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SATISFACTION EVALUATION OF TEACHING FACTORY IN SOFTWARE ENGINEERING COMPETENCE AT TELKOM MALANG VOCATIONAL HIGH SCHOOL USING THE COUNTENANCE METHOD

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ABSTRACT

The purpose of this quantitative research study is to determine the influence of Interpersonal Communication Skills, Self-Efficacy, and Public Perception towards The Glass Ceiling Phenomenon. There are four hypotheses in this study, 1. H1: There is no influence of interpersonal communication skills towards the glass ceiling phenomenon. 2. H2: There is an influence of self-efficacy towards the glass ceiling phenomenon. 3. H3: There is an influence of public perception towards the glass ceiling phenomenon. and 4. H4 There is a simultaneous influence of interpersonal communication skills, self-efficacy, and public perception towards the glass ceiling phenomenon. This study involved 189 respondents who matched the criteria of respondents needed by the researcher. The sampling technique used is convenience sampling. The results of this study show that the independent variables can have an effect of 0.822 or 82.2% towards the dependent variable. In addition, interpersonal communication skills have a negative influence towards the glass ceiling phenomenon of 0.047 or 4.7%, self-efficacy has an influence towards the glass ceiling phenomenon of 0.628 or 62.8%, and public perception influences 0,257 or 25.7% on work pressure.

KEYWORDS *Interpersonal Communication Skills; Self-Efficacy; Public Perception; Glass Ceiling Phenomenon*

INTRODUCTION

The education sector in Indonesia faces two significant challenges: the fourth industrial revolution and globalization. The fourth industrial revolution introduces interconnected machines that replace human roles in various fields, as noted by

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Hendran (2018). While it brings new opportunities, it also presents challenges. However, it enhances comfort and removes previous limitations, requiring humans to prepare for utilizing these advancements. In response, the government has designed a package program to revitalize 5000 vocational high schools (SMKs) in economic growth areas from 2020 to 2024, using a "new approach" to confront future challenges.

Vocational high schools (SMKs) play a crucial role in creating quality and competent human resources in their respective fields. Quality human resources demonstrate mastery of knowledge, technology, and skills along with moral and ethical values. To meet the demands of the job market, SMK graduates can enter the workforce through various channels, including implementing teaching factories.

Globalization, particularly the establishment of the ASEAN Economic Community (MEA) since 2015, also poses challenges. The demand for skilled workers with high productivity increases. Thus, to harness and adapt to the effects of globalization, especially MEA, changes are needed across various sectors. To address these global challenges, the government must enhance human resources to seize opportunities. Improving education quality is crucial, as it brings Indonesia closer to its national development goals.

One strategy is to enhance vocational education. SMKs prepare students for the workforce directly, teaching competencies relevant to their fields. However, existing plans may not be fully realized due to educational implementations not meeting national standards. The government's hope is for vocational schools to contribute to employment, empowering graduates through education. This shift might favor workers with general degrees over vocational ones, highlighting the need for SMKs to enhance skills and competencies to increase employability.

One government initiative is the Teaching Factory Program (TeFa), which supports product creation. It synchronizes educational programs with skill acquisition to produce competent workers. TeFa involves industry practitioners as crucial learning sources, benefiting student learning outcomes. TeFa is considered effective in enhancing student skills and understanding of product creation. The Directorate of Vocational School Development's Strategic Plan (2015-2019) aims to improve graduate quality. TeFa is a means to achieve this, fostering collaboration between schools and industries, ultimately preparing students for the workforce.

SMK Telkom Malang, a pioneer in vocational education in technology and informatics since 1992, implements TeFa in collaboration with Telkom. This unique approach involves gradual implementation, starting with industrial instructors teaching at the school, followed by student learning in industries. Additionally, the school provides workshop facilities for practical learning, aligning with the needs of software engineering competencies. The implementation of Teaching Factory characterizes Malang's unique educational landscape, fostering a symbiotic relationship between SMKs and industries.

The evaluation of stakeholder satisfaction, particularly from industries, is crucial for ensuring the quality of teaching factory programs. The Countenance method offers an objective assessment of student satisfaction, analyzing antecedents, processes, and outcomes to determine their satisfaction levels. The results of this evaluation will guide improvements in Teaching Factory programs, ensuring they meet stakeholder expectations and educational standards. Moreover, they will inform future program development for more effective and satisfying student learning experiences.

