Aplication of The SMARTER Method for The Selection of The Best Ambassador Brand

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Abstract

This study aims to provide convenience for the company's management to solve problems in the process of selecting the best Brand Ambassador in promoting cosmetic tools. The problem identified in this study is the large number of prospective Brand Ambassadors, causing the management to find it difficult to determine the best Brand Ambassador. In this study, the decision support method applied is SMARTER which can determine the ranking results in the final decision using the level of importance of each parameter. The results of this study conclude that the selection of the best Brand Ambassador who is ranked first is A5 (Lucky) with a value of 0.653108466.

Keywords: Decision Support System, Brand Ambassador, Smarter

1. Introduction

Brand Ambassador is a term used for someone who is employed in a company to promote a product or service brand to the public [1]. Brand Ambassadors who are employed in a company must have a positive image that is able to attract people's attention to buy products or use the services offered [2].

The selection of the best Brand Ambassador for a cosmetic company is carried out through an assessment stage against the required criteria. In the study, it was found that the problem was that the large number of prospective Brand Ambassadors caused the management to find it difficult to determine the best Brand Ambassador. Solving the problems identified in the selection of the best Brand Ambassador experienced by the management of cosmetic companies in this study, the application of SMARTER was carried out. The SMART method is a development of SMART conducted by Edwards and Baron in 1994 [3][4]. The decision-making technique in the SMARTER Method is based on the Rank-Order Centroid (ROC) weighting formula [5][6].

2. Research Methodology

2.1. Research Stages

The stages of research that the author did are as follows:

a) Interview

The first stage, the author conducts interviews with takers in the company to obtain alternative data and the criteria used to determine the best Brand Ambassador.
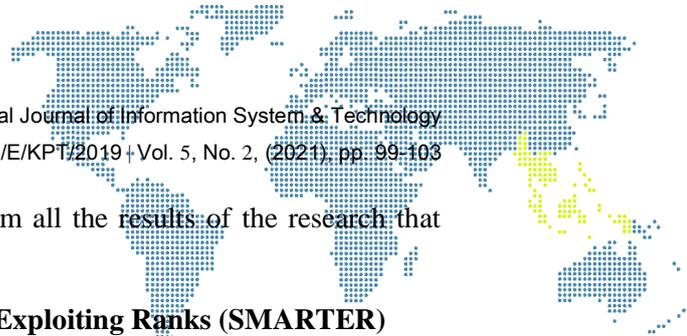
b) Literature Review

The second stage, the author looks for references that are relevant to the research topic carried out to support each scientific statement used in this article.

c) Implementation Method

The third stage, the author implements the SMARTER method in the process of selecting the best Brand Ambassador.

d) Making Conclusions

The last stage, the authors make conclusions from all the results of the research that has been done.

