

## Exploring Factors Affecting The Use of E-Learning on Quality of Learning Process in Private Universities

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### Abstract

The purpose of this research is to analyze the relationship between perceived usefulness of e-Learning on quality of learning and e-Learning perceived ease of use on quality of learning. This research method is quantitative with a survey, the data used in this research is primary data. Data was obtained by giving online questionnaires to 400 private university lecturer respondents. determined by simple random sampling method. The questionnaire consists of three parts of questions where each part of the question represents a research variable. The first part contains questions related to moderator variables in this case in the form of respondent profiles, the second part deals with perceived usefulness variables, the third part deals with perceived ease of use variables, the fourth part deals with attitude and achievement variables. The questionnaire uses a Likert scale of 1 to 5 with a size from the lowest number which means strongly disagree (STS) to the highest number which means strongly agree (SS). Data analysis in this study used structural equation modeling (SEM) with SmartPLS 3.0 software tools. The stages of testing the data are testing the validity of the reliability and testing the hypothesis. The results of this study are e-Learning perceived usefulness has a positive and significant effect on the quality of learning, e-Learning perceived ease of use, has a positive and significant effect on the quality of learning.

**Keywords:** e-Learning, perceived usefulness, quality of learning, e-Learning perceived ease of use, private university

### Introduction

Since early March 2020, Indonesia has become one of the countries infected with the Covid-19 virus. As a result, various sectors began to be affected and experienced changes, including in this case the education sector. In mid-March 2020, the government issued an official circular containing rules for organizing education during the Covid-19 outbreak, including in this case rules for the implementation of learning systems in tertiary institutions. The government has strictly recommended implementing online learning. According to Al-Marroof et al. (2021) online learning can be done using various digital-based media or e-learning from the simple to the most up-to-date. Various online media or e-learning are actually in accordance with today's digital era. An era in which lecturers and students are required to master technology that can support the achievement of quality learning. According to Alkhawaja et al. (2022) learning quality is the quality resulting from a learning process. A learning can be said to be of high quality if it produces good output, in accordance

with the expected goals. To get quality learning, there needs to be a synergy between the input and the learning process

According to [Al-Adwan et al. \(2012\)](#); [Altameemi et al. \(2021\)](#) In this digital era, technological developments are developing very rapidly. This is because the world is entering industry 4.0 where technology is the most basic thing in it. When the world experiences a changing era, there are many things that also follow it or in other words, changes occur in several sectors of life. However, it is not just change that has occurred but also challenges that accompany it. According to [Al-Adwan et al. \(2012\)](#); [Al-Marroof et al. \(2021\)](#) argues that Industry 4.0 is a comprehensive transformation of all aspects of production in the industry through the merger of digital and internet technology with conventional industries. It can be said that the industrial revolution 4.0 is digital based. Developments in technology and information have brought the current generation into the world of digital literacy. The digital era has integrated with the current conditions of society. This condition causes many people to find it easier, faster and have greater opportunities to find various information. In addition, one of the benefits of information technology is being able to overcome the limitations of space and time. According to [Adzovie et al. \(2022\)](#); [Eze et al. \(2020\)](#) workforce in all fields in the Industrial Revolution 4.0 era is required to have digital skills, such as in the fields of development, economics and in the field of education. In the field of education, for example, an educator must understand digital mastery.

