ediansyah 1.1

by Ediansyah 1.1 Ediansyah 1.1

Submission date: 06-Jun-2023 09:42AM (UTC+0700)
Submission ID: 2109955760
File name: Jurnal_Scopus_Ediansyah.pdf (605.97K)
Word count: 6961
Character count: 39356

Eurasian Journal of Educational Research 102 (2022) 21-38

Eurasian Journal of Educational Research
www.ejer.com.tr

The Role of Digital Learning in Islamic Education: An Analysis of Acceptance Technology In Indonesia

Edi Ansyah[1]

ARTICLE INFO

Article History:
Received: 10 June 2022
Received in revised form: 15 October 2022
Accepted: 05 December 2022
DOI: 10.14689/ejer.2022.102.002

Keywords
Digital learning, E-learning, Technology, Perceived usefulness, Islamic education, Indonesia.

ABSTRACT

Purpose- The purpose of this study was to provide a comprehensive analysis of the factors that influence the use of e-learning in Islamic education in Indonesian higher education institutions. This study proposes a model with subjective norms (SN), anxiety (AN), and self-efficacy (SE) as the motivating forces for the use of e-learning (EL) among students. In addition, the researcher included perceived utility (PU) as a mediator between the independent and dependent variables, e-learning. The moderating effect of perceived ease of use (PEU) was also investigated empirically. **Method**- The model was evaluated using a convenience sample of 220 Indonesian higher education institutions respondents. SEM and CFA were utilized to assess model validity and fitness and test hypotheses. **Findings**- The findings revealed that subjective norms positively influenced e-learning usage. In contrast, anxiety has a negative impact on e-learning usage. The mediation analysis results suggested that PU is a significant mediator in the relationship between SN, EL, and AN and EL. Similar support was found for the moderating effect of PEU in the relationship between PEU and EL. **Novelty/Originality**- This study focused on some of the primary antecedents of e-learning in this context, as the concept of digital learning in Islamic and religious education is evolving. The study emphasizes the need to implement technology in Islamic education by analyzing the factors influencing students' English Language (EL) proficiency. The study provides practitioners with beneficial insights. **Paper type**- Research Paper.

© 2022 Ani Publishing Ltd. All rights reserved.

[1] Study Program of Education, Universitas Islam Negeri Fatmawati Sukarno, Bengkulu, Indonesia.
Email: ediansyah368@gmail.com

1. Introduction

Technology has influenced every aspect of life in today's expanding digital world. Al-Gahtani (2016) notes that new technologies are becoming more pervasive in educational institutions and society. The online platform, characterized by the heading "Digital Learning," is an essential tool for improving educational experiences. This is the case for secular and religious education, such as Islamic education (Mazrur et al., 2023). Through digital learning, new possibilities are observed in Islamic education. It has been observed for instructors and students, resulting in a dynamic and complex environment emphasizing religious understanding and knowledge (Abubakari et al., 2023). Through the proliferation of the internet and technology, new opportunities and possibilities have become available. In the sphere of Islamic education it provides both educational and learner opportunities.

Indonesia, the world's most populous Muslim-majority nation, is regarded as the nation with the richest tradition of Islamic education. As observed historically, the country adopted the traditional methods of Islamic education (Adri et al., 2020). These traditional techniques in Islamic educational institutions and boarding schools include recitation, memorization, and face-to-face instruction (Abubakari et al., 2023). In addition, technological advancement has dramatically altered the landscape of Islamic education in Indonesia. Digital learning has gained a great deal of momentum in the Islamic education system of Indonesia (Yudiawan, Sunarso, & Sari, 2021), reshaping how knowledge is disseminated and acquired. The introduction of affordable Internet access, tablets, and smartphones has facilitated the integration of digital resources into the Islamic education system (Siron, Wibowo, & Narmaditya, 2020). A vast assortment of Islamic learning materials has been made available through a variety of mobile applications and online platforms, as well as several e-learning portals that have proved to be extremely beneficial. These Islamic educational resources provide Arabic instruction for Quranic recitation and Islamic law (Ghafur, 2021). In addition, this transition in technology has made students more interactive and motivated in their pursuit of Islamic knowledge.

Digital learning has many benefits in Islamic education in Indonesia. It provides students an interactive and diverse learning environment to engage with multimedia elements and learn more about Islamic content (Priatna et al., 2020). Audios, videos, and interactive exercises proved beneficial. This dynamic approach improves students' engagement, comprehension, and retention of Islamic knowledge. In addition, these digital learning platforms offer learners personalized learning experiences to meet their preferences and requirements (Susanto et al., 2022). To hone their skills and thoroughly understand Islamic teachings, students can access supplemental resources, review content, and navigate the helpful material at their own tempo. In addition, this adaptability encourages independent learning and self-direction in students and enables them to take the first step on their learning journey (Wekke & Hamid, 2013). In Islamic education in Indonesia, it has been observed that digital learning transcends geographic boundaries.

54

Consequently, the primary objective of this paper is to investigate the role of digital learning in Islamic education and to comprehend the acceptability of technology, with a particular emphasis on the adoption of technology in Indonesia. The paper tends to concentrate on a comprehensive understanding of the prospective impact of technology in the relevant domain. We will investigate the current state of digital learning in Islamic education by contemplating its future implications and prospects.

2. Literature Review

2.1 Technology acceptance model

(Marangunić & Granić, 2015) TAM, introduced by Davis (1989), is the most prominent and prevalent method for evaluating the factors that influence the acceptance of technology by users. According to Davis, utilizing IT technologies begins with perceiving usefulness and simplicity. Accordingly, the two primary concepts in this paradigm are a technological system's perceived usefulness and usability. In the TAM paradigm, these aspects are influenced by external factors; therefore, they also explain technology adoption behavior (Abdullah & Ward, 2016). Priantinah, Aisyah, and Nurim (2019) propose that behavioral intention and actual utilization are significant predictors of adopting a particular technology. Using TAM as a guide, this study establishes a correlation between student characteristics, perceived utility, and perceived usability of e-learning.