2.2. Simple Multiple Attribute Rating Technique Exploiting Ranks (SMARTER)

SMARTER (Simple Multi-Attribute Rating Technique Exploiting Ranks) has a multi-criteria decision-making technique that assumes that a number of criteria have different importance weight values from other criteria [7][8]. Determining the weight value in the SMARTER method is carried out based on a range from 0 to 1 using Rank-Order Centroid (ROC).
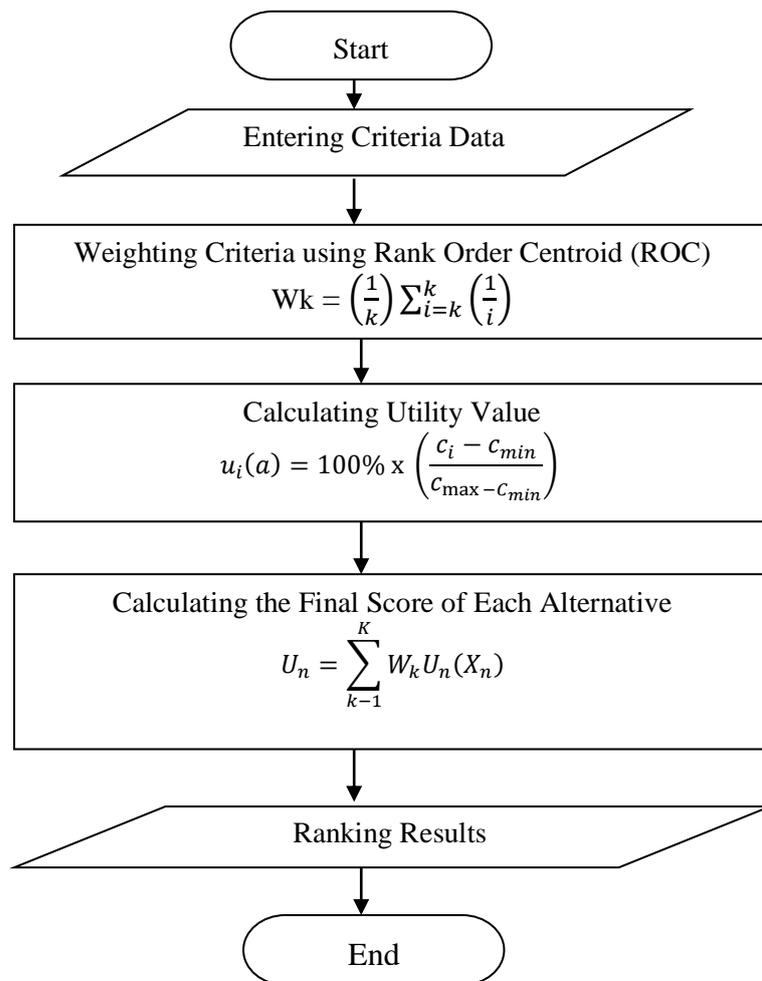

Start

Entering Criteria Data

Weighting Criteria using Rank Order Centroid (ROC)

$$\text{Wk} = \left(\frac{1}{k}\right)\sum_{i=k}^{k}\left(\frac{1}{i}\right)$$

Calculating Utility Value

$$u_i(a) = 100\% \times \left(\frac{c_i - c_{min}}{c_{\max - c_{min}}}\right)$$

Calculating the Final Score of Each Alternative

$$U_n = \sum_{k-1}^{K} W_k U_n(X_n)$$

Ranking Results

End

Figure 1. SMARTER Flowchart

3. Result and Discussion

Alternative data that will be used to select the best Brand Ambassador in this study can be seen in the following table :

Table 1. Alternative

Code	Alternative
A1	Rian
A2	Despin
A3	Citra
A4	Yaskra
A5	Lucky

The next stage is implementing the SMARTER method for selecting the best Brand Ambassador using the following steps:
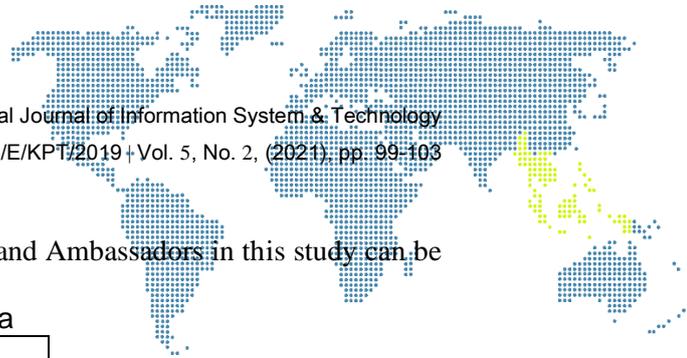
1) Entering Criteria Data

The criteria data used for the selection of the best Brand Ambassadors in this study can be seen in the following table :

Table 2. Criteria

Code	Criteria
C1	Attractiveness
C2	Visibility
C3	Credibility
C4	Tech Adequate

2) Weighting Criteria using Rank Order Centroid (ROC)

At this stage, the criteria are weighted using Rank Order Centroid (ROC) to determine the importance of the criteria used.

