



Blue Economic Sustainable Model Conservation Indonesia Archipelago Used SWOT Analysis

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Abstract

The blue economy is the "sustainable use of ocean resources for economic growth, improved livelihoods and jobs while preserving the health of ocean ecosystem. European commission defines it as all economic activities related to oceans, seas and coasts. It covers a wide range of interlinked established and emerging sectors. Blue economy is a term in economics relating to the exploitation, preservation and regeneration of the marine environment. Its scope of interpretation varies among organizations. However, the term is generally used in the scope of International development when describing a sustainable development approach to coastal resources. This can include a wide range of economic sectors, from the more conventional fisheries, aquaculture, maritime transport, coastal, marine and maritime tourism or other traditional uses, to more emergent spaces such as coastal renewable energy, marine ecosystem services (*i.e.* blue carbon), seabed mining and bioprospecting. SWOT analysis identifies internal and external factors that are prioritized by experts in the world blue economic forum domain through an analytical hierarchy process. The prioritized SWOT factors are used in the formulation of strategies using the TOWS matrix. Regional and international competitive destinations; local competitors are developing a competitive festival world blue economic to attract tracks of similar profiles Indonesia Archipelago, Improve technology and science and education blue economic.

Keywords: Blue economy; World blue economic forum; Technology and science; SWOT analysis; TOWS matrix; Education blue economic; Indonesia Archipelago

Introduction

Blue economy is a term in economics relating to the exploitation, preservation and regeneration of the marine environment. Its scope of interpretation varies among organizations. However, the term is generally used in the scope of international development when describing a sustainable development approach to coastal resources. This can include a wide range of economic sectors, from the more

conventional fisheries, aquaculture, maritime transport, coastal, marine and maritime tourism [1]. Other traditional uses, to more emergent spaces such as coastal renewable energy, marine ecosystem services (*i.e.* blue carbon), seabed mining and bioprospecting.

Strategic management can be defined as a set of decisions and actions taken by management, in collaboration with all levels within the organization in order to establish long-term activities of the organization [2]. Literature review shows that many approaches and techniques can be used to analyze the strategic cases in the strategic management process. One of them is the SWOT analysis.

This article explains the SWOT analysis, provides the theoretical background and an overview of the application of the SWOT analysis. As some authors have identified weaknesses of the SWOT, analysis is combined with a method for multi-criteria decision Analytic hierarchy process, in order to avoid these disadvantages. Therefore, in the second part of the paper Analytic hierarchy process, method and SWOT Analytic hierarchy process, hybrid methods are described. Following the basic steps method, SWOT Analytic hierarchy process, is applied to the example of the maritime of world blue economic forum strategic Income plan definition.

Literature Review

SWOT analysis method

SWOT is an acronym of strength, weakness, opportunities and threats. The first two factors (strengths and weaknesses) are related to internal organizational factors, while opportunities and threats cover a wider context or environment in which the entity operates [3]. The first are likely to be under control of the organization but the latter one, although they are no less important when looking at the impact on the enterprise, are not.

SWOT is one of the most widespread methods of management and is an instrument used by managers in creating strategies [4]. Commonly used as a tool for the analysis of internal and external factors in order to achieve a systematic approach and support to address the situation. Internal and external factors are the most important for the future of businesses. They are called strategic factors and are presented in the SWOT matrix. The ultimate goal of the strategic planning process, of which the SWOT is one of the initial phases, is development and adoption of strategy resulting in a good relationship between the internal and external factors. SWOT can also be used when the alternative appears suddenly and need to analyze the context of decisions with respect to that. SWOT analysis is actually a method to help with strategy formulation. The analysis aims to identify the strengths and weaknesses of the organization and the opportunities and threats in the environment of the organization. SWOT analysis is an important tool that serves as a support for decision making and is often used as a tool for the systematic analysis of the organization, both internal and external influences on the organization. Identifying their strengths, Weak nesses, opportunities and threats, organizations can build a strategy on their strengths, eliminate weaknesses and exploiting its capabilities or to use an option in the fight against threats. SWOT analysis summarizes the most important internal and external factors (strategic factors) that may affect the future of the organization.

Analytic hierarchy process method

This chapter describes the analytic hierarchy process, method which is used in conjunction with a SWOT analysis in order to avoid the disadvantages of SWOT analysis. Previous studies have recognized the shortcomings of SWOT analysis and point out SWOT analytic hierarchy process, as hybrid that deal with the priorities of SWOT factors [5,6]. Thus, the idea behind using analytic hierarchy process is to systematically evaluate the SWOT factors. This chapter provides a theoretical background of Analytic hierarchy process, method and the next chapter describes SWOT analytic hierarchy process and emphasizes reasons for integration of two methods.

