The use of value focused thinking and the A’WOT hybrid method in tourism management

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Received 7 March 2003; accepted 25 May 2003

Abstract

Strategic planning which focuses on rural tourism is based fundamentally on the adjusting to changes in the operational environment. Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is a commonly used tool for analysing both the internal and external environments in order to attain a systematic approach and support for a decision situation. In this study, we show how some weaknesses of SWOT analysis can be avoided and how it can be elaborated upon in order to provide more comprehensive decision support. The approach is applied to the question of does local culture have the potential to be a success factor in rural tourism in two case areas, namely in the regions of Ylä-Savo in Finland and Kassel in Germany. The research was based on expert interviews, which were structured according to the principles of value-focused thinking and A’WOT analysis. A’WOT is a hybrid method combining the well-known SWOT analysis and the Analytic Hierarchy Process (AHP). In this study, SMART techniques are applied in an A’WOT framework instead of the AHP. The objectives and the operating environment, i.e. the two major elements in any strategic management, were covered in the analysis. The results showed that local culture has the potential to be a success factor in rural tourism, in other forms of rural entrepreneurship, and also in the case study regions. Investments which enhance and strengthen local culture are recommended over those that utilise culture and traditions to make products in tourism business. Strengthening local culture opens up possibilities for future innovations and sustainable development. A strong culture and an awareness of one’s own traditions form a natural foundation for innovations. Value-focused thinking used as a methodology to define the values and objectives along with A’WOT for strategic planning, provide good means of enhancing sustainable innovations.

Keywords: Hierarchical analyses; Planning and analyses; Rural tourism; SWOT

1. Introduction

Strategic planning which focuses on rural tourism is based fundamentally on the adjusting to changes in the operational environment. Consequently there exists a wide range of planning methods developed for analysing the interactions of both external and internal environments simultaneously. Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis is a commonly used tool for analysing both internal and external environments and is a systematic approach which provides support for a decision situation (e.g. Kotler, 1988; Wheelen & Hunger, 1995). The most important internal and external factors for the future of an enterprise are referred to as the strategic factors. These are summarised in the SWOT analysis. The final goal of a strategic planning process, of which SWOT is an early stage, is to develop and adopt a strategy resulting in a good fit between the internal and external factors (e.g. Kajanus 2000, 2001). In addition, the chosen strategy has also to be in line with the objectives of the decision makers.

When used properly SWOT can provide a good basis for strategy formulation. However SWOT could be used more efficiently than normally has been the case (McDonald, 1993). SWOT analysis cannot appraise
the strategic decision-making situation comprehensively. Often it only pinpoints the factors in the analysis and individual factors are usually described briefly and very generally (Hill & Westbrook, 1997). Furthermore, SWOT does not provide means of analytically determining the importance of the factors or to assess decision alternatives according to the factors. The use of SWOT alone is based mainly on the qualitative analysis made in the planning process, and on the capabilities and expertise of the persons participating in the process. In fact the result of a SWOT analysis is often only a listing or an incomplete qualitative examination of internal and external factors. SWOT also lacks the means to integrate the operational environmental analysis into the value analysis. In this study, we show how some of the weaknesses of SWOT analysis can be avoided, and how it can be elaborated upon in order to provide more comprehensive decision support. This approach is applied to the question of whether local culture has the potential of to be a success factor in rural tourism in the two case areas.

According to Lane (1994), rural tourism can be distinguished from other tourism sectors as being rural in function and scale, and based on local traditions with local roots. Oppermann (1996) notes that rural tourism takes place in cultivated landscapes and includes tourism activities in the countryside. Nilsson (2002) stresses that rural tourism should also perceived as a lifestyle which is based upon ideas of what is rural and how this can be separated from what is urban. He claims that much of the attractiveness of ruralness comes from the cultural dimension given by the people living in the area. Ecotourism can be seen as is a subset of rural tourism which aims to secure the social and ecological functioning of populated cultivated areas (Ross & Wall, 1999). Compared to traditional agricultural production based rural businesses, rural tourism today is more labour-intensive, can generate more stable source of income, and has stronger indirect effects on other local activities (the maintaining of the service base in the region). It also represents a growing industry while agriculture in many countries—for example, in the EU member states—can be categorised as a decreasing industry (e.g. Gez & Carlsen, 2000; Reichel, Lowengart, & Milman, 2000; Nilsson, 2002). This is why nowadays rural tourism is widely seen throughout the Western world as a potential rescuer of the countryside. Previously farm tourism was typically seen as just one category of farm production diversification (e.g. Clarke, 1996; Busby & Rendle, 2000). Farm tourism can now be recognised as a product in its own right (e.g. Busby & Rendle, 2000; Nilsson, 2002).