According to [Burney et al. \(2022\)](#); [Chang et al. \(2022\)](#) information technology is a place to look for information related to technology. One example of information technology is learning through internet media (e-learning). The application of e-learning can run from elementary school to tertiary education. the quality of educational and training materials as well as improving the ability to present information with information technology tools. According to [Dangaiso et al. \(2022\)](#); [Edem et al. \(2022\)](#) the magnitude of the benefits of e-learning is expected to increase student attitudes and academic achievement. According to [Burney et al. \(2022\)](#); [Eze et al. \(2020\)](#) online learning by educators with students who are in one of the internet applications such as zoom, google classrom, whatsapp group and so on and interact with each other such as learning that is done in class. Meanwhile, when in a new normal state, learning is an adaptation of conditions that everyone is forced to do. Even though in reality, e-learning learning activities have been carried out for quite a long time by almost all public and private tertiary institutions. According to [Adzovie et al. \(2022\)](#); [Eze et al. \(2020\)](#) this is one of the challenges facing education today, namely making adjustments in the normal era which is still online or online. Therefore, one of the solutions offered is so that the learning process in this new normal era continues without neglecting the educator's duties as a teacher. In other words, what is needed when carrying out learning is to use learning media that can facilitate educators so that they can carry out their duties as they should.

## Literature Review

### E-learning

According to [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) e-learning is an educational system or concept that utilizes information technology in the learning process. E-learning is learning that is structured with the aim of using an electronic or computer system so that it can support the learning process. According to [Fahmalatif et al. \(2021\)](#); [Falola et al. \(2022\)](#);

Gupta et al. (2021) e-learning is a distance learning process by combining the principles of the learning process with technology. A definition that almost has the same meaning as e-learning is a learning system that is used as a means for the teaching and learning process which is carried out without having to meet face to face directly between teachers and students. The advantages of e-learning are 1) it is easier to absorb, meaning it uses multimedia facilities in the form of images, text, animation, sound, video, 2) it is far more cost-effective, meaning it does not need an instructor, does not need a minimum audience, can be anywhere, can be anytime. of course, cheap to reproduce, 3) much more concise, meaning there are not many class formalities, straight to the subject, subjects as needed, 4) available 24 hours/day in 7 days/week, meaning mastery of the material depends on the enthusiasm and absorption of students, can be monitored, can be tested with e-test.

According to Sudargini et al. (2021) that e-learning can be understood as a learning process that uses informatics technology as a medium in conveying material and interactions between teachers and students. The information conveyed is also very right on target because students are directly in a particular class. Learning can also be varied with the advancement of current information technology. So the communication between teachers and students is not broken, even though the learning conditions are far away. The creation of closeness between teachers and students can be created properly. According to Al-Adwan et al. (2012); Al-Marroof et al. (2021) e-learning is also a learning medium used to help students learn independently and more time efficiently. Learning using e-learning focuses more on students who are more active in finding their own sources of knowledge. Students can also access information provided by the teacher anytime and anywhere without being limited by time. In fact, they can develop their knowledge not only limited to information that is only given by the teacher. Because they can find information from various sources for the topic they are studying. According to Purwanto et al. (2021) which states that the characteristics of e-learning are that it makes teacher and student communication easier, takes advantage of the advantages of the digital world, independent learning resources so that they can be accessed anytime and anywhere, as well as information related to the learning process such as grades and schedules can be accessed at any time. So that students are not more facilitated in the learning process. According to Saad et al. (2021); Salloum et al. (2019) stated that e-learning is a general term used for computer-based learning that can facilitate anyone, anywhere, and at any time so that people who want to learn can learn more fun, easily and cheaply by using the internet.

E-learning is distance learning that uses computer technology or usually called the internet. According to Purwanto et al. (2021) explained that e-learning is based learning website that can be accessed from the internet. According to Mwila et al. (2021); Peng (2021) defines e-learning as any learning that uses electronic circuits (Local Area Network (LAN), Wide Area Network (WAN), or the internet) to convey learning content, interaction or guidance. According to Mwila et al. (2021); Purwanto et al. (2021) defines e-learning as learning activities that are delivered through electronic computer devices that obtain learning materials that suit their needs. E-learning itself is a form of the concept of distance learning. The form of e-learning itself is quite broad, a portal which contains scientific information that can be said to be an e-learning site, so e-learning or internet enabled learning combines teaching methods and technology as a means of learning. Elearning is an effective learning process

that is produced by combining digital delivery of material consisting of support and services in learning.