There are several studies that are similar to teaching factory evaluations, namely Nastiti (2017) conducted a teaching factory evaluation but using the CIPP method. Meanwhile, Mavrikios et al (2017) aim to carry out two-way communication, namely between industry and academics. Then Nurtanto et al (2017) conducted research to review developments and results that concluded what was planned in the teaching factory program. and then Subekti et al (2019) conducted research related to optimizing student development, learning environment conditions, providing study guidance can improve communication skills (work skills). From the research that has been mentioned, there has been no research on teaching factories in the city of Malang using the countenance method, making university research have a high opportunity and impact to be carried out.

This research describes the problem formulation, objectives, scope, benefits and operational definitions related to the implementation of a teaching factory on Software Engineering skills competencies at Telkom Malang Vocational School. The problem formulation includes the antecedent, transaction and outcomes stages of implementing the teaching factory, as well as the level of DU/DI satisfaction with student competence. The aim of the research is to describe the stages of implementing the teaching factory and determine DU/DI satisfaction. This research focused on Telkom Malang Vocational School with Software Engineering competency skills, using instruments in the form of questionnaires, observations and interviews. The benefits include recommendations for schools, information for government and industry, knowledge for students, and references for future researchers. The operational definition provides an understanding of the teaching factory, Software Engineering competencies, evaluation, and accounting models.

RESEARCH METHOD

The research conducted is an evaluation of the teaching factory program at SMK Telkom Malang, focusing on assessing the satisfaction of DU/DI (Workplace Partners) regarding students' competencies. Using the countenance evaluation model (Antecedent, Transaction, Outcome) and descriptive method, this study aims to gather data aligned with the research focus. Data collection is done through observation, interviews, and questionnaires. The research population includes students and DU/DI members, with sampling done using probability sampling techniques. Research instruments consist of questionnaires, interviews, and observations, each with its own grid. Instrument validity and reliability are tested using SPSS. Research stages include preparation, implementation, and reporting, with each stage having systematically organized procedures. The researcher will process the collected data to create a research report and draw conclusions from the evaluation results.

RESULT AND DISCUSSION

Data Description

The holding of Software Engineering research at SMK Telkom Malang is expected to find out the state of the implementation of the *teaching factory*. To be able to carry out the implementation of research, it is carried out by collecting, compiling, clarifying and conducting descriptive data analysis on research subjects in the implementation of *the teaching factory* at SMK Telkom Malang Software Engineering Expertise Competency (RPL).

Data collection was carried out on students in the RPL expertise program and *teching factory* implementers at SMK Telkom Malang. Data collection using observation, questionnaire, and interview techniques. Researchers plan to use descriptive analysis based on the data that has been collected.

The teaching factory implementation process is divided into 3, From the chart above, it can be seen that the steps taken include *antescedent*, transaction (*transactition*), and outcome (*outcome*). The discussion of data analysis findings is as follows:

The implementation of *the Teaching Factory* for SMK RPL expertise is viewed in terms of *Student* Antecedent

In the implementation of *the SMK teaching factory*, Software Engineering expertise in terms of *antecedent* can be seen from several points of view such as the vision-mission, goals, desires and circumstances of DUDI, and administrative and technical planning *of the Teaching Factory*. Based on data collection techniques using questionnaires distributed to students who attend the teaching factory.

The questionnaire has been distributed to 38 students who participated in the implementation of the *teaching factory*, from the data obtained there are 14 points of statements with the highest score of 70 and the lowest score of 44. Data on the results of research that has been carried out can be seen in Table 4.1.

Table 4.1 Statistical Description of the Implementation of *Teaching Factory* SMK Segi *Antecedent* (Students).

Mean	Median	Mode	Standard Deviation	Minimum	Maximum
57	58	56	7.174	44	70

The results of the descriptive data collection can be seen in Table 4.1 above, indicating that the mean is 57. The median value of the descriptive data is 58. The mode value (most frequently occurring value) of the descriptive data is 56. The standard deviation of the descriptive data is 7.174. The minimum value of the descriptive data is 44, and the maximum value is 70. Additionally, the researcher also created a frequency distribution table of the implementation values of the SMK Software Engineering Teaching Factory in terms of Antecedents. The data with the highest frequency is found in the interval class 56, with a frequency value of 5 people and a relative value of 13.2%. Meanwhile, the lowest frequency in the table above is found in the interval classes 44, 46, 48, 49, 50, 53, 54, 55, 57, 58, 60, 63, 65, and 68, with an absolute value of 1 person and a relative value of 2.6%.

