Implementation of Measurement of Customer Satisfaction Index Using Google Classroom (Case Study: SMK Negeri 2 Penajam Paser Utara)

Nadiah Fitriani [1,*], Erlin Setyaningsih [2], Darmansyah [3]
Information Systems Study Program, STMIK Borneo International of Balikpapan, postcode: 76126, Balikpapan
[1]nadiah_fitriani3@gmail.com; [2]abbiya2016@gmail.com; [3]darman@stmik-borneo.ac.id
*Corresponding author

Article Info	ABSTRACT
	SMK Negeri 2 Penajam Paser Utara is located on Jl. Province Km. 08 Nipah-Nipah Penajam District is one of the many North Penajam Paser that use the Google Classroom Application as a substitute medium in the online learning process (on the network) during the COVID-19 pandemic. The level of satisfaction is the difference between the user's perceived performance and his expectations. When performance is below expectations, users will feel disappointed. This research aims to find out how satisfied the students of SMKN 2 PPU are in using the Google Classroom Application. The method used is the Customer Satisfaction Index (CSI) which helps determine the level of satisfaction using the Google Classroom Application. Based on the Customer Satisfaction Index analysis, the results obtained are 73.11%, which shows that users feel "Satisfied" while using the Google Classroom Application.

I. INTRODUCTION

In modern times like today, all information technology has become growing very rapidly especially during the Corona Virus pandemic Disease 2019 (Covid-19). One way to break the chain of spread Covid-19 is to limit the interaction of people who applied by the term physical distancing. However, the physical policy Such distancing can hamper the rate of growth in various fields life, both economic, social, and of course education. Decision government to dismiss students, move the learning process teaching at school becomes at home.

Where all teaching and learning activities are carried out online Network). This online learning has advantages for educators can share information and learning materials as well as evaluations for measuring the level of understanding of students towards learning in schools. During implementation with this online learning model, students have free time to study. Students can study anytime and anywhere, without being limited by space and time. Students can also interact with the teacher at the same time, such as using videos call or live chat. Learning online certainly has its own challenges. Students not only need a supportive home atmosphere to study, but also an adequate internet connection.

Online learning using Google Classroom has several available features include giving announcements, assignments, attendance, daily tests, discussion forums and many other activities can help educators so that with this online as it is today can help the teaching and learning process. Teaching materials or learning materials can be presented in the form of files with formats such as office documents, animations, and videos. Through google classroom media, educators can provide material learning in the form of modules and can interact with students through virtual classes.

The use of google classroom at school does not mean replacing teaching and learning activities offline (outside the network) or face-to-face at school, but the use of google classroom today makes it easier educators in conducting online teaching and learning activities. Online learning (in the network) itself is learning that done online, using learning applications and networks social. Online learning is learning that is done without do face-to-face, but through a platform that is already available. All forms subject matter is distributed

online, communication is also done online online, and tests are also conducted online. This online learning system assisted by several applications and one of the applications used is google classroom application [1].

Satisfaction with the use of Google Classroom for students at State Vocational Schools 2 Penajam Paser Utara is an important factor in this era of online learning. Based on the observations, it was found that there were problems that needed to be be considered in the use of the Google Classroom application related to satisfaction users of the application are students of SMK Negeri 2 Penajam Paser Utara both in terms of sending assignments and receiving assignments and materials given by every educator which is important because it can affect the process of teaching and learning activities at SMK Negeri 2 Penajam Paser North. Based on the description above, which the researcher has described, the researcher compiling a thesis proposal with the title "Customer Measurement Implementation Satisfaction Index on the Use of Google Classroom (Case Study: SMK Negeri 2 Penajam Paser Utara)".

II. LITERATURE REVIEW

Student Satisfaction

Satisfaction is a person's feeling of pleasure or disappointment that comes from comparison between its impression on the perceived performance of a product (perceived performance) and expectations (Expectation). Satisfaction and dissatisfaction are an assessment of consumers where alternatives selected is at least equal to or exceeds user expectations. User satisfaction is a level where the needs, wants and expectations of users can be met which will result in the occurrence of repeat purchase or continued loyalty. User satisfaction can defined as an effective response to the experience of consuming or an evaluation of perceived conformity or nonconformity between previous expectations and the actual performance of the product after use[2].