### Quality of learning

According to [Mwila et al. \(2021\)](#) the quality of learning is the intensity of systemic and synergic linkages between lecturers, students, curriculum and learning materials, media, facilities and learning systems in producing optimal learning processes and outcomes in accordance with curricular demands. According to [Adzovie et al. \(2022\)](#) indicators of learning quality can be seen from teacher's behavior, student's behavior, learning climate, learning materials, learning media and learning systems at school. From several opinions about the definition of quality of learning above, the quality of learning in this study can be expressed as a level of achievement of goals learning obtained from the results of the synergy between lecturers, students, material taught, learning media used, and learning methods applied in the learning process. The quality of learning is essentially the target that must be achieved by lecturers in carrying out the learning process. The quality of learning will only be achieved by lecturers by providing good service and satisfactory to students, because with good service and can satisfy students, the learning process can achieve the goals set. According to [Edem et al. \(2022\)](#); [Eze et al. \(2020\)](#) states that learning can be interpreted as a process carried out by individuals to obtain changes in new behavior as a whole, as a result of the experience itself in interacting with their environment. Improving the work ethic will be a complement to efforts to improve the quality of work products and the spirit of professionalism. Success or the failure of lecturers to improve the quality of educational outcomes, professionalism, and work ethic will be felt by the community through the profiles of their graduates. According to [Eze et al. \(2020\)](#) learning is a process in which behavior is generated or changed through practice and experience learning and teaching activities are the most important activities. This means that the success or failure of achieving educational goals depends a lot on how the teaching and learning process is professionally designed and carried out. According to [Burney et al. \(2022\)](#) states that learning is a process of effort made by individuals to obtain a change in overall behavior as a result of the individual's own experience in interaction with his environment.

### Method

This research method is quantitative with a survey, the data used in this research is primary data. Data was obtained by giving online questionnaires to 400 private university lecturer respondents. determined by simple random sampling method. The questionnaire consists of three parts of questions where each part of the question represents a research variable. The first part contains questions related to moderator variables in this case in the form of respondent profiles, the second part deals with perceived usefulness variables, the third part deals with perceived ease of use variables, the fourth part deals with attitude and achievement variables. The questionnaire uses a Likert scale of 1 to 5 with a size from the lowest number which means strongly disagree (STS) to the highest number which means strongly agree (SS). Data analysis in this study used structural equation modeling (SEM) with SmartPLS 3.0 software tools. The stages of testing the data are testing the validity of the reliability and testing the hypothesis.

Based on the research design, there are two independent variables namely perceived usefulness and perceived ease of use. Perceived usefulness is defined as the level where a person believes that using a particular system can improve his performance and perceived ease of use is defined as the level at which a person believes that using the system does not require any effort. perceived usefulness also affects perceived ease of use. System users will use the system if the system is useful whether the system is easy to use or not easy to use. A system that is difficult to use will still be used if the user feels that the system is still useful in its use. In the questionnaire that will be distributed, the responses contain the two variables which are measured using five questions. Variable measurement using the Likert scale for each variable. The dependent variable, namely achievement, is defined as a measure of improvement from changes in student attitudes and behavior in using e-learning and ease of use of e-learning. So that the achievement construct is the dependent variable in this study

The hypothesis in this study is

*H1: e-Learning perceived usefulness has a positive and significant effect on the quality of learning*

*H1: e-Learning perceived ease of use has a positive and significant effect on the quality of learning*

