# Student Satisfaction Level in Accounting Courses using The System Usability Scale (SUS) Method

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**Abstract.** Various technological developments that are relevant to the world of education, forcing higher education institutions to absorb the sophistication of available information technology. The Covid-19 outbreak that has hit almost all corners of the world for a long time has become the main trigger for the world of education to adopt various technological developments.This research is based on qualitative research, with the object of research being Institute of Economic Science (STIE) Ganesha Jakarta students who have taken accounting courses. Specific courses taken are: introduction to accounting, cost accounting, management accounting. The number of samples taken in this study were 86 students.SUS STIE Ganesha Jakarta's E-learning score of 54 is classified as Low Marginal. SUS score is considered good, if it is worth more than 70.4. The usability measurement results can be the first step in evaluating E-learning. STIE Ganesha Jakarta's SUS E-learning score of 54 indicates that E-learning is not yet usable, and even users have the potential to become deductors which can reduce the number of users.

**Keywords:** System Usability Scale (SUS); E-learning; SUS E-learning Score

## 1 Introduction

Various technological developments that are relevant to the world of education, forcing higher education institutions to absorb the sophistication of available information technology. The Covid-19 outbreak that has hit almost all corners of the world for a long time has become the main trigger for the world of education to adopt various technological developments. The learning system from home and distance is the reason why technology must be applied as soon as possible in educational activities in universities. Along with strengthening the harmonization of life from the aspect of quality higher education, it is inevitable to develop SUS-based learning. Problem solving that must be done by universities so that the learning and teaching process can keep up with high technology developments in the midst of the covid-19 outbreak which has not ended until this research is carried out is to carry out learning from the student's residence or from the location where the student is, without visiting the campus directly, termed Study From Home (SFH).

SFH is definitely related to internet technology. It is common knowledge, internet technology changes various dimensions of life, including higher education. The acceleration of technological development in the area of Information and Communication Technology (ICT) is a reality that is currently happening [1]. SFH-based learning with the concept of e-learning is an option in order to create harmonization of the distance learning process,

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anticipate obstacles to accelerating information technology progress and be free from the threat of the Covid-19 outbreak, which still haunts Indonesia. It is undeniable that a radical change in teaching and learning methods from face-to-face to distance learning has many obstacles.

This study examines the usefulness of a set of e-learning applications in university teaching. This study seeks to examine the usefulness of e-learning applications in lecture activities in universities. The SUS method is able to detect the level of ease of use of the software [2][3]. It is interesting to examine the level of satisfaction of students in the discipline of economics, especially accounting for the absorption of the material provided by the lecturer through the application. The focus of accounting courses is the object of research, on the grounds that accounting requires a high level of understanding to be able to master the learning material. The level of understanding is reached by providing detailed, comprehensive, and varied case studies. It is hoped that from this research it is known the level of student satisfaction who takes accounting courses based on e-learning applications applied by universities, especially high schools of economics.

## 2 Literature Review

### 2.1 E-learning

E-learning is a distance learning and teaching process based on information technology (internet). E-learning has freed up two-way communication of learning and teaching processes that only occurred in the classroom, or in the laboratory. However, e-learning must be tested for its effectiveness. E-learning is familiar in distance learning, , but the level of success of e-learning is a problem that needs to be investigated further [4]. For Indonesia, as a very large archipelagic country, where the level of knowledge gap about technology and internet facilities is still high. For example, for universities in the nation's capital, Jakarta, the level of use of the internet with mastery of information technology is much better than, for example, universities located in archipelagic areas far from the nation's capital. However, it is undeniable that e-learning has become a common topic of discussion in Indonesian universities. Open and Distance Learning (ODL) has become the talk of academics and Information Technology (IT) experts [5].

### 2.2. System Usability Scale (SUS)

SUS is an accurate tool for measuring usability. Using a questionnaire with 10 question items. This method was developed by John Brooke in 1986,(https://www.usability.gov).The output of SUS is a score with a range of 0 to 100, with the greater the score, the better usability [6]. There are several methods used to test the system used in the interaction of the teaching and learning process, but the method is one of the best. There are a number of benefits to using the SUS method, including: (1) it is easy to understand by respondents; (2) the sample does not need to be too large, but the results are maximal; (3) the results are quite valid.

### 2.3. Accounting

Accounting courses are subjects related to the preparation of financial statements. Consists of an introduction to accounting, financial accounting, cost accounting, and other relevant courses. The preparation of financial statements must be guided by IFRS (International Financial Reporting Standards), which are accepted by accounting practitioners globally [7].

## 3 Method

The research method used in this study, in terms of data collection techniques, is qualitative research. Judging from the research objectives, it is a descriptive study [9]. The object of research is STIE Ganesha Jakarta students, who have taken accounting courses. Specific courses taken are: introduction to accounting, cost accounting, management accounting. The number of samples taken in this study were 86 students. Are all students of the accounting study program based on the slovin formula with a total population of 110 students who are registered as students for the 2019/2020 academic year. In this study, researchers only discussed online learning using the Moodle LMS [10]. Moodle is the one of them systems that has been gaining worldwide popularity in e-learning systems [8]. The researcher observed the application of the Moodle LMS for e-learning activities at the university. Furthermore, compiling a list of questions (questionnaires) that were posed to students who were used as samples, as a basis for measuring the usability of computer systems based on the perspectives of students who were used as research objects.The SUS method was designed as a "fast and accurate" usability measurement [11]. In the SUS method, as previously described, a questionnaire was compiled to assess the benefits of computer systems based on user perceptions. The SUS instrument is in the form of a questionnaire presented in the form of ten question items. It is described in Table 1. Furthermore, respondents were asked to provide answers to the ten questions, using a 5-point Likert scale. Respondents are required to rate “Strongly disagree”, “Disagree”, “Neutral”, “Agree”, and “Strongly agree” on the 10 SUS statement items. If the respondent does not get the correct answer scale, the respondent must fill in the neutral point on the scale [12].

