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Application Of Simple Additive Weighting (SAW) For The Selection Of Breast Milk Pumps For Working Mothers

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ABSTRACT

Optimal breastfeeding is very important because it can save more than 800,000 lives of children under five every year. Among the many reasons why mothers do not exclusively breastfeed is that they go back to work (22.5%). Homemakers have a greater chance of exclusively breastfeeding because they spend more time with the baby, allowing them to breastfeed optimally. Based on the results of previous studies, working mothers give breast milk directly (when they are at home or resting) and give milk from milk. Using a breast pump is considered more practical, easier and saves time. The breastpump method (MPA) for exclusive breastfeeding for working mothers also does not interfere with the work process and offers flexibility in working hours. What worries women who work while breastfeeding is maintaining breast milk production during working hours. However, according to research, there is no significant difference between the effectiveness and satisfaction of breast milk production when using an electric breast pump. The use of a breast pump does not affect the amount of breast milk produced, even though an electric breast pump provides more effectiveness and satisfaction in expressing breast milk. This study aims to select the type of breast pump for working mothers to facilitate exclusive breastfeeding of the baby. The result of the calculation of SAW method resulted in a recommendation for a breast pump Moom Uung with a value of 15.67 The result of the calculation of SAW method resulting in a recommendation for a breast pump Moom Uung with a value of 15.67.

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1. Introduction

In 2020, 41,684 babies were reported in East Jakarta, DKI Jakarta province. This is the area with the highest birth rate compared to other regions such as West Jakarta with 30,533 people, South Jakarta with 27,631 people, North Jakarta with 23,927 people, while 12,851 people were reported for Jakarta Purat (https://statistik.jakarta.go.id/pelaporan-kelahiran-bayi-di-dki-jakarta-tahun-2020/). WHO recommends exclusive breast milk (ASI) for the first 6 months of life, but the facts show that only 43% of babies from 0-6 months are exclusively breastfed. Optimal breastfeeding is very important because it can save more than 800,000 lives of children under five each year. Among the many reasons mothers do not exclusively

breastfeed is that mothers return to work (22.5%). Homemakers have a greater chance of exclusively breastfeeding because they spend more time with the baby, allowing them to breastfeed optimally [1]. The decrease in the percentage of exclusive breastfeeding over three months of age is related to the elapsed maternity leave period. The standard of providing three months of maternity leave is a challenge to exclusive breastfeeding for working mothers [2]. Based on the results of previous studies, working mothers give breast milk directly (when they are at home or in rest periods) and give formula. The use of breast pumps is considered more practical, easier and time-saving [3].

Exclusive breastfeeding means giving the baby only breast milk, without adding any other food or drink, including water. Breastfeeding is done as often as possible as needed, both in the morning and in the evening. No bottles, pacifiers, or apartments are used during breastfeeding. Breast milk is a natural food for babies that provides needed energy and nutrients during the first 6 months of life and is maintained until 2 years of age. Breast milk improves sensory and motor development and protects against infections and chronic diseases. Exclusive breastfeeding plays a role in reducing deaths from diseases that affect many children, such as diarrhea and pneumonia, and helps with recovery. The use of breast pumps is increasing, but evidence of effectiveness is uncertain. Breast pumps are considered items of financial value, are acceptable, and have the potential to overcome barriers among breastfeeding mothers, with some potential risks. The breast pump method (MPA) for exclusive breastfeeding among working mothers, this method also does not interfere with the work process and provides flexibility in work schedules. What worries women who are working mothers in breastfeeding is how to maintain breast milk production during working hours [4]. However, according to research, there is no significant difference between the effectiveness and satisfaction of breast milk production when using an electric breast pump. The use of a breast pump does not affect the amount of breast milk produced, even though the electric breast pump provides effectiveness and satisfaction during breast milk pumping [5].

This study aims to select the type of breast pump for working mothers to facilitate exclusive breastfeeding of the baby.

