Nursery Garden Development Strategy as Educational Tourism Using Swot Analysis and Multi-Attribute Utility Theory (MAUT) (Case Study On Kebun Bibit Kediri)

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Abstract: The purpose of this research are to know internal and external factors of Kebun Bibit Kediri, to determine alternative strategy, and strategic priority. This study, using SWOT analysis and MAUT. The results showed that the most influential internal factors are giving of interactive education with a weight score 0.258 and soft skills labor with a weight score 0.142. The most influential external factors are the change of mindset to prefer the nature-based educational tourism with a weight score 0.616 and competitor's educational facilities with a weight score 0.184. Alternative strategy of Kebun Bibit Kediri development as educational tourism based on SWOT matrix are to improve management of Kebun Bibit Kediri (ST1), development of educational variant (ST2), use of computer technology in work system (ST3), expand market segmentation (ST4), provide training to workers (ST5), increasing number of guide (ST7), enhancing education image of Kebun Bibit Kediri (ST7), improving promotion through advertisement and following the events (ST8), and adding educational tour facility (ST9). The priority of development strategy on Kebun Bibit Kediri as educational tourism based on MAUT are ST1 with total utility value of 0.8945, ST2 with total utility value of 0.871, and ST3 with total utility value of 0.867.

Keywords: Nursery Garden, Development, Educational Tourism.

1. Introduction

In 2016, the area of Kediri Regency is 138,605 Ha. According to the Minister of Agriculture Regulation number 08 / KPTS / RC.110 / J / 01/2017, optimization of land use is carried out by cultivating various types of plants. This development approach is carried out by developing sustainable agriculture to be able to preserve nature. One of the efforts made is to build a nursery. Nursery garden have an important role in providing various types of superior seeds and can also be developed into educational environments based on the natural environment which are attractive to visitors. One of the places that develops its business is a natural environment-based educational tour, namely UD. Alam Tani or better known as the Kebun Bibit Kediri. However, there are problems that become obstacles in the development of its business. This problem is closely related to the non-optimal development strategy at Kebun Bibit Kediri. According to David and Forest (2017), organizations without coherent direction and strategies can accelerate their own fall. In this study, used method analysis of Strength, Weakness, Opportunities, Threats (SWOT) and Multi-Attribute Utility Theory (MAUT). Based on SWOT analysis can determine alternative development strategies and to determine the priority of development strategies using MAUT. MAUT is used to evaluate alternatives by calculating the weight or utility value of each alternative. The utility value shows how well an alternative meets the criteria so that it can produce a better alternative evaluation quality (Ganiardi, 2014). In this study MAUT was chosen because it has the advantage of being able to take into account uncertainty and can combine decision-making preferences (Velasquez and Hester, 2013).

2. Materials and Methods

This research in Kebun Bibit Kediri, located on Jalan Raya Papar-Pare, Plemahan, Kediri. The time for research is March 2018 to May 2018. Data processing and analysis was carried out in Computing and System Analysis Laboratory, Department of Agricultural Industrial Technology, Faculty of Agricultural Technology, Brawijaya University Malang. The limitation of the problem in this study are that the attributes used in MAUT include the attributes of costs, time, infrastructure, and opinions of employers or experts and this research is only carried out until the priority stage of determining alternative strategies.

2.1. Determination of variables

The variables used in this study are based on internal factors and external factors of the Kebun Bibit Kediri. Determination of these factors and variables is the result of literature studies and preliminary research that has been adjusted to the conditions at the current Kebun Bibit Kediri. In this study using 5 respondents. A list of research variables can be seen in Table 1.