**Table 1. System Usability Scale (SUS) Questionnaire**

| | |
|---|---|
| 1. | I will always use this app |
| 2. | I think this application is too difficult to use. |
| 3. | I think this application is too easy to use. |
| 4. | I need technical assistance to use this application |
| 5. | I think functions available on this application are well designed |
| 6. | I think there are too many inconsistent performance in this system |
| 7. | I suspect users are very quick to understand the use of this application |
| 8. | I find this application confusing |
| 9. | I feel there is no difficulty in using this application |
| 10. | I have to train myself as a habit first before using this app |

The calculation of the e-learning application test through the campus website, stieganesha.ac.id, follows the following rules: (1) For each statement item has a score; (2) Scores on each item ranged from 0 to 4; (3)For questions with odd numbers 1,3,5,7, and 9, the contribution value is the questioner scale concerned minus 1; (4) The statement of even numbers for items 2,4,6,8, and 10, the contribution score is 5 minus the scale value of the respondents' answers. Furthermore, multiplied by the total contribution score by a value of 2.5 to get the overall system usability value. SUS scores range from 0 to 100(Brooke, 1996). The formula for calculating the SUS score:

$$SkorSUS = ((R1 - 1) + (5 - R2) + (R3 - 1) + (5 - R4) + (R5 - 1) + (5 - R6) + (R7 - 1) + (5 - R8) + (R9 - 1) + (5 - R10)) * 2.5)$$

The overall SUS score was obtained from the average of the individual SUS scores. SUS questionnaires were distributed via email and WhatsApp groups to respondents who had sent an email to the website administrator. Questionnaires were filled out online using Google Forms and/or filled out manually. The questionnaires were distributed for 2 months from December 12, 2021 to February 14, 2022.The formula for calculating the SUS score:

$$\text{Average value} = \sum xi/N$$

Where xi :Respondent's Score
N : Number of Respondents

## 4 Results and Discussion

### 4.1 Validity test

The researcher conducted a validity test to ensure the validity of the questionnaire that had been compiled. The researcher's validity test used SPSS are shown in table 2.

**Table 2.** Summary of Validity Test Results

| | $R_{count}$ | $R_{table}$ | Description |
|---|---|---|---|
| R1 | 0,351 | 0,212 | Valid |
| R2 | 0,340 | 0,212 | Valid |
| R3 | 0,242 | 0,212 | Valid |
| R4 | 0,329 | 0,212 | Valid |
| R5 | 0,602 | 0,212 | Valid |
| R6 | 0,709 | 0,212 | Valid |
| R7 | 0,243 | 0,212 | Valid |
| R8 | 0,476 | 0,212 | Valid |
| R9 | 0,279 | 0,212 | Valid |
| R10 | 0,324 | 0,212 | Valid |

Validity test using Person (2 tail) with a significant level of 5%. Based on the provisions, the results are valid if Rcount > Rtable . From the calculation results obtained Rtable of 0.212.

In Table 2 above, it is illustrated the Rcount for the questionnaires is greater than Rtable. So it can be concluded that all of the questionnaires (10 questions) are declared valid.

### 4.2 Reliability Test

Cronbach's Alpha-based reliability test, confirmed reliable if the value is greater than 0.212. The reliability test on SPSS data processing is described in Table 3. The results showed the Cronbach's Alpha value was 0.359, greater than 0.212 from Rtable. It can be concluded that the questionnaire compiled is reliable.

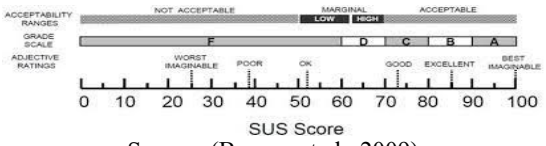
**Table 3.** Realiability Test Results

| Cronbach's Alpha | Number of Items | Description |
|---|---|---|
| 0,359 | 10 | Reliabel |

In this case, the object of research is the use of e-learning applications at STIE Ganesha Jakarta. Questionnaire answers were obtained from 86 respondents. The selected respondents are students of the accounting study program who are actively participating in lectures in the 2019/2020 academic year. The respondents studied were students who took accounting courses. Consists of introductory courses in accounting, cost accounting, and management accounting. The number of registered and active students consists of 110 people. Then the number of respondents is determined using the Slovin formula, then the number 86 is obtained as the basis for the number of respondents that must be calculated. The results of the SUS score describe the level of user usability. The SUS score must be worth more than 70(Brooke, 2013) to be included in the Acceptable category. STIE Ganesha Jakarta's SUS E-learning score of 54 is included in the Marginal Low categorySUS score must reach 70.4 to be declared good [12].

Furthermore, SUS scores are grouped into several criteria(Sauro, 2011).To achieve grade A, the SUS score must be worth 90. For STIE Ganesha Jakarta's SUS e-learning score of 54 it only goes into F predicate. SUS scores can also indicate a tendency to become a Net Promoter(Sauro, 2010).

**Table 4. Score SUS**




Source: (Bangor et al., 2009)

## 5 Conclusions

The usability measurement results can be the first step in evaluating E-learning. STIE Ganesha Jakarta's SUS E-learning score of 54 indicates that E-learning is not yet usable, and even users have the potential to become deductors which can reduce the number of users. This

can indicate a diagnostic nature so that other evaluation methods are needed to identify the problem.

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