Performance of SAW and WP Method in Determining the Feasibility of Motorcycle Engineering Workshop for Competency Test of Vocational High School Student

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Abstract:Vocational High School is one form of a formal education unit that provides vocational education in secondary education as a continuation of SMP, MTs. Graduates who are owned by SMK will be able to choose the skill in accordance with the majors in persistent as stock in the world of business and industry. Feasibility in facilities and infrastructure has an important role in producing qualified graduates. Laboratory is an important tool in the activities of Competency Test Graduation skills expertise. In this study comparing two methods of Simple Additive Weighting and Weight Product Method as an effort to measure the feasibility level of Kopetensi Test in motorcycle engineering program by using alternative school in Pringsewu District. From the results of the study conducted both methods can be used as a basis in decision making lab workshop Competency Testing Expertise in District Pringsewu.

IndexTerms:Simple additive weighting, weighted product, vocational high school

I. INTRODUCTION

Vocational secondary education prepares students with professional, productive and independent skills to be ready to work in a particular field and aims to print their graduates into qualified and competing workforce in the era of globalization and can develop their capabilities in the Business World and the Industrial World. In Government Regulation 19/2005 on National Education Standards, the purpose of SMK implementation is that Vocational Secondary Education places priority on the preparation of students to enter employment and develop professional attitudes[1].

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One of the efforts made by the government is through the procurement of Skills Competency Exam to improve the quality of education. Because to produce graduates with International competitiveness, schools should be able to prepare students based on the National Education Standards (SNP). SNP is a minimal measure of the education system throughout the territory of the Unitary State of the Republic of Indonesia. However this should be accompanied by laboratory facilities or workshops that meet national education standards.

Feasibility of Facilities and Infrastructure Practice Test of Vocational Competency Program of Light Vehicle Engineering Expertise of Private SMK Accerditation B DistrictSleman. In this study using quantitative descriptive method by taking sample 3 SMK and obtain the average percentage of the three schools is 58.33% and entered in a condition worthy based on standard infrastructure that has been determined through Permendikas No. 40 year 2008. For the electrical engineering practice of vehicle engineering skills program SMK Negeri as Sleman District get the average percentage of third Vocational high school equal to 60,47% and entered in the appropriate category pursuant to Penper. 40 of 2008 and Instrument verification SMK providers skill competency exam from BSNP.[2]

In SMK there are several majors of expertise programs such as Computer Network Engineering, Light Vehicle Engineering, Audio Visual and Motorcycle Techniques (TSM). All of these courses require facilities and infrastructure that must meet the National Standards to produce qualified graduates. This should be accompanied by laboratory facilities / workshop practices that meet the standards of UKK (Test Skill Competency) in SMK. Based on the above description it is necessary to conduct research on the feasibility level of Motorcycle Engineering workshop (TSM) in the framework of execution of Expertise Competence Expertise Program of Motorcycle Engineering in SMK in Pringsewu Regency.

II. LITERATURE REVIEW

Decision Support System

Turban (2007) Decision support system is as a system used to support and help the management to make decisions on semi structured and unstructured conditions.

Basically the concept of DSS is limited to activities to help managers to assess and change the position and role of managers[3].Decision support system is a system that provides the ability to solve problems and communication for problems that are semi-structured [4].

Vocational high School

Vocational High School, hereinafter abbreviated as SMK, is one form of a formal education unit that conducts vocational education at secondary education level as a continuation of junior high school, MTs, or other equivalent or advanced form of the same or equivalent learning achievement of SMP or MTs. According to the explanation written in Law Number 20 Year 2003 on National Education System Article 15 it is stated that "Vocational Education is a secondary education that prepares learners primarily to work in certain areas[5].

Motorcycle Engineering

The competence of motorcycle engineering expertise on SMK aims to equip learners with the skills, knowledge and attitude to be competent in carrying out maintenance and repair of motorcycle components independently, maintaining and repairing motorcycles in accordance with the standards specified by the factory, maintaining and repairing bicycles motor in a workshop or company where work, creating new jobs for others[6].