The more quality something is given, the satisfaction is felt by the user will be higher. User satisfaction is aimed at consumers when they know their desires are in accordance with what is expected. From the above definition it can be concluded that the satisfaction of a user who from the user's point of view, namely about what users have felt about services that have been provided from an application that is used. Satisfaction (satisfaction) comes from the Latin "satis" (meaning good enough, adequate) and "facio" (to do or make). Satisfaction can be interpreted as "effort" fulfillment of something" or "make something adequate". Satisfaction is consumer's assessment of product or service features that successfully deliver fulfillment of needs at a pleasant level both below and above expectations.

Based on the description above, user satisfaction will be created if: So that student satisfaction can also be concluded, that student satisfaction is a student's response to the experience gained (reality) in school with his expectations, and the student will feel satisfied if what is received there is a match between expectations and experiences obtained by students. More and more similarities between hope and experience received by students in a learning process by using the google classroom application at school, the higher the level of satisfaction felt by students. On the other hand, if there is less and less similarity between expectations, and experiences received by students in the learning process with using the google classroom application, the lower the level of satisfaction perceived by the student [3].

Google Classroom App

1. Application
   The application comes from the English language, namely Application which means use or application. Application is a software application (Software) developed to perform certain activities. Application is software created by a computer company to work on certain tasks, such as Microsoft Word, Microsoft Excel, Microsoft PowerPoint [4]. Based on the above understanding, it can be concluded that an application is a software system that can be used by users in carrying out certain activities. One of the applications which is interesting innovation from google that can make it easier for educators and for students, namely Google Classroom.
2. Understanding Google Classroom
   Google Classroom is an internet-based service provided by google as an Online application (network learning). This app designed to help educators create and distribute assignments to students' paperless students. Users of this application must have an account google first in order to be able to access google classroom [5].

   In other words, the notion of Google Classroom is an application that devoted as an online learning media or the term online class so that it can make it easier for teachers to create, share and group each task without using paper. Google usage classroom will make learning more effective, teachers and students You can meet face to face at any time through the Google Classroom online class. Student

   can also play an active role in the online class by learning, listening, sending assignments, giving feedback, discussing about material presented by the teacher [6].
3. Customer Satisfaction Index (CSI)
   The Customer Satisfaction Index (CSI) method is one method that commonly used to measure the value of satisfaction user. Is a method that uses an index to measure. Is a method that uses an index to measure the level of satisfaction consumers based on certain attributes. CSI is a quantitative analysis in the form of the percentage of users who are happy in a user satisfaction survey. CSI is needed to determine the level of satisfaction users by considering the level of importance of product or service attributes.

   The level of importance means seeing how important the services of a company are system whether the service is important or not, while the level of performance is to assess how the performance of the services available from an information system. The Customer Satisfaction Index is required because the process measurement of user satisfaction is continuous. CSI value in research

   It is divided into 5 categories ranging from dissatisfied into very satisfied. Customer satisfaction index or abbreviated CSI is a common method used by researchers to conduct an

experiment or research aimed at finding or measuring a person's level of satisfaction.

The CSI function itself is as a measurement index to see how a consumer feels about the goods or services he gets. This study focuses on measuring the level of student satisfaction in SMK Negeri 2 Penajam Paser Utara in the use of the google classroom application so that the use of the CSI method would be one of the best choices. The author chooses CSI as a method of measuring the level of satisfaction because this method has two variables that are used as assessment indicators so that they are not only measuring the level of satisfaction but also to see the advantages and disadvantages the subject under study.

4. Likert Scale

The Likert scale uses several questions to measure individual behavior by responding to 5 choice points on each question item, strongly agree, agree, disagree, disagree, and strongly disagree. On Likert scale has levels but the distance between categories cannot be considered the same [7]

If the statistical analysis used is wrong, the probability of the conclusion is wrong to increase. If the Likert scale is considered as an ordinal scale, the calculation of the mean and the standard deviation is not correct. In this class, the statistics that can be used are median or mode to calculate the size of the concentration, while the variation data can be seen using the frequency of respondents' answers, so that parametric statistics cannot be applied to this data. If this scale is analyzed with parametric statistics, then this step is wrong, the first error of Seven common mistakes have also suggested ways to determination of the point of intersection on the Likert scale [8] The choice of each score will be given a value as table 1 and 2 below:

TABLE I.   LIKERT SCALE OF IMPORTANCE

Answer	Score
Very Satisfied	5
Satisfied	4
Quite satisfied	3
Not satisfied	2
Very dissatisfied	1

