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Difficulties and Challenges in Applying the European Tourism Indicators System (ETIS) for Sustainable Tourist Destinations: The Case of Braşov County in the Romanian Carpathians

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Abstract: Tourist destinations are increasingly coming across multiple social, economic, cultural, and environmental challenges corroborated with a great urgency for sustainable development. In this context, the European Commission has launched in 2013 a unitary system of indicators for sustainable management of tourism destinations, called The European Tourism Indicators System (ETIS). More specifically, ETIS was configured initially with a total of 27 core indicators and 40 additional (optional) indicators. The purpose of this paper is to present the difficulties and challenges encountered in the application of ETIS, having as a case study, the county of Braşov, located almost entirely in the Romanian Carpathians. In this regard, a testing technique has been designed through an innovative Group Decision Support System (GDSS) that is applied to our destination. The results show that the selection of ETIS indicators is a flexible process that must be adequate with the particularities of each destination taking into account both the needs of the stakeholders, the information that is useful to them, and the existence and periodicity of the data available. Also, in some cases, when the available indicators are insufficient, additional indicators have to be introduced, and they must be subsequently adapted to the needs and specifics of the destination.

Keywords: tourist destination; sustainable tourism; indicators; European Tourism Indicators System (ETIS); Romanian Carpathians; Braşov

1. Introduction

For decades, European tourist destinations have developed without having any major problems in capitalizing on the available natural and cultural resources. Throughout this period, the hospitality industry was perceived as not generating pollution and significant changes in the quality and stability of the natural environment. In recent years, with the intensification of climate change research, it has been demonstrated that tourism can also lead to significant environmental changes that can have a negative impact on local economies.

In this context, tourist destinations are increasingly coming across multiple social, economic, cultural, and environmental challenges. This aspect emphasizes the importance of their sustainable development. Moreover, population growth, economic development, and climate change will exert an increased combined pressure on the main natural resources, and under these conditions, sustainable resource management will occupy a central place on the agenda of the central and local government bodies.

From this point of view, a series of sustainable development indicators applied in the field of tourism have been proposed and applied at international level. Among these, one can mention the

European Commission, which has launched since 2013, a unitary system of indicators for the sustainable management of tourism destinations called The European Tourism Indicators System (ETIS).

The system has been created to support sustainable destination management, while being an extensive tool to help monitor, manage, and improve sustainable tourism development. In a simple manner, ETIS is in fact a sustainable management system for tourism destinations based on a number of indicators at the same time offering an innovative approach to tourism planning. The role of ETIS is that of providing information support for assessing the sustainable development of tourism in the European tourist destinations.

The purpose of this paper is to present the difficulties and challenges encountered in the application of ETIS, having as a case study Braşov County, an important tourist destination located in the centre of Romania that is mostly in the Carpathian Mountains. In this regard, a testing technique has been designed through an innovative Group Decision Support System (GDSS) that is applied to our destination following the DIMAST research project that was carried out in the period October 2014–September 2017.

It should be mentioned that Braşov County is considered a major tourist destination, ranking second in Romania in terms of tourist accommodation offer (after Constanta county) and third in terms of tourist traffic (after the city of Bucharest and Constanta county). Braşov County also consists of a number of other tourist destinations with well-defined profiles. Thus, there are destinations focused on winter sports (mountain resorts, such as Poiana Braşov and Predeal, Râşnov), on cultural-historical tourism (Braşov, Bran and Râşnov, Făgăraş), on rural mountain tourism (Moieciu, Fundata, Bran, and Harman), on eco-tourism (Zărneşti-Piatra Craiului Mountains), and so on. In addition, other forms of tourism, such as business tourism, health tourism, transit tourism, or gastronomic tourism add to this range of tourism types. At the same time, it is important to note that Braşov was one of the ten core test destinations where ETIS testing was conducted before it was launched by the European Commission. In fact, the testing consisted of a three-day visit of a team of consultants that involved meetings with the destination coordinator, a half-day workshop with stakeholders, and a follow-up period and drafting a report [1].

2. Literature Review

Sustainable development has become a necessity also in the field of tourism as well as in other activities, in the last years even claiming that a tourist destination that, if it is not sustainable, cannot become competitive [2]. In 2005 the concept of sustainable tourism has been defined by the World Tourism Organization (UNWTO) and by the United Nations Environmental Program (UNEP) as *“tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities”*; moreover it was stated that *“sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability”* [3]. One can see that the concept of sustainable tourism refers to three fundamental dimensions: economic growth, environmental sustainability, and social equity, which correspond to triangle endorsed by Nijkamp et al. (1990) [4].

Once sustainable tourism has been defined together with identifying the need to develop sustainable tourism at the destination level, some indicators/system of indicators to monitor sustainable tourism have emerged. In this regard, a destination’s sustainability monitoring is seen as a last stage, in a so-called *“community well-being approach to destination tourism planning”* [5].

In her critique to sustainable tourism development, Liu (2003) [6] states that the measurement of sustainability is one of the issues that has to be addressed, since there is *“an urgent need to develop policies and measures that are not only theoretically sound but also practically feasible”* (p. 472).