2.2 Impact of student characteristics on the Use of E-learning

SNs are defined as the extent to which a person recognizes the significance of those involved in using information technology systems. These norms are connected to social pressure, which influences behavior (Rejón-Guardia, Polo-Peña, & Maraver-Tarifa, 2020). The opinions associated with adopting technologies such as EL vary across social groups; consequently, the teaching staff may indicate that adopting technology in learning enhances students' learning (Helsper & Eynon, 2010; Smith, Skrbis, & Western, 2013). According to the research of Cheung and Vogel (2013), SNs are substantially associated with the intention toward technology, increasing students' intention to use technology for learning. Regarding this, we can hypothesize that:

H1: *Subjective norm positively impacts the use of e-learning.*

Interacting with technological devices (computers, mobile phones) is sometimes accompanied by negative affective states. Frustration, wrath, and anxiety are its most common negative effects, negatively affecting students' learning, productivity, and well-being (Saadé & Kira, 2009). Hu et al. (2022) indicate that there is a consensus that anxiety influences the adoption of EL in higher education. In contrast, Almaiah et al. (2022) note that anxiety gives rise to the uneasiness that manifests in daily interactions with technological devices, which impacts students in the EL milieu. Consequently, it can be stated:

H2: *Anxiety negatively impacts the use of e-learning.*

SE discusses the individual's confidence in the efficacy of a particular undertaking. Ithriah, Ridwandono, and Suryanto (2020) define SE in EL as students' confidence in their ability to execute learning tasks using an EL system. Latip et al. (2020) indicate that pupils with high technology self-efficacy will develop a favorable attitude toward EL. Rahmawati (2019) highlighted a similar pattern, stating that students' growing confidence in EL and using EL platforms as a source of additional information indicates a similar trend. Consequently, the following can be hypothesized:

H3: *Self-efficacy is positively linked with the use of e-learning.*

2.3 Mediating Impact of Perceived Usefulness

According to Amsal et al. (2021), the utility of a system influences the efficacy of learning. In this manner, the PU improves usability, thereby facilitating the operation of

the EL system. Arunachalam (2019) explains that if individuals perceive that EL improves their competency, productivity, and learning efficacy, their intent to adopt EL will also increase. According to Al-Fraihat, Joy, and Sinclair (2020), the PU of EL is related to perceived satisfaction, use, and pupil benefits. Thus, student characteristics (subjective norms, self-efficacy, and e-learning experience) influence the intention to use EL increases if they perceive the system's utility. Accordingly, the following hypotheses can be formulated:

H4a: *PU significantly mediates the association between SNs and EL.*
H4b: *PU significantly mediates the association between AN and the use of EL.*
H4c: *PU significantly mediates the relationship between SE and EL.*

2.4 Moderating Impact of Perceived Ease of Use

PEOU refers to the ease of access and use of a technological system and its display. Tahar et al. (2020) based on TAM, PEOU is the significant aspect that alludes to the acceptance and adoption of a system. Chen and Aklikokou (2020) state that, for PU, PEOU is the crucial factor that significantly impacts system adoption. According to Laily and Riadani (2019), PEOU is the most significant factor because it determines the intention, attitude, and use of technological constructs. Following this, it can be stated that:

H5: *PEOU significantly moderates the association between PU and EL.*

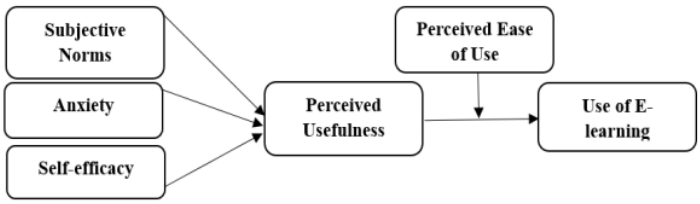

Figure 1. *Conceptual Model*

3. Research Method

3.1 Method and Data Collection

This research was designed using a quantitative deductive methodology. The research method was chosen based on its compatibility with the research design, as the purpose of the present study was to investigate the role of digital learning in Islamic Education. When studying the cause-and-effect relationship, the "quantitative research method" is the optimal research design. The information was collected via structured questionnaires and disseminated via online and personal distribution. In addition to ensuring the privacy of the collected data, the data collection process also ensured its secrecy.

Before beginning the study, therefore, written consent was obtained from the research participants. To comply with ethical and confidentiality considerations, the questionnaire only requested demographic information, such as the age, gender, and level of education of the participants. To assure the moral obligation of anonymity, no such information was included in the questionnaires, which could have led to the identification of participants.

3.2 Measurement

Based on a cross-sectional research design, this study was conducted on 220 students, while the questionnaire was distributed to 450 students from Indonesian higher education institutions (48.8% response rate). To operationalize variables, the researcher has employed previously tested and developed scales. The questionnaires were designed with careful consideration of authentic scale items for each variable and were reviewed twice before being finalized. All study constructs were evaluated using a five-point Likert scale.

Table 1
Measurement Scales

Variable	No. of items	Included in the study	Source
Subjective norms	Six items	Four items	(Huang, Teo, & Zhou, 2020)
Anxiety	Four items	Four items	(Tsai et al., 2020)
Self-Efficacy	Six items	Five items	(Fraillon et al., 2014)
Perceived usefulness	Four items	Four items	(Tsai et al., 2020)
Perceived ease of use	Three items	Three items	(Tsai et al., 2020)
Use of e-learning	Seven items based on benefits of e-learning sub-dimension	Six items	(Kisanga & Ireson, 2016)

3.3 Analytical Procedure

AMOS and SPSS were used for data analysis after data collection, cleansing, and screening. The researcher has utilized SPSS to evaluate the demographic characteristics of respondents, including age, gender, and educational background. In the second stage, the researcher confirmed the normality of the data, eliminated any outliers, or observed their nonexistence by testing the variables' descriptions. The descriptive test was conducted to examine the data's comprehensive summary statistics. In the third stage, factor loading was examined, and the rotated component matrix was analyzed to evaluate cross-loading and double-loading issues. In the fifth phase, confirmatory factor analysis was used to test model fitness, followed by structural equation modeling testing. SEM was used to determine the significance level or insignificance of the association between variables used to test hypotheses and derive final results. Thus, a comprehensive data analysis was conducted.