Table 3. Bobot Rank Order Centroid (ROC)

Code	Criteria	Criteria Weight	
		The Most Important	Least Important
A1	Professional Speaker	60	50
A2	Attractiveness	50	40
A3	Visibility	40	30
A4	Credibility	30	20
	Total Value	180	140

Based on the most important and least important values in the Rank Order Centroid (ROC) table above, the average value of the weight value of each criterion is determined.

Table 4. Average Weight

Criteria	Criteria Weight		
	The Most Important	Least Important	Average
C1	60/180 = 0.333333333	50/140 = 0.357142857	0.345238095
C2	50/180 = 0.277777778	40/140 = 0.285714286	0.281746032
C3	40/180 = 0.222222222	30/140 = 0.214285714	0.218253968
C4	30/180 = 0.166666667	20/140 = 0.142857143	0.154761905

3) Calculating Utility Value

The next stage is to calculate the utility value of each paired matrix listed in the following table.

Table 5. Pairwise Matrix

Alternative	Criteria			
	C1	C2	C3	C4
A1	0.5	0.6	0.7	0.6
A2	0.8	0.5	0.6	0.5
A3	0.4	0.8	0.5	0.6
A4	0.6	0.7	0.8	0.5
A5	0.7	0.6	0.7	0.8
Min	0.4	0.5	0.5	0.5
Max	0.8	0.8	0.8	0.8

a. Professional Speaker

$A1 = 100\% \times \left(\frac{0.5-0.4}{0.8-0.4}\right) = 0.25$

$A2 = 100\% \times \left(\frac{0.8-0.4}{0.8-0.4}\right) = 1$

$A3 = 100\% \times \left(\frac{0.4-0.4}{0.8-0.4}\right) = 0$

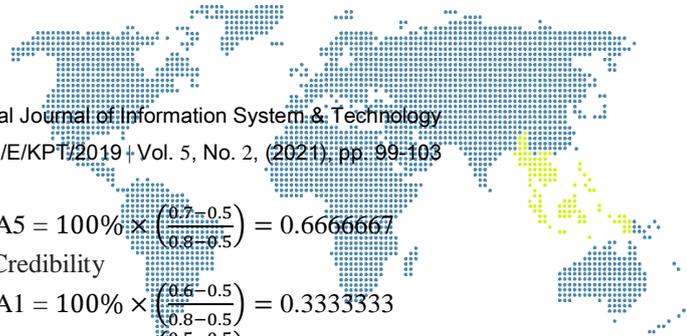$A4 = 100\% \times \left(\frac{0.6-0.4}{0.8-0.4}\right) = 0.5$

