefits and limitations of online learning in the context of the student, the instructor and the tenured faculty. *International Journal on ELearning, 7*(1), 5-22. https://www.learntechlib.org/primary/p/22909/

Apuke, O. B. (2017). Quantitative research methods: A synopsis approach. *Arabian Journal of Business and Management Review, 6*(10), 40-47. https://doi.org/10.12816/0040336

Arkorful, V. & Abaidoo, N. (2014). The role of eLearning, the advantages and disadvantages of its adoption in Higher Education. *International Journal of Education and Research, 2*(12), 397-410. https://www.ijern.com/journal/2014/December-2014/34.pdf

Asaloei, S. I., Wolomasi, A. K. & Werang, B. R. (2020). Work-related stress and performance among primary school teachers. *International Journal of Evaluation and Research in Education, 9*(2), 352-358. https://doi.org/10.11591/ijere.v9i2.20335

Asvial, M., Mayangsari, J. & Yudistriansyah, A. (2021). Behavioural intention of eLearning: a case study of distance learning at a junior high school in Indonesia due to the COVID-19 pandemic. *International Journal of Technology, 12*(1), 54-64. https://doi.org/ 10.14716/ijtech.v12i1.4281

Bagozzi, R. P. (2007). the legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the Association for Information Systems, 8*(4), 244-254. https://doi.org/10.17705/1jais.00122

Barat, S., Rajamma, R. K., Solfagharian, M. A. & Ganesh, G. (2009). Student course perceptions: a perceived-ease-of-use – perceived-usefulness framework. *Journal for Advancement of Marketing Education, 15*, 35-45. https://digitalcommons.fairfield.edu/ business-facultypubs/149/

Bleimann, U. (2004). Atlantis University: a new pedagogical approach beyond eLearning. *Campus-wide Information System, 21*(5), 191-195. https://doi.org/10.1108/106507404105 67536

Borsboom, D., & Cramer, A. (2013). Network analysis: An integrative approach to the structure of psychopathology. *Annual Review of Clinical Psychology, 9*(1), 91-121. https://doi.org/10.1146/annurev-clinpsy-050212-185608

Braun, M. T. (2013). *Obstacles* to social networking website use among older adults. *Computers in Human Behavior, 29*(3), 673-680. https://doi.org/10.1016/j.chb.2012.12.004

Brezavšček, A., Šparl, P., & Žnidaršič, A. (2017). Factors influencing the behavioural intention to use statistical sftware: The perspective of the Slovanian students of social sciences. *Eurasia Journal of Mathematics, Science and Technology Education, 13*(3), 953-986. https://doi.org/10.12973/eurasia.2017.00652a

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford: Oxford University Press*.*

Chandio, A. R. (2020). Factors Influencing Intentions to use Digital Learning during COVID-19 Outbreak in Sindh: An Empirical Study. *International Journal of Distance Education and E- Learning, 6*(1), 83-95. http://irigs.iiu.edu.pk:64447/ojs/index.php/IJDEEL/article/download/1423/496

Chang, C.-T., Hajiyev, J., & Su, C.-R. (2017). Examining the students' behavioural intention to use eLearning in Azerbaijan? The general extended technology acceptance model for eLearning approach. *Computers & Education, 111*, 128–143. https://doi.org/10.1016/j.compe du.2017.04.010.

Charness, N. & Boot, W. R. (2016). Technology, gaming, and social networking. In K. W. Schaie & S. L. Willis (Eds.), *Handbook of the Psychology of Aging* (pp. 389-407). USA: Academic Press.

Chen, Y., Lin, Y., Yeh, R., & Lou, S. (2013). Examining factors affecting college students' intention to use web-based instruction systems: Towards an integrated model. *Turkish Online Journal of Educational Technology-TOJET, 12*(2), 111-121. http://tojet.net/articles/v12i2/12211.pdf

Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for eLearning. *Computers & Education, 63,* 160-175. https://doi.org/10.1016/j.compedu.2012.12.003

Cowling, M. A., Crawford, J., Vallis, C., Middleton, R., & Sim, K. N. (2022). The EdTech difference: Digitalisation, digital pedagogy, and technology enhanced learning. *Journal of University Teaching & Learning Practice, 19*(2), 1-13.