Skill Competency Test (UKK)

Skill Competency Test on Vocational School is part of National Examination which become indicator of the achievement of graduate competency standard, while for stockholderbe used as information on competence of candidate of workforce. In the academic year 2014/2015 National Examination for Vocational High School students is regulated in the Regulation of the Minister of Education and Culture of the Republic of Indonesia (Permendikbud RI) Number 59 Year 2011 on Graduation Criteria of Students from Education Unit and Implementation of School / Madrasah Exam and National Examination. Practice exam is an integral part of the national exam activities that must be followed by the students of class XII in completing the final task of the series of learning activities. This becomes important because students can be seen observed and evaluated the extent to which the achievement of the competency standards achieved in the level of vocational school level and into a measure of whether the skill students have been considered capable of performing certain skills or not[6].

Laboratory or Workshop

The laboratory or workshop is a place to carry out practical learning that requires special equipment. The laboratory or workshop serves as a place to solve problems, deepen a fact, practice skills, skills, and develop attitudes[7].

According to Permenpan No. 3 Year 2010 Laboratory is an academic support unit in educational institution, in the form of closed or open space, permanent or moving, systematically managed for limited testing, calibration and / or production activities, using equipment and materials based on certain scientific methods, in the context of the implementation of education, research, and / or community service[8].

Multiple Attribute Decision Making

A. Fuzzy Multiple Attribute Decision Making is a method used to find alternatives with certain criteria[9]. FMADM functions to determine the weight value for each attribute, then proceed with the ranking process that will select the alternatives already given. In an objective approach the weighting value is calculated mathematically so that it ignores the subjectivity of decision making. There are several methods used to solve FMADM problems, among others [11][12][13]:

a. Simple Additive Weighting (SAW)
b. Weight Product (WP)
c. Elimination et choixtraduisant la realite (ELECTRE)
d. Technique For Order Preference By Similarity To Ideal Solution (TOPSIS)
e. Analytic Hierarchy Process (AHP)[14][10]

III. RESEARCH METHODOLOGY

Simple Additive Weighting Method

The Simple Additive Weighting method is a weighted sum. The basic concept of this method is to find the weighted sum of the performance twig on each alternative on all criteria. Simple Additive Weighting method recognizes the existence of two attributes namely benefit criteria (benefit) and cost criteria (Cost). The fundamental difference between these two criteria is in the selection of criteria when making decisions[15][10]. Here is the formula of simple additive weighting (SAW):

$$Rij = \begin{cases} \dfrac{Xij}{maxi\ (xij)} \\ \dfrac{Minixij}{Xij} \end{cases} \quad (1)$$

If k is a profit attribute
If k is the cost attribute (cost)
Information:

Rij = Value of normalized performance twig
Xij = the attribute value that belongs to each criterion
Maxi (xij) = the largest value of each criterion
Min i xij = The smallest value of each criterion
Benefit = if the greatest value is best
Cost = if the smallest value is best

$$\mathbf{V_i} = \sum \boldsymbol{W_j R_{ij}} \quad (2)$$

Information:Vi = rank for each alternative
Wj = weighted value of each criterion

Ri = normalized performance rating value
The completion step in using it is...:

1. Determine alternatives, is Ci
2. Specifies each alternative's match rating on each criteria.
3. Provides an alternative match rating reting on each criteria.

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4. Determine the preference or importance level (W) weight of each criterion.
W= [W1, W2, W3, Wj]
5. Create a match rating table of each alternative on each criteria.
Create a decision matrix (X) formed from the match twig table of each alternative on each criterion. The value of X each alternative (Ai) on each criterion (Cj) has been determined, where, i = 1,2, ... m and j = 1,2, .. [14]

Weighted Product Method

Weighted Product uses multiplication techniques to attribute the attribute rating, where the rating of each attribute must be raised first with the corresponding weight attribute[16][17]. Step-by-step in problem solving using Weighted Product method is.
1. Normalization or Repair Weight

$$wj = \frac{wj}{\sum wj} \quad (1)$$

Perform normalization or weight fixation to produce the value wj = 1 where j = 1, 2, ..., n are many alternatives and is the sum of the overall weight value.