Rural and farm tourism are dependent on upon living social communities and their roots and landmarks, and implicitly include strong cultural dimensions. Typically cultural tourism includes activities associated with places, events or products with specific historic or artistic values. However the concept of cultural tourism can be used whenever there are visits to cultural places regardless of the visitors’ initial motivation. Sometimes historical and heritage tourism are categorised into special types of cultural tourism, such as arts tourism. Be it as it may, cultural tourism is “big business” or has the potential (Teo & Yeoh, 1996; Bachleitner & Zins, 1999; McHone & Rungeling, 1999). Most forms of tourism can be broadly defined as being cultural tourism in that they usually include visiting and learning about other cultures and other ways of living. In its general sense, the word ‘culture’ can mean a certain community in history, shared beliefs and habits in a community, arts, flora, or landscape. Culture means both the action and the outcome of an action (e.g. in Ahlman, 1976; Geertz, 1973). In entrepreneurship, culture can be seen as a strength in many ways, e.g. as in the self-awareness of one’s own background and culture, as a source of innovations, as a way to think and act, and in the form of culture-related products. However there are many examples of failures in tourism business investments, and many examples of socially non-sustainable development (e.g. Petrisalo, 2001; Tucker, 2001).

The objective of the study was to test and demonstrate the usability of a novel planning tool in tourism planning. The planning task was to answer the question of whether culture can be a success factor in rural tourism. Value-focused thinking as a general decision-theoretic approach (Keeney, 1992) and the A’WOT hybrid method (Kurttila, Pesonen, Kangas, & Kajanus, 2000; Pesonen, 2001; Pesonen, Ahola, Kurttila, Kajanus, & Kangas 2001a; Pesonen, Kurttila, Kangas, Kajanus, & Heinonen, 2001b) as a specific method for analysing strategic decision situations, were used in the analysis. The work was done from the point of view of the regions of Ylää-Savio in Finland and the rural area of Kassel in Germany. Experts in tourism, culture, and rural economics were interviewed for the study.

2. Materials and methods

2.1. The research areas

Ylää-Savio is located in central Finland. It consists of the town of Isalmi and surrounding rural districts. There are 65,000 inhabitants in this region. The main sources of livelihood come from the services, foodstuffs, wood and metal industries. The region has a significant dairy industry with forestry as a supplementary source of income. Tourism has thus far been quite modest in the region, but its significance is expected to increase especially in the areas of ecotourism, farm tourism and culture-related tourism. The best known tourism products of the region are probably Via Dolorosa
The possibilities for using culture as a strength in rural tourism in the region of Ylä-Savo were compared to the corresponding situation in the rural area of Kassel in Germany, an area which has 138,000 inhabitants. The city of Kassel is nearby and has a population of 200,000. Economically, the area is highly dependent on the surrounding employment centres. The local economy itself is based on small-scale industries, such as crafts and commerce, which mainly serve the local population. Agriculture, once the main economic mainstay, is of reduced significance now. In contrast, the prospects for tourism are a lot brighter because of the beauty of the region, the historic towns, castles, and the fact that it is the birthplace of the Grimm Brothers.

2.2. Methods

The two main elements in strategic decision-making of an enterprise are the objectives and the operational environment. In the expert interviews, both the objectives, using the approach called value-focused thinking, and the operational environment, using the method called A’WOT, were analysed. The value-focused thinking approach, originally developed by Keeney (1992), consists of methods for defining one’s objectives and utilising them in decision making. The objectives were identified and organised into a means-ends structure in the planning session by the participating experts and the moderator. The general format of the discussions followed that prescribed for value-focused thinking sessions (Keeney, 1992, 1999; Gregory & Keeney, 1994). Following the discussions, the moderator combined the participants' objectives and organised them into a single means-ends objectives network. The ends objectives formed the strategic objectives (fundamental objectives), and the means objectives were the means to achieve them. The next phase in the analysis was to investigate the operational environment in order to obtain a more solid basis for putting the value-focused framework into more practical terms.

