Baby Diaper Recommendation Decision Support System Using SAW Method

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A B S T R A C T

The selection of baby diapers is very important for housewives which aims to avoid things that are not desirable, in the process of this decision support system there are several comparison criteria that will be a reference in the selection of baby diapers. In the process of the decision support system for choosing baby diapers using the SAW method, it aims to provide recommendations in giving baby diapers. This baby diaper decision support system is designed using a MySQL database system to test and find out the ranking of several available alternatives. The decision support system produced in this study can display the ranking of the results of SAW calculations to make housewives' considerations in choosing baby diapers.

Keywords:

Baby Diapers, Decision Support Systems, SAW

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1. INTRODUCTION

A decision support system is a system that is able to provide data management functions based on a certain model, so that users of the system can choose the best alternative decisions. Not only companies or other institutions, the community and students can also use the decision support system with different case studies to get the right results. One of the journals said “DSS is one of the tools that can be used in decision making for decision makers. The decisions offered by the decision support system tend to be fast and quantitatively the best choice based on the level of weight of the criteria given by the management as the decision maker. With the help of a decision support system, complex decision-making can be shortened”[1].

Decision making is the process of selecting alternative courses of action to achieve certain goals or objectives. Decision making determines elective courses in the curriculum based on a systematic approach to problems through the process of collecting data into information and adding to the factors that need to be considered in decision making[2].

The SAW method is often also known as the weighted addition method. The basic concept of the SAW method is to find the weighted sum of the performance ratings for each alternative on all attributes. The SAW method requires the process of normalizing the decision matrix (X) to a scale that can be compared with all existing alternative ratings[3].

Baby diapers are something that is really needed by housewives who have babies and toddlers, the proliferation of various brands of baby diapers makes it difficult for housewives to make a choice. The number of brands of baby diapers is very difficult for housewives in choosing a good and quality brand, not only that, housewives also want to get very, very economical prices for the lower economic class.

The purpose of the study was to determine the highest rating on baby diapers that would be recommended to housewives using the SAW method.

A decision support system using the SAW method has been applied in the research "Decision support system to determine student achievement using the SAW method" with faster, more accurate and effective selection results[4].

The SAW method has also been applied to one of the universities in Manado with the research title "Decision Support Systems in Determining Thesis Supervisory Lecturers". The advantages of this journal that the results of the discussion in this journal are very complete and easy to understand, the manual and system are appropriate, there are manual calculations that are explained so that they can be understood. While the shortcomings in this journal, the system can be developed again to determine the supervisor not only in the study program environment but also in the department environment[5].

The SAW method certainly uses a more accurate assessment because it is based on the value of the predetermined preference weight criteria. This study resulted in a system capable of displaying recommendations for potential beneficiaries in accordance with the predetermined criteria ranking according to system requirements[6].

The SAW method has also been used in determining incremental promotions. Where this method is a weighted calculation method or a method that provides certain criteria that are weighted so that each weighted sum of the results obtained will be the final decision[7].

The SAW method has been carried out in research to facilitate government agencies, especially at the Kubah Sentang Village Office, to select recipients of additional food using a Decision Support System. Decision support systems are needed in government agencies, especially at the Kubah Sentang Village Office to select recipients of additional food (PMT) for the community 8].

2. RESEARCH METHODOLOGY

The stages of the research were carried out in several stages, which can be seen in the picture below.

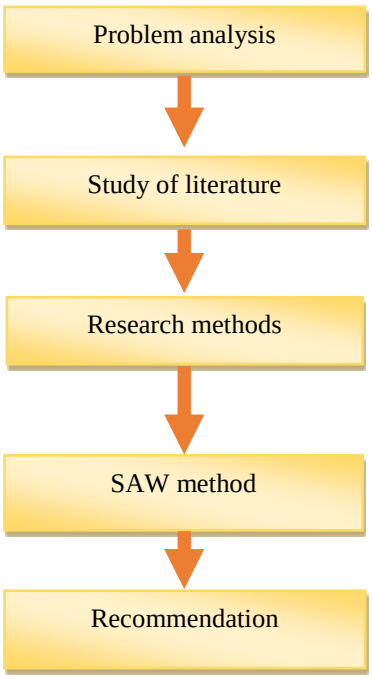

Figure 1 Research Stages

From the picture above, it can be described, the most important order is to analyze the problem from the case studies that have been determined, then collect data or study literature from different case studies as reference material for research, then the research method analyzes the calculation process and system implementation of the method, namely SAW. For the SAW calculation process, namely determining the criteria and alternatives, determining the weight value for each criterion, determining the level of importance, making a matrix, normalizing the matrix and the final ranking result. After analyzing the process of the SAW method, we get the results and discussion on each process of calculating and implementing the system from the method and then concluding from the results and discussion of each SAW process.