Based on interviews conducted with students who have participated in the teaching factory, it was found that in carrying out the teaching factory, students indeed implemented the knowledge acquired at school and guidance from the industry, which was then applied during the teaching factory. It is evident that some students have been able to complete tasks given for implementation in the teaching factory well. Moreover, the implementation of the teaching factory will further enhance students' competencies, bringing them closer to the needs of the industry. This impact means that the teaching factory can improve students' work ethic and the alignment of competencies learned with industry needs. In the implementation of the teaching factory, it is mostly conducted at schools by bringing practitioners from the industry. With the presence of COVID-19, most industries monitor and teach online. However, it is not impossible for industries and schools to conduct the teaching factory offline if necessary. This is because schools and industries must adapt to the field conditions and needs, so the implementation of the teaching factory in schools can still proceed despite some challenges. These positive impacts can be seen in the indicators in the table that have high percentages. Based on the questionnaire distributed to students, we can conclude that the implementation of the teaching factory in terms of antecedents can proceed despite some challenges in its implementation.

The Implementation of SMK RPL Teaching Factory in terms of Student Transaction

In the implementation of the SMK Software Engineering Teaching Factory in terms of Antecedents, several perspectives such as vision-mission, objectives, desires and conditions of the Business and Industry Work Practices Program (DUDI), and administrative and technical planning of the Teaching Factory can be observed. Based on data collection techniques using questionnaires distributed to students. The questionnaire was distributed to 38 students participating in the implementation of the teaching factory, and from the data obtained, there are 6 statement items with the highest value of 35 and the lowest value of 7. The research data can be seen in Table 4.4.

Table 4.4 Statistical Description of the Implementation of *Teaching Factory* SMK in terms of *Transaction*

Mean	Median	Mode	Standard Deviation	Minimum	Maximum
29	29	30	3.7237	21	35

The results of the data collection descriptively can be seen in Table 4.4 above, indicating that the mean is 29. The median value of the descriptive data is 29. The mode value (most frequently occurring value) of the descriptive data is 30. The standard deviation of the descriptive data is 3.7237. The minimum value of the descriptive data is 21, and the maximum value is 35. Additionally, the researcher also created a frequency distribution table of the implementation values of the SMK Software Engineering Teaching Factory in terms of Antecedents. The data with the highest frequency is found in the interval class 30, with a frequency value of 6 people and a relative value of 15.8%. Meanwhile, the lowest frequency in the table above is found in the interval classes 21, 27, and 33, with an absolute value of 1 person and a relative value of 2.6%.

In the interviews conducted, the implementation of the teaching factory at this stage is going well. The transaction stage is the implementation stage of the antecedent/planning that has been carried out. At this stage, students succeeded in directly practicing the production of a product to industry standards. It is worth noting that the implementation of the teaching factory is preceded by a preparation period of 2 months. This preparation is aimed at ensuring that the TF implementation can proceed smoothly and effectively. TF preparation is conducted online using Zoom. At this stage, the school collaborates directly with the industry to provide teaching and guidance related to application program development. After the training, students are assigned to directly create products according to the needs. In the production of these products, the industry and the school closely monitor to maintain the quality of the products produced

The Implementation of SMK RPL Teaching Factory in terms of Student Outcomes

In the implementation of the SMK Software Engineering Teaching Factory in terms of Antecedents, several perspectives such as vision-mission, objectives, desires and conditions of the Business and Industry Work Practices Program (DUDI), and administrative and technical planning of the Teaching Factory can be observed. Based on data collection techniques using questionnaires distributed to 2 respondents, namely Students and Teaching Factory Implementers.

The questionnaire was distributed to 38 students participating in the implementation of the teaching factory, and from the data obtained, there are 5 statement items with the highest value of 25 and the lowest value of 14. The research data can be seen in Table 4.7.