The most important internal and external factors for the future of an enterprise are summarised within the SWOT analysis. In the A’WOT method (Kurttila et al., 2000; Pesonen et al., 2001a,b), SWOT analysis is made more analytical by giving numerical rates to the SWOT factors as well as to the four SWOT groups. In the standard version, this is carried out by integrating the Analytic Hierarchy Process (AHP) (Saaty, 1980) and its eigenvalue calculation technique with SWOT analysis. The hybrid method improves the quantitative information basis of strategic planning processes. The use of AHP with SWOT yields analytically-determined priorities for the factors included in SWOT analysis and makes them commensurable. In addition, decision alternatives can be evaluated with respect to each SWOT factor (Pesonen et al., 2001b). Thus, SWOT provides a basic frame within which to perform an analysis of the decision situation, and the AHP assists in carrying out SWOT more analytically and thoroughly so that alternative strategic decisions can be prioritised. Other decision support techniques can be applied for the same purpose in place of the AHP.

In this study, the AHP like pairwise comparisons and the eigenvalue calculation framework were replaced by the Simple Multi-Attribute Rating Technique (SMART) method (Edwards, 1971). SMART is based on the multi-attribute utility theory (MAUT). Compared to the AHP, SMART is simpler to use, and makes comparisons of the importance of decision criteria and evaluations of the decision alternatives more straightforward. Therefore SMART is suitable for situations where, for example, there is a large number of criteria or decision alternatives and the persons defining the priorities are not able or willing to perform numerous and sometimes difficult pairwise comparisons. SMART techniques have been applied by Reynolds (2001), among others, in the area of natural resources.

Different variations of SMART have been developed (see von Winterfeldt & Edwards, 1986). In fact, nowadays SMART consists of a family of different techniques and modifications. However, common to all SMART techniques is their reliance on direct numerical rating methods. In this study, the version of SMART used was the one where a fixed number of points (100) was allocated to decision elements compared at a particular time. For example, 100 points were allocated to the SWOT factors within a SWOT group, to indicate the relative mutual importance of the factors.

The hybrid method A’WOT along with the SMART technique proceeds as follows:

(i) SWOT analysis is carried out. The relevant factors of the external and internal environment are identified and included in the SWOT analysis.
(ii) The mutual importance of the SWOT factors are determined separately within each SWOT group. When the SMART method and its simple rating version are applied, the importance of the SWOT factors is defined as follows: 100 points are allocated for SWOT factors according their importance separately in each SWOT group.
(iii) The mutual importance of the SWOT groups are determined. One hundred points are allocated to the four SWOT groups. Finally the individual SWOT factors within each SWOT group are scaled according to these priority values.
2.3. The expert interviews

Two 4 h interviews were organised in Finland. In the first meeting, four experts (a specialist in culture tourism, a rural-tourism entrepreneur, a lecturer in tourism business, and an expert in rural development) and a moderator took part in a value-focused analysis. In the second meeting, which was held 2 weeks later, five experts (the same as in the first meeting plus an expert in tourism business) took part in the A’WOT analysis.

In Germany, two experts in art and agriculture were interviewed for the value-focused analysis. One expert in the tourism business of the region was interviewed for the A’WOT analysis in a 2 h meeting.

3. Results

The framework of the value-focused thinking approach applied in our study is presented in a simplified format in Fig. 1. The results of the value-focused interview analyses showed that all experts valued the vitality of rural areas as the fundamental reason for relying upon culture as a success factor in rural tourism. In addition, all the experts were agreed on the means objectives. They found generating incomes from tourism business in the region, new economy, reform in rural areas, and strong culture were the most important means of maintaining the vitality of rural areas. The main points of emphasis in the A’WOT analysis were aspects relating to tourism products, and the social sustainability of regional culture tourism, as well as on investments in local culture as a means of enhancing learning, creativity, innovations, self-awareness, etc. connected to the local people.