Crawford, J., Cowling, M., & Allen, K. (2023). Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI). *Journal of University Teaching & Learning Practice, 20*(3). https://doi.org/10.53761/1.20.3.02

Cigdem, H., & Topcu, A. (2015). Predictors of instructors' behavioural intention to use learning management system: A Turkish vocational college example. *Computers in Human Behavior, 52*, 22–28. https://doi.org/10.1016/j.chb.2015.05.049.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340. https://doi.org/10.2307/249008

Denker, K. J., Hermann, A. F., & Willits, M. D. D. (2015). Technology as engagement: How we learn and teach while polymediating the classroom. En A. Tyma, A. Herbig, Y A. F. Hermann (Eds.), *Beyond new media: Discourse and critique in a polymediated age* (pp. 143-161). Lanham: Lexington Press.

Denker, K. J., Manning, J., Heuett, K. B., & Summers, M. E. (2018). Twitter in the classroom: Modeling online communication attitudes and student motivations to connect. *Computers in Human Behavior, 79*, 1-8. https://doi.org/10.1016/j.chb.2017.09.037

Dianati, S., Nguyen, M., Dao, P., Iwashita, N. & Vasquez, C. (2020). Student perceptions of technological tools for flipped instruction: The case of padlet, kahoot, and cirrus. *Journal of University Teaching and Learning Practice, 17*(5), Article 4. https://doi.org/10.53761/1.17.5.4

Fathema, N., Shannon, D. & Ross, M. (2015). Expanding the technology acceptance model (TAM) to examine faculty use of learning management systems (LMSs) in higher education institutions. *Journal of Online Learning & Teaching, 11*(2), 1–23. https://jolt.merlot.org/Vol11no2/Fathema_0615.pdf

Fathema, N., & Sutton, K. L. (2013). Factors influencing faculty members' learning management systems adoption behavior: An analysis using the technology acceptance model. *International Journal of Trends in Economics Management & Technology, 2*(6), 20–28. file:///C:/Users/acer/Downloads/Factors_Influencing_Faculty_Members_Lear.pdf

Fry, J. P., Mailloux, N. A., Love, D. C., Milli, M. C. & Cao, L. (2018). Feed conversion efficiency in aquaculture: do we measure it correctly*? Environmental Research Letters, 13*(2), 024017. https://doi.org/10.1088/17489326/aaa27

Gardner, C. & Amoroso, D. L. (2004). Development of an Instrument to Measure the Acceptance of Internet Technology by Consumer. *Proceeding of the 37th Hawaii International Conference on System Sciences.* https://doi.org/10.1109/HICSS.2004.1265623

Gefen, D. & Straub, D. W. (2000). The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption. *Journal of the association for information system, 1,* 1-25. https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1191&context=jais

Guri-Rosenblit, S. (2005). 'Distance education' and 'eLearning': Not the same thing. *Higher Education, 49*(4), 467-493. https://doi.org/10.1007/s10734-004-0040-0

Habeahan, N. L. S., Leba, S. M. R., Tarigan, D. Br., Wahyuniar, Werang, B. R. & Asaloei, S. I. (2022). Online Teaching in Indonesian Higher Education Institution: Students Perspective. *International Journal of Evaluation and Research in Education, 11*(2), 580-587. https://doi.org/10.11591/ijere.v11i2.21824

Hair, J., Sarstedt, M., Hopkins, L. & Kuppelwieser, V. (2013). Partial least squares structural equation modeling (PLS-SEM): An emerging tool for business research. *European Business Review, 26*(2), 106-121. https://doi.org/10.1108/EBR-10-2013-0128

Hendrickson, A. R. & Collins, M. R. (1996). An assessment of structure and causation of is usage. *The Database for Advances in Information Systems, 27*(2), 61-67. https://doi.org/10.1145/243350.243361

Hodges, C., Moore, S., Lockee, B., Trust, T. & Bond, A. (2020). *The difference between emergency remote teaching and online learning.* https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-onlineLearning

Humida, T., Al Mamun, M. H. & Keikhosrokiani, P. (2021). Predicting behavioural intention to use eLearning system: A case-study in Begum Rokeya University, Rangpur, Bangladesh. *Education and Information Technologies*, 1-25. https://doi.org/10.1007/s10639-021-10707-9

Hunton, J.E. (2002). Blending Information and Communication Technology with Accounting Research. *Accounting Horizons, 16*(2), 55-67. https://doi.org/10.2308/acch.2002.16.1.55