3.4 Ethical Considerations

The investigation was conducted following ethical and normative requirements. The application and thorough consideration of ethical obligations and principles for protecting research participants' dignity, rights, and welfare is necessary for all research involving human participants. Consequently, the researcher has ensured compliance with all ethical requirements. The respondents were provided with a concise summary of the research's purpose, background, nature, and intent to ensure that the research topic was understood by the audience from which data was collected. All of the information included in the

research is the product of the researcher, and the work of other academicians has been appropriately cited throughout. In addition, respondents' identities were protected by anonymization, and no information regarding their identities was collected. In this manner, the researcher has fulfilled his moral obligations.

4. Results

Male representation accounted for 49.09% of the sample, as shown in Figure 1. Female respondents made up 50.91% of the sample.

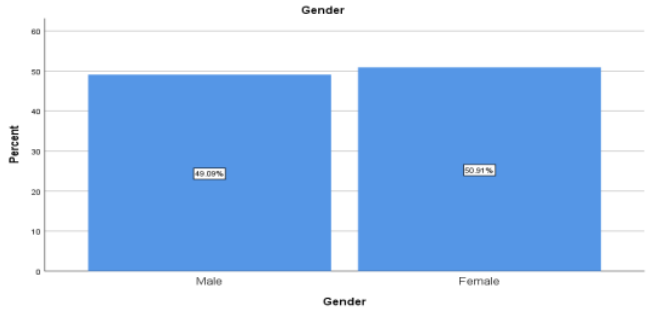

Figure 1: *Gender Distribution*

Regarding age, most respondents were 26 to 29 (37.73%), followed by the age group 22 to 25 (30.45%). It was observed that 15% of the respondents were between the ages of 18 to 21, representing the group with the lowest proportion, while 16.82% of the sample were more than 29 years old.

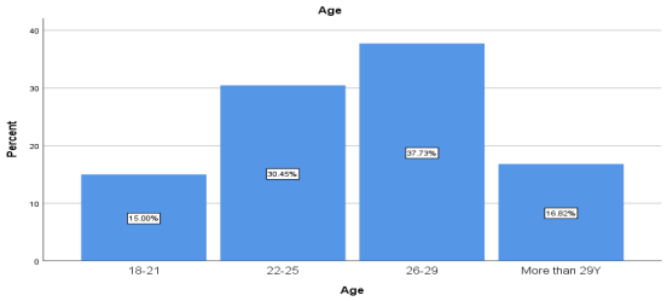

Figure 2: *Age Distribution*

Respondents were asked about their level of education, and the results are depicted in Figure 3. Most students were in the first year of college (5.091%), while 35.45% were in the second year. Only 3.18 percent of students were in the third year of college, and 10.45 percent were pursuing an associate's degree.

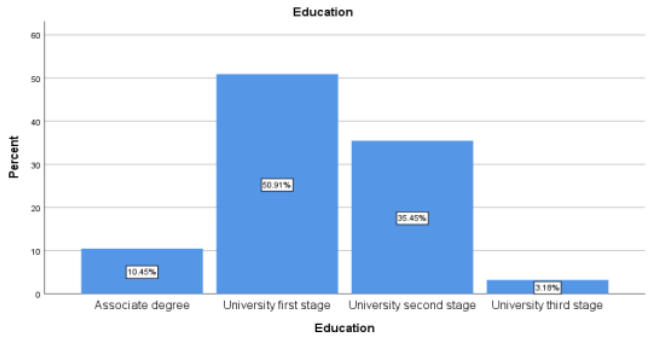

Figure 3: *Education of Respondents*

The researcher utilized descriptive statistics to summarize the data's characteristics. Table 2 verifies that there are no missing values and that all data is present. The table also includes mean, standard deviation, and skewness values. The six constructs, SN, SE, PEU, AN, PU, and EL, had above-average mean values. The researcher ensured that the data were symmetrical by comparing the skewness values to the conditions specified by academics (Hair et al., 2010) and finding that all values fell within the range of +2 to -2.

Table 2

Descriptive Summary

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
SN	220	1.00	5.00	3.7739	.93952	-1.101	.164
SE	220	1.20	5.00	3.7255	.95118	-.952	.164
PEU	220	1.00	5.00	3.6955	.94102	-.848	.164
AN	220	1.00	5.00	2.3830	.95575	.809	.164
PU	220	1.00	5.00	3.5125	.97346	-.343	.164
EL	220	1.00	5.00	3.4356	1.03283	-.390	.164
PUXPEU	220	1.67	25.00	13.5610	5.86694	-.210	.164
Valid N (listwise)	220						

"SN= Subjective Norms, SE= Self-efficacy, PEU= Perceived ease of use, AN= anxiety, PU= Perceived usefulness, EL= Use of e-learning"

The researcher utilized Kaiser-Meyer-Olkin (KMO) and Bartlett's test to assess the sample's suitability for factor analysis (Tabachnick & Fidell, 2013). According to the KMO test criteria, the value must be greater than 0.6 to guarantee sample adequacy; Table 3 demonstrates that sample adequacy was guaranteed with a value of 0.948. The test conducted by Bartlett confirmed the relationship between the variables and determined their suitability for factor analysis. Table 3 demonstrates that the significance value is less than 0.05, so the sample was considered adequate for factor analysis.

Table 3

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.948**
Bartlett's Test of Sphericity	Approx. Chi-Square	3773.630
	df	325
	Sig.	.000

Factor analysis resulted in six factors shown in Table 4. The items for each construct are loaded onto its respective construct. Secondly, factor loadings exceeded the common threshold of 0.5 (Hadi, Abdullah, & Sentosa, 2016).