Butler (2007) [7] identifies the problems of measurement and monitoring as being the major unresolved issues in sustainable development due to *“difficulties stemming from the ill-defined nature of the concept”* of sustainable development (p. 15).

Referring to measuring tourism sustainability, Fernandez and Rivero (2009) [8] conclude that “no way can one claim that there exists a universally and unanimously accepted list of indicators” (p. 281). These authors established some methodological bases for the design of a composite index, called the “ST index” (an acronym of sustainable tourism) to measure tourism sustainability “based on the use of weights with the basic information of sustainability” (p. 282). Another example of building a composite indicator to measure sustainability of destination is proposed by Perez et al. (2013) [9]; this index was used to evaluate Cuban nature-based destinations.

However, measuring the sustainability level of a tourist destination is seen by Zamfir and Corbos (2015) [10] as being one of the main barriers to achieve sustainable tourism. Having the city of Bucharest as a main case study, the authors argue that “there is no panacea for sustainable urban tourism development (p. 12720).

Schianetz and Kavanagh (2008) [11] propose a new methodology for assessing the sustainability of tourism destination using the so-called Systemic Indicators System (SIS) which was tested as case study on a holiday eco-village near Lamington National Park in Queensland, Australia. While the methodology is thought to have a high practical value since “does not rely on the availability of accurate quantitative data”, the authors admitted that “further research is indicated to the applicability and effectiveness of the SIS methodology for the whole tourism destinations” (p. 624).

One can also mention some proposals for building indicators for sustainable tourism in the well-established resorts in the Mediterranean region, as found in Farsari (2017) [12]. The author finds data availability to be an important issue in most Mediterranean countries. Another application in the Mediterranean, more precisely in the Costa del Sol in Spain is found in Jurado et al. (2011) [13] who develop a methodology to assess the limits of growth for a tourist destination by creating some indicators applied in the coastal area.

Referring to sustainability indicators, in their analysis of papers published on sustainable tourism research, Lu and Nepal (2009) [14] observed three patterns over the period 1993–2007: a shift from project-oriented to destination-oriented, the inclusion of not only quantitative but also qualitative indicators and the diversity of planning frameworks that have been used to develop sustainability indicators such as Carrying Capacity, Limits of Acceptable Change, Visitor Preference and Experience, Destination Lifecycle, Comfort Indicators and Visitor Impact Management (p. 13).

Sirakaya et al. (2001) [15] warns that the “indicators are not a panacea for poor development and planning; their effectiveness is dependent on the quality of the indicators themselves and the effectiveness of their use” (p. 425). They recommend selecting a key number of indicators that provides the most relevant information. Torres-Delgado and Saarinen (2013) [16] states “indicator effectiveness to achieve the ideals of sustainable tourism development is affected by the ambiguity in the definition of the concept of sustainable tourism and problems associated with data availability and baseline knowledge”.

Buckley (2012) [17] admits that “the most difficult component is to establish environmental accounting measures, so this remains a priority for research”, while concludes that “interest in sustainability amongst tourism researchers seems to be as limited as it is amongst tourism industry advocates, enterprises and tourists” (p. 537).

Since the early 1990s, with the expansion of the idea that tourism can be an active factor in environmental pollution and degradation, the UNWTO has developed some initiatives to apply sustainable tourism indicators. In this respect, the following relevant publications of the WTO can be mentioned: “What tourism managers need to know: a Guide for indicators in sustainable tourism”, “Indicators for Sustainable Development of Tourism Destinations: A Guidebook” and “Making tourism more sustainable: A guide for policy-makers—by UNWTO and UNEP” [3,18,19]. For several decades, UNWTO has been proposing to develop and implement policies to promote sustainable tourism. Through sustainable tourism, it is hoped to create new jobs, and to support local culture and products more actively. For example, in 2007, UNWTO published a practical guide for tourism destination management “intended as a practical guide, showing how concepts of destination management may be translated into practice, with models, guidelines, and snapshot case studies” [20] (p. IX).

More recently, with the support of the United Nations Statistics Division, UNWTO launched the initiative called Towards a Statistical Framework for Measuring Sustainable Tourism (MST) that aims to “develop an international statistical framework for measuring tourism’s role in sustainable development including economic, environmental and social dimensions” [21].

At the same time, sustainable development was an important topic in all the policies adopted by the European Commission in the field of tourism. In this regard, one can mention a first official document focused entirely on sustainable development in the field of tourism entitled “Basic orientations for sustainability of European tourism”, which has been adopted by the European Commission in 2003. One year later, the Tourism Sustainability Group (TSG) has been created which adopted in 2007 the document entitled “Action for More Sustainable European Tourism, 2007”. In the same year, the European Commission approved the document “Agenda for a sustainable and competitive European tourism [22]”.