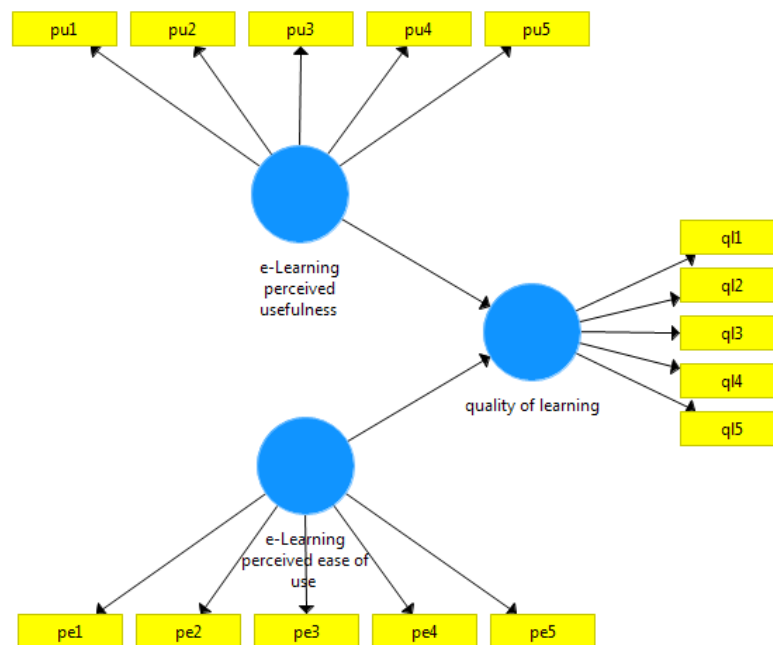


Fig 1 . Research Model

## Result and Discussion

This research used Path Analysis Technique to investigate the direct influence among the research variables and used Smart PLS-SEM 3.3 software to analyze the data (Purwanto et al, 2019), and used a formula to calculate the indirect influence of independent variables on dependent variable through intervening variables (Purwanto et al., 2020).

**Reliability and Average Variance Extracted (AVE)**

Reliability of each variable show the high coefficient in term Cronbach’s Alpha and Composite Reliability (more than 0.700) and also Average Variance Extracted (AVE – measured the convergent validity) of each variable have met the criteria of validity (more than 0.500) as described in the table below.

Tabel 1: Reliability and AVE

No	Variables	Cronbach’s Alpha	Composite Reliability	AVE
1	e-Learning perceived usefulness	0.887	0.812	0.565
2	e-Learning perceived ease of use	0.918	0.912	0.843
3	quality of learning	0.876	0.854	0.64319

**Path Coefficients**

Path Coefficients on Research Framework of Innovation can be described in figure below.