Table 4

Rotated Component Matrix

	1	2	3	4	5	6
SN1	.673					
SN2	.639					
SN3	.640					
SN4	.617					
SE1						.722
SE2						.723
SE3						.674
SE4						.729
SE5						.736
PEU1				.621		
PEU2				.771		
PEU3				.616		
AN1					.541	
AN2					.532	
AN3					.796	
AN4					.519	
PU1			.582			
PU2			.694			
PU3			.822			
PU4			.717			
EL1		.579				
EL2		.651				
EL3		.806				
EL4		.769				
EL5		.767				
EL6		.703				

"SN= Subjective Norms, SE= Self-efficacy, PEU= Perceived ease of use, AN= anxiety, PU= Perceived usefulness, EL= Use of e-learning"

Composite reliability (CR) and average variance extracted (AVE) were utilized to establish convergent validity. The indicator values are shown in Table 5 (Hair et al., 2010). Scholars have assigned an expected value of 0.7 to CR. Second, the AVE criterion requires values greater than 0.5 (Shrestha, 2021). Table 5 demonstrates that CR values for the variables under investigation are greater than the benchmark value of 0.7, and AVE values were found to be greater than the specified threshold of 0.5 for all variables except ANX, i.e., anxiety, which is also on the borderline, thus establishing convergent validity for all factors.

Table 5

Validity Test

	CR	AVE	MSV	MaxR(H)	SUBN	ELB	PUS	PEOU	ANX	SEF
SUBN	0.917	0.734	0.785	0.923	**0.856**					
ELB	0.896	0.591	0.772	0.906	0.764***	**0.769**				
PUS	0.834	0.556	0.640	0.834	0.700***	0.651***	**0.746**			
PEOU	0.750	0.500	0.696	0.751	0.834***	0.641***	0.800***	**0.707**		
ANX	0.797	0.496	0.772	0.801	-0.862***	-0.878***	-0.727***	-0.788***	**0.704**	
SEF	0.876	0.585	0.785	0.879	0.886***	0.673***	0.655***	0.743***	-0.836***	**0.765**

"ELB= Use of e-learning, SEF= Self-efficacy, PUS= Perceived usefulness, ANX= Anxiety, SUBN= Subjective Norms, PEOU= Perceived ease of use"

The researcher employed the Fornell and Larcker criterion for discriminant validity (Ab Hamid, Sami, & Sidek, 2017). According to Table 5, the variables' cross-correlations were less than the own-correlation value represented by the bold diagonal values for almost all variables. However, for some variables, including ELB, PUS, and ANX, the cross-correlations were greater than their self-correlations, indicating a lack of discriminant validity. The sample size for the present study was modest. In contrast, the total number of factors was 26, and the sample did not meet the ITR (item response theory) requirement of 10 respondents per item. In future investigations, increasing the sample size could improve the discriminant validity.

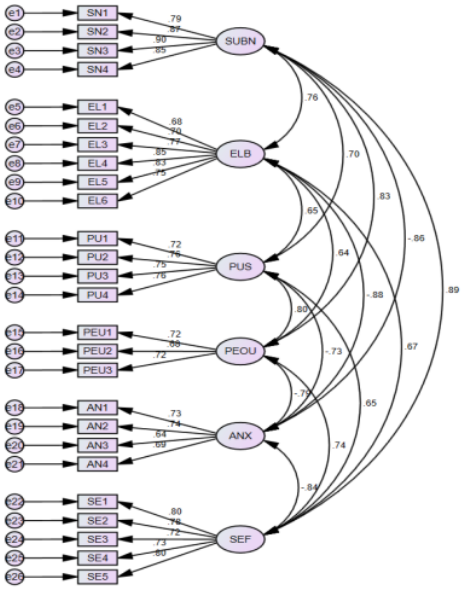

Figure 4*: CFA*

Table 6

Confirmatory Factor Analysis

Indicators	Threshold Value	Observed Value
CMIN/df	≤ 3	1.648
GFI	≥ 0.80	.837
IFI	≥ 0.90	.950
CFI	≥ 0.90	.949
RMSEA	≤ 0.08	0.054

The confirmatory factor analysis was also employed to ensure the model's fitness. Table 6 demonstrates that all the observed values for the fit indices were within the limited threshold, indicating that the model is fit and reliable.

Table 7 displays the results of the structural equation modeling employ[52] by the researcher. SN was discovered to have a positive effect on e-learning usage. As the p-value was less than 0.05, the first hypothesis was thus supported. According to the second hypothesis, AN has a negative effect on EL. The results confirmed a statistically significant negative relationship between AN and EL. At the 5% significance level, it was determined that SE positively influenced EL. Thus the hypothesis was rejected.

Table 7

Direct Effect Analysis

Parameter			Estimate	Lower	Upper	P
EL	**<---**	**SN**	**.328**	**.189**	**.452**	**.001**
EL	<---	SE	-.063	-.181	.064	.397
EL	<---	AN	-.484	-.591	-.372	.001

"EL= Use of e-learning, SN= Subjective Norms, AN= Anxiety, SE= Self-efficacy"

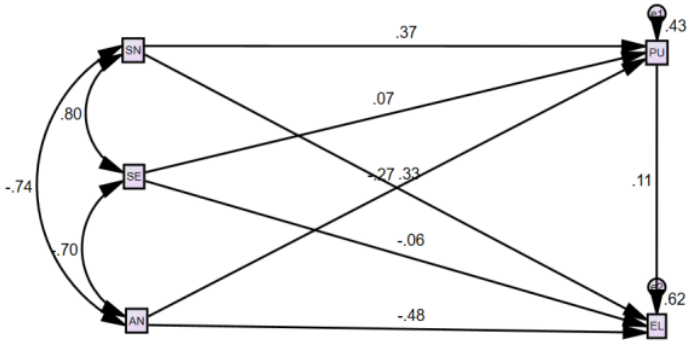

Figure 5: *SEM Analysis*

Regarding the mediating effect of PU, the results indicated that at a significance level of 10%, PU significantly mediated the relationship between SN and EL, thus confirming

hypothesis 4a. Similarly, at a significance level of 95%, PU was a significant mediator in the association between AN and EL, leading to the acceptance of hypothesis 4b. The mediation of PU between SE and EL was found to be insignificant at significance levels of 90%, 95%, and 99%; thus, hypothesis 4c was rejected.

Table 8

Mediation Analysis

Indirect Path	Standardized Estimate	Lower	Upper	P-Value
SN --> PU --> EL	0.042†	0.008	0.102	0.051
SE --> PU --> EL	0.008	-0.006	0.042	0.294
AN --> PU --> EL	-0.031*	-0.075	-0.009	0.028

"SN= Subjective Norms, SE= Self-efficacy, AN= anxiety, PU= Perceived usefulness, EL= Use of e-learning"

The fifth hypothesis proposed that PEU moderates the relationship between PU and EL. The results demonstrated a negative moderation effect, and the indirect impact was statistically significant at the 5% significance level.