Analytical hierarchy process is one of the most popular methods of multiple criteria decision making. It is used to rank the alternatives by taking into account the importance of the different criteria. Analytic hierarchy process, allows structuring the problem, followed by comparing pairs of elements in the hierarchy. At the end of the process, mathematical model is determined by weighting factors of all elements of the hierarchy. Analytic hierarchy process, structures the problem of decision-making and monitors the process of decision making by defining objectives, criteria and alternatives, by comparing criteria and alternatives in pairs and defining priorities of alternatives. Results of the analytic hierarchy process, method are ranked alternatives and the weight coefficients of criteria in relation to the goal. Analytic hierarchy process successfully identifies and indicates the inconsistency of decision making by tracking inconsistencies for the whole process. Results are quantitative indicators that can argue the decision. Analytic hierarchy process, method is now one of the most popular and commonly used methods for multi-criteria decision making in solving real problems. It was developed.

Application of analytic hierarchy process: Vaidya and Kumar published in 2006. The literature review of 150 publications published in the prestigious international scientific journals in the period since 1983-2003, in which the analytic hierarchy process, method has been applied to solve certain types of problems. In the period since 1983 to 2003 Vaidya O, Kumar S, 2006. Analytic hierarchy process, method is most often used for the selection, evaluation and decision-making (more than 50% of the application is one of the three areas). Furthermore, the analytic hierarchy process has been applied in the planning, development and in cost benefit analysis and less in medicine and for the purposes of prediction. The same article noted that the analytic hierarchy process, method in that period occurred in the five studies combined with SWOT analysis. SWOT analytic hierarchy process, method. This chapter describes a hybrid method of SWOT analytic hierarchy process, First, the reasons why combination of these two methods is necessary, followed by a review of SWOT analytic hierarchy process method.

Although SWOT is often used as a planning tool, this analysis also has weaknesses. Some of these weaknesses can be avoided and then the SWOT can be used more efficiently. In previous studies, this is done by connecting a SWOT analysis with analytic hierarchy process, method. As a result, a hybrid method is obtained that produces quantitative values for the SWOT factors. As advantages of derived hybrid method, literature most often states it's simply maritime, efficiency and the ability to combine qualitative and quantitative criteria. One problem of SWOT analysis lies in the uncertainty related to the future development and the outcome of various factors. This can complicate the comparison. However, the analytic hierarchy process, method is able to manage the decision-making in situations of uncertainty. It is recommended that a number of factors (strengths,

weaknesses, opportunities and threats) will be limited to 10, but it certainly allows the user to avoid overlap and negligence during construction of SWOT. On the other hand, the limitation is not so strict and the problem of the large number of comparisons it can be avoided by using at least two different techniques. First, grouping variables and second, by adding a new level in the hierarchy. If, for example, there are a large number of opportunities, they can be grouped into two or three subgroups. Analytic hierarchy process enables quantization of priorities to support decision making. However, analytic hierarchy process does not include the statistical uncertainty of the results. Consistency measure of comparison and consistency ratio, resulting from analytic hierarchy process, calculation, does not give direct information about the uncertainty derived priorities.

Numerical results, prioritized SWOT factors are useful in formulating or selecting the strategy. It is good to compare the external features compared to the internal potential, because all the factors are, at the same, a numerical scale. For example, if it turns out that one weakness is greater than all the benefits, then the chosen strategy may have to be focused on eliminating these weaknesses. Similarly, the selection of the new strategy probably should not be based only on the deletion of the existing opportunities and threats, if they are of equal size. In every situation of strategic planning can be used SWOT analysis and analytic hierarchy process, method. SWOT analysis provides the basic framework which conducts analysis of the situation in which the decision was made, while the analytic hierarchy process helps to conduct the SWOT in analytic way. Potential advantages of using analytic hierarchy process, in SWOT analysis lie in the possibilities of quantitative testing of SWOT factors and involvement of decision maker's preferences in the planning.

This hybrid method is suitable for many situations of strategic planning. After defining the priorities of SWOT factors, new strategies can be constructed partly on the basis of information derived from the comparison. Furthermore, it is possible to compare two or more strategic options, so find out which is the best match to the SWOT factors. This can be done by adding an alternative strategy to the lowest level of the hierarchy and comparing them with respect to each factor in SWOT list. The result is a quantitative value that indicates the priority or preference of each option.