It is also worth mentioning, that in 2006, the Statistical Office of the European Union—Eurostat—developed a Manual on Sustainable development indicators of tourism where a set of 20 core indicators for sustainable tourism, including descriptions of each indicator were included [23]. At the same time, the European Environment Agency (EEA) acknowledged that “despite the difficulties of quantifying the real impact of tourism on the environment, any increase in the number of tourists undoubtedly has an impact on environmental variables such as waste generation and energy consumption (in terms of volume and local level)” [24]. EEA has launched the so-called Tourism and Environment Reporting Mechanism (TOUERM), which is based on the use of indicators that have to be able to reflect both environmental impacts and sustainability trends at the European level [22].

“Developing as system of indicators for sustainable management of destination” represented the first action within the second axis of the “Promote the development of sustainable, responsible and high-quality tourism” which is found in the political document entitled “Europe, the world’s no 1 tourist destination—a new political framework for tourism in Europe”, launched by the European Commission in 2010. This action was achieved in February 2013, when the European Commission has officially launched system of indicators for the sustainable management of tourism destinations called *The European Tourism Indicators System for Sustainable Destinations* (ETIS) as a toolkit.

In the tourism literature, there are few applications of ETIS reported by different authors. An application of ETIS was found in the case of “ATL del Cuneese” in Italy by Zabetta et al. (2014) [25]. The authors consider that ETIS is the most recent application of the so called Community-Based Monitoring (CBM) practices which is considered “a useful tool in dealing with all the different stakeholder interests in order to achieve common sustainability results thus sharing intents, saving resources and achieving greater levels of accountability and data quality” (p. 29). Another application of ETIS is reported in Malta by Cannas and Theuma (2013) [26], which in fact, focused on a road map of ETIS implementation in Malta. They conclude that “rather than collecting data, a crucial aim of ETIS is bridging the gap among different stakeholders in order to create a shared vision of sustainable tourism” (p. 129).

One could add also the Spanish experience at the regional level, more precisely in the region of Andalusia where a Sustainable Tourism Development Indicator System has been developed. It is stated that this system “shall measure the evolution or trend of the Andalusian destination towards tourism sustainability” [27] (p. 16).

In Romania, one can note also some contributions that envisage ETIS, such as the ones from Cismaru and Ispas (2015), Cismaru (2015), or Iunius et al. (2015) [28–30]. However, none of these have particularly detailed the challenges and difficulties related to ETIS implementation in a tourist destination.

3. Materials and Methods

DIMAST project—Destination Intelligent Management for Sustainable Tourism—represented the first practical testing of ETIS in Romania. The choice of ETIS as a method was also justified by the need to follow the EU initiatives in the field of sustainable tourism policy since ETIS is one instrument of this policy; it should be reminded that Romania has been an EU member since 2007.

By using ETIS, which is now at the very beginning, the wish is to have a unitary instrument to evaluate the level of sustainable development of tourism in European tourist destination. Also, it is important to mention that by implementing the DIMAST project in the Carpathian region of Brasov, one wanted more than just a simple testing tool, by creating the first decision-making IT system for the participatory management of the sustainable tourism development for a tourist destination in Romania.

Our research is an applicative one to a tourism area. From this applicative approach, this paper wants to contribute to literature by illustrating the challenges and difficulties that a tourist destination has to face in implementing ETIS.

3.1. More about the European Tourism Indicators System (ETIS)

The European Tourism Indicators System (ETIS) is one of the tools developed by the European Commission to achieve sustainable tourism development objectives, as defined in the Agenda for a Sustainable and Competitive European Tourism [22]. This is a key element of the Commission's work to promote a competitive international tourism industry and to increase the sustainability of destinations in Europe.

ETIS was designed by the University of Surrey from United Kingdom [26]. In this regard, 35 indicator systems around the world were researched that were further narrowed to 20 indicator systems and 8 of them were analyzed in depth as being the most relevant for EU destinations [1].

In the end the system was configured by a total of 27 basic indicators and 40 additional (optional) indicators, grouped into four sections [31]:

- A. Destination management with four core indicators and five optional indicators;
- B. Economic Value, with five basic indicators and nine optional indicators;
- C. Social and Cultural Impact with seven core indicators and eleven optional indicators;
- D. Impact on the environment, with 11 basic indicators and 15 optional indicators.

Basic indicators are the starting point for measuring the level of sustainable tourism development of a destination. As a part of the "European Commission's Guide to the European Sustainable Tourism Indicator for Sustainable Destinations", it is recommended that baseline indicators be used to obtain information for the other core indicators also. Optional indicators are more relevant to destinations that have established more advanced systems for sustainable development management.

ETIS is a flexible system, offering a high degree of freedom to the destinations that aim to implement it. Thus, indicators can be used discretionarily or together, or can be integrated into current destination monitoring systems. It can be expanded or reduced according to the needs of each destination, the interest of the local stakeholders, and the specific sustainability issues faced by a particular destination [31].

ETIS is developed as an instrument that can be chosen and applied by any destination without specific training. It can be a useful way to monitor destination performance and improve management decisions, as well as influence decision makers to adopt appropriate policies, and it is designed to be implemented locally. The basic principle is that decision-making and responsibility for the development of a tourist destination must be shared by a group composed of all actors in the public or private domain that may influence its development.