Table 9

Moderation Analysis

Parameter			Estimate	Lower	Upper	P
ZEL	<---	ZPUXPEU	-.955	-1.520	-.455	.008

"PEU= Perceived ease of use, PU= Perceived usefulness, EL= Use of e-learning"

5. Discussion

By analyzing technology acceptance, this study intended to evaluate the role of digital learning in Islamic education in Indonesia. The researcher used TAM to examine the impact of subjective norms, anxiety, and self-efficacy on e-learning (EL). The first hypothesis proposed that SN influences the use of EL in a positive manner. The study's findings indicated that SN and EL utilization were positively associated, and a statistically significant result was observed, thus confirming the hypothesis. Similarly, Rajeh et al. (2021) demonstrated that SNs positively influenced the intention to embrace EL in Saudi Arabia. As a result, it has been established that students' behavioral control is essential for implementing EL in Islamic education.

In addition, the results supported the second hypothesis of the present study, which stated that AN has a negative impact on the use of EL. Students with a fear of technology had a negative view of EL. Alkhawaja, Halim, and Afthanorhan (2021) found a correlation between minimal technology anxiety and increased use of EL systems. Technology anxiety can exacerbate users' negative emotions toward technology use and impact its implementation and utilization. According to the study's third hypothesis, the use of EL is positively correlated with SE among Islamic education students. Students' approval and use of EL are not correlated with their level of social competence, as demonstrated by the rejection of the hypothesis. Nevertheless, prior research has shown that SE and the acceptability of EL are positively correlated (Latip et al., 2020). Therefore, individuals with low SE are likelier to have lower technology usage and acceptability, resulting in lower EL usage.

In addition, the role of PU as a mediator was investigated. Three hypotheses were developed regarding the impact of mediation. PU significantly mediates the relationship between subjective norms and EL, according to Hypothesis 4a. The study confirmed PU as a significant mediator, consistent with previous research. Al-Okaily et al. (2020) conducted a study with Jordanian students and demonstrated that PU mediated the relationship between subjective norms and intent to use EL systems. H4b was proposed to determine if PU substantially mediates the relationship between anxiety and EL use. According to the findings, a statistically significant mediation effect was discovered, indicating that pupils who fear technology will be reluctant to use EL. However, Weerathunga et al. (2021) evaluated technology acceptance among university students and discovered no significant association between PU and technology anxiety.

According to H4c, PU substantially mediates the relationship between self-efficacy and EL, but testing refuted this hypothesis. This contradicts the findings of Rafiee and Abbasian-Naghneh (2021), who discovered that self-efficacy in the context of online learning influenced EL acceptance and preparedness via PU among students. Students' self-efficacy is associated with the PU of EL (Thongsri, Shen, & Bao, 2020). Last, the moderating effect of PEOU was hypothesized to substantially moderate the relationship between PU and the use of EL. The results were consistent with the hypothesis. Prior research has similarly emphasized the significance of perceived simplicity of use in EL acceptance among students (He et al., 2023).

5.1 Conclusion

The researcher utilized TAM to investigate the factors that influence the use of the English Language in Islamic education in Indonesia. On a sample of 220 students in higher education institutions, an analysis of the data revealed a positive relationship between subjective norms and the use of EL in Islamic education. In contrast, anxiety had a negative effect on EL utilization. A mediation analysis determined that PU was a significant mediator in the relationships between subjective norms, technology anxiety, and EL. In addition, PEOU played a significant moderating effect in the association between PU and EL use. Accepting all of the proposed hypotheses, the analysis thus provides significant insights into EL.

5.2 Theoretical Implications

The study contributes to extant EL research by shedding light on the significance of technology acceptance from the student's point of view. Due to the lack of prior research on Islamic education, this study provided valuable insights. The present research contributes to the existing body of knowledge by focusing on students' perspectives, as they are important stakeholders in adopting EL. To this end, the researcher employed TAM to provide insights and expertise regarding students' use of EL. As a result, the researcher provided evidence that TAM is an excellent paradigm for studying technology acceptance.

In addition, the current study provides a comprehensive understanding of the antecedents of EL usage in the educational sector. The findings suggest that subjective norms and anxiety play a significant role in the acceptance and use of EL among Islamic education students; furthermore, the non-significance of self-efficacy leaves space for future researchers to investigate its significance. The results indicated that the indirect

functions of PU and usability were statistically significant. Prior research has examined the moderating function of PEOU insufficiently. In addition, PEU and PO are significant factors in EL adoption; therefore, EL utilization must be facilitated by focusing on the utility and usability of digital platforms.

5.3 Practical Implications

The study has significant implications. First, universities and higher education can benefit from the study's findings, as a vital conclusion is that students' approval of EL in the educational context is crucial. Higher levels of self-efficacy and the subjective norm supported increased use of English as a second language. Similarly, reduced anxiety levels will increase the use of EL. Therefore, these subfactors must be considered when introducing EL technology. Training and information regarding EL systems will increase students' confidence and motivation to use EL and reduce their technology anxiety. In addition, universities and other higher education institutions must ensure that EL systems are practical and user-friendly for students.

Results are also crucial for instructors and teachers, as they provide information on effectively increasing students' use of EL. It is indicated that PU encourages students to utilize EL. To ensure students have a positive experience, instructors and teachers must develop and design valuable EL content. The importance of PEOU necessitates that instructors and teachers implement technological tools that are not overly complex or cause students to struggle with learning. This will ensure that EL is widely adopted and accepted.

5.4 Limitations and Future Research Recommendations

Finally, the research's limitations must be discussed. The study used cross-sectional data and self-reported and survey instruments to examine the model. Future research studies can employ an in-depth analysis of the students' perspectives using a qualitative approach. Second, due to the study's focus on higher education institutions in Indonesia, the current research findings must be evaluated with caution. Consequently, future research can expand the proposed model by considering additional cultural and national contexts.