$A5 = 100\% \times \left(\frac{0.7-0.4}{0.8-0.4}\right) = 0.75$

b. Attractiveness

$A1 = 100\% \times \left(\frac{0.6-0.5}{0.8-0.5}\right) = 0.333333$

$A2 = 100\% \times \left(\frac{0.5-0.5}{0.8-0.5}\right) = 0$

$A3 = 100\% \times \left(\frac{0.8-0.5}{0.8-0.5}\right) = 1$

$$A4 = 100\% \times \left(\frac{0.7-0.5}{0.8-0.5}\right) = 0.666667$$

$$A5 = 100\% \times \left(\frac{0.6-0.5}{0.8-0.5}\right) = 0.333333$$

c. Visibility

$$A1 = 100\% \times \left(\frac{0.7-0.5}{0.8-0.5}\right) = 0.6666667$$

$$A2 = 100\% \times \left(\frac{0.6-0.5}{0.8-0.5}\right) = 0.3333333$$

$$A3 = 100\% \times \left(\frac{0.5-0.5}{0.8-0.5}\right) = 0$$

$$A4 = 100\% \times \left(\frac{0.8-0.5}{0.8-0.5}\right) = 1$$

$$A5 = 100\% \times \left(\frac{0.7-0.5}{0.8-0.5}\right) = 0.6666667$$

d. Credibility

$$A1 = 100\% \times \left(\frac{0.6-0.5}{0.8-0.5}\right) = 0.3333333$$

$$A2 = 100\% \times \left(\frac{0.5-0.5}{0.8-0.5}\right) = 0$$

$$A3 = 100\% \times \left(\frac{0.6-0.5}{0.8-0.5}\right) = 0.3333333$$

$$A4 = 100\% \times \left(\frac{0.5-0.5}{0.8-0.5}\right) = 0$$

$$A5 = 100\% \times \left(\frac{0.8-0.5}{0.8-0.5}\right) = 1$$

Table 6. Utility Calculation Results

Alternative	Criteria			
	C1	C2	C3	C4
A1	0.25	0.333333	0.6666667	0.3333333
A2	1	0	0.3333333	0
A3	0	1	0	0.3333333
A4	0.5	0.666667	1	0
A5	0.75	0.333333	0.6666667	1

4) Calculating the Final Score of Each Alternative

The next stage is to calculate the final value of each alternative based on the results of the calculation of the utility value.

a. Professional Speaker

A1 = 0.345238095 × 0.25 = 0.086309524
A2 = 0.345238095 × 1 = 0.345238095
A3 = 0.345238095 × 0 = 0
A4 = 0.345238095 × 0.5 = 0.172619048
A5 = 0.345238095 × 0.75 = 0.258928571

b. Attractiveness

A1 = 0.281746032 0.333333 = 0.093915344
A2 = 0.281746032 0 = 0
A3 = 0.281746032 1 = 0.281746032
A4 = 0.281746032 0.666667 = 0.187830688
A5 = 0.281746032 0.333333 = 0.093915344

c. Visibility

A1 = 0.218253968 0.6666667 = 0.145502645
A2 = 0.218253968 0.3333333 = 0.072751323
A3 = 0.218253968 0 = 0
A4 = 0.218253968 1 = 0.218253968
A5 = 0.218253968 0.6666667 = 0.145502645

d. Credibility

A1 = 0.154761905 0.3333333 = 0.051587302
A2 = 0.154761905 0 = 0
A3 = 0.154761905 0.3333333 = 0.051587302
A4 = 0.154761905 0 = 0
A5 = 0.154761905 1 = 0.154761905

Table 7. Calculating the Final Score of Each Alternative

Alternative	Criteria				Final Score
	C1	C2	C3	C4	
A1	0.086309524	0.093915344	0.145502645	0.051587302	0.377314815
A2	0.345238095	0	0.072751323	0	0.417989418
A3	0	0.281746032	0	0.051587302	0.333333334
A4	0.172619048	0.187830688	0.218253968	0	0.578703704
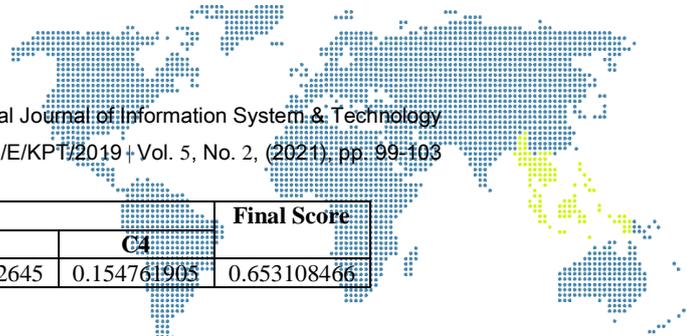
Alternative	Criteria				Final Score
	C1	C2	C3	C4	
A5	0.258928571	0.093915344	0.145502645	0.154761905	0.653108466

5) Ranking Results

The ranking results obtained from the application of the SMARTER method for the selection of Brand Ambassadors can be seen in the table below.

Table 8. Ranking Results

Alternative	Value	Rating
A1	0.377314815	4
A2	0.417989418	3
A3	0.333333334	5
A4	0.578703704	2
A5	**0.653108466**	**1**

4. Conclusion

In the results of this study it was concluded that the SMARTER method can provide a range of values between the alternative and the measurable so that it can produce a good rating, the alternative that gets the first rank is A5 (Lucky) with a value of 0.653108466 or the highest value among other alternatives, the SMARTER method can be used as the best alternative to support decision making in selecting the best Brand Ambassador Brand.

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