For establishing ETIS a seven steps scheme is suggested which refers to [32] (p. 4):

- Raise awareness
- Create a destination profile
- Form a stakeholder working group
- Establish roles and responsibilities
- Collect an record data
- Analyze results
- Enable on-going development and continuous improvement.

Although launched in 2013, a revised version of ETIS was developed during 2015–2016, and the 2016 edition of this ETIS toolkit was published. Regarding this new version, it is stated “it provides destinations with a fully tested system and a more realistic set of core indicators” [33] (p. 3). In this new version 43 core indicators are proposed alongside with an “indicative list of supplementary indicators”.

Issues related to the cost of implementing ETIS must not be neglected, but also, it is believed that by using the ETIS indicators “new niche markets can be revealed which can be valuable for a destination, the experience of visitors/tourists can be improved, costs can be reduces and a favourable attitude from local communities can be obtained” [34] (p. 151).

It is important to note that ETIS needs to be actively promoted by National Tourism Organizations, DMOs—Destination Management Organization, by the main stakeholders in tourism, the media, and public authorities.

At the same time, there are plans to set up a network of ETIS destinations to be led by Visit South Sardinia (Italy) and other destinations that have expressed interest such as: Brice4liande Brittany, Andalusia, Barcelona, Dark Sky Alqueva, Lubljana, Mali Losjin and Podgorica [35].

3.2. *The Implementation of ETIS in Braşov County within DIMAST Project*

The implementation of ETIS in Braşov County was the main objective of the DIMAST (“Smart Destination Management for Sustainable Tourism”) project, funded by the Executive Agency for Financing Higher Education, Research, Development and Innovation UEFSCDI from Romania. The project has been carried out in the period 1 October 2014–30 September 2017. Partners in the project are: Transilvania University Braşov (project coordinator), National Institute of Research Development in Tourism, SC. BIT Software, Tourism Promotion and Development Association in Braşov County—APDT, Braşov County Sustainable Development Agency, Callia—Cruise & Travel Agency, SC Eurotur through Hotel Ambient.

The project aimed at designing and developing an original ETIS testing technique applicable to Braşov County through an innovative Group Decision Support System (GDSS). The proposed information system is intended to directly and actively support the participatory management of the development of sustainable tourism within the Braşov County destination. In other words, software has been created that was hosted at the following web link, <https://bi.socratecloud.com/MicroStrategy/servlet/mstrWeb>.

Also, as a support system, DIMAST also includes a specialized knowledge base in the field of sustainable tourism development management, a model of algorithms used for data processing, and a geographic information subsystem (GIS) that allows for making thematic maps, based on the main indicators included [36].

Due to the heterogeneous nature of the Braşov tourist destination and the difficulty of extracting useful data, a first step in the development of the informational system was the identification of a set of indicators for the evaluation of sustainable tourism development management that would meet the specific needs of Braşov County. It was mainly aimed at identifying ETIS indicators that could be used in the Braşov County, and, where necessary, additional indicators that would complement the European indicator system. Thanks to the multitude of data, this innovative computer system supports a primary and secondary database, configured according to the ETIS indicators usable for Braşov County.

The functionality of the DIMAST system was already tested at the end of 2016 through an integrated web platform.

For the selection of the ETIS indicators at the level of Braşov County, in order to build the DIMAST computer system, the following steps were employed:

Step 1: direct adoption of the ETIS indicator system and of the data on these indicators in line with the European Commission's 2013 guidelines;

Step 2: Analyzing existing needs at the destination level by consulting stakeholders. The identification of those ETIS indicators relevant to the sustainable management of tourism of the destination was considered. Thus, some of the initial indicators were left out because they were considered irrelevant for the destination. For this purpose, the results of a Focus Group research conducted by Transylvania University of Braşov within the project were used in this respect; and,

Step 3: Selecting the ETIS indicators for which data are available, adding to them a number of other relevant indicators for the direct and indirect beneficiaries of the application, but that were not part of the ETIS system—the additional indicators.

The number of related (discussed) indicators in each step is presented in Table 1.

Table 1. Steps of selecting European Tourism Indicators System (ETIS) indicators relevant for Braşov County destination, used in the Smart Destination Management for Sustainable Tourism (DIMAST) system.

Work Step	Categories of Sections	No. of Criteria	Number of Indicators			
			Total	Basic Indicators	Optional Indicators	Additional Indicators
1. ETIS Indicators	A. Destination Management	4	9	4	5	x
	B. Economic Value	5	18	7	11	x
	C. Social and Cultural Impact	4	14	5	9	x
	D. Environmental Impact	9	26	11	15	x
	TOTAL	22	67	27	40	x
2. Focus Group selected indicators	A. Destination Management	3	5	3	2	x
	B. Economic Value	5	13	6	7	x
	C. Social and Cultural Impact	3	8	4	4	x
	D. Environmental Impact	1	1	1	0	x
	TOTAL	12	27	14	13	x
3. DIMAST selected indicators	A. Destination Management	3	3	1	1	1
	B. Economic Value	4	14	4	0	10
	C. Social and Cultural Impact	4	5	2	2	1
	D. Environmental Impact	4	6	1	0	5
	TOTAL	15	28	8	3	17

Source: own representation based on European Commission [31]; x—does not apply.