2. Research Method

A. Metode Simple Additive Weighting (SAW)

The problem is the variety of breast pumps offered, so working mothers often regret buying a breast pump. Some mothers choose a breast pump because of the low price, although there are many aspects to consider when choosing a breast pump, such as suction power, quality and size of the breast shield. In order to make an appropriate and transparent decision, a method that provides a solution for selecting a breast pump is needed to help mothers choose the right breast pump. The Decision Support System (SPK) is a system that provides support for solving semi-structured and structured problems. SPK supports different levels, for individuals and groups. There are many methods that can be used to support decision making. Fuzzy multi-attribute decision making is one of the decision support methods that is quite simple and can be an alternative in decision making when the alternatives or attributes used are quite large and have quantitative data value. Fuzzy multi-attribute decision making itself has several methods that can help to find the best alternatives, including: ELECTRE analytic Hierarchy Processes (AHP), Simple Additive Weighting (SAW), Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) and Weighted Product (WP). The SAW AHP (Analytic Hierarchy Process) method is used to solve the above problems.

The SAW method is often referred to as the weight summation method. requires the normalization process of the decision matrix (X) in a scale that can be compared with all existing alternative evaluations [6].
The SAW method is the most dynamic method and is often used to solve the Multiple Attriibute Decision Making (MADM) problem. In this method, the decision maker determines the weighting of each attribute. The total value for an alternative is the sum of the result of multiplying the number of criteria and the weights of each attribute. Steps in the SAW method [6]:

Creating a decision matrix R of size m x , where m is the alternative choice and n is the criterion. Gives the value of X to each alternative (i) to each predetermined criterion (j), where 1=1.2,.... and j =1,2, ... On the decision matrix R.

$$R=\begin{bmatrix} x11 & x12 & x13 & \dots & x1n \\ & & x21 & x22 & x23 \\ & & x31 & x32 & x33 \\ & & \dots & \dots & \dots \\ xm1 & xm2 & xm3 & \dots & xmn \end{bmatrix} \begin{matrix} \dots & x2n \\ \dots & x3n \\ \dots & \dots \end{matrix}$$

Giving the weight of preference (W) by the decision maker to each of the predetermined criteria.
W= {wj,wj, ... wn}
Normalizing the R decision matrix by adjusting the normalized kinerka rating value (rij) with the accrenative on the Cj attribute.

$$rij=\begin{cases} \dfrac{xij}{\max} & \text{if j attribute of Benefit} \\ \dfrac{\min xij}{xij} & \text{if j attribute of Cost} \end{cases} \qquad xij$$

where rij is the normalized rating of alternative Ai on the Cj attribute : I =1, 2, ..., m and j=1.2,....., n the result of the normalization work rating (rij) forms a normalized matrix (Z).

$$Z=\begin{bmatrix} x11 & x12 & x13 & \dots & x1j \\ & & x21 & x22 & x23 \\ & & x31 & x32 & x33 \\ & & \dots & \dots & \dots \\ xi1 & xi2 & xi3 & \dots & xij \end{bmatrix} \begin{matrix} \dots & x2j \\ \dots & x3j \\ \dots & \dots \end{matrix}$$

Determining the preference value for each alternative (Vi) by summing the product between the normalized matrix (Z) and the Preference weight value (W) :

$$V1 = \sum_{j=1}^{n} wj\ rij$$

Information :
Vi = Rankings for each alternative
Wi = weight value for each criterion
Rij = Normalized performance rating values
A large Vi value identifies that the Ai alternative is the best alternative.

B. Relevant Research

Based on a study in the journal titled "Decision Support System for Village Beneficiaries in Klungkung District With SAW Method", it was found that: This study aims to create a design and implement it as a decision support system for determining CBD beneficiaries for villages using mathematical modeling. It is expected that the results of this study will be useful to decision makers in determining which villages are eligible for conditional support from the government [7].
Based on research in the journal titled "Decision Support System to Determine Business Location With Simple Additive Weighting (SAW) Method", we concluded: the advantage of SAW is that it is easy to use, the calculation is done with weighted addition, determining the best alternative, so it can support the testing process and answer the purpose of this research [8].
Based on research in the journal titled "Decision Support System for Determining Rewards for the Best Partners Using the Simple Additive Weighting (SAW) Method (Case Study: PT. Telkom Access)", it was concluded that: in implementing the evaluation of the best partners of PT. Telkom Access based on the criteria of data matching, attributes, presence and performance, accuracy is required and must be consistent with the scale of the criteria. In addition, the comparison of the percentage of system calculations can provide recommendations to PT. Telkom Akses uses the system because it has been tested and runs very well and gives reasonable results. It is hoped that this research will be further developed because the system created in this study is the first system created [9].