In addition, the present study was limited to students' perceptions of EL in the context of Islamic education. Future research may investigate educators' perspectives within the context of Islamic education. Future research could incorporate external factors like system quality and educational support to better comprehend EL acceptance in Indonesia.

References

Ab Hamid, M. R., Sami, W., & Sidek, M. M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series, 890*(1), 012163. https://doi.org/10.1088/1742-6596/890/1/012163

Abdullah, F., & Ward, R. (2016). Developing a General Extended Technology Acceptance Model for E-Learning (GETAMEL) analysing commonly used external factors. *Computers in human behavior, 56*, 238-256. https://doi.org/10.1016/j.chb.2015.11.036

Abubakari, M. S., Zakaria, G. A. N., Priyanto, P., & Triantini, D. (2023). Analysing Technology Acceptance for Digital Learning in Islamic Education: The Role of Religious Perspective on ICT. *Journal of Computing Research and Innovation, 8*(1), 1-16. https://doi.org/10.24191/jcrinn.v8i1.344

Adri, M., Zainul, R., Wahyuningtyas, N., Wedi, A., Surahman, E., Aisyah, E. N., Oktaviani, H. I., Meilanie, R. S. M., Purnamawati, S. N., & Listyasari, W. D. (2020). Development of Content Learning System in Professional Education Subjects for Educational Institutions in Indonesia. *Journal of Physics: Conference Series*, *1594*(1), 012022. https://doi.org/10.1088/1742-6596/1594/1/012022

Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in human behavior*, *102*, 67-86. https://doi.org/10.1016/j.chb.2019.08.004

Al-Gahtani, S. S. (2016). Empirical investigation of e-learning acceptance and assimilation: A structural equation model. *Applied Computing and Informatics*, *12*(1), 27-50. https://doi.org/10.1016/j.aci.2014.09.001

Al-Okaily, M., Alqudah, H., Matar, A., Lutfi, A., & Taamneh, A. (2020). Dataset on the Acceptance of e-learning System among Universities Students' under the COVID-19 Pandemic Conditions. *Data in brief*, *32*, 106176. https://doi.org/10.1016/j.dib.2020.106176

Alkhawaja, M. I., Halim, M. S. A., & Afthanorhan, A. (2021). Technology Anxiety and Its Impact on E-Learning System Actual Use in Jordan Public Universities during the Coronavirus Disease Pandemic. *European Journal of Educational Research*, *10*(4), 1639-1657. https://doi.org/10.12973/eu-jer.10.4.1639

Almaiah, M. A., Alfaisal, R., Salloum, S. A., Hajjo, F., Thabit, S., El-Qirem, F. A., Lutfi, A., Alrawad, M., Al Mulhem, A., & Alkhdour, T. (2022). Examining the impact of artificial intelligence and social and computer anxiety in e-learning settings: students' perceptions at the university level. *Electronics*, *11*(22), 3662. https://doi.org/10.3390/electronics11223662

Amsal, A. A., Putri, S. L., Rahadi, F., & Fitri, M. E. Y. (2021). Perceived satisfaction and perceived usefulness of e-learning: The role of interactive learning and social influence. In *The 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020)* (Vol. 506, pp. 535-541). Atlantis Press. https://doi.org/10.2991/assehr.k.210202.092

Arunachalam, T. (2019). An investigation on the role of perceived ease of use perceived use and self-efficacy in determining continuous usage intention towards an e-learning system. *The Online Journal of Distance Education and e-Learning*, *7*(4), 268-276. https://www.tojned.net/journals/tojdel/articles/v07i04/v07i04-02.pdf

Chen, L., & Aklikokou, A. K. (2020). Determinants of E-government adoption: testing the mediating effects of perceived usefulness and perceived ease of use. *International Journal of Public Administration*, *43*(10), 850-865. https://doi.org/10.1080/01900692.2019.1660989

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

Davis, F. D. (1989). Technology acceptance model: TAM. *Al-Suqri, MN, Al-Aufi, AS: Information Seeking Behavior and Technology Adoption*, 205-219. https://quod.lib.umich.edu/b/busadwp/images/b/1/4/b1409190.0001.001.pdf

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Gebhardt, E. (2014). *Preparing for Life in a Digital Age: the IEA International Computer and Information Literacy Study International Report*. Springer Nature. https://doi.org/10.1007/978-3-319-14222-7

Ghafur, H. (2021). Analysis of ICT development supporting the e-learning implementation on Nadhatul Ulama universities in Indonesia. *Journal of Social Studies Education Research*, *12*(4), 121-143. https://www.learntechlib.org/p/220458

Hadi, N. U., Abdullah, N., & Sentosa, I. (2016). An easy approach to exploratory factor analysis: Marketing perspective. *Journal of Educational and Social Research*, *6*(1), 215. http://dx.doi.org/10.5901/jesr.2016.v6n1p215

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: Global edition*. NJ: Pearson Higher Education Upper Saddle River.

He, S., Jiang, S., Zhu, R., & Hu, X. (2023). The influence of educational and emotional support on e-learning acceptance: An integration of social support theory and TAM. *Education and Information Technologies*, 1-21. https://doi.org/10.1007/s10639-023-11648-1

Helsper, E. J., & Eynon, R. (2010). Digital natives: where is the evidence? *British educational research journal, 36*(3), 503-520. https://doi.org/10.1080/01411920902989227

Hu, X., Zhang, J., He, S., Zhu, R., Shen, S., & Liu, B. (2022). E-learning intention of students with anxiety: Evidence from the first wave of COVID-19 pandemic in China. *Journal of affective disorders, 309*, 115-122. https://doi.org/10.1016/j.jad.2022.04.121

Huang, F., Teo, T., & Zhou, M. (2020). Chinese students' intentions to use the Internet-based technology for learning. *Educational Technology Research and Development, 68*, 575-591. https://doi.org/10.1007/s11423-019-09695-y

Ithriah, S. A., Ridwandono, D., & Suryanto, T. L. M. (2020). Online learning self-efficacy: The role in learning success. *Journal of Physics: Conference Series, 1569*(2), 022053. https://doi.org/10.1088/1742-6596/1569/2/022053