In order to select the indicators, three focus groups involving 10 persons were each organized, and to these focus groups, tourism specialists were invited, namely hotel managers, travel agency owners, specialists from non-governmental organizations, doctoral students, and master students majoring in tourism. The purpose was to identify those ETIS indicators that are relevant and appropriate to support the sustainable management of tourism in Braşov County. The sampling criteria considered was age, occupation, and the sex of respondents, the persons being recruited were based on a questionnaire applied previously. The duration of each meeting was 90 min, with a 15 min break for each group [34] (p. 197). As a result of this research, out of the analyzed indicators, a set of 27 indicators resulted, most of which are basic indicators. Most of the indicators come from Section B—Economic Value (13), followed by the indicators included in Section C—Social and Cultural Impact (8), and Section A—Destination Management (5), while from Section D—Environmental Impact only one indicator was included.

However, when they were entered into the DIMAST IT system, it was found that data were not available for all of these indicators. Thus, in the selection of the indicators, the existence of a mechanism for collecting the data and information at the level of detail was considered as well as the general and specific indicators referring to the municipality level, which are later transferred to the county and national statistics. Under these new conditions, only 11 indicators would remain within the system, of which 8 were basic indicators, and three were optional ones (see Table 1). In order not to lose much of the substance, 17 additional indicators were added, thus reaching a total of 28 indicators. Hence the final differences between the number of initial indicators and those that actually resulted in the analysis and evaluation of the destinations that are part of Braşov County.

4. Results and Discussion

The DIMAST project attempted to find solutions for the application of the ETIS system to the current Romanian realities by developing an integrated IT system that could represent a support for closing the information gap, as well as for carrying out a series of analyses and assessments necessary for the destination management organization, but also needed by individual users.

The existence of a performance monitoring system at tourist destination level, based on a set of appropriate indicators, is a particularly useful tool in making decisions and adopting the best sustainable tourism development policies. At the same time, the existence and accessibility of statistical data is an essential condition for the development of forecasts and strategies for sustainable development of tourist destinations.

The first issue was related to the very definition of the concept of tourist destination, in which there is a certain degree of ambiguity, many approaches in this regard operating at the same time. In the view of the researchers involved in the DIMAST project, a tourist destination is a place or geographical area within certain boundaries, where a visitor or tourist stops for a period as an intermediate or endpoint of the journey and is characterized by an appropriate management [36] (p. 13).

However, no matter how it is defined, the tourist destination illustrates the framework of tourism development and planning. Destinations are more than just places, they represent a sum of elements, from tourist attractions, tourist services and their quality, recreational possibilities, to the local population and its behaviour in relation with the tourists, the destinations providing above all a “tourist experience”, as it is often believed that the basic product in tourism is the tourist experience offered by destinations [37].

It should be emphasized that the concept of “tourist experience” has evolved and changed over time, based on the evolution of society, the change of its values, and its way of life. People no longer just want to rest during the holidays; they want to “experience” something and even to experience different things every time.

Other authors consider that there are three categories of elements of a tourist destination, elements that contribute to providing a unique experience, namely the following [38] (p. 27):

- core building blocks—also called the “core” or “heart” of the destination: geographic location, climate, natural conditions, historical, and archaeological sites;
- natural peripheral elements (surroundings, local population, general ambience at destination); and,
- man-made peripheral elements (entertainment facilities, accommodation facilities and restaurants, commercial services, and transport infrastructure).

Consequently, in Braşov County and not only, the valorisation of resources with tourist valences should be made strictly based on specialized studies. Some indicators that refer to the management of the environment and of the resources in economic terms are designed to allow for the scientific, rational exploitation of tourism resources so that the pace of their exploitation does not exceed their rate of recycling and the regeneration and the intensity of direct or indirect relationships of tourism with environmental factors that do not exceed the support capacity limit.

The ETIS system tries to identify the characteristics of the tourist destination and allow for making a comparative analysis between several tourist destinations. It also highlights the level of attractiveness, the dysfunctions of the tourist destination, the entrepreneurial spirit of the local population, and so on.

In implementing the project, partners have struck a number of barriers related to:

- collecting, reporting, and publication of statistical data at national and local level;
- digitization and computerization of institutions managing data at the national and local level, as well as the accessibility of data for potential beneficiaries.

These problems prevented the selection of all of the aimed indicators within the DIMAST computer system. Under these conditions, for each section, a series of changes required by the Romanian statistical system and the data available at the level of administrative-territorial unit were applied, data that came from the Braşov County Statistics Department (see Appendix A).