TABLE II.   PERFORMANCE LEVEL LIKERT SCALE

Answer	Score
Very Satisfied	5
Satisfied	4
Quite satisfied	3
Not satisfied	2
Very dissatisfied	1

5. Likert Scale

Validity test is obtained by correlating each indicator score with the total score of the satisfaction indicator, then the correlation results are compared with critical value at a significant level of 0.05. A data is said to be valid if it can measure what is desired and the high and low validity of the instrument shows the extent to which the data collected does not deviate from the picture about the level of satisfaction in question. Validity test is to test a measure that shows the levels of validity or validity of a data. Validity test is used to select statement items that are relevant to analyzed. Test the validity by looking at the correlation between the scores of each item questions with a total score [9].

6. Previous Research

The reliability test is intended to determine the consistency of the measuring instrument in its use, or in other words the measuring instrument has consistent when used many times at different times For testing reliability is used Alpha Cronbach technique, where an instrument can said to be reliable (reliable) if it has a reliability coefficient or alpha of 0.6 or more [10].

7. Previous Research

Previous research that was taken as a reference in this study exists three, the first is research from Arfan Usman Sinaga entitled "Analysis of Service User Satisfaction on the Implementation of Engineering Management" Professional Construction of Shophouses in the Gorontalo City Business Park Area". To find out how much the level of satisfaction of service users with the implementation of professional management and identify service user complaints against the application of shophouse professional construction management, and the results of the research After calculating the CSI method, the result is obtained 63.33 which if converted to the level of CSI satisfaction it will be at "Satisfied" level.

The second research is the research of Sanusi Mulyo Widodo and Joko Sutopo, entitled "The Customer Satisfaction Index (CSI) Method for Knowing User Satisfaction Patterns in the E-Commerce Business Model Customers". This study aims to determine the level of satisfaction with the existence of E-Commerce as one of the shopping media, and the result research after calculating with the CSI method, the results obtained the end of 67.92 which if converted to the level of CSI satisfaction it will is at the level of "Satisfied" [6].

And the last research from Santosa Wijayanto and Ghema Nusa Persada entitled "Measurement of Google Classroom Utilization Satisfaction Level" as a Learning Media at SMK Negeri 2 South Tangerang". This research aims to measure educators' satisfaction with media management learning through online e-learning software applications with using google classroom. Data collection using the method survey, which is a method of collecting data by using a questionnaire. Research using the Importance method Performance Analysis (IPA) to determine the level of importance and methods Customer Satisfaction Index (CSI) to determine the level of user satisfaction. After calculating with the CSI method, the final result is obtained 74.75 which is converted to the CSI satisfaction level, it will be at level of "Satisfied"[11].

Looking at some of the previous studies that exist. Then the researcher takes the same research using the customer satisfaction method index (CSI) but with a different object. The object of this research focuses on the level of student satisfaction of SMK Negeri 2 Penajam Paser Utara on the use of google classroom during the online learning period (in the network).

Research Object

In this research, the writer uses descriptive research method quantitative research that aims to describe, summarize, various conditions and the situation that occurs at the level of student satisfaction of SMK Negeri 2 Penajam Paser North which is the object of research. Descriptive research means research that turn a number into a statement.

Data Collection Method

In this study, researchers used a questionnaire as a method data collection. Questionnaire is a method of collecting data which This is done by giving a set of questions or a written statement to the respondent to answer. Questionnaire is a collection method more efficient data if the researcher knows for sure the variables that will be measured and know what is expected of the respondent. In addition, the questionnaire suitable for use when the number of respondents is quite large.

Data Collection Method

1. Population
Population is the whole object to be studied. In this research the population that the researcher will use is all students in SMK Negeri 2 Penajam Paser Utara.
2. Sample
The sample is a certain part of the overall object to be studied. The sample in this study is the result obtained from the entire population which has been converted. Measurement of this sample is carried out using slovin's formula. Based on the slovin formula used, that the number of samples to be used in this study as many as 90 respondents were taken from the results calculations with a total of 900 samples entered the in the slovin formula that has been used as in the results below as follows:

$$n = \frac{900}{1+(900)(0,1)^2} \tag{1}$$

$$n = \frac{900}{1+(900)(0,01)} \tag{2}$$

$$n = \frac{900}{1+9} \tag{3}$$

$$n = \frac{900}{10} = 90 \tag{4}$$

Data Measurement Method

In obtaining a value for user satisfaction with the use of google classroom then what is needed is a measurement method for testing of all the values carried out by the respondent whether the results are satisfactory or unsatisfactory. The calculation of this value is taken from the results of questionnaire using a Likert Scale. The Likert scale is commonly used to measuring a person's opinion about a condition of each score choice