Kisanga, D., & Ireson, G. (2016). Test of e-Learning Related Attitudes (TeLRA) scale: Development, reliability and validity study. *International Journal of Education and Development using ICT, 12*(1), 20-36. https://irep.ntu.ac.uk/id/eprint/27760

Laily, N., & Riadani, F. S. (2019). The factors influencing perceived ease of use of e-learning by accounting lecturer. *Journal of Accounting and Business Education, 3*(2), 141-150. http://dx.doi.org/10.26675/jabe.v[illegible]2.8166

Latip, M. S. A., Noh, I., Tamrin, M., & Latip, S. (2020). Students' acceptance for e-learning and the effects of self-efficacy in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 10*(5), 658-674. http://dx.doi.org/10.6007/IJARBSS/v10-i5/7239

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

Mazrur, M., Jennah, R., Mujib, A., & Jamalie, Z. (2023). The acceptance and effectiveness of digital learning technologies: A detailed empirical investigation in Islamic study classrooms. *Journal of Education and e-Learning Research, 10*(2), 175-186. http://digilib.iain-palangkaraya.ac.id/id/eprint/4504

Priantinah, D., Aisyah, M. N., & Nurim, Y. (2019). The analysis of technology acceptance model (TAM) for personal financial management on mobile application technology. In *International Conference on Banking, Accounting, Management, and Economics (ICOBAME 2018)* (pp. 262-266). Atlantis Press. https://doi.org/10.2991/icobame-18.2019.56

Priatna, T., Maylawati, D., Sugilar, H., & Ramdhani, M. (2020). Key success factors of e-learning implementation in higher education. *International Journal of Emerging Technologies in Learning (iJET), 15*(17), 101-114. https://www.learntechlib.org/p/218034

Rafiee, M., & Abbasian-Naghneh, S. (2021). E-learning: development of a model to assess the acceptance and readiness of technology among language learners. *Computer Assisted Language Learning, 34*(5-6), 730-750. https://doi.org/10.1080/09588221.2019.1640255

Rahmawati, R. N. (2019). Self-efficacy and use of e-learning: A theoretical review technology acceptance model (TAM). *American Journal of Humanities and Social Sciences Research, 3*(5), 41-55. https://www.ajhssr.com/wp-content/uploads/2019/05/F19354155.pdf

Rajeh, M. T., Abduljabbar, F. H., Alqahtani, S. M., Waly, F. J., Alnaami, I., Aljurayyan, A., & Alzaman, N. (2021). Students' satisfaction and continued intention toward e-learning: A theory-based study. *Medical education online, 26*(1), 1961348. https://doi.org/10.1080/10872981.2021.1961348

Rejón-Guardia, F., Polo-Peña, A. I., & Maraver-Tarifa, G. (2020). The acceptance of a personal learning environment based on Google apps: The role of subjective norms and social image. *Journal of Computing in Higher Education, 32*(2), 203-233. https://doi.org/10.1007/s12528-019-09206-1

Saadé, R. G., & Kira, D. (2009). Computer anxiety in e-learning: The effect of computer self-efficacy. *Journal of Information Technology Education: Research, 8*(1), 177-191. https://www.learntechlib.org/p/111397

Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics, 9*(1), 4-11. https://doi.org/10.12691/ajams-9-1-2

Siron, Y., Wibowo, A., & Narmaditya, B. S. (2020). Factors affecting the adoption of e-learning in Indonesia: Lesson from Covid-19. *JOTSE: Journal of Technology and Science Education, 10*(2), 282-295. http://dx.doi.org/10.3926/jotse.1025

Smith, J., Skrbis, Z., & Western, M. (2013). Beneath the 'Digital Native' myth: Understanding young Australians' online time use. *Journal of Sociology, 49*(1), 97-118. https://doi.org/10.1177/1440783311434856

Susanto, S., Muafiah, E., Desrani, A., Ritonga, A. W., & Hakim, A. R. (2022). Trends of Educational Technology (EdTech): Students' Perceptions of Technology to Improve the Quality of Islamic Higher Education in Indonesia. *International Journal of Learning, Teaching and Educational Research, 21*(6), 226-246. http://www.ijlter.myres.net/index.php/ijlter/article/view/1350

Tabachnick, B. G., & Fidell, L. S. (2013). *Using Multivariate Statistics* (6th ed.). Boston, MA: Pearson.

Tahar, A., Riyadh, H. A., Sofyani, H., & Purnomo, W. E. (2020). Perceived ease of use, perceived usefulness, perceived security and intention to use e-filing: The role of technology readiness. *The Journal of Asian Finance, Economics and Business (JAFEB), 7*(9), 537-547. https://doi.org/10.13106/jafeb.2020.vol7.no9.537

Thongsri, N., Shen, L., & Bao, Y. (2020). Investigating academic major differences in perception of computer self-efficacy and intention toward e-learning adoption in China. *Innovations in Education and Teaching International, 57*(5), 577-589. https://doi.org/10.1080/14703297.2019.1585904

Tsai, T.-H., Lin, W.-Y., Chang, Y.-S., Chang, P.-C., & Lee, M.-Y. (2020). Technology anxiety and resistance to change behavioral study of a wearable cardiac warming system using an extended TAM for older adults. *PloS One, 15*(1), e0227270. https://doi.org/10.1371/journal.pone.0227270

Weerathunga, P. R., Samarathunga, W., Rathnayake, H., Agampodi, S., Nurunnabi, M., & Madhunimasha, M. (2021). The COVID-19 pandemic and the acceptance of e-learning among university students: The role of precipitating events. *Education Sciences, 11*(8), 436. https://doi.org/10.3390/educsci11080436

Wekke, I. S., & Hamid, S. (2013). Technology on language teaching and learning: a research on Indonesian pesantren. *Procedia-Social and Behavioral Sciences, 83*, 585-589. https://doi.org/10.1016/j.sbspro.2013.06.111

Yudiawan, A., Sunarso, B., & Sari, F. (2021). Successful Online Learning Factors in COVID-19 Era: Study of Islamic Higher Education in West Papua, Indonesia. *International Journal of Evaluation and Research in Education, 10*(1), 193-201. http://ijere.iaescore.com/index.php/IJERE/article/view/21036

