E-learning Acceptance Model in a Pandemic Period with an Expansion to the Quality of Work Life and Information Technology Self-Efficacy Aspects

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***Abstract*—The research is inspired by the COVID-19 pandemic which affects face-to-face learning and leads to the e-learning system. However, educational institutions and related parties are not prepared for this sudden change. So, it is interesting to research the students' intentions related to learning during the pandemic in the framework of the Technology Acceptance Model (TAM). Specifically, the research aims to analyze the acceptance and satisfaction model of e-learning users amid the pandemic. The proposed model that predicts student intentions and satisfaction with e-learning is an expanded TAM with factors such as quality of work life and information technology self-efficacy. The research provides empirical evidence related to the quality of work balance and the ability to use information technology related to e-learning access, in addition to other factors in the TAM. The data are collected by distributing online questionnaires with a snowball sampling model. The sample includes students who voluntarily fill out the questionnaire from various Indonesian universities. Then, the structural equation model processes the data using a Partial Least Square (PLS) approach and analyzes it through the SmartPLS3 program. The results show that the variables of quality of work life and information technology self-efficacy, such as computers, the Internet, and communication, can explain the acceptance of e-learning models, especially during a pandemic. As an implication of the results, the teachers should focus on e-learning designs that facilitate access to learning material and student-teacher interactions to attract intentions and increase students' satisfaction in using e-learning.**

***Index Terms*—E-Learning, Acceptance Model, Quality of Work Life, Information Technology Self-Efficacy**

I. Introduction

THE pandemic that hit the world at the end of 2019 has disrupted conventional learning systems like face-to-face learning [1–5]. Hence, educational institutions are forced to shift the learning system to online. Although e-learning is not new in the world of education, the sudden change impact all relevant entities [1, 2, 4, 6, 7]. Therefore, the research aims to review behavioral intention and user satisfaction in e-learning during a pandemic using the expanded Technology Acceptance Model (TAM) framework.

Nowadays, information and communication technology development has promoted educational institutions' innovations in the learning process. E-learning is an alternative that covers a wider audience and overcomes distance barriers. Furthermore, it is essential during the COVID-19 pandemic [1, 3, 7–9]. Therefore, the students' perceptions of e-learning support the effectiveness of an academic program. It can be said that the e-learning users' attitudes determine the effectiveness of the learning process [2–4, 10].

The learning system that has drastically changed due to the pandemic restricts face-to-face engagements. The conventional classroom learning has shifted to online-based learning through various intermediary tools [1, 2, 4, 8, 9]. However, educational institutions have not anticipated the situation of immediate policy implementations. Online learning depends on the teachers' readiness and infrastructure availability. Consequently, the application of e-learning involves technological issues, social conditions, and behavior [3, 5, 8, 9, 11–13]. Moreover, the online learning system also lacks student-teacher direct interactions compared to classroom learning [3, 14].

The research analyzes students' perceptions of online learning systems amid the pandemic. It is to determine the factors of acceptance and satisfaction level and the challenges. Therefore, social factors like quality of work life [11–13, 15–18] and information

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technology utilization, such as information technology self-efficacy [5, 19, 20] are included in the TAM as acceptance and satisfaction determinants on e-learning.

Most previous studies on e-learning have applied different methods, but the TAM is mainly used. TAM is the ideal model to explain the students' technology acceptance of online learning [11]. It explains the intention and behavior of applying technology influenced by perceived usefulness and perceived ease of use [11, 13, 21]. Previous studies that have applied the TAM model in e-learning have been expanded. For example, the TAM expansion in e-learning through social, organizational, and individual factors is examined [11]. It applies the extended TAM model to examine the acceptance of e-learning in Lebanon by including social norms and quality of work life factors. The results show that all the research factors, namely perceived usefulness, perceived ease of use, social norms, and quality work-life are determinants of students' behavioral intention. These results support the previous study conducted on UK university students that perceived ease of use, perceived usefulness, social norms, quality of work-life, computer self-efficacy, and facilitating conditions determine the acceptance level of e-learning. Moreover, the quality of work life measure is the strongest and most significant determining factor of user acceptance level of e-learning. Then, the same researchers have expanded the study by comparing Lebanon and England students with similar factors and found the consistent determinants of acceptance and behavior on e-learning as previously studied [13].