3. RESEARCH RESULT

The following alternative data will be used as recommendations on baby diapers, Alternative (A):
A1 : Sweety Pants Gold Regular
A2 : Sweety Comfort Gold
A3 : Sweety Silver Pants
A4 : Sweety Bronze Pants
A5 : Mamypoko Extra Dry Pants
A6 : Mamypoko Pants
A7 : Mamypoko X-Tra Kering
A8 : Merries Premium
A9 : Merries Pants Good Skin
A10 : Pampers Popok Perekat S-48 Premium Care
A11 : Happy Nappy
A12 : Baby Happy Pants
A13 : Goo.N Premium Pants Masssara Sara
A14 : Mamypoko Extra Soft
A15 : Huggies Snug And Dry
A16 : Goo.N Xcellent Active And Fun
A17 : Nepia Genki Premium Soft Pants
A18 : Fitti Day Pants
A19 : Huggies Ultra Soft Pants
A20 : Mamamia Baby Diapers
A21 : Fluffy Baby Diaper
A22 : Popok Pokana
A23 : Mamypoko New Born
A24 : Pamers Swaddiers
A25 : Pampers Baby Dry Pants

Next, determine the criteria that will be used as an assessment in determining baby diaper recommendations, Criterion (C):
C1 : Size
C2 : Price
C3 : Quality
C4 : Irritation
C5 : Availability

A. SAW Method Process
1. Creating Alternative Data

Figure 2. Add Alternative Data

In designing the SAW process, the first thing that must be done is to fill in the alternative data that has been determined previously.

2. Creating Criteria Data

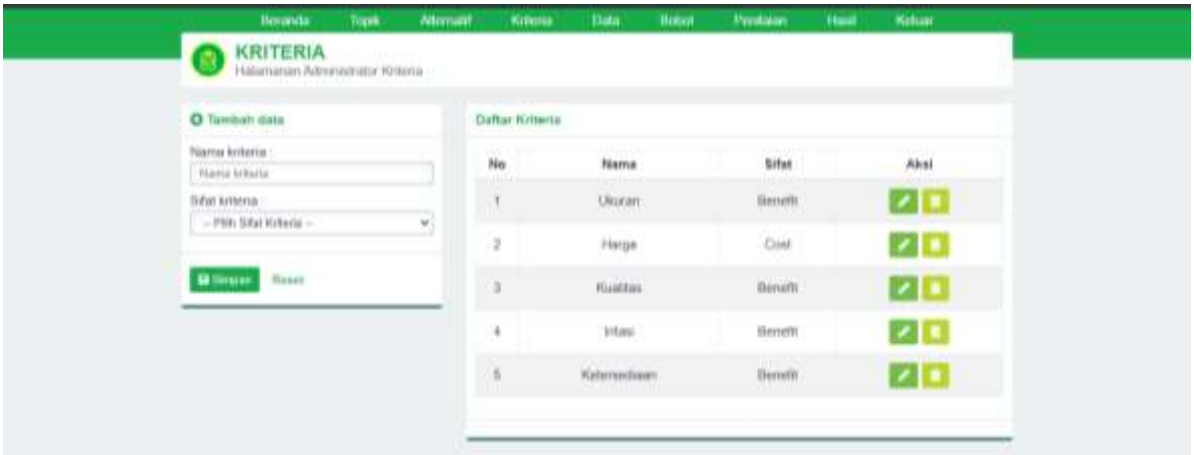

Figure 3 Add Criteria Data

Then enter the criteria data in the form of the name of the criteria and the nature of the benefit or cost criteria. Where the meaning of benefit is benefit and cost is cost.