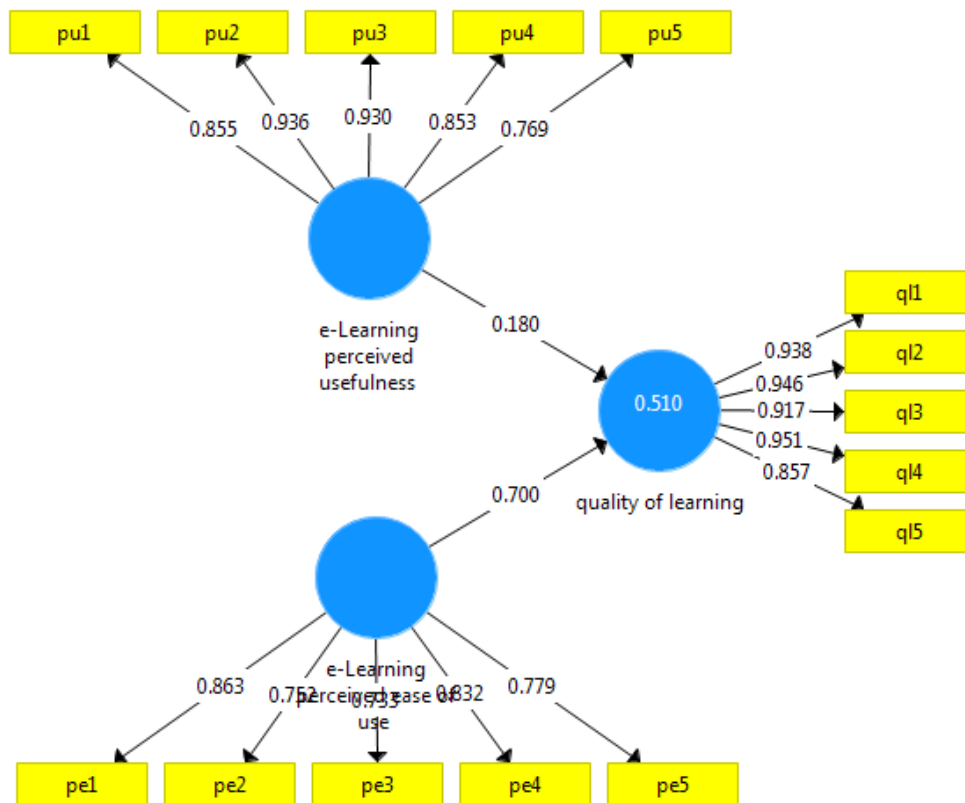


Figure 2: Path Coefficients on Research Framework of Innovation

**Research Hypotheses Testing**

Based on the path coefficients mentioned above it can be found that all research hypotheses were tested as described on the Table 2 below.

Table 2. Hypothesis Testing

No	Path Analysis	Path-Coefficient	T Value	p-value <
1	Situational Leadership >> Innovation	0.180	1.983	0.000
2	Situational Leadership >> Knowledge Management	0.700	6.205	0.000