Based on research in the journal titled "Wedding Package Selection Decision Support System Using Simple Additive Weighting (SAW) Method", it was found that: One of the appropriate methods to complete the process of adjusting the value of criteria that match the interests of service users is the SAW method, in which service users give a weight to each criterion to obtain the best alternative package selection [10].

Based on a research in the journal titled "Teacher Certification Eligibility Decision Support System Using the SAW (Simple Additive Weighting) Method Case Study of SMAN 1 Pringsewu " it was found that: From the analysis, an overview was obtained that the Teacher Certification Eligibility Decision Support System Using the SAW (Simple Additive Weighting) Method can be done with a computer that suits your needs, so its use is easier to get better ranking results. With the existence of decision support system for teacher certification, it is hoped that it can make the results of teacher certification analysis easier [11].

Based on research in the journal titled "Bem Management Election Decision Support System Using FMADM (Fuzzy Multiple Additive Decision Weigth) Method With SAW Method (Simple Additve Weigth)", it was found that: The selection of BEM members with the parameters of evaluation of student quality and quantity, obedience, organisational spirit, and discipline using FMADM (Fuzzy Multiple Additive Decision Making) and SAW (Simple Additive Weighting) algorithms has gone well and can provide accurate and quickly visible analysis and information compared to manual calculations, so that BEM engineering faculty can use it as a tool for decision making [12].

Based on a research in the journal titled "Supplier Selection Decision Support System in Tia Pet Shop With Simple Additive Weighting (SAW) Method", it was found that: From the research conducted, a decision support system was obtained that can support the determination of suppliers in Tia Pet Shop. This decision support system provides a ranking of available alternatives based on criteria established by the owner using the Simple Additive Weighting (SAW) method. The results of the decisions made using this system guide the owner in selecting Tia Pet Shop suppliers [13].

Based on research in the journal titled "The Best Supplier Selection Decision Support System Using the Simple Additive Weighting (SAW) Method at PT. BERCA SCHINDLER LIFTS" concluded that: The best supplier selection system at PT. Berca Schindler Lifts using the Simple Additive Weighting (SAW) calculation method speeds up the selection process in choosing the best supplier and reduces errors in the determination. 2. By using the Simple Additive Weighting method (SAW), it can accurately and quickly generate supplier recommendations at PT. Berca Schindler Elevators [14].

Concluded based on research in the journal titled "Building a Decision Support System for Stock Investment With the SAW Method" that: Building a Decision Support System created in this study applies the SAW method in describing stock investment in accordance with the unit of stock performance that each company has. With the application of a decision support system with a standard calculation system in conducting stock investment evaluation, it can display the comparative results of each stock recommended for determining stock selection and can be used as a decision support tool for a broker in investment [15].

Based on research in the journal titled "Application of the Simple Additive Weighting (SAW) Method in the Decision Support System to Determine the Place of Pre-employment," it was concluded that: Simple additive weighting (SAW) is one of the decision support methods. Based on the results of the data analysis, the recommended order of pre-employment places was determined with the final result that there were three (3) largest values that became reference places for the students of SMK Negeri 6 Tangerang Regency, namely alternatives A1 (Ahass Abdi Jaya), A2 (Ahass Ardian 4) and A20 (Ardian II) with a final result value of 8. Thus, it will be easy for the school to determine the pre-employment place for its students [16].