Factors	Variabels	Information
Internal factors		
Management	Planning	A booking system for predicting the number of
	Actuating	visitors (S)
		Briefing before educational tours begin (S)
Marketing	Product	Nature-based educational tours that are interesting
	Price	to visit (S)
	Place	Price of educational tours (S)
		Educational tourism is not in one place (W)
	Promotion	Parking area (W)
	Process	Promotional intensity (W)
		Market segmentation (W)
		Interactive education (S)
	Person	Educational tour package services (S)
		Soft skill workforce (W)
	Physical evidence	Number of guides (W)
		Atmosphere where educational tours (S)
Management information system	Software	Website (W)
External factors		
Micro environment	Level of competition	Competitor promotion (T)
	Threat of new entrants	Educational tourism competitor facility (T)
		The emergence of new educational tours (T)
Macro environment	Economy	Rising incomes (O)
	Social	Changes in mindset to prefer nature-based
	Political	education tours (O)
	Technology	Local government support (O)
		Technology development (O)

2.2. Questionnaire preparation

This study uses a questionnaire with three stages in filling out the questionnaire given, namely:
- Questionnaires to determine internal and external factor weights were filled by the owners of Kebun Bibit Kediri, the marketing department of Kebun Bibit Kediri, the Office of Youth and Sports Education of Kediri Regency, the Kediri Regency Tourism and Culture Office, and 1 academic.

- The rating determination questionnaire is filled by the owner of the Kebun Bibit Kediri, the marketing department of the Kebun Bibit Kediri, the Kediri District Youth and Sports Education Office, the Kediri Regency Tourism and Culture Office, and 1 academician.
- The questionnaire to determine the final decision using the MAUT model is filled by the owners of the Kebun Bibit Kediri and the Kediri Regency Tourism and Culture Office.

2.3. SWOT analysis

2.3.1. Internal and External Factor Analysis

Analysis of internal factors and external factors is done through weighting and rating each variable by respondents. Weighting with paired comparison methods uses three scales (1 = less important, 2 = equally important, 3 = more important). Rating is done after knowing the weight of each attribute, the scale used is 4 scales including 4 if the strategic factor is the main strength / opportunity that has a large influence up to 1 if the strategic factor is a major weakness / threat that has a big influence. Weighting results and rating values are then multiplied so that we obtain the weight score on the IFE and EFE matrices.

2.3.2. SWOT diagram

The SWOT diagram is used to determine the business position based on the IFE and EFE values which are divided into four quadrants, each quadrant has each strategy.

2.3.3. SWOT matrix

The SWOT matrix is used to develop strategic plans that are expected in the future.

2.4. Multi-Attribute Utility Theory (MAUT)

MAUT is an analytical approach that is often used to solve complex problems (Nadeem et al, 2014). MAUT is used to change from several interests into numeric values with a scale of 0-1 with 0 representing the worst and 1 best choices. The final result of the MAUT calculation is the ranking order of alternative evaluations that describe the choices of decision makers. Attributes used in this study include attributes of costs, time, infrastructure, and opinions of entrepreneurs / experts in their fields.

3. Results

3.1. General Description of Kebun Bibit Kediri

UD. Alam Tani or better known as the Kebun Bibit Kediri is a business entity engaged in the cultivation and sale of plant seeds, especially fruits, organic fertilizers, and gazebos. Kebun Bibit Kediri was officially established by Mr. Agus Joko Susilo in 2013. Currently, the owner also develops his business into a nature-based educational tour and opens a cafe with the concept of a rest area. Visitors to educational tours that often come from schools start from the play group to high school level around Kediri Regency. Within a week there are about 3 times educational tours, with one visit totaling 30-180 people. Kebun Bibit Kediri educational tourism operating hours are from 08.00 WIB to 16.00 WIB.

3.2. Input stage

3.2.1. IFE Matrix

IFE Matrix can be known after calculating the factors of strength and weakness. Based on the IFE matrix, it can be seen that the main strength has the biggest weight score and the main weakness that has the smallest score. The IFE matrix in the Kebun Bibit Kediri can be seen in Table 2.