Data Analysis Method

The method used in analyzing this data is the method Customer Satisfaction Index (CSI). CSI is used to assess the level of overall user satisfaction by looking at the level of satisfaction in the use of the google classroom application. This level of satisfaction means seeing how important the services provided from an information system. Before measuring using CSI, the first test is carried out validity and reliability of the questionnaire using the SPSS application (Statistical Package for the Social Sciences) to determine the validity and confidence level of the questionnaire it. When it is done, it will be continued by taking measurements level of satisfaction with the CSI method that will be calculated using Microsoft Excel. The stages of the data analysis method are carried out by the CSI method using Microsoft Excel with the following steps:

1. Determine the Mean Importance Score (MIS), Mean Importance Score (MIS) or the average importance score. this value is derived from the average importance of each level of satisfaction. determine the MIS or the average level of importance using the excel AVERAGE formula.
2. Determine the Mean Satisfaction Score (MSS), The Mean Satisfaction Score (MSS) or the average value of the performance score, is derived from the average performance level of each satisfaction. Determine it using the excel AVERAGE formula.
3. Determine the Weight Score (WS), Weight Score is the multiplication of Weight Factor (WF) with the average value of the level of performance.
4. Determine the Weight Factor (WF), Weight Factor is a value that represents the MIS value of an attribute to the total MIS of all attributes.
5. Determine the Total Weight (WT), Determining the Total Weight is obtained by adding up all the WS results.
6. Determine the Customer Satisfaction Index (CSI), Determining the level of satisfaction with CSI is by dividing WT by High Scale multiplied by 100%. High Scale is determined by the maximum scale used, because here the author uses a Likert scale which amounts to 5 points, the high scale used is 5.

Questionnaire Design

The design of the questionnaire is to determine the questions that includes variables to be used as sample assessments in SMK Negeri 2 Penajam Paser Utara.

1. System
Usually the system Focuses on the performance characteristics of the system. Example assessments such as ease of use, easy to learn, speed access, system reliability and flexibility
2. Information
Information System is an output generated by the information system used and the extent to which the information is obtained consistently meet the requirements and expectations of all who need. Examples such as accuracy, completeness, format of information and punctuality.

3. Service

Services that are obtained for every Google Classroom user such as information system updates and quick response from developer if the system is having problems. The following is an overview of the questionnaire to measure the level of student satisfaction of SMK Negeri 2 Penajam Paser Utara in the use of google classroom.

Research Stages

Research "Implementation of Customer Satisfaction Index Measurement in" Use of Goggle Classroom Case Study SMK Negeri 2 Penajam Paser Utara" has several stages as follows:
1. Place Observation, is one way to obtain data by making direct observations of the object to be investigated to obtain information about the problems that occurred.
2. Determination of Topics, determining which topics will be selected and taken before doing the formulation of the problem.
3. Problem Formulation, identify problems that occur in the environment where research is carried out with the aim of solving problems happening around.
4. Literature study and proposal making, researchers conduct literature studies useful for collecting data or sources that related to the topic raised in a biased study obtained from various sources, journals, books, documentation, internet and References.
5. Data Collection, in this stage data collection is carried out research such as determining and understanding methods, types of data and research data collection instruments, as well as finding out how much the population in the area where the research will be conducted and determine the sample to be used for this study. other than that also distributed questionnaires to students attending SMK Negeri 2 Penajam Paser Utara.
6. Data processing, at this stage includes validity test, reliability test and test the customer satisfaction index (CSI) on data that has been previously collected.
7. Questionnaire, distributing questionnaires containing to SMK students Negeri 2 Penajam Paser Utara in order to get the results of the research scores.
8. Conclusions and suggestions, containing conclusions and suggestions based on the final results obtained from the research.