A study in the journal titled "Application of the Simple Additive Weghting (SAW) Method in the Application of Decision Support Systems for Road Maintenance" concluded that: The Simple Additive Weighting (SAW) method is the best known and most widely used method for people in dealing with MADM (Multiple Attribute Decision Making) situations. In this study, the SAW method was used to determine the final value for the individual road data. The final value for the resulting road data is a calculation process based on the pre-determined criteria weighting value. Each criterion has sub-criteria that also have a weighting value. The result of the final value is sorted (Z-A), which means that the highest value is the road recommended for road maintenance [17].

Based on a research in the journal titled "Decision Support System in Classifying Scholarship Recipient Students With the Simple Additive Weighting Method at Widyagama University Malang", it was found that: The application of simple additive weighting, which is more accurate and efficient, is used in grouping data and classifying data on prospective scholarship recipients by filling out a questionnaire at Widyagama University Malang [18].

Based on a research in the journal titled "Prototype of a Decision Support System for Determining the Feasibility of Pusri Fertiliser Acceptance Warehouses Using the Simple Additive Weigthing (Saw) Method", it was found that: The Warehouse Feasibility Determination Decision Support System is a simulation of the

system to be developed using Simple Additive Weighting (SAW). The results of the calculations using the SAW method can assist in determining the feasibility of a warehouse based on the following criteria: Size, Capacity, Cleanliness and Care [19].

Based on a journal investigation titled "Decision Support System to Determine the Eligibility of Raskin Program Recipients Using the Simple Additive Weighting (Saw) Method in Kesambi Village." The Decision Support System (SPK) is used as an alternative application system that assists in the decision-making process for determining the eligibility of Raskin Program recipients. This decision support system uses the simple additive weighting method (SAW). The SAW method is a weighted summation method in which each value in the criteria is summed and multiplied by weights that affect the decision making of the data being processed. [20].

Based on a research in the journal titled "Decision Support System for Major Selection Using the SAW (Simple Additive Weighting) Method at SMA 6 Tasikmalaya", we concluded, "The Decision Support System (SPK) for major selection in SMA 6 Tasikmalaya using the SAW method was successfully built to make decisions in the form of recommendations for major selection for students. This decision support system was built by adding criteria to reduce the degree of subjectivity and to make the results of the selection of study subjects more accurate and precise [21].

Based on a research in the journal titled "Decision Support System for Outstanding and Exemplary Civil Servants in the Environment of the Tanah Datar Regency Communication and Information Service Using the SAW Method", it was concluded that by using the SAW method, decision making in selecting outstanding and exemplary civil servants becomes more precise and accurate. By adopting SAW, there is no longer any doubt about the decisions generated by applying the decision support system for exemplary and outstanding officers in the environment of Tanah Datar Regency Communication and Information Service Using the SAW Method [22].

3. Result and Discussion

Several criteria are used in determining a breast pump. The goal is to make a decision about buying the best breast pump. The steps are:

1. Determine focus

The initial stage is about setting goals and objectives. In this case, the authorasn should focus on breast pumps according to the title.

2. Alternatives and criteria

In this phase, the author collects data and records with the aim that with the large amount of data, it will be easier to determine the breast milk pump using the method of simple additive weighting (SAW). There are quite a number of types and brands of breast pumps, but in this study, for example, only 10 brands of electric breast pumps were taken, which are often recommended by breastfeeding mothers. The data is as follows :

Table 1. Alternatives and Criteria

No	BRAND	Price 4			Quality 4			Suction Power 5			Funnel Size 4		
		Cheap	Medium	Expensive	Better	Good	Worse	Strong	Medium	Weak	Large	Medium	Small
1	Mom Uung		■		■			■			■		
2	Mama Chois	■				■			■			■	
3	Mooimom			■			■		■			■	
4	Honney Boo	■					■		■				■
5	Philips		■		■			■				■	
6	Medela			■	■				■				■
7	Kolibri		■		■			■				■	
8	Mutter	■				■		■				■	
9	Pigeon		■			■		■					■
10	Spektra			■	■			■			■		

3. Weighting of each criteria
In determining the criteria, weighting is given to each of the criteria:

Table 2. Table of weights

Information	Price 4			Quality 4			Suction Power 5			Funnel Size 4		
Bobot	Cheap	Medium	Expensive	Better	Good	Worse	Strong	Medium	Weak	Large	Medium	Small