Appendix

Variable	Sr	Items	Reference
Subjective norms	1	"My instructor thinks that the Internet is valuable for online learning" [a]	(Huang et al., 2020)
	2	"My classmates think that using the Internet is valuable for online English learning"[a]	
	3	"My classmates' opinions are important to me"	
	4	"My classmates' opinions are important to me"	
	5	"My school is committed to supporting my efforts to use the Internet for learning."	
	6	"The use of online learning is important in my university."	
Self-efficacy		"How well can you do each of these tasks on a computer?"	(Fraillon et al., 2014)
	1	"Search for and find a file on your computer"	
	2	"Edit digital photographs or other graphic images"	
	3	"Create or edit documents (e.g., assignments for school)"	
	4	"Search for and find information you need on the Internet"	
	5	. "Create a multimedia presentation (with sound, pictures, or video)"[a]	
	6	"Upload text, images, or video to an online profile"	
Anxiety	1	"I feel apprehensive about using the e-learning application."	(Tsai et al., 2020)
	2	I hesitate to use technology for fear of making mistakes that I cannot correct."	
	3	"I am afraid that the equipment may suddenly stop functioning."	
	4	"I do not want other people to see using educational technologies."	
Perceived usefulness	1	"Using online learning system will improve my English learning"	(Tsai et al., 2020)
	2	"Using online learning system will make my English learning more convenient"	
	3	"Overall, I find the online learning system to be useful in English learning."	
	4	"Using online learning system will make me more effective in English learning"	
Perceived ease of use	1	"I find the online learning system to be clear and understandable"	(Tsai et al., 2020)
	2	"I find that the online learning system does not require a lot of mental effort"	
	3	"I find the online learning system to be easy to use"	
Use of e-learning	1	"I believe using e-learning will improve the quality of my work."	(Kisanga & Ireson, 2016)

2	"I believe using e-learning technologies will improve my job performance."
3	"E-learning will increase teachers' efficienct"
4	"E-learning is very economical for educational institutions to adopt"
5	"It is easier to revise electronic educational materials than printed material"[a]
6	"Computers make work more interesting."
7	"I prefer reading articles in e-learning"

"a" represents items that were dropped.

ediansyah 1.1

ORIGINALITY REPORT

24%	%	%	24%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Submitted to The University of the South Pacific Student Paper	1%
2	Submitted to Southern New Hampshire University - Continuing Education Student Paper	1%
3	Submitted to Saint Leo University Student Paper	1%
4	Submitted to Istanbul Bilgi University Student Paper	1%
5	Submitted to University of Maryland, University College Student Paper	1%
6	Submitted to Universiti Teknologi Petronas Student Paper	1%
7	Submitted to Bogazici University Student Paper	1%
8	Submitted to Straighterline Student Paper	1%

9	Submitted to Buffalo State College Student Paper	1 %
10	Submitted to CSU, Los Angeles Student Paper	1 %
11	Submitted to Universidad Politécnica de Madrid Student Paper	1 %
12	Submitted to University of Worcester Student Paper	1 %
13	Submitted to University of Liverpool Student Paper	1 %
14	Submitted to KDI School of Public Policy and Management Student Paper	1 %
15	Submitted to University of Auckland Student Paper	1 %
16	Submitted to University of Brighton Student Paper	1 %
17	Submitted to Southampton Solent University Student Paper	1 %
18	Submitted to The College of the Bahamas Student Paper	<1 %
19	Submitted to Universitas Muhammadiyah Purwokerto Student Paper	<1 %

20	Submitted to Universitas Negeri Surabaya The State University of Surabaya Student Paper	<1%
21	Submitted to University of Wisconsin, Oshkosh Student Paper	<1%
22	Submitted to Victoria University Student Paper	<1%
23	Submitted to Hellenic Open University Student Paper	<1%
24	Submitted to International College of Management Student Paper	<1%
25	Submitted to TechKnowledge Student Paper	<1%
26	Submitted to Gazi University Student Paper	<1%
27	Submitted to Nelson Marlborough Institute of Technology Student Paper	<1%
28	Submitted to Curtin University of Technology Student Paper	<1%
29	Submitted to Endicott College Student Paper	<1%
30	Submitted to Majan College Student Paper	

		<1%
31	Submitted to National Institute of Education Student Paper	<1%
32	Submitted to Neapolis University Pafos Student Paper	<1%
33	Submitted to Billy Blue Group Student Paper	<1%
34	Submitted to University of Cambridge Student Paper	<1%
35	Submitted to University of Southern Queensland Student Paper	<1%
36	Submitted to University of Economics Ho Chi Minh Student Paper	<1%
37	Submitted to University of Technology, Mauritius Student Paper	<1%
38	Submitted to CSU, San Jose State University Student Paper	<1%
39	Submitted to Mont Rose College Student Paper	<1%
40	Submitted to Universitas Lancang Kuning Student Paper	<1%

41	Submitted to Our Lady of Fatima University Student Paper	<1%
42	Submitted to Anadolu University Student Paper	<1%
43	Submitted to London School of Economics and Political Science Student Paper	<1%
44	Submitted to De La Salle University Student Paper	<1%
45	Submitted to Moorpark College Student Paper	<1%
46	Submitted to Academic Library Consortium Student Paper	<1%
47	Submitted to BPP College of Professional Studies Limited Student Paper	<1%
48	Submitted to Mississippi State University Student Paper	<1%
49	Submitted to Grenoble Ecole Management Student Paper	<1%
50	Submitted to Edge Hill University Student Paper	<1%
51	Submitted to South University Student Paper	<1%

52	Submitted to University of California, Los Angeles Student Paper	<1%
53	Submitted to Ghana Technology University College Student Paper	<1%
54	Submitted to Nelson Mandela Metropolitan University Student Paper	<1%
55	Submitted to UC, Boulder Student Paper	<1%
56	Submitted to Lebanese American University Student Paper	<1%
57	Submitted to Canadian College Student Paper	<1%
58	Submitted to University of Canterbury Student Paper	<1%
59	Submitted to An-Najah National University Student Paper	<1%
60	Submitted to St. Mary's College of Tagum, Inc. Student Paper	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		