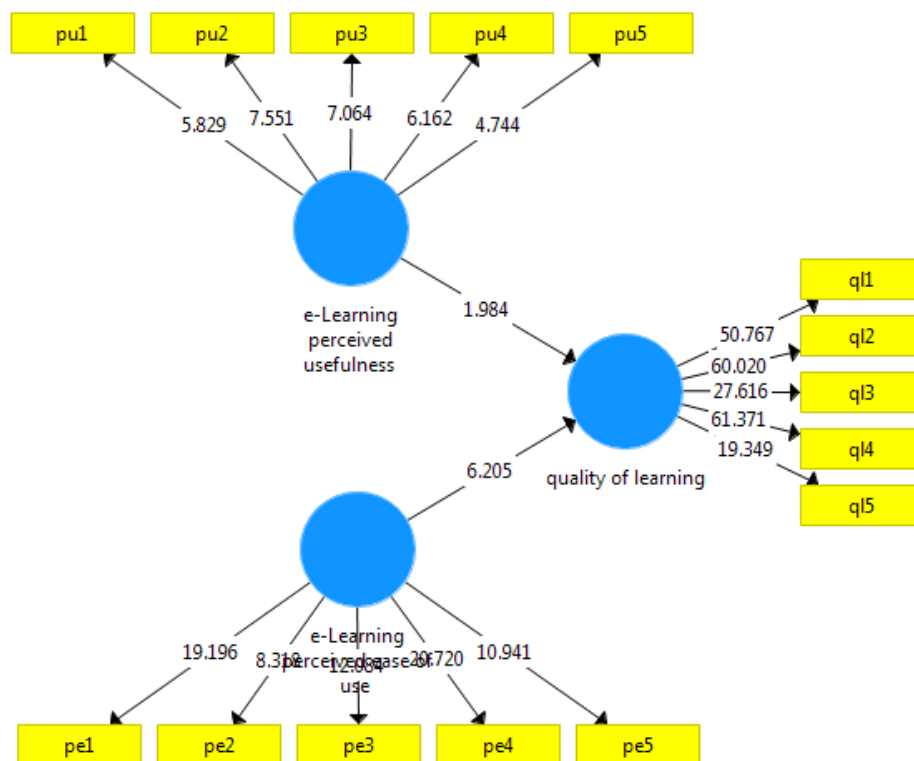


Figure 3: Hypotheses Testing

The relationship between e-Learning perceived usefulness and quality of learning

Based on the results of the analysis of hypothesis testing, the  $t$  value  $1.984 > 1.96$  was obtained, so it was concluded that there was a positive and significant relationship between e-Learning perceived usefulness and quality of learning. Online learning media has an effect on the quality of learning. According to [Al-Adwan et al. \(2012\)](#); [Altameemi et al. \(2021\)](#); [Alkhawaja et al. \(2022\)](#); [Al-Marroof et al. \(2021\)](#) which revealed that one of the benefits of learning media is to improve the quality of student learning outcomes. Accordingly, the Ministry of National Education also stated that one of the indicators of the quality of learning is learning media. According to [Fahmalatif et al. \(2021\)](#); [Falola et al. \(2022\)](#); [Gupta et al. \(2021\)](#); [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) online learning media or e-learning plays an important role in supporting student understanding, especially during online learning as it is today. However, in its use, it often creates various obstacles for students. Preliminary observations of students show that not all students can join the class when lectures are conducted online or online. This is due to many factors, including the unavailability of an internet network in each place, and quota fees which drain student pocket money. These problems are feared to interfere with the achievement of quality learning objectives for each student.

Relationship between e-Learning perceived ease of use and quality of learning

Based on the results of the analysis of hypothesis testing, the  $t$  value is  $6.205 > 1.96$ , so it is concluded that there is a positive and significant relationship between e-Learning perceived ease of use and quality of learning This means that e-learning based on zoom meetings for students runs smoothly and well from an e-learning perspective. However, it cannot be denied that there are still several other factors that have not been studied which can affect the quality of the teaching and learning process through e-learning. Even though it runs well, e-learning learning has many weaknesses. Like the coverage and network of each area that is different. In this way the results of the quality of student learning will be different from one another. According to [Fahmalatif et al. \(2021\)](#); [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) states that there are several characteristics that can be categorized in student behavior to participate in and carry out e-learning learning, namely, learning spirit, technological literacy, having interpersonal skills, collaboration and independent learning. According to [Fahmalatif et al. \(2021\)](#); [Mohammad et al. \(2021\)](#) states that students will be successful in participating in e-learning if they fulfill these five components to support the quality of their learning. However, the results of this study state that e-learning has an indirect influence on the quality of learning through the quality of the teaching and learning process. So that raises the possibility outside of e-learning learning factors that can affect the quality of student learning. This e-learning learning variable can create good quality learning if it is supported by the maximum quality of the teaching and learning process as well. Maximum lecturers in providing this teaching can improve the quality of the teaching and learning process which



affects the results of the quality of student learning. Students feel clear and cooperative in participating in this e-learning lesson. Learning through zoom meetings is the right choice to apply in learning during the Covid-19 pandemic which requires distance learning. Which means students can absorb knowledge well and maximally through e-learning media based on zoom meetings. They get learning as well as assignments and discussions in accordance with the semester learning plan. And lecturers are very good at conveying any banking material to students. Therefore, maximizing e-learning based on zoom meetings can improve the quality of student learning. These results are in accordance with previous research conducted by which also had significant results that zoom meetings are the right choice that can be used in distance learning and affect the quality and quality of student learning. All components and indicators on the variable quality of learning According to [Fahmalatif et al. \(2021\)](#); [Falola et al. \(2022\)](#); [Muhammad et al. \(2021\)](#) namely, the relevance of learning, attractiveness, effectiveness, efficiency and productivity. This can be done properly and maximally in the learning of educational students.