Then, another previous research surveys 250 students from various Indonesian universities with a different TAM approach, namely perceived enjoyment, students' experience, computer anxiety, and perceived self-efficacy factors [14]. It provides empirical evidence on factors of students' intention to use e-learning. It also applies a different perspective by emphasizing the quality of work-life and information technology self-efficiency, besides perceived usefulness, behavioral beliefs, and perceived difficulty factors.

Although research in TAM in the domain of e-learning has been applied, there is still an opportunity to conduct further studies, especially related to the integration between technology and students' welfare in predicting the level of acceptance and satisfaction using e-learning. Previous studies have accommodated quality of work life and computer self-efficacy but have not included Internet and online communication capabilities [11, 13, 18, 19, 22].

Moreover, although the research variables have been widely researched, the research model has novelty in problems and models. The issue raised is students' intentions toward the learning model during a sudden pandemic. Meanwhile, the novelty in the model seeks to harmonize pandemic conditions and information technology development in the process so that the research model adopts the problem of quality of work life and information technology self-efficacy as seen from the capabilities of computers, the Internet, and communication. Therefore, the research uses an expanded TAM framework in predicting student acceptance and satisfaction by adding quality of work life and information technology self-efficacy factors. It includes not only computer mastery but also the Internet and online communication.

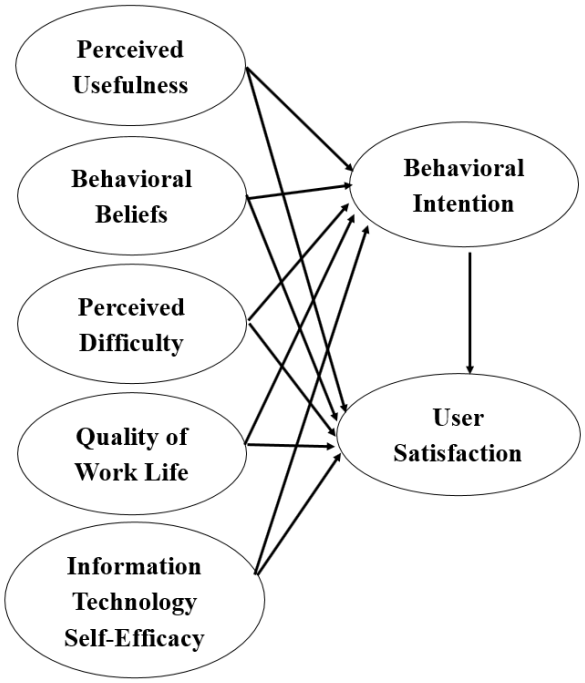

Fig. 1. Research model.

II. Research Method

In accordance with the research objectives, the research uses the extended TAM framework [11, 13, 18] and the Theory of Planned Behavior (TPB) by Ajzen. Furthermore, besides the perceived usefulness, quality of work-life factors are adopted from previous studies [11, 13, 18]. Then, the TAM expansion includes behavioral belief and perceived difficulty factors [23]. The research considers the e-learning access factors that depend on the Internet and computers and information technology self-efficacy [19]. The research model is presented in Fig. 1. Five Likert scales measure all indicators. It has one as a low score and five as the highest score.

A. Research Variables

1) Perceived Usefulness
   The instrument used to explain perceived usefulness is adapted from previous studies [11, 13, 18]. It consists of five statements that explain the users' perceptions of e-learning, which are to accomplish learning tasks more quickly, improve learning performance, make it easier to learn course material, increase learning productivity, and enhance effectiveness in learning. Previous studies have proven that perceived usefulness significantly contributes to behavioral intention more than perceived ease of use. Perceived usefulness is significant in explaining the acceptance behavior of online learning technology. System users select beneficial tools, so they should know the usefulness of the presented learning content. Hence, quality and updated content can meet the students' expectations of the e-learning system.

2) Behavioral Beliefs and Perceived Difficulty
   The instrument used to explain behavioral beliefs and perceived difficulty is adapted from [11, 13]. Based on TPB by Ajzen [23], behavioral and contextual beliefs and perceived difficulties are functions of perceived behavioral control and intentions. Furthermore, behavioral beliefs are consequences or other attributes. Subjective norms and beliefs are related to perceived social pressure. Perceived behavioral control includes the factors that continue or hinder behavior. Meanwhile, perceived difficulty acts as behavioral control of the utilization acceptance of a system. By underpinning this framework, belief, attitude, and intention factors are applied to online learning. Therefore, behavioral beliefs and perceived difficulties with e-learning acceptance are applied as part of its consequences and perceived learning behavioral control. A previous study shows a positive relationship between behavioral beliefs and e-learning acceptance [23]. However, the behavioral beliefs relationship is negative, as explained by the perceived difficulty in e-learning acceptance.