Determining the Vector Value (*s*)

$$Si = \prod_{j}^{n} x_{ij^{wj}}$$

With i = 1,2, ..., m and j = 1,2, ..., n. (2) as an attribute. Information :
Π : Product
Si : Score / value of each alternative
X_{ij} : Alternative value i to attribute to j
W_j : Weight of each attribute or criterion
n : Many Criteria

Determine the value of the vector (S) by multiplying all criteria with alternatives of normalization result or the improvement of the weight of positive rank for the benefit criterion from the negative rank to the cost criterion. Where (S) is the criterion preference (x) is the criterion value and (n) is the number of criteria.

Determining the Vector Value (*V*)

$$V_i = \frac{\prod_{j=1}^{n} x_{ij^{wj}}}{\prod_{j=1}^{n} (x_j^*)wj}$$

With i = 1,2,....., m. (3)

Determining the value of vector (V) in which the vector (V) is an alternative preference to be used for ranking of each number of vector (S) values with the sum of all vector values (*S*)[18].

Laboratory Feasibility AnalysisWorkshop

Measurement scale is an agreement used as a reference to determine the short length of intervals in the measuring tool, so that measuring instruments when used in the measurement will produce quantitative data. In this study the scale used is Rating Scale (scale terraced).

Table. 1 Percentage of Labor Eligibility/TSM Workshop

No	Definition	Achievement Criteria
1.	Very Decent	76% - 100%
2.	Well worth it	51% - 75%
3.	Less Eligible	26% - 50%
4.	Not feasible	0 - 25%

Source: Kemendikbud [19]

Determination of Labor Feasibility CriteriaTSM Workshop

In the calculation of Simple Additive Weighting and Weight Product method the first step is to determine the criteria based on the weight value. The following criteria in determining the feasibility of lab / workshop can be seen in table 2.

Table. 2 Laboratory Feasibility Criteria / Workshop

No	Type	Criteria	Value	Weight
1.	Automotive Engine Work Area	Area ≥ 96 m² Area ≤ 95 m2 Width 8 m Width ≤ 8 m	100 50 75 25	25%
2.	Electrical Work Area	Area ≥ 48 m². Area ≤ 47 Width ≥ 6 m Width ≤ 5	100 50 75 25	35%
3.	Chassis Work Area and Power Transfers	Area ≥ 64 m² Area ≤ 63 m² Width ≥ 8 m Width ≤ 7 m	100 50 75 25	20%
4.	Storage room and instructor	Area ≥ 48 m² Area ≤ 47 m² Width ≥ 6 m Width ≤ 5m	100 50 75 25	20%

IV. RESULT

Simple Additive weighting test

In this research, decision making process of TSM workshop feasibility for UKK using Simple Additive Weighting method there are several criteria among others:

Table. 3 Alternative Lab Workshops

No	Alternative	School
1.	A	SMK YPT Pringsewu
2.	B	SMK YasmidaAmbarawa
3.	C	SMK PelitaGadingrejo
4.	D	SMK KH. GhalibPringsewu
5.	E	SMK 2 Mei Pringsewu
6.	F	SMK MuhammadiyahPringsewu
7.	G	SMK MuhammadiyahPagelaran
8.	H	SMK PGRI 02 Pringsewu
9.	I	SMK PGRI 01 Gumukmas
10.	J	SMK Karya Bhakti Pringsewu

The next step determines a match rating:

Table.4 Rating Matches

Alternative	Result			
	C1	C2	C3	C4
A	100	75	100	100
B	75	100	75	100
C	50	50	25	75
D	25	100	50	50
E	25	75	25	50
F	75	50	25	75
G	50	25	100	75
H	100	100	50	75
I	100	50	50	50
J	75	75	25	75