Table 4.7 Statistical Description of *the Implementation of Teaching Factory* SMK in terms of *Outcomes*

Mean	Median	Mode	Standard Deviation	Minimum	Maximum
19	19	18	2.91901	14	25

The results of descriptive data collection can be seen in Table 4.7 above showing that the *mean* is 19. The *median value* of the descriptive data was 19. The value of the descriptive data in terms of *mode* (the most frequently occurring value) is 18. The *standard deviation* value from the descriptive data is 2.91901. The minimum value of descriptive data is 14, and the maximum value of descriptive data is 25. In addition, researchers also made a frequency distribution table of the value of the implementation of *the teaching factory* of SMK Software Engineering (RPL) expertise in terms of *Antecedent*. The data that has the highest frequency is found in interval class 30, the interval class has a frequency value of 6 people and has a relative value of 15.8%. Meanwhile, the lowest frequency in the table above is found in interval classes 21, 27, and 33, the interval class has an absolute value of 1 person and a relative value of 2.6%.

Analysis of DU/DI Satisfaction with *Teaching Factory*

Research methods are ways used by researchers in designing, implementing, processing data and drawing conclusions regarding certain research problems.

Reliability Test

Reliability testing is crucial in satisfaction evaluation research because it concerns the validity of the results obtained. In satisfaction evaluation research, reliability testing is conducted to ensure that the questions or instruments used in the study are reliable and produce consistent results. The most commonly used reliability test is Cronbach's alpha, which measures consistency among items in the research instrument. Good reliability test results indicate that the instrument used has high consistency and can be relied upon to collect data.

In customer satisfaction evaluation research in the hotel industry, Tsai and Chang (2011) used Cronbach's alpha to test the reliability of their research instrument and found an alpha value of 0.88. This result indicates that the instrument used in the study can be relied upon to collect customer satisfaction data.

In customer satisfaction evaluation research in the tourism industry, Hasibuan and Fahmi (2019) also used Cronbach's alpha to test the reliability of their research instrument and found an alpha value of 0.84. This result indicates that the instrument used in their study can be relied upon to collect customer satisfaction data.

By using reliability testing, researchers can ensure that the instruments used in satisfaction evaluation research can produce consistent and valid data. This enables making appropriate conclusions and recommendations based on the research results.

The following reliability tests using Cronbach's Alpha on each aspect of *countenance* evaluation can be seen in Table 4.10

Table 4.10 Reliability Table

Item	Cronbach’s Alpha	Critical Point	Information
Antecedent	0.944	0.600	Reliable

	Reliability Statistics Cronbach's Alpha: .944; N of Items: 3		
Transaction	0.604 **Reliability Statistics** Cronbach's Alpha: .604; N of Items: 4	0.600	Reliable
Outcome	0.667 **Reliability Statistics** Cronbach's Alpha: .667; N of Items: 3	0.600	Reliable
Satisfaction DU/DI	0.609 **Reliability Statistics** Cronbach's Alpha: .609; N of Items: 3	0.600	Reliable

Classic assumption test

Classic assumption testing in satisfaction evaluation research is crucial to ensure that the data analysis results obtained are reliable. Classic assumption testing includes tests for normality, multicollinearity, F-test, and t-test. Normality tests are used to examine whether the collected data have a normal distribution or not. Multicollinearity tests are used to examine whether there is a strong relationship between independent variables that could influence the analysis results. F-test and t-test are used to examine the significance of the model and regression coefficients obtained. One satisfaction evaluation research that conducted classic assumption testing is the study by Hasanah and Purnama (2018). This research used normality tests with Kolmogorov-Smirnov and Shapiro-Wilk tests. Multicollinearity tests were conducted using VIF and Tolerance. F-test and t-test were used to examine the significance of the model and regression coefficients in simple linear regression equations.

The results of classic assumption testing in the study indicated that the collected data have a normal distribution, there is no multicollinearity among independent variables, and the obtained regression model is significant, with regression coefficients having a significant influence on the dependent variable.

By conducting classic assumption testing, researchers can ensure that the data analysis results obtained are reliable and provide accurate information about the relationship between independent and dependent variables in satisfaction evaluation research.

Normality Test

To test whether the population data in a study is normally distributed or not, it is necessary to conduct a normality test. The method used to test the normality of the data in this study used the Kolmogorov-Smirnov test. The Kolmogorov-Smirnov test is a normality test by comparing the distribution of data with the standard normal distribution. The standard normal distribution is data transformed into the form of a Z-score. If the significance value of the Kolmogorv-Smirnov test < 0.05 then the data distribution is abnormal but if the significance value is ≥ 0.05 then the data distribution is said to be normal. The results of the Kolmogorov-Smirnov test on this study are presented in Figure 4.5.