The main identified problems were mainly categorized in either the lack of official statistical data for a series of quantitative indicators (23 ETIS indicators) or a lack of qualitative and quantitative surveys on visitors (11 ETIS indicators), residents (3 ETIS indicators), and tourism businesses (17 ETIS indicators) (see Table 2).

Table 2. Main identified problems in implementing ETIS indicators for Braşov County.

Main Identified Problem	Reference Number of ETIS Indicators (See Appendix A)
Lack of official statistical data for a series of quantitative indicators	A.1.1 B.1.1.1, B.2.1.2, B.2.2.1, B.4.1.1, B.5.1.1 C.1.1.3, C.3.1.1, C.3.2, C.4.1 D.2.1.1, D.2.1.2, D.3.2, D.4.1, D.4.1.1, D.5.1, D.5.1.3, D.6.1, D.6.1.2, D.7.1, D.7.1.2, D.8.1, D.8.1.1
Lack of qualitative and quantitative surveys on visitors	A.3.1.1, A.4.1 B.1.2, B.1.1.2, B.1.1.3, B.2.1.1 C.3.2.1 D.1.1, D.1.1.1, D.1.2, D.1.2.1
Lack of qualitative and quantitative surveys on residents	A.1.1.1 C.1.1.1, C.4.1.1
Lack of qualitative and quantitative surveys on residents on tourism business	A.2.1, A.4.1.1 B.2.1.2, B.4.1, B.3.1.1, B.3.1.2, B.5.1, B.5.1.2, C.2.1, C.2.1.1, C.2.1.2 D.2.1, D.3.1.1, D.5.1.2, D.5.1.1, D.6.1.1, D.7.1.1

Source: own representation based on European Commission [31].

Given some aspects of the sustainability of the DIMAST system after project completion, we have not considered those indicators that are not available and require further research to be obtained. Under these circumstances, data were available for only a small number of ETIS indicators, respectively, for eight basic indicators and three optional indicators, representing only 16.4% of the total ETIS indicators. Thus, in order to have the greatest possible coverage, 17 additional indicators that were not included in the ETIS system, were introduced. Therefore, in total, only 11 indicators are taken from the ETIS system and introduced into the DIMAST project as compared to the 17 new additional indicators introduced. In other words, ETIS indicators represent only 39.3% of the total number of indicators found in the DIMAST system.

At the same time, it is important to make a comparison between the indicators resulting from the focus groups and those finally established in the DIMAST project. As can be seen in Table 1, of the 27 indicators found as a consequence of organizing focus groups, only nine were included in DIMAST (one third). This is a rather small proportion with quite large implications for the stakeholders in the Braşov tourist destination who proposed a much larger number of indicators. In order to meet

this need, more resources are needed to allocate additional market research for tourism in Braşov County, as well as to carry out surveys aimed at tourists, residents, and businesses in the field of tourism. However, one must admit that this could be quite a challenging issue for a destination that does not have enough resources for this purpose or is struggling to attract more resources to fund market research. In any case, stakeholders in a destination should be more aware of the importance of producing more data to be used in their decisions.

Regarding the additional indicators, the following points must be stressed: in some cases, the indicators are very important, being particularly useful for those responsible for managing the tourist destination (e.g., “Arrivals of Romanian/foreign tourists”, “Density of overnight stays”, “Share of tourism businesses turnover in the local economy”, “Share of gross investments of tourism businesses in the local economy”, “Share of net investments of tourism businesses in the local economy”, “Number of active businesses in the tourism field by classes and number of employees”, and “Monthly gross average earnings of tourism employees”), while in some other cases, the introduction of some indicators seems to be a little forced, but it has nevertheless been aimed at remedying the lack of certain information (e.g., “The percentage of destinations having their own webpage”, “Crime rate”, “People injured in road accidents involving bodily injuries”, etc.). Although the newly introduced additional indicators represent over 60% of the total number of DIMAST system indicators, they do not have the potential to “distort” the ETIS system, being rather complementary to this system.

In addition, due to the absence of data, a deductive reasoning was used to calculate certain ETIS/DIMAST indicators and the data was to some extent denatured. Thus:

- in the case of the indicator “Percentage of visitors that are satisfied with their overall experience in the destination”, of the total number of tourists is subtracted the number of “complaints” (cumulated data obtained from Braşov Consumers Protection Office and the Ministry of Tourism) and the difference is represented by the satisfied visitors;
- in the case of the indicator “Percentage of commercial accommodation establishments accessible for people with disabilities/participating in recognized accessibility information schemes”, hotels and hotel-apartments were only considered, ranked from 1 to 5 stars inclusively, in which, according to Order 65/2013 of the National Authority of Tourism on the classification on accommodation units, the presence of the wheelchair access ramp for persons with locomotor disabilities is mandatory; and,
- when determining indicators such as: “Share of tourism businesses turnover in the local economy”, “Share of gross investments of tourism businesses in the local economy”, “Share of net investments of tourism businesses in the local economy”, “Number of active businesses in the tourism field by classes and number of employees” aggregated data were used only for two economic activities, namely: “Hotels and Restaurants” and “Performing arts, Cultural and Recreational Activities”, and other areas of activity for which data were not obtained, such as “Travel Agencies” or “Passenger transport” were left out. The non-inclusion of travel agencies can be considered rather problematic as long as there are 166 travel agencies registered in Braşov County [34].