Then do a decision matrix that is formed from:

$$X=\begin{pmatrix} 100 & 75 & 100 & 100 \\ 75 & 100 & 75 & 100 \\ 50 & 50 & 25 & 75 \\ 25 & 100 & 50 & 50 \\ 25 & 75 & 25 & 50 \\ 75 & 50 & 25 & 75 \\ 50 & 25 & 100 & 75 \\ 100 & 100 & 50 & 75 \\ 100 & 50 & 50 & 50 \\ 75 & 75 & 25 & 75 \end{pmatrix}$$

Perform normalization of any alternatives Matrix Normalization

$r1_1 = \frac{100}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{100}{100} = 1$
$r1_2 = \frac{75}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{75}{100} = 0.75$
$r1_3 = \frac{100}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{100}{100} = 1$
$r1_4 = \frac{100}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{100}{100} = 1$

$r2_1 = \frac{75}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{75}{100} = 0.75$
$r2_2 = \frac{100}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{100}{100} = 1$
$r2_3 = \frac{75}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{75}{100} = 0.75$
$r2_4 = \frac{100}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{100}{100} = 1$

$r31 = \frac{50}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{50}{100} = 0.5$
$r32 = \frac{50}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{50}{100} = 0.5$
$r33 = \frac{25}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{25}{100} = 0.25$
$r34 = \frac{75}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{75}{100} = 0.75$

$r41 = \frac{25}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{25}{100} = 0.25$
$r42 = \frac{100}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{100}{100} = 1$
$r4_3 = \frac{50}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{50}{100} = 0.5$
$r4_4 = \frac{50}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{50}{100} = 0.5$

$r5_1 = \frac{25}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{25}{100} = 0.25$
$r5_2 = \frac{75}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{75}{100} = 0.75$
$r5_3 = \frac{25}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{25}{100} = 0.25$
$r5_4 = \frac{50}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{50}{100} = 0.5$

$r6_1 = \frac{75}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{75}{100} = 0.75$
$r6_2 = \frac{50}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{50}{100} = 0.5$
$r6_3 = \frac{25}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{25}{100} = 0.25$
$r6_4 = \frac{75}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{75}{100} = 0.75$

$r7_1 = \frac{50}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{50}{100} = 0.5$
$r7_2 = \frac{25}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{25}{100} = 0.25$
$r7_3 = \frac{100}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{100}{100} = 1$
$r7_4 = \frac{75}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{75}{100} = 0.75$

$r8_1 = \frac{100}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{100}{100} = 1$
$r8_2 = \frac{100}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{100}{100} = 1$
$r8_3 = \frac{50}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{50}{100} = 0.5$
$r8_4 = \frac{75}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{75}{100} = 0.75$

$r9_1 = \frac{100}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{100}{100} = 1$
$r9_2 = \frac{50}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{50}{100} = 0.5$
$r9_3 = \frac{50}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{50}{100} = 0.5$
$r9_4 = \frac{50}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{50}{100} = 0.5$

$r10_1 = \frac{75}{Max(100,75,50,25,25,75,50,100,100,75)} = \frac{75}{100} = 0.75$
$r10_2 = \frac{75}{Max(75,100,50,100,75,50,25,100,50,75)} = \frac{75}{100} = 0.75$
$r10_3 = \frac{25}{Max(100,75,25,50,25,25,100,50,50,25)} = \frac{25}{100} = 0.25$
$r10_4 = \frac{75}{Max(100,100,75,50,50,75,75,75,50,75)} = \frac{75}{100} = 0.75$

From the above calculation obtained the normalization matrix as follows:

$$R=\begin{pmatrix} 1 & 0.75 & 1 & 1 \\ 0.75 & 1 & 0.75 & 1 \\ 0.5 & 0.5 & 0.25 & 0.75 \\ 0.25 & 1 & 0.5 & 0.5 \\ 0.25 & 0.75 & 0.25 & 0.5 \\ 0.75 & 0.5 & 0.25 & 0.75 \\ 0.5 & 0.25 & 1 & 0.75 \\ 1 & 1 & 0.5 & 0.75 \end{pmatrix}$$

Give value to each of the following criteria: W1 = 25%, W2 = 35%, W3 = 20%, W4 = 20% The next best ranking results for each alternative (Vt) can be calculated by the following formula:

$$V_t = \sum W_j R_{ij} \quad \text{.....(1)}$$

Then the results obtained as follows:

V_1 = (0.25)(1) + (0.35)(0.75) + (0.2)(1) + (0.2)(1)
=0.25+0.262+0.2+0.2 = 0.912
V_2 = (0.25)(0.75) + (0.35)(1) + (0.2)(0.75) + (0.2)(1)
=0.187+0.35+0.15+0.2 = 0.887
V_3 = (0.25)(0.5) + (0.35)(0.5) + (0.2)(0.25) + (0.2)(0.75)
=0.125+0.175+0.05+0.15 = 0.5
V_4 = (0.25)(0.25) + (0.35)(1) + (0.2)(0.5) + (0.2)(0.5)
=0.063+0.35+0.1+0.1 = 0.163
V_5 = (0.25)(0.25) + (0.35)(0.75) + (0.2)(0.25) + (0.2)(0.5)
=0.063+0.263+0.05+0.1 = 0.476
V_6= (0.25)(0.75) + (0.35)(0.5) + (0.2)(0.25) + (0.2)(0.75)
=0.118+0.175+0.05+0.15 = 0.563
V_7 = (0.25)(0.5) + (0.35)(0.25) + (0.2)(1) + (0.2)(0.75)
=0.125+0.088+0.2+0.15 = 0.0.563
V_8= (0.25)(1) + (0.35)(1) + (0.2)(0.5) + (0.2)(0.75)
=0.25+0.35+0.1+0.15 = 0.85

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V_9= (0.25)(1) + (0.35)(0.5) + (0.2)(0.5) + (0.2)(0.5)
=0.25+0.175+0.1+0.1 = 0.625
V_{10} = (0.25)(0.75) + (0.35)(0.75) + (0.2)(0.25) + (0.2)(0.75)
=0.188+0.263+0.05+015 = 0.581

Based on the results of the above study obtained lab / workshops that are less feasible TSM at SMK PelitaGadingrejo and SMK 2 May Pringsewu with a value of 0.5 and 0.478 respectively.

Testing Using Weight Product

By using the same criteria and alternative data in the test also use the Weight Product method to know the accuracy of the calculation.

Table. 5 Rating Match

Alternative	Result			
	C1	C2	C3	C4
A	100	75	100	100
B	75	100	75	100
C	50	50	25	75
D	25	100	50	50
E	25	75	25	50
F	75	50	25	75
G	50	25	100	75
H	100	100	50	75
I	100	50	50	50
J	75	75	25	75

Repair Weight (W = 4, 5, 3, 2)

$W_1 = \frac{4}{4+5+3+2} = \frac{4}{14} = 0{,}2857$
$W_1 = \frac{5}{4+5+3+2} = \frac{5}{14} = 0{,}3571$
$W_1 = \frac{3}{4+5+3+2} = \frac{3}{14} = 0{,}2142$
$W_1 = \frac{2}{4+5+3+2} = \frac{2}{14} = 0{,}1428$

Then the vector S is calculated based on the equation
$S_1 = (100^{0,2857})(75^{0,3571})(100^{0,2142})(100^{0,1428})$=90,1538
$S_2 = (75^{0,2857})(100^{0,3571})(75^{0,2142})(100^{0,1428})$=86,5253
$S_3 = (50^{0,2857})(50^{0,3571})(25^{0,2142})(75^{0,1428})$=45,6347
$S_4 = (25^{0,2857})(100^{0,3571})(50^{0,2142})(50^{0,1428})$=52,4957
$S_5 = (25^{0,2857})(75^{0,3571})(25^{0,2142})(50^{0,1428})$=40,8345
$S_6 = (75^{0,2857})(50^{0,3571})(25^{0,2142})(75^{0,1428})$=51,2394
$S_7 = (50^{0,2857})(25^{0,3571})(100^{0,2142})(75^{0,1428})$=47,9467
$S_8 = (100^{0,2857})(100^{0,3571})(50^{0,2142})(75^{0,1428})$= 85,0846
$S_9 = (100^{0,2857})(50^{0,3571})(50^{0,2142})(50^{0,1428})$=60,9024
S_{10}= $(75^{0,2857})(75^{0,3571})(25^{0,2142})(75^{0,1428})$=59,2225