Combined use of analytic hierarchy process and SWOT proved promising. Making comparisons in pair's forces decision makers to think about the weights of factors and more accurately analyze the situation. Hybrid method of analytic hierarchy process and SWOT increases and improves the information base for the strategic planning process. It also provides an effective framework for learning in support of strategic decision making in many situations and can be used as a tool for communication and education in the processes of decision making where multiple decision makers involved.

Steps of SWOT-analytic hierarchy process method

According to Yeon and Kim, SWOT analytic hierarchy process, steps are following: Conducting a SWOT analysis, comparisons in pairs between SWOT factors within each SWOT group, comparisons in pairs between the four SWOT groups and formulating strategies based on the results.

Step 1: SWOT analysis.

Relevant external and internal factors are identified and included in the SWOT analysis. When applied to a standard method of analytic

hierarchy process, it is recommended that a number of factors within the SWOT group do not exceed 10 because the number of comparisons in pairs that are needed in the analysis is rapidly increasing.

Step 2: Comparisons in pairs between SWOT factors were conducted within each SWOT group.

When comparisons are made, the question to be answered is: Which of the two factors being compared is has higher impact: Is it strenght, opportunity, weakness or threat. With these comparisons as input, the relative priorities of the local factors are calculated using the eigenvalues. These priorities reflect the perception of the decision maker on the relative importance of factors.

Step 3: Comparisons in pairs between four SWOT groups.

Factor with the highest local priority was chosen from each group to represent the group. These four factors are then compared and their relative priorities are calculated as in step 2.

These are the scaling factors of four SWOT groups and they are used to calculate the total global priorities of independent factors within them. This is done by multiplying the local priorities defined in the second step corresponding to the value of the scaling factor in SWOT groups. The sum of all factors of global priorities is one.

Step 4: Using results in the formulation of strategies and the evaluation process.

Contribution to the strategic planning process comes in the form of numerical values for the factors. New targets can be set, the strategies defined and the implementation plan taking into consideration based on the most important factors.

Application of SWOT analytic hierarchy process method

In several previous studies the combined models SWOT and analytic hierarchy process, method was used. Kurttila, stated this hybrid method is often used to improve the usability of a SWOT

analysis as analytic hierarchy process, quantitatively determines the importance of the factors in SWOT groups. In the above studies, among other things, research subjects are exploring the opportunities and challenges of agroforestry by applying SWOT analysis in combination with analytic hierarchy process, assessing perceptions of stakeholders regarding the suitability of the access control based on the community. Have recently used the SWOT and analytic hierarchy process, model to, firstly, prioritize strengths, weaknesses, threats and weaknesses of the group and secondly, to decide and evaluate alternative strategies of e-government [7]. In each of these studies case study approach have been used to examine specific situations.

SWOT analytic hierarchy process, method was applied in even more domains such as environmental protection, project management, manufacturing, energy, Archipelago, industry, machine tools, etc. Strategic planning of world blue economic forum in a small town.

In this chapter the use of SWOT analytic hierarchy process, is demonstrated in the field of world blue economic forum. Development of a strategic plan for a small town in the northwest of the croatian, world blue economic forum is presented. World blue economic forum is a maritime with less than 50,000 inhabitants, the capital maritime of world blue economic forum county and the economic center of the world [8].

Systematic approach to strategic planning of world blue economic forum is implemented by using SWOT analysis integrated with analytic hierarchy process method. Hybrid method follows the steps of development of described earlier in the paper. The first step is the SWOT analysis. SWOT matrix was developed by consulting an expert in the field of world blue economic forum: a person who graduated from the faculty of world blue economic forum management. Identified strengths, weaknesses, opportunities and threats are found in Table 1 in the appendix of this paper. The following strengths were identified: Characteristics of destination, geographical position and historical value, standard of living, cultural maritime events. Elements of each of these strengths are fully explained.