The results of the A’WOT analysis show that the Finnish experts placed more emphasis on taking full advantage of the opportunities, while the German experts emphasised avoiding weaknesses and threats (Fig. 2). One reason for this may be that tourism as a business activity is quite young and exists only on a small scale in Ylä-Savo as compared to the situation in Kassel. Despite this the German experts also emphasised that the significance of culture as a strength in rural tourism, will increase in the future.

The results of the A’WOT analyses, with respect to individual SWOT factors, are presented in Tables 1 and 2. Both in Finland and Germany, culture and traditions are seen as the strengths in rural tourism. In Germany, the most important threat and opportunity are linked: price competition from other continents can be partly avoided if there are increase in flight costs in the future. In Finland, the most important opportunities reveal that much is expected in the future, and the most important weakness, lack of tradition in tourism business, underlines these future developments.

4. Discussion

The results of this study indicate that culture is expected to be a success factor in rural tourism in both research areas. The research results emphasise the importance of investments to strengthen and raise awareness of local culture. The results of the case studies were rather clear and easily interpreted. Furthermore, compared to the results in other studies and to literature in the field, our empirical results did not include any major surprises. Due to the geographically limited research material and the limited number of experts interviewed, the results have application only in the case study areas, and cannot be taken as absolute truth. In general all expert judgments and predictions

![Fig. 1. Mean–end structure of the objectives.](image)

![Fig. 2. A’WOT results from the Finnish and German expert analysis.](image)
### Table 1
The SWOT analysis from Kassel region and the priorities of the SWOT factors and groups

<table>
<thead>
<tr>
<th>SWOT group</th>
<th>Local priority</th>
<th>SWOT factors</th>
<th>Global priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengths</td>
<td>0.30</td>
<td>Easy to reach (less weight in the future)</td>
<td>0.120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape (forest and water)</td>
<td>0.120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Culture (Grimm Brothers, town of Kassel and history of Huguenots) (becoming more important)</td>
<td>0.060</td>
</tr>
<tr>
<td>Weaknesses</td>
<td>0.30</td>
<td>Most people living here don’t want tourism</td>
<td>0.120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don’t really know the qualities of the region</td>
<td>0.120</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Quality of restaurants and hotels</td>
<td>0.060</td>
</tr>
<tr>
<td>Opportunities</td>
<td>0.15</td>
<td>Cost of flights will increase</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People are more interested in promoting health: local foodstuffs, walking, fresh air</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Euro currency</td>
<td>0.015</td>
</tr>
<tr>
<td>Threats</td>
<td>0.25</td>
<td>Price competition from other continents</td>
<td>0.125</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Many rural areas in Europe (competition in Central Europe)</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increasing cost of petrol</td>
<td>0.050</td>
</tr>
</tbody>
</table>

The most important SWOT factors in each SWOT group are in boldface.

### Table 2
The SWOT analysis from Ylä-Savo region and the priorities of the SWOT factors and groups

<table>
<thead>
<tr>
<th>SWOT group</th>
<th>Local priority</th>
<th>SWOT factors</th>
<th>Global priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strengths</td>
<td>0.30</td>
<td>Farming culture</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Knowledge of culture and traditions</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Security</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People living in the region</td>
<td>0.045</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Old usable buildings</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Art history in the region</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rural development process</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strong values of culture-based tourism</td>
<td>0.000</td>
</tr>
<tr>
<td>Weaknesses</td>
<td>0.20</td>
<td>No tradition in tourism business</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Profitability of farm tourism</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-operation</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marketing</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expertise</td>
<td>0.030</td>
</tr>
<tr>
<td></td>
<td></td>
<td>People living in the region do not trust culture-related tourism</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of money for repairing old buildings</td>
<td>0.010</td>
</tr>
<tr>
<td>Opportunities</td>
<td>0.40</td>
<td>Increasing demand from tourism</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product development</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-operation</td>
<td>0.060</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nature and landscape</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-operation between culture and business sectors</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urban people long for farming culture</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The uniqueness of the people of the region</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The possibilities of culture all around the year</td>
<td>0.040</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increasing responsibility for nature</td>
<td>0.020</td>
</tr>
<tr>
<td>Threats</td>
<td>0.10</td>
<td>Marketing</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Depopulation</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Co-operation</td>
<td>0.020</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Lack of money</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Competition</td>
<td>0.015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vanishing awareness of culture and traditions</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pollution and state of the environment</td>
<td>0.005</td>
</tr>
</tbody>
</table>

The most important SWOT factor in each SWOT group is in boldface.
can be questioned (e.g. Leskinen & Kangas, 2001). However, expert knowledge must always be relied upon at least to some extent, when considering the potential for future business in any strategic process.