Table 2. Matrix IFE

Internal factors	Weight	Rating	Score weight
Strength			
A booking system for predicting the number of visitors	0,048	2,200	0,106
Briefing before educational tours begin	0,071	3,000	0,213
Nature-based educational tours that are interesting to visit	0,070	3,400	0,238
Price of educational tours	0,062	3,200	0,198
Interactive education	0,076	3,400	0,258*
Educational tour package services	0,071	3,400	0,241
Atmosphere where educational tours	0,071	3,000	0,213

Table 2. Matrix IFE

Internal factors	Weight	Rating	Score weight
Weakness			
Educational tourism is not in one place	0,061	2,800	0,171
Parking area	0,064	2,400	0,154
Promotional intensity	0,092	2,000	0,184
Market segmentation	0,082	2,200	0,180
Soft skill workforce	0,089	1,600	0,142*
Number of guides	0,075	2,200	0,165
Website	0,068	2,800	0,190
TOTAL IFE	1,000		2,653

* Main strengths / weaknesses**;** Source: Data Processed (2018)

The main strength is interactive education with a weight score of 0.258. Interactive education is the main force because Kebun Bibit Kediri provides educational tourism accompanied by guides so that it is more effective and visitors are not easily bored. In addition, it can practice direct educational activities that are not obtained while in the classroom. The main weakness is soft skiil workforce with a score of 0.142. The majority of workers do not have good soft skiing. Whereas to achieve the targets set, workers are required to have good technical and non-technical abilities such as being easy to socialize, be creative, responsive and energetic. The IFE total value is 2,653 which indicates that the internal position in the moderate or average internal position.

3.2.2. EFE matrix

EFE Matrix can be known after calculating the opportunity and threat factors. Based on the EFE matrix, we can find the main opportunity that has the biggest weight score and the main threat that has the smallest score score. The EFE matrix in the Kebun Bibit Kediri can be seen in Table 3.

Table 3. Matrix EFE

External factors	Weight	Rating	Score weight
Opportunities			
Rising incomes	0,153	4,000	0,612
Changes in mindset to prefer nature-based education tours	0,171	3,600	0,616*
Local government support	0,188	3,000	0,564
Technology development	0,152	3,600	0,547
Threats			
Competitor promotion	0,117	2,600	0,304
Educational tourism competitor facility	0,102	1,800	0,184*
The emergence of new educational tours	0,117	1,800	0,210

|		
TOTAL EFE	1,000	3,037

* Main opportutites / threats; Source: Data Processed (2018)

The main opportunity is the change of mindset to prefer nature-based education tours with a weight score of 0.616. This change in mindset has become a major opportunity because Kebun Bibit Kediri provides educational tourism that have followed the trend of tourism activities in Indonesia. The main threat is competitors' educational tourism facilities with a score of 0.184. Educational tourism competitor facilities become a major threat because facilities are one of the important considerations of visitors. The total EFE value is 3.037 which indicates that the external position is in a strong external position.

3.3. Matching Stage

3.3.1. SWOT Diagram

To determine the position of the coordinates of Kebun Bibit Kediri, the difference in scores from the two factors was calculated. The difference in the internal factor is 0.281 while the difference from the external factor is 1.641. The position of the coordinates of Kebun Bibit Kediri can be seen in Figure 1.
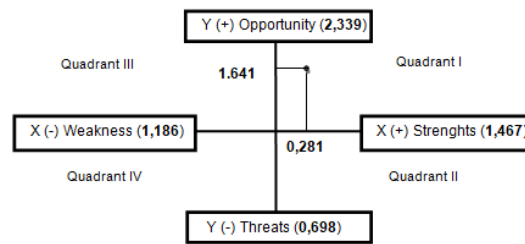
Figure 1. Position of the coordinates Kebun Bibit Kediri; Source: Data Processed (2018)

3.3.2. SWOT Matrix

The SWOT matrix is a matching tool used to determine the development strategy of Kebun Bibit Kediri as an educational tour. Strategy formulation is carried out by combining internal factors with external factors so that four types of strategies are obtained, namely S-O strategy, W-O strategy, S-T strategy, and W-T strategy. Four types of development strategies in the SWOT matrix can be seen in Figure 2.

Figure 2. SWOT Matrix; Source: Data Processed (2018)

3.4. Decision Stage

3.4.1. Multi Attribute Utility Theory (MAUT)

Determination of strategic alternative priorities using the MAUT model with several attributes considered, namely cost, time, infrastructure, and the opinions of entrepreneurs or experts in their fields. The MAUT model questionnaire was given to the owner of Kebun Bibit Kediri (R1) and the head of tourism development in the Kediri Regency Tourism Office (R2). Table 4 shows the weight of each attribute in the MAUT model that has been filled by the two respondents.