Jönsson, B. A. (2005). A case study of successful eLearning: A web-based distance course in medical physics held for school teachers of the upper secondary level. *Medical Engineering & Physics, 27*(7), 571-581. https://doi.org/1016/j.medengphy.2004.11.009

Kaqinari, T., Makarova, E., Audran, J., Döring, A. K., & Göbel, K. (2021). The switch to online teaching during the first COVID-19 lockdown: A comparative study at four European universities. *Journal of University Teaching and Learning Practice, 18*(5), 10-23. https://doi.org/10.53761/1.18.5.10

Kiraz, E., & Ozdemir, D. (2006). The relationship between educational ideologies and technology acceptance in pre-service teachers. *Educational Technology and Society, 9*(2), 152-165. http://www.ifets.info/journals/9_2/13.

Kopp, M., Gröblinger, O., & Adams, S. (2019). Five common assumptions that prevent digital transformation at higher education institutions. *INTED2019 Proceedings*, 1448-1457. https://doi.org/10.21125/inted. 2019

Kusumadewi, A. N., Lubis, N. A., Prastiyo, R. A. & Tamara, D. (2021). Technology acceptance model (TAM) in the use of online learning applications during the COVID-19 pandemic for parents of elementary school students. *Edunesia: Jurnal Ilmiah Pendidikan, 2*(1), 272-292. file:///C:/Users/acer/Downloads/120-Article%20Text-567-2-10-20201230.pdf

Leszczyński, P., Charuta, A., Łaziuk, B., Gałązkowski, R., Wejnarski, A., Roszak, M., & Kołodziejczak, B. (2018). Multimedia and interactivity in distance learning of resuscitation guidelines: A randomize controlled trial. *Interactive Learning Environment, 26*(2), 151-162. https://doi.org/10.1080/10494820.2017.1337035

Liaw, S-S. & Huang, H-M. (2011). A study of investigating learners' attitudes toward eLearning. *5th International Conference on Distance Learning and Education, 12*, 1-12. http://www.ipcsit.com/vol12/6-ICDLE2011E0014.pdf

Lim, K-S., Lim, J-S & Heinrichs, J. H. (2005). Structural model comparison of the determining factors for e-purchase. *Seoul Journal of Business, 11*(2), 119-144.

Lismardayani, R. & Oktavia, W. (2021). Students' perceptions towards the use of eLearning UNP during COVID-19 pandemic: A case study of English department students at Universitas Negeri Padang. *Journal of English Language Teaching, 10*(2), 272-284. https://doi.org/10.24036/jelt.v10i2.112524.

Ma, Q. & Liu, L. (2004). The technology acceptance model: A meta-analysis of empirical findings. *Journal of Organizational and End User Computing, 16*(1), 59-72. https://doi.org/10.4018/9781591404743.ch006.ch000

Mahdizadeh, H., Biemans, H & Mulder, M. (2008). Determining factors of the use of ELearning environments by university teachers. *Computers & Education, 51*, 142-154. http://doi.org/10.016/j.compedu.2007.04.004

Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. *Universal Access in The Information Society, 14*(1), 81-95. https://doi.org/10.1007/s10209-014-0348- 1

Maheshwari, G. (2021). Factors affecting students' intentions to undertake online learning: An empirical study in Vietnam. *Education and Information Technology, 26,* 6629–6649. https://doi.org/10.1007/s10639-021-10465-8

McVeigh, H. (2009). Factors influencing the utilization of eLearning in post-registration nursing students. *Nurse Education Today, 29*(1), 91-99. https://doi.org/10.1016/j.nedt.2008.07.004

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.* https://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

Midford, S., James, S., & Kanjere, A. (2023). Understanding the commencing student mindset to better support student success: A typology of first-year students' motivation, preparedness and perceived support. *Journal of University Teaching & Learning Practice, 20*(3). https://doi.org/10.53761/1.20.3.08

Mousa, T. S., Jameel, A. S., & Ahmad, A. R. (2019). The impact of attitude, subjective norm and information communications technology on knowledge sharing among academic staff. *International Journal of Psychosocial Rehabilitation, 23*(2), 704-717. https://doi.org/10.37200/IJPR/V23I2/PR190325

Novarita, N. & Srikandi, D. S. (2021). The students' perception toward using mobile technology for learning English. *Journal Elsa, 19*(1), 74-82.