Although our case study results did not bring new dimensions or considerable empirical contributions to the research in rural tourism, the application of the value-focused thinking approach and A’WOT-based methodology, were pioneering attempts in the field. Normally an applied strategy process follows the following phases: the investigation of the present state of the tourism in the region, the vision is defined, and the objectives are identified. Then the strategies are selected and the monitoring system is decided upon (e.g. Chon & Olsen, 1990; Heath & Wall, 1992; Authiyaman, 1995; Cooper, 1997; Soteriou & Roberts, 1998). Various aspects, such as environmental, social and economic aspects may be emphasised (e.g. Gunn, 1994; Inskeep, 1991, 1994). This research focused on the early phase of the strategy process. However, this kind of strategic level consideration provides a starting point for more detailed planning in tourism sector and in tourism enterprises. In the next step of the planning process, alternative strategies might be defined for active development of the tourism industry and for individual enterprises.

The results of the analyses can be utilised when generating and evaluating alternative strategies for more detailed sector or enterprise specific strategic planning. One possibility would be to take the most important factors of each SWOT group and to develop max–max (maximise strengths and opportunities), max–min (maximise strengths and minimise threats), min–max (minimise weaknesses and maximise opportunities) and min–min (minimise weaknesses and threats) strategies for further examination (e.g. Proctor, 1992; Kajanus, Kurttila, & Kangas, 2003). In the Finnish case, the determination of one strategy alternative could be made in the following way: in the max–max strategy, the main point would be to concentrate on combining farming culture and knowledge of culture and traditions with product development, local co-operation and the increasing demand in tourism.

In the evaluation of alternative strategies, one might proceed according to the principles of A’WOT (see Pesonen et al., 2001b). In this case, when SMART is applied, a total of 100 points would be allocated to alternative strategies with respect to each SWOT factor, indicating the priorities of strategies with respect to the factors. With this done, alternative strategies could then be prioritised with respect to the entire A’WOT framework. The mutual weighting of SWOT factors, and the versatile evaluation of alternative strategic decisions could then be integrated with ordinary SWOT analyses. In this manner the most crucial weakness of SWOT could perhaps be avoided by utilising MCDS methods within SWOT, as is done when the full version of A’WOT is applied.

When the full A’WOT process, including evaluation of alternative strategies, is performed, the initial ready-made SWOT analysis might not always be applicable. The reason for this is that the SWOT factors could have been formulated so that strategy alternatives cannot be evaluated with respect to them. This being the case, SWOT factors need some value-focused modification and fine-tuning. For A’WOT, SWOT factors should be determined by asking which are the internal and external factors of the operational environment that should be taken into account when choosing the strategy for the enterprise. Then it is possible to compare strategy alternatives with respect to strengths, weaknesses, opportunities, and threats as listed in SWOT. To take the example of the pairwise comparisons in the standard version of A’WOT: which of the two strategy alternatives compared (when implemented) makes it possible to better exploit a certain opportunity, and by how much?

The tourism industry is one of the most sensitive areas of business in terms of general economic development and fluctuations. This is also the case with rural tourism. Thus the future is always uncertain for the tourism industry, as well as for individual tourism enterprises, e.g. farms providing bed and breakfast services. The economic uncertainty within the operational environment inevitably affects strategic processes and management decisions in tourism enterprises. Adaptive strategic management is needed for considering these types of risks and uncertainties. One approach for dealing with the uncertainties in the assessment of future development, might be the application of scenario modelling. In this approach, each possible future scenario would have its own SWOT analysis and SMART-like prioritisation. Appraising probabilities in the scenarios and weighting the SWOT factors, could then yield a more comprehensive picture of the effects of various future outcomes. Weirich (1982) also proposed a dynamic SWOT analysis, where changes in internal and external factors are compared over time.