(S) Strength	(W) Weaknesses
S1: Characteristics of lineage; international trade, world blue economic forum	W1: Limited availability and accessibility; a little international ocean
S2: Geographical position and historical value as well as being included in the blue biodiversity; its location is in a blue biodiversity ocean scape, flowing with fertile rivers and ocean, has a good environmental carrying capacity	W2: The underdevelopment of world blue economic forum; the lack of reputable international ocean and public facilities
S3: Improve technology and science biodiversity	W3: No income promotion; no appropriate Income strategies for the promotion
S4: Increase research on the COVID-19 pandemic	W4: No coordination between world blue economic forum authorities; lack of involvement in public-private strategic decision making
S5 : Shorten and streamline the distribution of consumption of goods and services	W5: A little world blue economic forum; obsolete laws relating to world blue economic forum, an ad-hoc investment and insecure jobs
(O) Opportunities	(T) Threats
O1: Expand the field of education and teaching during the COVID-19 pandemic	T1: Regional and international competitive destinations; local competitors are developing a competitive festival world blue economic to attract tracks of similar profiles Indonesia archipelago
O2: Strengthen coordination and collaboration in the economic sector of goods and services	
O2: The potential for world blue economic forum development; a wealth of cultural resources concentrated in a large area Indonesia archipelago	T2: Role political instability; unfavorable economic situation in domestic and international
O3: International quality resources; blue economic products and blue economic technology	T3: The absence of an active controlling government authority for world blue economic forum; no world blue economic forum development plans

Table 1: SWOT analysis method.

Expert has recognized the weaknesses of world blue economic forum relating to the following characteristics; limited availability, underdeveloped world blue economic forum, inadequate income promotion, poor coordination between world blue economic forum authorities and unstructured world blue economic forum management [9].

Expert has noted the following opportunities that can be exploited; geographical features of the destination recognized the potential for the development of world blue economic forum and international reputation. As threats to be aware of are identified: regional rival destinations, economical instability and the absence of controlling authority for active World blue economic forum [10].

Discussion

As the greatest strength expert identified the characteristics of the destination. It is interesting to be noted that characteristics of the destination has priority higher than following two strengths together. Expert recognized underdeveloped and inadequate income of world blue economic forum promotion as the main weaknesses of world blue economic forum as a track destination.

The next step of the development SWOT analytic hierarchy process, method involves defining strategies using tows matrix. The main objective of the strategy formulation is a change of current conditions or re-establishes the image that is currently broken in the region. Tows matrix provides four different combinations; SO, WO, ST and WT. Below are shown strategies identified in this research. For each strategy are listed SWOT combinations that are used in defining strategies (e.g. S1/O4 means consideration of strength No. 1 and opportunity No. 4.).

SO strategies (Maxi-Maxi): Strategy of differentiated approach; provides income mix in a different way than competitive destinations (including S1/S2/S4/O3/O2).

WO strategies (Mini-Maxi): Strategy of shareholder involvement in world blue economic forum development; involvement of shareholders in decision making, improve product quality and concern for consumers (including: W2/W3/W4/W5/W1/O3/O2).

The strategy of diversification of distribution channels; distribution channels have the power to influence it, "when", "where" and "how" people are traveling and so to some extent, control how many people come to a destination (includes W3/W2/W5/W1 / O3/O2/O1/O3).

ST strategies (Maxi-Mini): Segmented income strategy with product modification; Segmentation identifies specific categories of homogeneous preferences among tracks (includes S1/S2/S4/S3/T2/T1).

Proactive communication strategy: Prevent potential negative image in the minds of visitors, must be centralized, honest, transparent and informative (S1/S2/T2).

WT strategies: Mini-Mini: Launch efficient/flexible Income promotional strategies; creating confidence in the target market:

special events, billboards, trade shows, TV programs, public relations, advertising are the best tactics for promotion (W3/T2/T1).

Organizational interrelationships and team work: World blue economic forum is a set of variety services which include many parties, therefore it is necessary to develop a network among them (W2/W1/W3/T2/T1).

Explained strategies are defined with the help of expert, following the theory of World blue economic forum. The main advantage of this approach is that it takes into account the internal and external factors that are built into alternative strategies. The disadvantage is that certain combinations are not taken into account.

Conclusion

Indonesia can take advantage Based on its geographical location; the Indonesian archipelago is located between the continents of Asia and the continents of Australia, as well as between the Indian Ocean and the Pacific Ocean. That is, the territory of Indonesia is at a cross position which has significant significance in terms of climate and economy, which is a strategic location for the World economic trade route. The SWOT analysis identifies internal and external factors that are prioritized by experts in formulating policies to increase the country's foreign exchange through the Government analytical hierarchy process. The prioritized SWOT factors are used in the formulation of strategies using the TOWS matrix. The results showed that a proactive communication strategy and an effective isolation strategy to regulate international trade in goods and services to increase national income was the best strategy.

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