According to [Al-Adwan et al. \(2012\)](#); [Altameemi et al. \(2021\)](#); [Alkhawaja et al. \(2022\)](#); [Al-Marroof et al. \(2021\)](#) said that e-learning activities have several benefits, namely: a. Through e-learning, students can access knowledge at any time without being limited by time and place, b. Through e-learning, students can establish communication via the internet so that they can gain more knowledge, c. Through e-learning, students learn more easily and fun. d. Through e-learning, the learning process is more interactive and innovative, and d. Through e-learning, students are encouraged to explore through available websites, so that their creativity and curiosity continue to grow. According to [Gupta et al. \(2021\)](#); [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) said several other benefits of learning activities using e-learning, namely: 1. With e-learning it can shorten learning time and make study costs more economical, 2. E-learning facilitates interaction between students and material, 3. Participants students can share information with each other and can access learning materials at any time and repeatedly, with such conditions students can further strengthen their mastery of learning material, and 4. With e-learning the process of developing knowledge does not only occur in the classroom, but with the help computer and network equipment, students can be actively involved in the teaching-learning process. According to [Al-Adwan et al. \(2012\)](#); [Al-Marroof et al. \(2021\)](#) e-learning has many benefits that can be applied in the learning process. With the existence of e-learning learning or in this digital form, it is a technique in making students more comfortable in learning, when presented with material that attracts students.

In every learning method, there are advantages and disadvantages. As stated by the following opinions. The advantages of Elearning are that it provides flexibility, interactivity, speed, visualization through the various advantages of each medium. According to [Purwanto et al. \(2021\)](#); [Saad et al. \(2021\)](#); [Salloum et al. \(2019\)](#); [Sudargini et al. \(2021\)](#) availability of e-moderating facilities where teachers and students can communicate easily via internet facilities on a regular basis or whenever communication activities are carried out without being limited by distance, place and time. Second, teachers and students can use teaching materials or instructions structured and scheduled learning through the internet, so that both of them can assess each other how far the teaching materials are studied. Third, students can study or review teaching materials at any time and anywhere if necessary, considering that

teaching materials are stored on the computer. Fourth, if students need additional information related to the material they are studying, they can access it on the internet more easily. Fifth, both teachers and students can carry out discussions via the internet which can be followed by a large number of participants, thus increasing knowledge and broader insights. Sixth, Changing the role of students from being usually passive to being active. Seventh, Relatively more efficient. However, the use of the internet for learning or e-learning is also inseparable from various drawbacks. According to [Salloum et al. \(2019\)](#); [Sudargini et al. \(2021\)](#) lack of interaction between teachers and students or even between students themselves. This lack of interaction can slow down the formation of values in the teaching and learning process. Second, the tendency to ignore academic or social aspects and instead encourage the growth of business/commercial aspects. Third, the learning and teaching process tends towards training rather than education. Fourth, the changing role of teachers from those who previously mastered conventional learning techniques, is now also required to know learning techniques. who use ICT. Fifth, students who do not have high learning motivation tend to fail. Sixth, not all places have internet facilities available. Seventh, a lack of staff who know and have internet skills. Eighth, lack of mastery of computer language. This makes us aware as users to be able to take advantage of existing strengths as well as possible and be more selective in their use.

According to [Fahmalatif et al. \(2021\)](#); [Falola et al. \(2022\)](#); [Gupta et al. \(2021\)](#); [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) the benefits of using the internet, particularly in open and distance education among others. First, the availability of e-moderating facilities where lecturers and students can communicate easily through regular internet facilities or whenever communication activities are carried out without being limited by distance, place and time. Second, lecturers and students can use teaching materials or study instructions that are structured and scheduled via the internet, so that both of them can assess each other to what extent the teaching materials are studied. Third, students can study or review teaching materials (courses) at any time and anywhere if necessary, considering that teaching materials are stored on the computer. Fourth, if students need additional information related to the material they are studying, they can access the internet more easily. Fifth, both lecturers and students can hold discussions via the internet which can be attended by a large number of participants, thereby adding to knowledge and broader insights. Sixth, changing the role of students from those who are usually passive to be active. Seventh, relatively more efficient. For example for those who live far from conventional colleges or schools.