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		30
Normal Parameters[a]	Mean	.0000000
	Std. Deviation	1.29585130
Most Extreme Differences	Absolute	.172
	Positive	.172
	Negative	-.108
Kolmogorov-Smirnov Z		.941
Asymp. Sig. (2-tailed)		.338

a. Test distribution is Normal.

Figure 4.5 Kolmogorov-Smirnov Test Result

Based on the table above, it is known that the significance value in this test is 0.338 where this value is greater than the minimum significance value of 0.05, so it can be concluded that the data used in this study is normally distributed.

Multicollinearity Test

To determine whether or not there is a correlation between independent variables, a multicollinearity test is needed. A good regression model must be free from the symptoms of correlation between independent variables. If independent variables correlate with each other, then these variables are not orthogonal. Orthogonal variables are independent variables that have a correlation value with other independent variables of 0. Multicollinearity testing in this study uses *tolerance* values and VIF or *Variance Inflation Factor.* The condition for no multicollinearity is when the *tolerance value* is more than 0.1 and the VIF value is smaller than 10. The results of the multicollinarity test in this study are presented in Figure 4.6

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.267	1.420		1.596	.123
	Antecedent	.062	.053	.229	1.157	.258
	Transaction	-.115	.104	-.263	-1.109	.277
	Outcome	-.006	.124	-.011	-.047	.963

a. Dependent Variable: ABS_RESid

Figure 4.6 Multicollinarity test results

a. Test F

Uji F digunakan untuk mengetahui apakah variabel independen secara simultan berpengaruh signifikan terhadap variabel dependen. Hasil pengujian simultan Antecedent, Transaction, Outcome berpengaruh terhadap kepuasan DU/DI pada penelitian ini disajikan dalam Gambar 4.7.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	82.769	3	27.590	14.730	.000
	Residual	48.698	26	1.873		
	Total	131.467	29			

Figure 4.7 F test results

Based on the table, it is known that the Sig value is < 0.05 so it can be concluded that Antecedent, Transaction, Outcome affect DU / DI satisfaction

b. T test and Simple Linear Regression Equation

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2.805	2.189		-1.281	.211		
	Antecedent	.044	.082	.067	.534	.598	.893	1.119
	Transaction	.501	.160	.475	3.139	.004	.623	1.605
	Outcome	.477	.191	.382	2.495	.019	.608	1.646

Figure 4.8 t-Test Results and Simple Linear Regression Equation

Based on the table, it is known that the independent variable that is stated to have an effect on the satisfaction variable is the one that has a Sig value of < 0.0. The regression equation of this test is:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$
$$Y = -2.805 + 0.044X_1 + 0.501X_2 + 0.477X_3$$

Information :

Y = Satisfaction DU/DI
a = Constant
b_1 = Coefficient regression Antecedent
X_1 = Antecedent
b_2 = Coefficient regression Transaction
X_2 = Transaction
b_3 = Coefficient regression Outcome
X_3 = Outcome

Discussion

Implementation of RPL Teaching Factory in terms of Antecedents

The implementation of the Software Engineering (RPL) Teaching Factory in terms of antecedents involves several important aspects. These include management of teaching factory implementation, workshops and laboratories, teaching patterns, training, marketing, promotion, human resources, and industry relations. Evaluation was conducted to assess the success of this implementation, with the results showing good participation from students. The countenance evaluation model was used, involving initial planning, goal identification, and evaluation using questionnaire methods and direct visits. The Teaching Factory program aims to create mutually beneficial cooperation between schools and industries, with the hope of producing products according to industry standards. The development of the Teaching Factory curriculum involves the Business and Industrial World (DUDI), indicating a good relationship between schools and industries. Collaboration between vocational schools (SMK) and industries is enhanced with close communication regarding product types, manufacturing processes, and training materials. SMK Telkom Malang has shown full commitment to maintaining this cooperation and strives to optimize the Teaching Factory each year.