   Perceived difficulty measures the e-learning users' perceptions of ease of use, playfulness, and challenges of tracking online links. A previous study indicates that the difficulty and ease of internet access affect e-learning acceptance [23]. Perceived difficulty consists of three statements that explain whether online learning is fun but not helpful in learning, online learning increases the load, and online learning makes the students lost and unfocused. Meanwhile, behavioral beliefs consists of eight statements about preferences for online or conventional learning systems: (1) they prefer online learning than the face to face; (2) whether the more online learning is done, the better the learning outcomes will be; (3) whether online learning will become a trend in the future; (4) taking online learning for a full semester is better if it is designed with adequately; (5) using online learning causes no distance from lecturers and classmates; (6) online learning makes it possible to know more about learning style and competence; (7) online learning making abstract things real with the help of animations or simulations; (8) online learning making communication better with lecturers and with classmates.

3) Quality of Work Life
   The instrument used to explain the perceived quality of work life by users is also from the previous studies [11, 13]. Quality of work-life is widely explored in various professional contexts, organizations, and educational institutions [15, 22]. Quality of work life, in the technology aspect, refers to a user's unlimited Internet access that facilitates the increase in satisfaction, enjoyment, and personal values on their works [11, 13, 17, 18]. In e-learning, according to previous research [11, 13, 17], quality of work-life is students; perceptions and beliefs on technology utilization to improve their quality of life, such as cost savings for material access activities and e-mail communication with instructors and friends. It is also found that quality of work life is essential in e-learning to describe the benefits of accessing materials and communication facilities in the learning process [11, 13]. Quality of work life consists of five statements: (1) lecture materials accessed online help the students to have more time to think creatively and have fun, (2) using online learning materials freely helps to save money and energy, (3) using online learning provides more opportunities to participate in class, (4) using the e-mail/chat in communicating with friends or groups saves money and energy, and (5) overall, online learning helps to improve the quality of work.

4) Information Technology Self-Efficacy

Information technology or digital skills, such as computer usage, mastering the Internet, and online communication, contribute to the readiness for e-learning [19]. The statement is supported by the study of 115 students in Romania on e-learning. It is found that previous computer knowledge affects technological acceptance and learning styles [20]. Moreover, computer experience increases the acceptance of e-learning. However, established technological support is required for an effective e-learning process [5]. Information technology development creates a new dimension to the online learning model [19]. The successful implementation and acceptance of e-learning depend on user perceptions and computer knowledge and skills [11, 13, 18].

The instrument used to explain information technology self-efficacy is divided into the computer, Internet, and online communication [19]. Computer competence explains whether they can easily use the Windows/Mac operating system, search for electronic file contents on a computer, solve problems when facing difficulties in using a computer, use MS. Office applications, and use the software applications they need. Moreover, Internet competence contains easily using web browsers, using search engines, downloading files from the Internet to a computer, and accessing needed information on the Internet. Then, online communication competence explains that they can use Internet tools to communicate effectively with others, easily ask questions in discussion forums via the Internet, express themselves easily in writing, seek help using Internet tools to get answers, and easily communicate by voice as well as videos via the Internet.

5) Behavioral Intention
The variable measures the students' acceptance or behavioral intention of e-learning systems amid the pandemic. The instrument used to explain behavioral intention is adapted from previous studies [11, 13, 18]. It consists of several statements, namely (1) if they are given the opportunity, they intend to use the web-based learning system to download lecture notes and participate in chat rooms to study on the web, (2) they will use the web-based learning system in the next semester, and (3) they plan to use the web-based learning system frequently for coursework and other activities in the next semester.

6) User Satisfaction
The variable measures user satisfaction with online learning activities. User satisfaction is seen from the perspective of students in taking online lectures that replace face-to-face meetings as a result of activity restrictions during the COVID-19 pandemic. The applied instrument consists of five items, including online learning conditions due to the pandemic, online lecture materials, interactions with lecturers, interactions with classmates, and the applied media.