Nunnally, J. C. & Bernstein, I. H. (1994). The assessment of reliability. *Psychometric Theory, 3*, 248-292. https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/References Papers.aspx?ReferenceID=1960143

Ozer, G. & Yilmaz, E. (2011). Comparison of the theory of reasoned action and the theory of planned behavior: An application on accountants' information technology usage. *African Journal of Business Management, 5*(1), 50-58. https://papers.ssrn.com/sol3/papers.cfm? abstract_id= 1923022

Palfrey, J. G., & Gasser, U. (2011). *Born digital: Understanding the first generation of digital natives.* New York: Basic.

Park, S. Y., Nam, M. W., & Cha, S. B. (2012). University students' behavioural intention to use mobile learning: Evaluating the technology acceptance model. *British Journal of Educational Technology,43*(4), 592–605. https://doi.org/10.1111/j.1467-8535.2011.01229.x.

Perkins, M. (2023). Academic Integrity considerations of AI Large Language Models in the post-pandemic era: ChatGPT and beyond. *Journal of University Teaching & Learning Practice, 20*(2). https://doi.org/10.53761/1.20.02.07

Pozo, J. I., Echeverria, M. P. P., Cabellos, B. & Sáncez, D. L. (2021). Teaching and learning in times of COVID-19: Uses of digital technology during school lockdowns. *Frontiers in Psychology, 12,* 1-13. https://doi.org/10.3389/fpsyg.2021.656776

Punnoose, A. C. (2012). Determinants of intention to use eLearning based on the technology acceptance model.  *Journal of Information Technology Education, 11*, 301-337. https://jite.org/documents/Vol11/JITEv11 p301-337Punnoose1197.pdf

Rosenberg, M.J. (2001). *ELearning: Strategies for delivering knowledge in the digital age*. McGraw-Hill, New York.

Rupak, R., Greg, R., Jei, Y. & Ben, J. (2014). Technology acceptance model (TAM) and social media usage: an empirical study on Facebook. *Journal of Enterprise Information Management, 27*(1), 6-30. https://doi.org/10.1108/JEIM-04-2012-0011

Sangrá, A., Vlachopoulos, D. & Cabrera, N. (2012). Building an inclusive definition of eLearning: an approach to the conceptual framework. *International Review of Research in Open and Distance Learning, 13*(2), 145-159. https://doi.org/10.19173/irrodl.v13i2.1161

Sari, P. A., & Setiawan, A. (2018). The development of internet-based economic learning media using moodle approach. *International Journal of Active Learning, 3*(2), 100–109. http://journal.unnes.ac.id/nju/index.php/ijal.

Shaheen, N., Jalil,A., Adnan, F. & Khushnood, R. A. (2021). Isolation of alkaliphilic calcifying bacteria and their feasibility for enhanced $CaCO_3$ precipitation in bio-based cementitious composites. *Microbial Biotechnology, 14*(3), 1044–1059. https://doi.org/10.1111/1751-7915.137.

Sharma, S. K. & Chandel, J. K. (2013). Technology acceptance model for the use of learning through websites among students in Oman. *International Arab Journal of E-Technology, 3*(1), 44-49. https://search.emarefa.net/en/detail/BIM-334678-technology-acceptance-model-for-the-use-of-learning-through-

Shroff, R. H., Deneen, C., & Ng, E. M. W. (2011). An analysis of the technology acceptance model in examining students' behavioural intention to use an electronic portfolio system. *Australasian Journal of Educational Technology, 27*(4), 600-618. https://doi.org/10.14742/ajet.940

Solberg, M. (2011). Educating the citizen of academia online? *International Review of Research in open and distance learning, 12*(4), 77-87. https://doi.org/10.19173/irrodl.v12i4.850

Subramanian, G. H. (1994). A replication of perceived usefulness and perceived ease of use measurement. *Decision Sciences, 25*(5-6), 863-872. https://doi.org/10.1111/j.1540-5915.1994.tb01873.x

Sujati, H., Sajidan, M., Akhyar, M. & Gunarhadi, G. (2020). Testing the construct validity and reliability of curiosity scale using confirmatory factor analysis. *Journal of Educational and Social Research, 10*(4), 229. https://doi.org/10.36941/jesr-2020-0080

Taherdoost, H. (2016). Sampling methods in research methodology: How to choose a sampling technique for research. *International Journal of Academic Research in Management, 5*(2), 18-27. http://doi.org/10.2139/ssrn.3205035