Table 4. Weight of MAUT Model Attributes

Attribute	R1		R2	
	Total	Weight	Total	Weight
1. Cost	4	0,2353	5	0,2941
2. Time	4	0,2353	3	0,1765
3. Infrastructure	5	0,2941	5	0,2941
4. The opinions of entrepreneurs or experts in their fields	4	0,2353	4	0,2353
Total	17	1,0000	17	1,0000

Source: Data Processed (2018)

If you know the attribute weight, then the respondent is required to assign values to all alternative strategies and determine the utility value of each attribute that will be calculated using the utility function. Then the total utility value is calculated for each alternative strategy using the formula by multiplying the utility value of each attribute with the attribute weight. The order of priority ranking is obtained from the calculation of the average of the two respondents. Table 5 shows the results of the strategic priority ranking of the two respondents.

Table 5. Results of Priority Strategy Ranking

Alternative strategy	Average	Ranking

Improve management of the Kebun Bibit Kediri management	0,8945	I
Development of educational variants	0,871	II
Use of computer technology in work systems	0,8525	IV
Expand market segmentation	0,8445	V
Provide training to workers	0,867	III
Increase the number of guides	0,838	VI
Improve the image of Kediri Seed Garden education tourism	0,808	VII
Increase promotions through advertisements and follow certain events	0,7965	VIII
Add educational tourism facilities	0,7182	IX

Source: Data Processed (2018)

4. Discussion

The results showed that the alternatives that occupy the three main priorities of the development strategy of Kebun Bibit Kediri as an educational tourism are improve management of the Kebun Bibit Kediri management (ST1), development of educational variants (ST2), and providing training to workers (ST5). ST1 and ST2 began to be applied but not optimal because they were hampered by the quantity and quality of human resources owned by Kebun Bibit Kediri. While ST5 has not been implemented and is considered by the owner to implement the strategy. ST1 needs to be implemented because all this time the management of poor management, such as the implementation of all activities that are only handled by the owner, will have an impact on workers' confusion and some related parties. The application of ST1 in the Kebun Bibit Kediri can be done by holding regular meetings and forming a clear organizational structure. ST2 began to be applied by the owners of the Kebun Bibit Kediri by innovating to open new tourism, namely a million color education tours in developing educational tourism packages that work with residents. Development of education variants that can be added in Kebun Bibit Kediri, which is the cultivation of plants that are in great demand by visitors. ST5 has not been implemented because currently the owners focus on developing the market and not paying enough attention to the quality of human resources. The application of ST5 is done by holding training, especially soft skills training for workers. This training is expected to be able to increase the knowledge and skills of workers so that they can work optimally.

5. Conclusions

Based on the results of the study, the conclusions include:
- The internal factors that most influence the development of Kebun Bibit Kediri as an educational tourism in terms of strength are the provision of interactive education with a score of 0.258, while in terms of weaknesses, the soft skills of the workforce are 0.142. External factors that most influence in terms of opportunities are changes in mindset to prefer nature-based education tours with a score of 0.616 while in terms of threats, educational tourism competitors with a score of 0.184.
- Alternative development strategy for Kebun Bibit Kediri as an educational tourism based on the SWOT matrix which is improve management of the Kebun Bibit Kediri management (ST1), development of educational variants (ST2), use of computer technology in the work system (ST3), expanding market segmentation (ST4), providing training for workers (ST5), increasing the number of guides (ST7), improving the image of educational tourism Kebun Bibit Kediri (ST7), increasing promotion through advertising and participating in certain events (ST8), add educational tourism facilities (ST9).
- The priority sequence of the development strategy of Kebun Bibit Kediri as an educational tourism based on MAUT is ST1 with a total utility value of 0.8945, ST2 with a total utility value of 0.871, and ST3 with a total utility value of 0.867.

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