B. Samples and Analysis Methods

The sample includes students from various Indonesian universities. They voluntarily fill out the questionnaire. The questionnaires were distributed from May to June 2020 through the Google Forms using snowball sampling. The research has collected 448 responses. The structural equation model processes the data using a Partial Least Square (PLS) approach and analyzes it through the SmartPLS3 program. Then, the tests are conducted in three stages by analyzing the measurement/outer models, structural/inner models, and fit models [24, 25].

1) Measurement or Outer Model
The outer model is an assessment of the validity of the model, and the results will show that the latent construct predicts the size of the block better than the size of the other block. The outer model test followed four criteria. First, it measures the internal consistency reliability with composite reliability criteria of more than 0.70. Second, indicator reliability is that the outer loading value of each indicator should be more than 0.708. Third, it is convergent validity where the Average Variance Extracted (AVE) should be higher than 0.50. Fourth, discriminant validity is shown by the construct correlation with measurement items greater than other construct correlations or following the Fornell–Larcker criteria that the value of the AVE square root should be greater than the correlation value between other constructs.

2) Structural or Inner Model
Structural models or inner models are analyzed in three ways. First, collinearity assessments have VIF smaller than 5 and R^2 of 0.75, 0.50, and 0.25 (substantial, moderate, and weak). Second, in the predictive accuracy of the PLS path model, Q^2 values larger than zero is meaningful, and

TABLE I
APPLICATION USED IN E-LEARNING.

Applications	Total	%
Zoom	249	23.83
WhatsApp Chat	185	17.70
Google Classroom	159	15.22
MS Teams	127	12.15
E-mail	102	9.76
E-learning/Moodle	83	7.94
YouTube	45	4.31
Google Meet	48	4.59
Facebook	2	0.19
WebEx	10	0.96
Skype	25	2.39
Others	10	0.96
Totals	1,045	100

TABLE II
PREFERENCE OF LEARNING MEDIA.

Media	Total	%
Video Call	164	37
Audio Discussion	117	26
Chatting Discussion	49	11
Submitting Homework and Receiving Materials through E-mail	60	13
Submitting Homework and Receiving Materials through WhatsApp	33	7
Other	25	6
Total	448	100

the values higher than 0, 0.25, and 0.50 depict small, medium, and large, respectively. Third, the relationship between constructs or hypothesis tests is based on the significant value of the path coefficients with a significance level of 5% and produces the expected t-score greater than 1.96.

3) Fit Model
The measurement and structural model fit are evaluated to provide predictive information for the overall Goodness of Fit (GoF) model. GoF is calculated based on the average AVE coefficients and R-Squared, following the criteria of 0.10 as small, 0.25 as medium, and 0.36 as large. The assessment applies the square root of the average communality index and R-Squared multiplication. However, the SmartPLS 3.3 commonalities values are not displayed as they are identical to the AVE coefficients.

III. RESULTS AND DISCUSSION

A. Descriptive Analysis

The respondents include 147 male students (33%) and 301 (67%) female students. Moreover, 212 students (47%) disagree about online learning since the COVID-19 pandemic, and only 236 students (53%) agree. Then, the most used e-learning applications

TABLE III
DESCRIPTION OF VARIABLES.

Variable	Mean Score	Description
Perceived Usefulness	2.88	Moderate
Behavioral Beliefs	2.99	Moderate
Perceived Difficulty	3.31	Moderate
Quality of Work life	3.35	Moderate
Behavioral Intention	2.94	Moderate
Satisfaction	3.11	Moderate
Computer Self-Efficacy	3.73	High
Internet Self-Efficacy	4.21	High
Online Communication Self-Efficacy	3.71	High

are summarized in Table I. Respondents can choose more than one type of application for e-learning. The results show that there are five top applications, namely Zoom followed by WhatsApp chat, Google Classroom, MS Teams, and e-mail. Interestingly, there is also a learning process carried out through social media, such as Facebook with only two responses.

Table II shows that students prefer video calls or virtual face-to-face, audio discussions, chatting, e-mail, and WhatsApp for the learning process. Then, it also finds the students' obstacles, such as Internet network disturbances and audio technical problems on the computer. Other obstacles include unclear material and different comfort from face-to-face learning. Based on these data, it can be seen that at the beginning of the pandemic, face-to-face learning has been considered better than e-learning. From the information provided by respondents, most of them have chosen the face-to-face mode. In addition, the unpreparedness of infrastructures, such as computers, Android applications, and the Internet, contributes to the inconvenience of e-learning.