Not the least, we have to consider that the ETIS system should not be seen only as a statistical instrument. In this regard, it is important to note that “rather than collecting data, a crucial aim of ETIS is bridging the gap among different stakeholders in order to create a shared vision of sustainable tourism” [26] (p. 129). Therefore, applying ETIS in Braşov County can also be seen as an instrument to get together the tourism stakeholders of the county and this was done since the DIMAST partnership included the Braşov County’s DMO (i.e., The Association for the Promotion and Development of Tourism in Braşov County—APDT) and some private tourism operators activating in hotel and travel agencies industries. This has set the basis for a future common vision of sustainable tourism.

5. Conclusions

The DIMAST project is the first practical application of the system of indicators for the sustainable development of tourism—ETIS in Romania. Moreover, in Romania, there is currently no informational support system for the management of tourist destinations, and the DIMAST project was successful in developing an innovative decision support system that enables the participatory management of the sustainable tourism development within the Braşov tourist destination located in the Carpathians. This project has demonstrated that the application of the ETIS system to a tourist destination provides both a useful tool for monitoring the economic, social, and environmental performance at destination level, but also, at the same time, a very useful management tool for responsible actors.

The DIMAST project can also be extended to other tourist destinations in Romania given the availability of data sources from the county statistical departments. However, it should be borne in mind that not all of the destinations in Romania have destination management organizations such as Braşov County, where the Tourism Promotion and Development Association already exists. Therefore, we consider that the destinations in Romania in which there are certain established organizations who coordinate the tourist sector can relatively easily adopt the indicator system proposed within the DIMAST project.

From the methodological point of view, overall, the system of indicators applied at the level of Braşov County within the DIMAST project, included only 11 indicators found in the ETIS system, representing only 39.3% of the total number of indicators found in the DIMAST system. Not forgetting that this may create a relative problem of ETIS representativeness within DIMAST, we considered that the availability of data (indicators) is a necessary condition for DIMAST to work under normal conditions. Moreover, this does not at all contradict the ETIS approach, which stated that ETIS needs to adapt to the needs of each tourist destination. We strongly believe that the DIMAST project indicator system can be improved once new data sources become available. In this respect, it is more than necessary to regularly carry out surveys on residents, visitors, and businesses that are active in the field of tourism. The periodicity of these surveys should not be annual, but a frequency of 3 to 4 years could also be considered. It has been shown in the paper that applying such a system supports destinations that aim to adopt a sustainable approach to tourism management. Last but not least, ETIS provides superior information support in decision-making. The data and information provided can form the basis of land-use planning, marketing, and communication plans, as well as of strategies for the development of sustainable tourism in the medium and long term.

The selection of the relevant indicators has to be a flexible process, which needed be appropriate to the peculiarities of each destination. This process has to take into account both the needs of the stakeholders, and the information that would be useful to them, but also the existence and periodicity of the data available. Also, in some cases, when the available indicators are insufficient, additional indicators have to be introduced, and subsequently have to be adapted to the needs of the destination.

Any destination wishing to implement ETIS should be aware of the challenges encountered in this endeavor, and might pay particular attention to the issues raised in this paper. This might contribute to a better understanding of the ETIS as an instrument promoted by the European Commission.

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Appendix A

Table A1. Assessing the Availability of ETIS Indicators for Braşov County in Romania.

Section	Criteria	Reference Number	ETIS Indicator	Focus Group Selected Indicators	DIMAST Selected Indicators	Observations
A. Destination Management	A.1 Sustainable Tourism Public Policy	A.1.1	Percentage of the destination with a sustainable tourism strategy/action plan, with agreed monitoring, development control and evaluation arrangement	X		No data available for this indicator.
		A.1.1.1	Percentage of residents satisfied with their involvement and their influence in the planning and development of tourism	X		Gathering data is difficult and requires a qualitative research among the residents.
		A.1.1.2	Percentage of the destination represented by a destination management organisation		X	Data provided by APDT Braşov. The indicator is calculated as a ratio between the number of municipalities that are APDT members and the total number of municipalities in the Braşov County.
	A.2 Sustainable Tourism Management in Tourism Businesses	A.2.1	Percentage of tourism businesses/establishments in the destination using a voluntary verified certification/labelling for environmental/quality/sustainability and/or CSR measures	X		Gathering data is difficult and requires a qualitative research among businesses.
		A.2.1.1	Number of tourism businesses/establishments with sustainability reports in accordance with the Global Reporting Initiative (GRI)			
	A.3 Customer Satisfaction	A.3.1	Percentage of visitors that are satisfied with their overall experience in the destination	X	X	Not having this kind of data reported at the destination level, we will proceed to an inverse deductive reasoning, excluding visitors who have expressed their dissatisfaction by complaining to the competent bodies. Thus, the number of “complaints” (aggregated data obtained from Braşov Consumers Protection Office and the Ministry of Tourism) is deducted from the total number of accommodated tourists.
		A.3.1.1	Percentage of repeat/return visitors (within 5 years)	X		Gathering data is difficult and requires a qualitative research among visitors.
	A.4 Information and Communication	A.4.1	The percentage of visitors who note that they are aware of destination sustainability			