Tallent-Runnels, M.K., Thomas, J.A., Lan., W.Y., Cooper, S., Ahern, T.C., Shaw, S.M., &Liu, X. (2006). Teaching courses online: A review of the research. *Review of Educational Research, 76*(1), 93-135. https://doi.org/10.3102/00346543076001093

Taylor, S. & Todd, P. A. (2001). Understanding information technology usage: A test of competing models. *Information Systems Research, 6*(2), 144-176. http://home.business.utah.edu/actme/7410/ taylortodd.pdf

Taylor, S., & Todd, P.A. (1995). Understanding information technology usage: A test of competing models. *Information System Research, 6*(2), 144-176. https://www.jstor.org/stable/23011007

Teo, T. (2009). Modeling technology acceptance in education: A study of pre-service teachers. *Computers & Educations, 52*(2), 302-312. https://doi.org/10.1016/j.compedu.2008.08.006

Thakre, S., & Thakre, S. (2015). Perception of medical students for utility of mobile technology use in medical education. *International Journal of Medicine and Public Health, 5*(4), 305-311. http://doi.org/10.4103/2230-8598.165959

The Economic Times (2022). *Definition of eLearning*. https://economictimes.
Indiatimes.com/definition/eLearning

Tuscano, F. J. (2020). *It's not about online learning: A reflection on the new normal in education*. https://francisjimtuscano.com/2020/04/27/its-not-about-online-learning-a-reflection-on-the-new-normal-in-education-part-1/

van der Merwe, D., & Levigne-Lang, R. (2023). The lessons learnt from emergency remote teaching to strengthen a pre-service teacher education course on lesson design. *Journal of University Teaching & Learning Practice, 20*(3). https://doi.org/10.53761/1.20.3.03

Venkatesh, V. & Davis, F.D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. Management Science, 46(2), 186-204. https://www.jstor.org/ stable/2634758

Warshaw, P. R. & Davis, F. D. (1985). Disentangling behavioural intention and behavioural expectation. *Journal of Experimental Social Psychology, 21*(3), 213–228. https://doi.org/ 10.1016/0022-1031(85)90017-4

Wea, D., Werang, B. R., Asmaningrum, H. P. & Irianto, O. (2020). Teachers' working conditions and job performance in the elementary schools of Indonesia: A Survey from Southern Papua. *The International Journal of Educational Organization and Leadership, 27*(2), 37-46. https://doi.org/10.18848/2329-1656/CGP/v27i01/37-46

Werang, B. R. & Leba, S. M. R. (2022). Factors affecting student engagement in online teaching and learning: A qualitative case study. *The Qualitative Report, 27*(2), 555-577. https://doi.org/10.46743/2160-3715/2022.5165

Werang, B. R. Leba, S. M. R., Agung, A. A. G., Wullur, M. M., Yunarti, B. S. & Asaloei, S. I. (2020). Indonesia teachers' emotional exhaustion and commitment to teaching: A correlational study. *Cypriot Journal of Educational Sciences, 16*(2), 522-531.

Williams, C. (2007). Research methods. *Journal of Business and Economic Research*, 5(3), 65-71. https://doi.org/10.19030/jber.v5i3.2532

Wula, P., Yunarti, B. S., Wolomasi, A. K., Wea, D., Wullur, M. M., Krowin, M. M., Asaloei, S. I. & Werang, B. R. (2020). Job Satisfaction and Performance of Elementary School Teachers in Southern Papua, Indonesia. *Universal Journal of Educational Research, 8*(7): 2907-2913. https://doi.org/10.13189/ujer.2020.080718.

Wullur, M. M. & Werang, B. R. (2020). Emotional exhaustion and organizational commitment: Primary school teachers' perspective. *International Journal of Evaluation and Research in Education, 9*(4), 912-919. https://doi.org/10.11591/ijere.v9i4.20727

Xia, D., Zhang, M., Yu, Q. & Tu, Y. (2019). Developing a framework to identify barriers of green technology adoption for enterprises. *Resources, Conservation and Recycling, 143,* 99-110. https://doi.org/10.1016/j.resconrec.2018.12.022

Yunarti, B. S., Asaloei, S. I., Wula, P. & Werang, B. R. (2020). Stress and performance of elementary school teachers of Southern Papua: A survey approach. *Universal Journal of Educational Research, 8*(3), 924-930. https://doi.org/10.13189/ujer.2020.080325.