Table III shows the general description of each perception in the observed variables. The students' perceptions are grouped into three categories based on the mean score of each indicator. It includes low, moderate, and high. The conversion score of five Likert scales is calculated by $(5-1)/3 = 1.3$. Then, the interval scale has a score for low category at $1 < \times \leq 2.3$, moderate category at $2.3 < \times \leq 3.6$, and high category at > 3.6. The descriptive analysis of all constructs is shown in Table III. It indicates that the high perceived value is information technology self-efficacy, consisting of computer, Internet, and online communication. Meanwhile, other variables are perceived as moderate.

B. Confirmatory Factor Analysis

In the evaluation of measurement or outer model, the SmartPLS output in Table IV shows that the model has good internal consistency reliability. The composite reliability of all constructs is more than 0.70. Similarly,

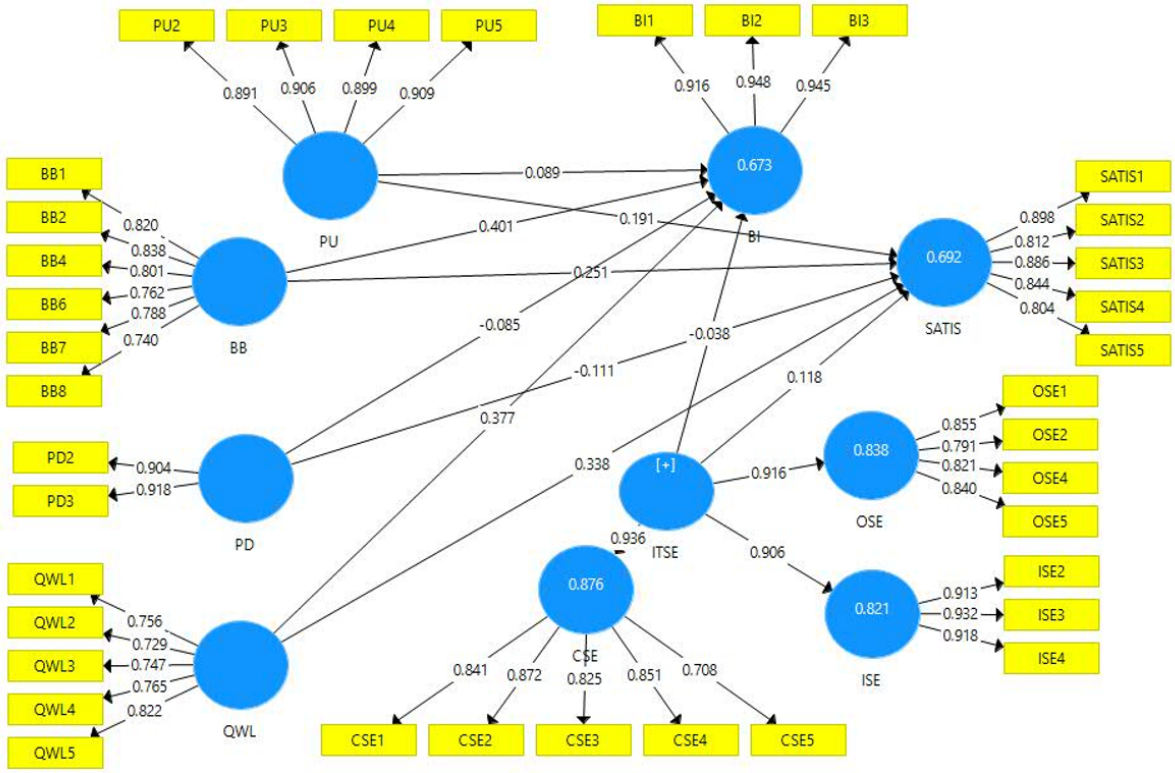

Fig. 2. Outer model. There are Perceived Usefulness (PU), Behavioral Beliefs (BB), Perceived Difficulty (PD), Quality of Work Life (QWL), Behavioral Intention (BI), User Satisfaction (SATIS), Computer Self-Efficacy (CSE), Internet Self-Efficacy (ISE), and Online Communication Self-Efficacy (OSE).

TABLE IV
VALIDITY AND RELIABILITY OF THE VARIABLES.