IV. RESULT AND DISCUSSION

Research Stages

This research is focused on students of SMK Negeri 2 Penajam Paser Utara who use the google classroom application as a substitute for learning activities teaching during the Covid-19 pandemic, with a total of 90 respondents. Questionnaire This research is in the form of demographics and bar graphs based on respondents' users of the google classroom application at SMK Negeri 2 Penajam Paser Utara started of the student's name, gender, class and major taken
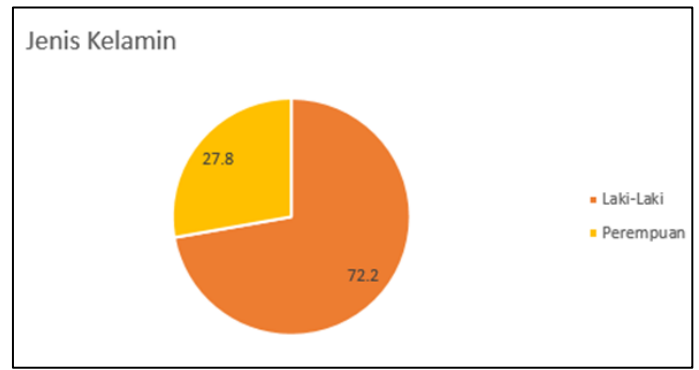

Fig. 1. Characteristics by Gender

Depicted how the distribution of respondents based on gender was mostly male students, namely 72.2% while female students were 27.8%. This shows that the majority of students at SMK Negeri 2 Penajam Paser Utara are male than female.
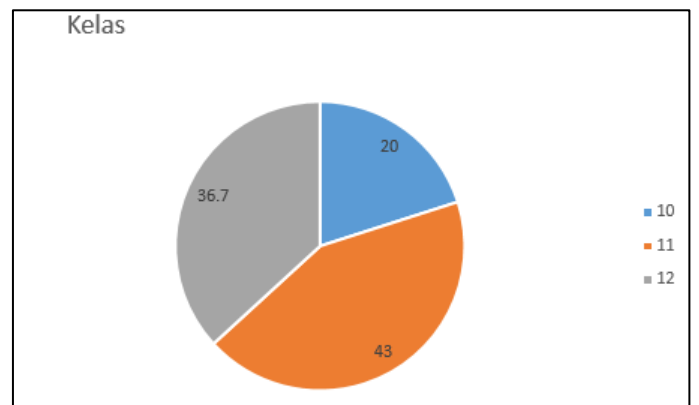

Fig. 2. Characteristics by Class

The number of respondents based on the data above shows that respondents who use the Google Classroom application at SMK Negeri 2 Penajam Paser Utara come from 10th grade (20%), 11th grade (43%) and 12th grade (36.7%). Based on the data above, it can be concluded that the most users of the Google Classroom application at SMK Negeri 2 Penajam Paser Utara came from grade 11 with a total of 43%.
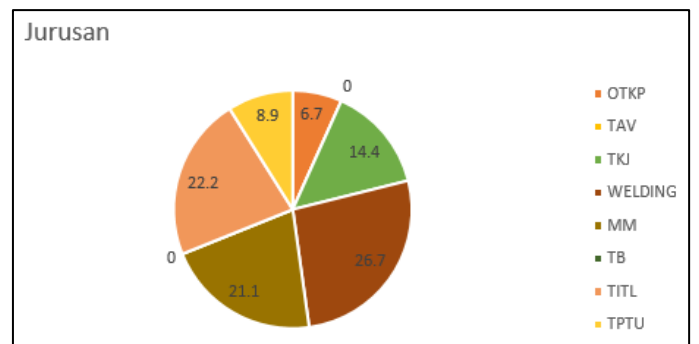

Fig. 3. Characteristik by Major

Research Results

After filling out the questionnaire and getting the results from the questionnaires that have been distributed by distributing questionnaires to more than 90 respondents who were studied by researchers, then the next step is to process data with a total of 20 statements given using a Likert scale. The questionnaire data was then reprocessed using computerized calculations in the IBM SPSS Version 22 program for windows and the calculation of the CSI method in Microsoft Office Excel 2013. Then the data processing was carried out starting from recording each respondent's answer from the questionnaire distributed into Microsoft Office Excel 2013 and then calculating the weighted scores. based on each of the data criteria that have been obtained. After that, start to test the validity and reliability based on the data that has been obtained and finally calculate the value based on the characteristics of each using the Customer Satisfaction Index (CSI) method.