In this study, there was a comparably small group of participants in both the Finnish and German cases. Thus it was quite easy to reach a consensus of opinions in the meetings, both in the value analyses and in the A’WOT analyses, although there were differences in opinions and insights at first. However, the research results would become more reliable if the number of participants with different backgrounds were increased (e.g. experts, rural entrepreneurs, citizens). In this case, the global priorities of SWOT factors and groups could be determined by giving weights to each participant, as was done in Kajanus et al. (2003). In addition, it would be interesting to examine the differences of the weighting results between participants.
The A’WOT method with the SMART rating technique was easy for experts to understand and apply. Comparisons between the factors forced the experts to give deeper consideration to the meaning and importance of the factors. Although the rating technique and respective calculations of SMART are easier to carry out as compared to the comparison technique and calculations of the AHP, giving ratings to all factors within the specific SWOT field simultaneously can be more difficult. In SMART, the rating of all the factors simultaneously requires a rather comprehensive/holistic understanding of the operational environment. For people not experienced in strategic thinking and business management, pairwise comparisons (being also pedagogically sound and which can be performed without managing the strategic process as a whole) might be a better alternative. On the other hand, holistic evaluation forces one to think more comprehensively.

The basic form of SMART uses an additive model, but also non-additive approaches have been studied (e.g. Barzilai & Lootsma, 1997). More recent developments within the SMART “family” include two approximate methods for multi-attribute utility measurement, called SMARTS and SMARTER (Edwards & Barron, 1994). SMARTS utilises linear approximations for single-dimension utility functions, swing weights, and an additive aggregation model. SMARTER is a simplified version of SMARTS, and it is easier to apply. If desired, these methodological advances can be applied in the A’WOT framework as well. For example, in the prioritisation of alternative strategies SMARTS and SMARTER would include useful properties. However, for the purposes of this study, the basic SMART method was suitable, and more sophisticated, and at the same time more complicated modes were not required.

According to the experiences gained from the presented applications, the combined use of the MCDS method and SWOT analysis is a promising approach in supporting strategic decision-making processes, and also increases and improves the information basis. The defining of the importance of the SWOT factors forces the decision-makers to analyse the situation more precisely and in more depth, than the standard SWOT does. In addition to the operational environment, the goals of the decision makers are crucial in strategic choice situations. The presented approach provides not only a solid decision support, but also an effective framework for learning in strategic decision support in numerous situations. It can also be used as a tool in communication and education in decision making processes where multiple decision makers or judges are involved. In addition, making separate A’WOT analyses for individuals or interest groups can provide a good basis for studying differences in opinions, expectations, etc. of the different stakeholders in decision-making process.

In the study, value analysis and operational environment analysis were carried out separately. In any MCDS application, structuring the decision hierarchy is an important but also a difficult phase. In the hierarchy, lower level factors refer to factors just above them. These lower-level factors should be mutually exclusive and they should collectively provide an exhaustive characterisation of the higher level factors they refer to in order to include all fundamental aspects of the consequences of the decision alternatives and to avoid double-counting of the possible consequences (e.g. Keeney, 1992). When dealing with SWOT factors as decision elements like in our case, this can be problematic. It would also be useful to combine objectives and SWOT factors with the same weighting process, and by this means, to analyse interactions between the objectives and the operational environment. This will be examined in the near future.

Another interesting study would be to test different MCDS weighting techniques, and their usability within the A’WOT framework. For example, the Stochastic Multicriteria Acceptability Analysis (SMAA) methods (e.g. Lahdelma, Hokkanen, & Salminen, 1998) could be worth applying especially when the whole version of A’WOT is used (Kangas, Kurttila, Kajanus, & Kangas, 2003). Employing SMAA enables a versatile analysis of management alternatives, without any data on SWOT factors or importance of groups. Namely SMAA, in addition to analysing what the recommended strategy is for certain priorities of the factors and groups, enables one to analyse what kind of priorities would support each management strategy. Moreover, the SMAA-O version (Lahdelma, Miettinen, & Salminen, 2003) enables the handling of ordinal preference information, as well as mixed data, consisting of both ordinal and cardinal information. This is a useful quality in practical decision support.

References

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