Construct	Composite Reliability	Average Variance Extracted (AVE)	$\sqrt{\text{AVE}}$
BB	0.910	0.627	0.792
BI	0.956	0.877	0.936
CSE	0.912	0.675	0.822
ISE	0.944	0.848	0.921
ITSE	0.949	0.611	0.782
OSE	0.896	0.684	0.827
PD	0.907	0.829	0.910
QWL	0.875	0.584	0.764
PU	0.945	0.812	0.901
SATIS	0.928	0.722	0.850

Note: Perceived Usefulness (PU), Behavioral Beliefs (BB), Perceived Difficulty (PD), Quality of Work Life (QWL), Information Technology Self-Efficacy (ITSE), Behavioral Intention (BI), User Satisfaction (SATIS), Computer Self-Efficacy (CSE), Internet Self-Efficacy (ISE), and Online Communication Self-Efficacy (OSE).

the reliability indicator is good because the value of the outer loading, as shown in Fig. 2, is more than 0.708 overall. Moreover, the model also has good convergent validity, as indicated by the AVE, which is larger than 0.50. Finally, The results mention that the outer model measurement has good discriminant validity because it meets the Fornell–Larcker criterion as indicated by the $\sqrt{\text{AVE}}$ value. It is greater than the correlation between constructs, except for information technology self-efficacy, which is the second order of computer self-efficacy, internet self-efficacy, and online communication self-efficacy (see Table A1 in Appendix).

The structural or inner model is evaluated after the outer model measurement has obtained an adequate value. It is performed to predict causality between latent variables. The SmartPLS output results presented in Table V show a good collinearity assessment, with a Variance Inflation Factor (VIF) value of less than 5. It indicates a lack of multicollinearity in the latent variables.

The following process examines the determinants coefficient value (R^2). As shown in Fig. 2, online communication self-efficacy, Internet self-efficacy, and computer self-efficacy have an explanatory value for the endogenous latent variables' variance. It is substantial because the R^2 value of 0.75 is greater than 0.75. It is moderate for behavioral intention and user satisfaction because each variable has a value of 0.673 and 0.715. Furthermore, the blindfolding technique assesses the predictive relevance to obtain the cross-

TABLE V
COLLINEARITY ASSESSMENT OF THE INDICATORS.

Indicator	Description	VIF
BB1	They prefer online learning to the face-to-face learning	2.373
BB2	The more online learning is done, the better learning outcome will be	2.538
BB4	Taking online learning for a full semester is better if it is designed adequately	2.015
BB6	Online learning makes it possible to know more about learning style and competence	1.870
BB7	Online learning making abstract things real with the help of animations or simulations	2.073
BB8	Online learning making communication better with lecturers and classmates	1.657
BI1	If they are given the opportunity, they intend to use the web-based learning system to download lecture notes and participate in chat rooms to study on the web	2.961
BI2	They will use the web-based learning system in the next semester	4.853
BI3	They plan to use the web-based learning system frequently for coursework and other activities in the next semester	4.620
OSE1	Using Internet tools to communicate effectively with others	3.142
OSE2	Easily asking questions in discussion forums via the Internet	1.901
OSE4	Seeking help by using Internet tools to get answers	2.083
OSE5	Easily communicating by voice as well as videos via the Internet	2.308
CSE1	Easily using the Windows/Mac operating system	2.523
CSE2	Searching for electronic file contents on a computer	3.035
CSE3	Solving problems when facing difficulties in using a computer	2.332
CSE4	Using MS. Office applications	3.367
CSE5	Using the software applications that they need	1.713
ISE2	Using search engines	3.735
ISE3	Downloading files from the Internet to a computer	3.871
ISE4	Accessing needed information on the Internet	3.832
PD2	Online learning increases the load	1.768
PD3	Online learning makes the students lost and unfocused	1.768
QWL1	Lecture materials accessed online help the students to have more time to think creatively and have fun	1.695
QWL2	Using online learning materials freely helps to save money and energy	1.965
QWL3	Using online learning provides more opportunities to participate in class	1.715
QWL4	Using the e-mail/chat in communicating with friends or groups saves money and energy	1.870
QWL5	Overall, online learning helps to improve the quality of work	1.878
PU2	Improving learning performance	2.962
PU3	Making it easier to learn course material	3.151
PU4	Increasing learning productivity	3.086
PU5	Enhancing effectiveness in learning	3.200
SATIS1	Online learning conditions due to the pandemic	3.145
SATIS2	Online lecture materials	2.230
SATIS3	Interactions with lecturers	3.242
SATIS4	Interactions with classmates	2.728
SATIS5	The applied media	2.069

