Factors Which Influence The Success of Google Classroom Based on Age

Nariza Wanti Wulan Sari*, Tina Tri Wulansari1, Wahyu Yanuartha3, Maurits Sahata Sipayung4, and Agung Sakti Pribadi5

1,2,3,4 Departement of Information System, Mulia University, Samarinda, Indonesia
5 Departement of Law, Mulia University, Balikpapan, Indonesia

*Coressponding email: nariza.ws@universitasmulia.ac.id

Abstract. Many institutions use classroom virtual as support for student learning processes, including Google Classroom. The Samarinda Mulia University has been using Google Classroom since first released in 2014. The age characteristics of the respondents are considered to influence preferences towards the acceptance and use of a system. In this study, the test was conducted on the success of the Google Classroom to find out the factors that influence the success of the Google Classroom at Samarinda Mulia University based on the user's age. Measure the success of Google Classroom using the Delone & McLean method. It has six evaluation variables that are information quality, system quality, service quality, user satisfaction, and net benefit. Data collected by questionnaires and in-depth interviews with almost two hundred Samarinda Mulia University students. The results show that there are differences in factors that influence the success of Google Classroom in users aged over 25 years and under 25 years.

1. Introduction

The rapid development of education and technology today, evidenced by the emergence of classrooms in a virtual form, one of which is Google Classroom. A place where students and teachers can interact without having to be in the same room [1]. Students can work and collect assignments without using paper and can be done anywhere as long as there is internet access. Google classroom is one of Google's products that connected with other Google tools such as Gmail, Google Drive, and Google Docs [2]. Google officially released it in August 2014 as a new tool in Google Apps for Education [3]. The benefits of google classroom are easy to use, time-saving, cloud-based, flexible, free, and mobile-friendly [2].

One of the universities that have used Google Classroom since first released in 2014 as support to the teaching and learning process in the classrooms is Samarinda Mulia University [4]. Each lecturer has a sub-domain of Samarinda Mulia University which is then used to make Google Class appropriate to the class taught. One method used to measure the success rate of using a system is the DeLone and McLean method. This method uses six dimensions as a measure of success, namely information quality, system quality, service quality, use, user satisfaction, and net benefits [5]. The noble University of Samarinda students have diverse educational backgrounds and ages. So it is also necessary to know the success of Google Classroom by age group. So in this study, the success of
Google Classroom was tested based on age groups, namely age less than 25 years (late teens) and ages more than 25 years (early adulthood) [6].

2. Variables and Methods
The subject in this study was the Samarinda Mulia University student at the Department of Information System in the even semester of the 2018/2019 school year, and the object was the success rate of Google Classroom acceptance as application support for the course during the learning process. One hundred eighty-four students taken as samples by using proportional stratified random sampling [7]. Data collected by distributing questionnaires and in-depth interviews with respondents’ answers. To accept factors that increase Google Class acceptance using the Structural Equation Model (SEM). The variables and indicators are used in the following table [8][9].

| Variables | Indicators |
|-----------|------------|
| Information Quality | 1. Easy to use (X1.1)  
2. Ease to learn (X1.2)  
3. The speed of Response time (X1.3)  
4. Rarely experiences errors (X1.4)  
5. Availability of instructions for use (X1.5)  
6. Stable and safe system (X1.6)  
7. System response time (X1.7) |
| Information Quality | 1. Complete contents (X2.1)  
2. Presentation of Information (X2.2)  
3. Relevant (X2.3)  
4. Easy to read (X2.4)  
5. Punctuality (X2.5)  
6. Accurate (X2.6)  
7. Reliability (X2.7)  
8. Up to Date (X2.8) |
| Service Quality | 1. Service Quality Guarantee/Safety (X3.1)  
2. Empathize (X3.2)  
3. Responsive (X3.3)  
4. Technical ability use (X3.4) |
| Use | 1. User Knowledge (Y1.1)  
2. Continuously (Y1.2)  
3. Frequency of use (Y1.3) |
| User Satisfaction | 1. Satisfaction with information (Y2.1)  
2. satisfaction with features (Y2.2)  
3. Display satisfaction (Y2.3)  
4. Expectations (Y2.4)  
5. Flexible (Y2.5) |
| Net Benefit | 1. Effective and efficient (Z1.1)  
2. Increase knowledge (Z1.2)  
3. Facilitate the task (Z1.3) |
3. Result
In this study, the DeLone and McLean method shown in the structural model, as shown in Figure 1.