Implementation of RPL Teaching Factory in terms of Transactions

The implementation of the teaching factory in the RPL program in terms of transactions consists of Training Implementation, Occupational Safety and Health Application, Teaching/Instruction Activities, and Entrepreneurship Application in the Learning Process. The evaluation results show that the student respondents fall into the "Very Good" category for 12 people, while in the "Good" category there are 13 people. The countenance evaluation model consists of three stages: antecedent, transaction, and outcome. The antecedent stage identifies preparation for project-based learning, program budgeting, industry involvement, and administrative or non-administrative preparation. The transaction stage focuses on planning implementation. Researchers use questionnaire distribution methods, interviews, and visits to program activities to meet each government evaluation point. Before students are involved in the implementation of the teaching factory, preparatory activities and training are conducted by the industry. Preparation includes programs, industrial overviews, technology, and documentation processes. This preparation is important to ensure that students have competencies according to industry needs.

The qualifications of teaching factory implementers must meet competency requirements and have direct industry experience. Industrial mentors must be able to produce products according to market needs. Students must be physically, mentally, and competently prepared for the implementation of the teaching factory. They must master the material prepared by the school and industry and be ready to face industry pressure and deadlines. Facilities and infrastructure at SMK Telkom Malang, especially computer laboratories, meet standards for teaching factory implementation. This laboratory is important for improving learning quality and preparing students for teaching factory implementation.

Implementation of RPL Teaching Factory in terms of Outcomes

The implementation of the teaching factory (TF) in the RPL program has outcome aspects such as Internal Needs, Market Acceptance, Product Delivery, Teaching Factory Product Quality, Quality of Services in the Teaching Factory, Quality Control, and Product Innovation. Evaluation shows that most students fall into the "Good" category in these aspects. The countenance evaluation model was used to evaluate TF implementation, focusing on outcomes such as product identification and benefits obtained. Evaluation methods involve questionnaires, monitoring, and interviews.

The implementation of TF at SMK Telkom Malang involves students in tasks assigned by industry mentors. They are given work schemes like employees in the industry to gain real work experience. Guidance and monitoring are carried out by teachers and industry mentors to ensure that students carry out TF according to procedures. Teacher mentors do technical planning and monitor student tasks at DUDI, while industrial mentors assist in improving student competencies. Although the implementation of TF is done well in several aspects, there are still obstacles such as difficulties in finding teacher mentors at school and some issues in the TF implementation process that need to be addressed. Communication between schools and industries is important to overcome these obstacles.

DU/DI satisfaction with student competencies in teaching factory implementation

Reliability test data show good results with high Cronbach's alpha values for each aspect of countenance evaluation, namely Antecedent (0.944), Outcome (0.667), DU/DI Satisfaction (0.609), and Transaction (0.604). All items have alpha values above 0.600, indicating reliable instruments for collecting customer satisfaction data. Classic assumption tests were conducted to obtain DU/DI satisfaction. Normality tests show a normal data distribution with a significance value of 0.338. Multicollinearity tests show no multicollinearity symptoms between the independent variables Antecedent, Transaction, and Outcome. The F-test results indicate a significant simultaneous effect of all three independent variables on DU/DI satisfaction. The linear regression model has high significance in predicting DU/DI satisfaction. The t-test shows that the Transaction and Outcome variables have a significant effect on DU/DI satisfaction, while the Antecedent variable is not significant. There is no multicollinearity between the independent variables based on tolerance and VIF values. From the results of classical assumption testing, it can be concluded that in the implementation of the teaching factory at SMK Telkom Malang, the Transaction and Outcome variables need to be considered to improve DU/DI satisfaction, while the Antecedent variable is not the main focus in improving DU/DI satisfaction.

CONCLUSION

Based on the research findings, the evaluation of the implementation of the Teaching Factory (TF) at SMK Telkom Malang in the Software Engineering competence indicates the following. Firstly, in terms of Antecedents, the evaluation of student respondents shows that the results are mostly in the categories of "Very Good" and "Good," but some indicators still need improvement. Secondly, in terms of Transactions, the evaluation indicates that student respondents are in the "Good" category, indicating that the transaction aspect is good and needs to be maintained. Thirdly, in terms of Outcomes, the evaluation shows that student respondents are in the "Good" category, indicating that the results of the activities in TF are good and need to be maintained. From this discussion, it can be concluded that the management of TF at SMK Telkom Malang can increase DU/DI satisfaction by paying attention to the Transaction and Outcome variables. Recommendations provided include improvement in several indicators in terms of Antecedents, maintenance of the quality of Transactions and Outcomes, and special attention to the Transaction and Outcome variables to improve DU/DI satisfaction and the success of TF management more effectively.

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