Note: Perceived Usefulness (PU), Behavioral Beliefs (BB), Perceived Difficulty (PD),Quality of Work Life (QWL), Information Technology Self-Efficacy (ITSE), Behavioral Intention (BI), User Satisfaction (SATIS), Computer Self-Efficacy (CSE), Internet Self-Efficacy (ISE), and Online Communication Self-Efficacy (OSE).

validated redundancy value of each construct. The results provided a Q^2 value that is greater than 0.5. It implies that all exogenous constructs have great predictive relevance for the endogenous construct. Because the outer and inner models' values show good results, it continues to test the path coefficient value. The results in Table VI indicate that all the t-value calculations are greater than 1.96 at (α) = 5%, except for the relationship between information technology self-efficacy and behavioral intention.

TABLE VI
THE RESULT OF PATH COEFFICIENT.

Construct Relationship	Original Sample (O)	T-Statistics	P-Values	Description
PU → BI	0.089	1.824	0.068	Rejected
PU → SATIS	0.168	3.582	0.000	Accepted
BB → BI	0.400	6.672	0.000	Accepted
BB → SATIS	0.145	2.14	0.032	Accepted
PD → BI	-0.085	2.557	0.011	Accepted
PD → SATIS	-0.089	2.538	0.011	Accepted
QWL → BI	0.377	7.672	0.000	Accepted
QWL → SATIS	0.237	4.410	0.000	Accepted
ITSE → BI	-0.038	1.125	0.260	Rejected
ITSE → SATIS	0.127	3.317	0.001	Accepted
BI → SATIS	0.266	5.163	0.000	Accepted

Note: Perceived Usefulness (PU), Behavioral Beliefs (BB), Perceived Difficulty (PD), Quality of Work Life (QWL), Information Technology Self-Efficacy (ITSE), Behavioral Intention (BI), User Satisfaction (SATIS).

The GoF index is evaluated after the structural model testing. The GoF value of 0.755 is obtained with an average AVE of 0.727 and an R-Squared value of 0.784. By convention, this model has a large GoF [25]. The SmartPLS output has Standardized Root Mean Square Residual (SRMR) value of 0.081, indicating that the model has a good fit [25].

The research model has good validity, reliability, and fit model. The analysis shows that the acceptance model of e-learning during the COVID-19 pandemic is formed by the perceived usefulness, behavioral beliefs, perceived difficulty, and quality of work life factors. In contrast, the user satisfaction model is formed by perceived usefulness, behavioral beliefs, perceived difficulty, quality of work life , and information technology self-efficacy. Information technology self-efficacy contributes to user satisfaction but does not affect acceptance of use.

These results indicate that besides behavioral beliefs, and perceived difficulty, social factors, especially Quality of Work Life, can measure e-learning acceptance and satisfaction, except information technology self-efficacy, which only affects user satisfaction. Additionally, the dimensions of information technology self-efficacy are explained by the internet self-efficacy, online communication self-efficacy, and computer self-efficacy factors. The analysis results show the highest user perception value of Quality of Work Life to intention. Thus, the results provide empirical support to research on the quality of work life regarding students'

intentions in using e-learning.

The analysis shows that the perceived usefulness of e-learning can be explained through indicators of improved performance, productivity, learning effectiveness, and ease of mastering lecture material. The usability of the learning system can measure user acceptance and satisfaction. Usability perception increases the students' acceptance and satisfaction with e-learning. The result is supported by previous research [11, 13] that perceived usefulness strongly contributes to the satisfaction of e-learning users. However, perceived usefulness does not affect the intention to use.

The results indicate that behavioral beliefs are explained through indicators related to the belief that e-learning is better than face-to-face with learning design consequences. Learning design controls the users' behavior on acceptance and satisfaction. It is similar to the perceived difficulty, negatively affecting user acceptance and satisfaction. Then, the difficulty level in e-learning is measured by playfulness and challenges in tracking online links, which reduce user acceptance and satisfaction. Difficult online access reduces playfulness, acceptance, and satisfaction. The results are similar to previous research regarding a positive relationship between the behavioral belief and acceptance of e-learning and a negative relationship for the behavioral belief explained through perceived difficulty and acceptance [23].