4. Match rating
When the match rating is determined, the value of each criterion is entered into the match rating table, which has been adjusted to match the value of the criteria table. The match table then looks like this :

$$R=\begin{bmatrix} x11 & x12 & x13 & \dots & x1n \\ & & x21 & x22 & x23 \\ & & x31 & x32 & x33 \\ & & \dots & \dots & \dots \\ xm1 & xm2 & xm3 & \dots & xmn \end{bmatrix} \begin{matrix} \\ \dots \\ \dots \\ \dots \\ \\ \end{matrix} \begin{matrix} \\ x2n \\ x3n \\ \dots \\ \\ \end{matrix}$$

Table 3. Match rating

No	BRAND	Price	Quality	Power	Size
1	Mom Uung	2	3	3	3
2	Mama Chois	3	2	2	2
3	Mooimom	1	1	2	2
4	Honney Boo	3	1	2	1
5	Philips	2	3	3	2
6	Medela	1	3	2	1
7	Kolibri	2	3	3	2
8	Mutter	3	2	3	2
9	Pigeon	2	2	3	1
10	Spektra	1	3	3	3

5. Transformation to matrix x
In determining the value of transformation into matrix x is the value of the results of the rating table the match above is made into a matrix form.

$$\begin{bmatrix} 2 & 3 & 3 & 3 \\ 3 & 2 & 2 & 2 \\ 1 & 1 & 2 & 2 \\ 3 & 1 & 2 & 1 \\ 2 & 3 & 3 & 2 \\ 1 & 3 & 2 & 1 \\ 2 & 3 & 3 & 2 \\ 3 & 2 & 3 & 1 \\ 1 & 3 & 3 & 3 \end{bmatrix}$$

6. Determination of performance reference of W

W= {wj,wj, ……wn}
Price =4 Quality = 4 Suction Power =5 Funnel Size= 4

The determination is based on importance weighting, with the very important criteria are contained in the new suction power criteria, accompanied by the krieria of price, quality and hopper size criteria.

7. R normalization table
Normalization of the decision matrix by calculating the value of the normalization power (rij) of the alternative on the attribute Cj
   a. Price

$$r11 = \frac{2}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}67$$
$$r21 = \frac{3}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 1$$
$$r31 = \frac{1}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}33$$
$$r41 = \frac{3}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 1$$
$$r51 = \frac{2}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}67$$
$$r61 = \frac{1}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}33$$
$$r71 = \frac{2}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}67$$
$$r81 = \frac{3}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 1$$
$$r91 = \frac{2}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}67$$
$$r10\,1 = \frac{1}{\max\{2,3,1,3,2,1,2,3,2,1\}} = 0{,}33$$

   b. Quality

$$r12 = \frac{3}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 1$$
$$r22 = \frac{2}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 0{,}67$$
$$r32 = \frac{1}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 0{,}33$$
$$r42 = \frac{1}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 0{,}33$$
$$r52 = \frac{3}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 1$$
$$r62 = \frac{3}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 1$$
$$r72 = \frac{3}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 1$$
$$r82 = \frac{2}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 0{,}67$$
$$r92 = \frac{2}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 0{,}67$$