3. Determine the Weight

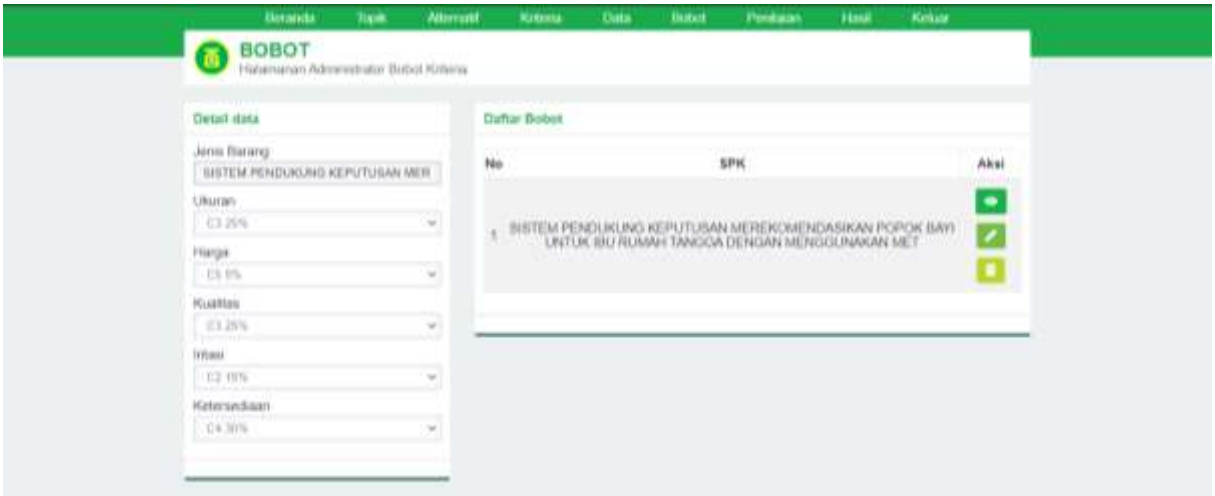

Figure 4. Add Criteria Weight Value

Next, fill in the weights for each of the predetermined criteria.

4. Rating

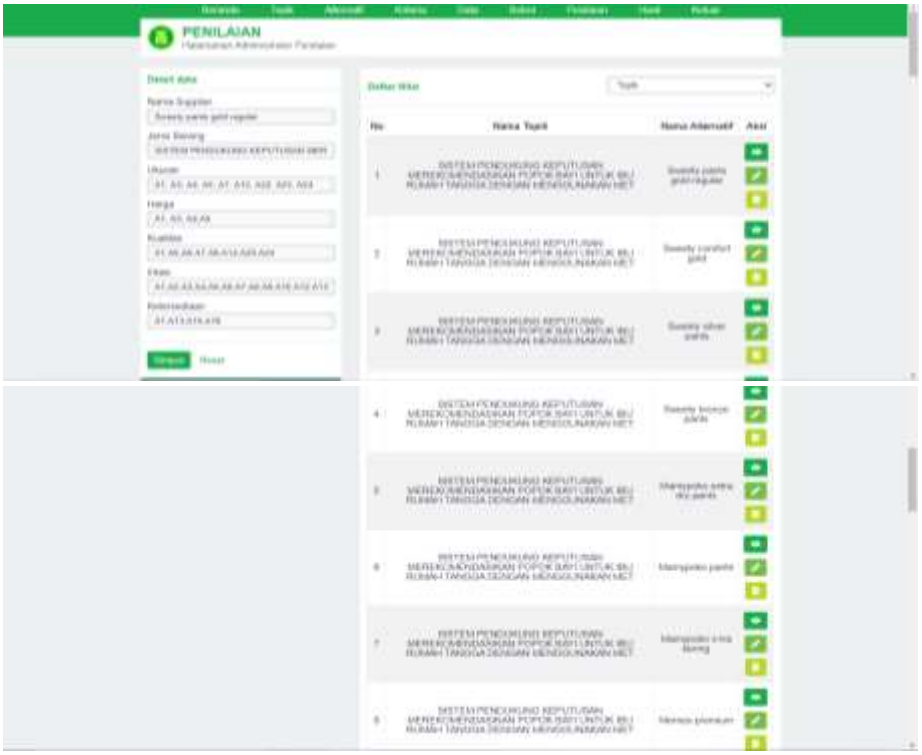

Figure 5. Add Details Data

Alternative data and predetermined criteria are just selected and saved to the list of values.

5. Decision Matrix

Figure 6 Results of the Decision Matrix

The picture above is an image of the decision matrix table.

6. Normalization of Decision Matrix

Figure 7. Normalization of Decision Matrix

The picture above is an image of the decision matrix normalization table. Where the system will automatically normalize the data from the decision matrix.

7. Ranking

Figure 8. Final Results Ranking

The results of the calculation method show the ranking with the alternative Mamypoko extra dry pants.

4. CONCLUSION

The SAW method determines the weighting by knowing the nature of each criterion and is given a percent value (%) for each criterion and a simple assessment is carried out, namely the assessment of the criteria against alternative conditions and the results of the assessment are normalized, then the normalization results are multiplied by the weight of the criteria determined by valid data. .

5. REFERENCES

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