Social aspects, such as quality of work life, affect acceptance of e-learning. Quality of work life shows the students' benefits through unlimited technology access, contributing to their acceptance and satisfaction. It supports previous studies that unrestricted Internet access enhances the e-learning user's satisfaction, enjoyment, and personal values when working. The quality of work life is essential in describing user acceptance and satisfaction with e-learning [11, 13, 17].

Information technology tools also predict user acceptance and satisfaction with e-learning. It is proven that information technology self-efficacy, such as Internet access, computer usage, and other communication devices, strongly contributes to user satisfaction in e-learning. According to previous studies [11, 19, 20], users' ability and experience in information technology enhance readiness to use e-learning and lead to satisfaction. Then, students' computer experience increases e-learning acceptance. The results are in line with a previous study that information technology self-efficacy can also indicate the students' readiness to follow learning through e-learning during the pandemic period [19].

IV. Conclusion

The research wants to answer the problem of the students' acceptance model for e-learning and whether the quality of work life and information technology self-efficacy can explain the e-learning acceptance model during the pandemic period. In conclusion, the factors affecting user acceptance and satisfaction with e-learning amid the pandemic are behavioral beliefs, perceived difficulty, and quality of work life. user satisfaction is formed by perceived usefulness, behavioral beliefs, perceived difficulty, quality of work life, and information technology self-efficacy. The research results are supported by TAM extension on the quality of work life factor proposed by previous studies, showing high explanatory values for students' intentions in using e-learning. Additionally, the students' obstacles during the learning process include Internet network disturbances and computer technical problems like audio. Some students are uncomfortable with the delivery of lecture material and experience adjustments because virtual learning drastically replaces face-to-face classes.

Furthermore, based on Table IV, the information technology self-efficacy factor has the highest score compared to other constructs. It indicates that students have great information technology skills in mastering computers, Internet access, and other communication tools during the pandemic. Therefore, information technology is not an obstacle for students in accessing and supporting e-learning during the pandemic, especially the respondents.

The research provides theoretical contributions. The acceptance of e-learning models includes social elements related to material access benefits and communication through the quality of work life and information technology self-efficacy measures, such as computers, the Internet, and other communication tools. Furthermore, as a practical contribution, e-learning teachers should focus on e-learning design that facilitates access to lecture materials and student-teacher interactions.

Nevertheless, the research also has limitations, including the scope of students as respondents. Hence, the results should be only interpreted in the sample studied. Therefore, further study should widen the scope of students in other areas besides big cities to acquire consistent results. Based on the constraints expressed by most respondents on network disturbances, digital dividends in various regions or Internet infrastructure should be examined.

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APPENDIX

The Appendix can be seen in the next page.

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TABLE A1
THE RESULT OF DETERMINANT VALIDITY.

	BB	BI	CSE*	ISE*	ITSE*	OSE*	PD	QWL	PU	SATIS
BB	0.792									
BI	0.767	0.937								
CSE	0.408	0.360	0.822							
ISE	0.299	0.278	0.773	0.921						
ITSE	0.422	0.391	0.936	0.906	0.781					
OSE	0.444	0.432	0.772	0.763	0.916	0.827				
PD	-0.511	-0.508	-0.191	-0.077	-0.194	-0.254	0.911			
QWL	0.719	0.739	0.499	0.462	0.566	0.599	-0.480	0.764		
PU	0.767	0.659	0.323	0.228	0.338	0.369	-0.503	0.617	0.901	
SATIS	0.748	0.758	0.473	0.375	0.501	0.520	-0.522	0.756	0.689	0.850

Note: Perceived Usefulness (PU), Behavioral Beliefs (BB), Perceived Difficulty (PD), Quality of Work Life (QWL), Information Technology Self-Efficacy (ITSE), Behavioral Intention (BI), User Satisfaction (SATIS), Computer Self-Efficacy (CSE), Internet Self-Efficacy (ISE), and Online Communication Self-Efficacy (OSE).

The diagonal value is the $\sqrt{\text{AVE}}$ value that must be greater than the correlation value between constructs. It is indicated by the AVE value that is greater than the correlation between constructs, except for ITSE, which is the second order of CSE, ISE, and OSE.