$$r10\ 2 = \frac{3}{\max\{3,2,1,1,3,3,3,2,2,3\}} = 1$$

c. Suction Power

$$r13 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

$$r23 = \frac{2}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 0{,}67$$

$$r33 = \frac{2}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 0{,}33$$

$$r43 = \frac{2}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 0{,}67$$

$$r53 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

$$r63 = \frac{2}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 0{,}67$$

$$r73 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

$$r83 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

$$r93 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

$$r10\ 3 = \frac{3}{\max\{3,2,2,2,3,2,3,3,3,3\}} = 1$$

d. Funnel Size

$$r14 = \frac{3}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 1$$

$$r24 = \frac{2}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}67$$

$$r34 = \frac{2}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}67$$

$$r44 = \frac{1}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}33$$

$$r54 = \frac{2}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}67$$

$$r64 = \frac{1}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}33$$

$$r74 = \frac{2}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}67$$

$$r84 = \frac{2}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}67$$

$$r94 = \frac{1}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 0{,}33$$

$$r10\ 4 = \frac{3}{\max\{3,2,2,1,2,1,2,2,1,3\}} = 1$$

8. The result of the normalization work rating (rij) forms a normalized matrix (Z)

$$Z = \begin{bmatrix} 0,67 & 1 & 1 & 1 \\ 1 & 0,67 & 0,67 & 0,67 \\ 0,33 & 0,33 & 0,67 & 0,67 \\ 1 & 0,33 & 0,67 & 0,33 \\ 0,67 & 1 & 1 & 0,67 \\ 0,33 & 1 & 0,67 & 0,33 \\ 0,67 & 1 & 1 & 0,67 \\ 1 & 0,67 & 1 & 0,67 \\ 0,67 & 0,67 & 1 & 0,33 \\ 0,33 & 1 & 1 & 1 \end{bmatrix}$$

9. Rating results from each criterion
   Determine the preference value for each alternative (Vi) by adding the product of the normalized matrix (Z) and the weighting value (W).

   V1= (4 x 1)+(4 x 0,67)+(5 x 0,67)+(4 x 0,67) = 15.67
   V2=(4 x 1) + (4 x 0,6)+(5 x 0,67) +(4 x 0,67) =12.67
   V3= (4 x 0,33) +(4 x 0,33) + (5 x 0,67) + (4 x 0,67) =8.67
   V4 = (4 x 1) + (4 x 0,33) + (5 x 0,67) + (4 x 0,33) =10.00
   V5 = (4 x 0,67) + (4 x 1) + (5 x 1) + (4 x 0,67) =14.33
   V6 = (4 x 0,33) + (4 x 1) +(5 x 0,67) +(4 x 0,33) =10.00
   V7 = (4 x 0,67) + (4 x 1) + (5 x 1) + (4 x 0,67) =14.33
   V8 = (4 x 1) + (4 x 0,67) + (5 x 1) + (4 x 0,67) =14.33
   V9 = (4 x 0,67) + (4 x 0,67) + (5 x 1) + (4 x 0,33) = 11.67
   V10 = (4 x 0,33) + (4 x 1) + (5 x 1) + (4 x 1) =14.33

After the normalization process is performed, the preference value of each alternative (Vi) is calculated using the vector of weights (W) specified in the decision making process, and the calculation is as follows:

Table 4. Recommendations Table

No	BRAND	Price	Quality	Power	Size	Total
1	Mom Uung	2.67	4.00	5.00	4.00	15.67
2	Mama Chois	4.00	2.67	3.33	2.67	12.67
3	Mooimom	1.33	1.33	3.33	2.67	8.66
4	Honney Boo	4.00	1.33	3.33	1.33	9.99
5	Philips	2.67	4.00	5.00	2.67	14.34
6	Medela	1.33	4.00	5.00	2.67	13.00
7	Kolibri	2.67	4.00	5.00	2.67	14.34
8	Mutter	4.00	2.67	5.00	2.67	14.34
9	Pigeon	2.67	2.67	5.00	1.33	11.67
10	Spektra	1.33	4.00	5.00	4.00	14.33

In the final calculation of the SAW Vi algorithm for each alternative available, it can be seen that the calculation process performed results in the breast pump Mom Uung having the highest value, with a value of

15.67. This value is the highest calculation process used as a recommendation for a recommended breast pump.

4. Conclusion

The brands of breast pumps are very diverse. There are so many brands and types of breast pumps that they support exclusive breastfeeding programs for at least up to 6 months. In accordance with the results of this study, working mothers who have limited time for breastfeeding can use an electric pump. The method SAW performs calculations based on growth rates and existing criteria. The results of the calculation yielded a value of 15.67, which is the Mom Uung breast pump used as one of the recommendations for electric breast pumps. The calculation process is based on several alternative choices and predetermined criteria. In weighting each benchmark, the factor for the SAW algorithm is used. This can also be done by communicating with other methods of decision support systems.

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