Convergent and disk validity test doing by looking at the value of outer loading and Cross Loading. Some invalid indicator items are issued, until obtained the external loading value more than 0.05, and the Cross Loading value of the latent variable is higher than the other potential variables. The Average Variance Extracted (AVE) amount is said to be valid if the value is more than 0.5 and Composite Reliability has a value of ≥ 0.7 to be reliable, in this study the results are valid and reliable for each variable, shown in the following table [10].

Table 2. Average Variance Extracted (AVE) and Composite Reliability Results

| Variables                  | < 25 years | Conclusion | > 25 years | Conclusion |
|----------------------------|------------|------------|------------|------------|
| Information Quality (X1)   | 0.518      | Valid      | 0.673      | Valid      |
| System Quality (X2)        | 0.662      | Valid      | 0.666      | Valid      |
| Service Quality (X3)       | 0.537      | Valid      | 0.828      | Valid      |
| Use (Y1)                   | 0.664      | Valid      | 0.574      | Valid      |
| Satisfaction User (Y2)     | 0.518      | Valid      | 0.568      | Valid      |
| Benefit (Z)                | 0.630      | Valid      | 0.699      | Valid      |

The significance test using α = 0.05 if the P.Value <0.05 then the tested variable has a significant effect, the test results as follows:

Table 3. Testing Results for Age <25 years and Age> 25 years

| Variables                  | < 25 years | P.Values | > 25 years | P.Values |
|----------------------------|------------|----------|------------|----------|
| Information Quality -> Satisfaction | 0.045      | 0.607    | -0.567     | 0.260    |
Based on Table 3, it is estimated that the age of Google Classroom users under 25 years belongs to five things that affect the success of Google Classroom that was user satisfaction with the benefits of Google Classroom, system quality to user satisfaction, use of user satisfaction, use of benefits and user satisfaction with Benefits of Google Class. Meanwhile, for the age of Google Classroom users, over 25 years required a significant quality of service to use, system quality to user satisfaction, and user satisfaction to the benefits of Google Classroom.

From the test results on Table 3, the following hypothesis is obtained:

**Table 4. Hypothesis Results**

| Hypothesis                                           | < 25 years                   | > 25 years                  |
|------------------------------------------------------|------------------------------|-----------------------------|
| The effect of service quality on satisfaction user   | Service quality affects user satisfaction | No effect                  |
| The effect of service quality on use                 | No effect                   | Service quality affects user satisfaction |
| The effect of sistem quality on satisfaction user    | System quality affects satisfaction user | System quality affects satisfaction user |
| The effect of use on satisfaction user               | Use berpengaruh terhadap satisfaction user | No effect                  |
| The effect of use on benefit                         | Use affects benefit         | No effect                   |
| The effect of satisfaction user on benefit           | Satisfaction user affects benefit | Satisfaction user affects benefit |

For respondents under the age of 25 years, six variables determine success in using Google Classroom. Age over 25 years, three variables influence the successful use of google classroom. So it can be concluded that age over 25 years is a significant variable on the successful use of Google Classroom is the quality of the system and satisfaction. Meanwhile, age under 25 besides system quality and user satisfaction also the use and benefits affect the successful use of Google Classroom. The use of google classroom is more intense by the age group of fewer than 25 years, while the age of more than 25 years is only as necessary [11].

**4. Conclusions**

From the discussion above the researchers looked at how far the success of using google classroom for respondents under the age of 25 years and above 25 years. The results of the study, it is evident that based on the DeLone and McLean models, the management of information systems applied Samarinda Mulia University (with system quality and service quality) has a positive effect on the intensity of using google classroom and user satisfaction. User satisfaction has a positive impact on Samarinda Mulia University. The use of google classroom can simplify and accelerate the teaching and learning process to provide comfort for students and Samarinda Mulia University.
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