According to [Gupta et al. \(2021\)](#); [Hammouri et al. \(2018\)](#); [Mohammad et al. \(2021\)](#) the benefits of using e-learning media in learning are cost efficiency, being flexible in choosing the time and place to access it, and providing opportunities for students to be independent so that they are in control of success in the learning process. Learning outcomes themselves are results that are achieved after going through the teaching and learning process, interaction with the environment in order to acquire knowledge that will produce behavior in accordance with the expected learning objectives. Using e-learning-based learning media has an influence on improving student learning outcomes based on several references that the author reads but must think of a way out of the deficiencies in using the e-learning learning media. - learning is learning media using information technology which is used as an adjunct in the



learning process. The fact is that when online learning is happening now, e-learning is very helpful in the learning process so that it continues so that students can continue learning. According to [Eze et al. \(2020\)](#) students are also assisted in increasing their knowledge regarding informatics technology. When teachers and students are forced to study online. Automatically make teachers and students take advantage of information technology in more depth. Good mastery of informatics technology will make the online learning process smoother. So that learning competence can be achieved optimally. Plus it can support the government in implementing health protocols. Thus it can be said that the use of e-learning has a positive impact on education in Indonesia. A very strong impact in training young people who are able to be independent in solving their problems later. Teaching students to be responsible for what they do later as they did while studying at school. According to [Burney et al. \(2022\)](#); [Eze et al. \(2020\)](#) making schools produce graduates with integrity and strong personalities. Train teachers and students to carry out digital listings as echoed by the government. With the experience of using automatic e-learning, teachers and students are forced to take advantage of information technology which is closely related to the current digital era. Then their experience can be a very useful provision for them in the digital era where development is very fast at this time. Helping the world of education in implementing a more efficient learning process. In particular, it is very helpful for the learning process in the current pandemic era.

### **Conclusion**

The results of this study are e-Learning perceived usefulness has a positive and significant effect on the quality of learning, e-Learning perceived ease of use. has a positive and significant effect on the quality of learning. The digital era in the industrial revolution 4.0 which is currently being experienced requires us to face it. E-learning is one that we can use in the world of classroom learning. As educators, we are also required to be more creative and innovative in delivering learning material in class, because the duties or responsibilities of an educator are inseparable in producing children who have competence in one of them in mastering digital-based technology so that they feel capable in dealing with world developments. which is getting faster. The rapid development of information and communication technology (ICT) has resulted in the internet with web-based learning. This learning is one type of application of the e-learning concept. The simplest web-based learning is the Website (Google Classroom) which can be used to present learning materials, discussions, assignments, and others related to learning activities. Improving the quality of learning This can be done using educational technology media, namely by finding and identifying problems encountered in learning and then finding solutions through appropriate Information Technology applications. Efforts to solve educational problems, especially problems related to the quality of learning, can be reached by using various learning resources and using learning media that function as a tool in increasing the level of student learning outcomes. Information technology is used as a medium to facilitate the search for that information. this zoom meeting based e-learning contributes to improving the quality of student learning directly and can improve the quality of Surabaya State University students. Because e-learning based on zoom meetings can still assist lecturers in conveying learning material to the fullest. From the results of statistical tests that are accurate and valid, it shows that e-learning directly affects the quality of learning. The conclusion from the processing of statistical data can be stated that e-learning based on zoom meetings can have a direct effect

with significant numbers on the quality of learning. for the research results on zoom meeting-based e-learning learning variables which are statistically significant. Which means that e-learning contributes and has a direct impact on the quality of the teaching and learning process significantly. As well as the statistical test research on the quality of learning and the quality of the teaching and learning process states that the quality of learning also has a significant influence. This research proves that students can still learn and receive maximum Islamic banking learning materials, with the support of good lecturers and maximum e-learning based learning media. Thus, e-learning learning can improve the quality of student learning through full intervention with the variable quality of the teaching and learning process From the conduct of this research, some of the results found from the overall review of this research, the researcher can provide the following suggestions: 1). For further researchers who wish to continue this research, they want to look for other variables that can contribute and influence the quality of learning, such as : learning infrastructure, parental education, mental health and other variables that can affect the quality of student learning so that this research can be more perfect and can broaden horizons. 2). For lecturers who teach e-learning based on zoom meetings, they can develop several variants in the learning process

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