Validity Test

The validity test is obtained by correlating each indicator score with the total satisfaction indicator score, then the correlation results are compared with the critical value at a significant level of 0.05, it is obtained r table = 0.205 with n = 90. A data is said to be valid if it is able to measure what is desired and high the low validity of the instrument indicates the extent to which the data collected does not deviate from the description of the intended level of satisfaction. This validity test uses 90 respondents with a total of 20 statements that have been filled in and have met the requirements determined by the researcher. From all the existing data, it is declared valid because r count is greater than r table. This means that all tested data can be considered by all respondents. In addition, these data can be represented as further test data.

So, the results of the calculation of the validity test on the use of google classroom that the researchers did above. A questionnaire is declared valid when the statement on the questionnaire can reveal something that will be measured by the questionnaire. The level of validity can be measured by comparing r count (correlation item total correlation) with r table with the provisions of the degree of freedom (df), i.e., if r count > r table, then the statement is declared valid, but if r count < r table then the statement declared invalid.

Reliability Test

Based on the reliability test above, reliable data is data which, when used several times to measure the same object, will produce the same data. The level of reliability can be measured by comparing the Cronbach alpha value, ie if the Cronbach Alpha value > 0.6 then the data is declared reliable but if the Cronbach Alpha data < 0.6 then the data is declared unreliable. From these data, it can be concluded that in the Cronbach Alpha it is hoped that an average value of 0.941 > 0.6 means that the data is declared reliable. it can be concluded that the Cronbach Alpha perception obtained an average value of 0.893 > 0.6 which means that the data is also declared reliable.

CSI Analysis

The Customer Satisfaction Index (CSI) is used to determine the overall level of customer satisfaction. To determine goals in the future and to determine the level of satisfaction generated by an attribute. In calculating the level of user satisfaction, the Customer Satisfaction Index (CSI) method is used. The calculation of the user's performance level is carried out using the Customer Satisfaction Index (CSI) requiring an average score of importance and an average score of performance levels in the use of google classroom at SMK Negeri 2 Penajam Paser Utara. From the research that has been done by researchers.

The data with the highest average value of satisfaction and performance is found in the importance attribute with an average value of 4.03% while at the performance level of 4.01% which means that the satisfaction value is considered important for researchers in the research process carried out. The level of user satisfaction is very important to find out how well the use of google classroom at SMK Negeri 2 Penajam Paser Utara is. If the expectation (interest) is greater than the level of performance, it can be concluded that the google classroom application provides satisfaction to every user. The calculation of the Customer Satisfaction Index (CSI) uses the average score of the importance and level of performance of each data. Based on the results of the calculations that have been carried out, the CSI value is 73.34%. These results follow past research that learning media can activate students' self-motivation to know and understand the material [12], [13].

This CSI value is obtained from the division between the total value of the Weigh Score (WS) and the research scale used is 5 and multiplies it by 100%. Based on the satisfaction index, the Customer Satisfaction Index (CSI) value of 73.34% is in the range of 71% - 85%, which means that in general the Google Classroom user satisfaction index is in the "SAFE" criterion and there is still 26.89% remaining. student users who have not been able to be satisfied in using this google classroom. In addition, the level of satisfaction with the use of Google Classroom can also change from time to time, depending on the level of importance required by the user.

V. Conclusion

Based on the results of research and discussions that have been carried out in previous chapters, it can be concluded that the results of the calculations carried out on 20 statement data distributed to more than 90 respondents who use the google classroom application at SMK Negeri 2 Penajam Paser Utara, can be concluded into several the part based on satisfaction analysis using the Customer Satisfaction Index method is the google classroom application is an application that is used as a substitute for offline teaching and learning activities into online teaching and learning activities during the Covid-19 pandemic at SMK Negeri 2 Penajam Paser Utara because it is considered more effective and easy for students to use. The Google Classroom application provides benefits to every user. Based on the mapping of the Cartesian diagram from the results of data analysis, it shows that all the data used and processed get valid and reliable results so that it can be said that the google classroom application is useful and gets a good

response from students of SMK Negeri 2 Penajam Paser Utara with a satisfaction level of on the "Satisfied" scale with a result of 73.11%.

Based on the results of research related to user satisfaction of the Google Classroom application at SMK Negeri 2 Penajam Paser Utara, the researchers provide a few suggestions which are expected to help future research, therefore for researchers who will research with the same theme and method, it is better to increase the number of respondents and other independent variables to get better results and can affect the satisfaction of both old and new users. The results of this study can be used as consideration for schools so that they can choose to continue using the Google Classroom application or replace it with another.

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