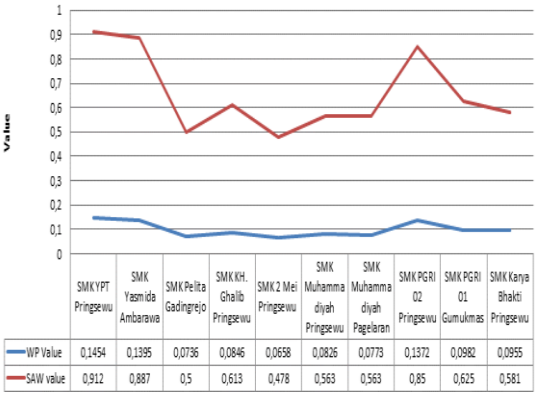
After obtaining the vector value S, then determine the feasibility rating of labTSM workshop for UKK using equation:

$$V_i = \frac{\prod_{j=1}^{n} x_{ij^{wj}}}{\prod_{j=1}^{n}(x_j^*)wj}$$

$V_1 = \frac{90{,}1538}{620{,}0396} = 0{,}1454$
$V_2 = \frac{86{,}5253}{620{,}0396} = 0{,}1395$
$V_3 = \frac{45{,}6347}{620{,}0396} = 0{,}0736$
$V_4 = \frac{52{,}4957}{620{,}0396} = 0{,}0846$
$V_5 = \frac{40{,}8345}{620{,}0396} = 0{,}0658$
$V_6 = \frac{51{,}2394}{620{,}0396} = 0{,}0826$
$V_7 = \frac{47{,}9467}{620{,}0396} = 0{,}0773$
$V_8 = \frac{85{,}0846}{620{,}0396} = 0{,}1372$
$V_9 = \frac{60{,}9024}{620{,}0396} = 0{,}0982$
$V_{10} = \frac{59{,}2225}{620{,}0396} = 0{,}0955$

Table. 6 Comparison Results SAW and WP Methods

No	School	Ranking WP	WP Value	Ranking SAW	SAW value
1	SMK YPT Pringsewu	I	0,1454	I	0,912
2	SMK Yasmida Ambarawa	II	0,1395	II	0,887
3	SMK Pelita Gadingrejo	IX	0,0736	IX	0,5
4	SMK KH. Ghalib Pringsewu	VI	0,0846	V	0,613
5	SMK 2 Mei Pringsewu	X	0,0658	X	0,478
6	SMK Muhammadiyah Pringsewu	VII	0,0826	VII	0,563
7	SMK Muhammadiyah Pagelaran	VIII	0,0773	VIII	0,563
8	SMK PGRI 02 Pringsewu	III	0,1372	III	0,85
9	SMK PGRI 01 Gumukmas	IV	0,0982	IV	0,625
10	SMK Karya Bhakti Pringsewu	V	0,0955	VI	0,581



	SMK YPT Pringsewu	SMK Yasmida Ambarawa	SMK Pelita Gadingrejo	SMK KH. Ghalib Pringsewu	SMK 2 Mei Pringsewu	SMK Muhammadiyah Pringsewu	SMK Muhammadiyah Pagelaran	SMK PGRI 02 Pringsewu	SMK PGRI 01 Gumukmas	SMK Karya Bhakti Pringsewu
WP Value	0,1454	0,1395	0,0736	0,0846	0,0658	0,0826	0,0773	0,1372	0,0982	0,0955
SAW value	0,912	0,887	0,5	0,613	0,478	0,563	0,563	0,85	0,625	0,581

Fig. 1 WP Value and SAW Value

V. CONCLUSION

The conclusion of the feasibility study of the lab workshop in the implementation of the UKK obtained conformity betweenapplication of Simple Additive Weighting and Weight Product method so that both methods can be used as the basis in decision making lab workshop Expert Competency Test in Pringsewu District.

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