Table A1. Cont.

		efforts				
		A.4.1.1	The percentage of businesses that communicate their sustainability efforts to visitors in their products, marketing, or branding		Gathering data is difficult and requires a qualitative research among businesses.	
		additional indicator	The percentage of destinations having their own webpage	X	Data provided by APDT Braşov.	
B. Economic Value	B.1 Tourism Flow (volume & value) at Destination	B.1.1	Number of tourist nights per month	X	X	Data provided by the Braşov County Statistics Department.
		additional indicators	Arrivals of Romanian/foreign tourists		X	
			Audience at performing arts		X	
			Visitors at museums		X	
		B.1.1.1	Relative contribution of tourism to the destination's economy (% GDP)	X		No data available for this indicator.
		B.1.1.2	Number of 'same day' visitors in high season and low season	X		No data available for this indicator. It requires a qualitative research among visitors.
		B.1.1.3	Daily spending per same-day visitors	X		
	B.1.2	Daily spending per tourist (accommodation, food and drinks, other services)	X			
	B.2 Tourism Businesses(s) Performance	B.2.1	Average length of stay of tourists (nights)	X	X	Data provided by the Braşov County Statistics Department.
		B.2.1.1	Average length of stay of same day visitors (hours)			Gathering data is difficult and requires a qualitative research among visitors.
		B.2.1.2	Percentage of ten largest tourism businesses involved in destination management/cooperative marketing			No data available for this indicator.
		additional indicators	Share of tourism businesses turnover in the local economy		X	Data provided by the Braşov County Statistics Department. Indicators are computed by aggregating existing data in two areas of economic activity: "Hotels and restaurants" and "Performing arts, cultural and recreational activities". These activities correspond with NACE Rev. 2 two digits level.
			Share of gross investments of tourism businesses in the local economy		X	
			Share of net investments of tourism businesses in the local economy		X	
			Number of active businesses in the tourism field by classes and number of employees		X	
		B.2.2	Occupancy rate in commercial accommodation per month and average for the year	X	X	Data provided by the Braşov County Statistics Department.
	B.2.2.1	Average price per room in the destination	X		No data available for this indicator	
	B.3 Quantity and Quality of Employment	B.3.1	Direct tourism employment as percentage of total employment in the destination	X	X	Data provided by the Braşov County Statistics Department. The indicator is based on the aggregation of reported data for several NACE Rev. 2 categories related to tourism, namely: "Hotels and other accommodation facilities",

Table A1. Cont.

C. Social and cultural impact						“Restaurants and other food service activities”, “Activities of travel agencies and tour operators; Other bookings and tourist assistance services”, “Activities of libraries, archives, museums and other cultural activities”, “Sports, recreational and entertaining activities”.
		additional indicator	Monthly gross average earnings of tourism employees		X	Data provided by the Braşov County Statistics Department. Within this indicator two types of economic activities are considered: “Hotels and restaurants” and “Performing arts, cultural and recreational activities”.
		B.3.1.1	Percentage of seasonal jobs in tourism			Gathering data is difficult and requires a qualitative research among businesses activating in tourism
		B.3.1.2	Percentage of tourism businesses providing student internships		X	
	B.4 Safety and Health	B.4.1	Percentage of tourism businesses inspected for fire safety in the last year			No data available for this indicator.
		B.4.1.1	Percentage of tourists who register a complaint with the police		X	
		additional indicators	Crime rate		X	Data provided by the Braşov County Statistics Department.
	People injured in road accidents involving bodily injuries			X		
	B.5 Tourism Supply Chain	B.5.1	Percentage of tourism businesses actively taking steps to source local, sustainable, and fair trade goods and services		X	Gathering data is difficult and requires a qualitative research among businesses.
		B.5.1.1	Percentage of the destination covered by a policy promoting local, sustainable and/or fair trade products and services		X	No data available for this indicator.
		B.5.1.2	Percentage of tourism businesses sourcing a minimum of 25% of food and drink from local/regional producers			
	C.1 Community/Social Impact	C.1.1	Number of tourists/visitors per 100 residents	X	X	Data provided by the Braşov County Statistics Department.
		additional indicator	Density of overnight stays		X	
		C.1.1.1	Percentage of residents who are satisfied with tourism in the destination (per month/season)	X		Gathering data is difficult and requires a qualitative research among residents.
		C.1.1.2	Number of beds available in commercial accommodation establishments per 100 residents		X	Data provided by the Braşov County Statistics Department.
		C.1.1.3	Number of second homes per 100 homes			No data available for this indicator.

Table A1. Cont.

C.2 Gender Equality	C.2.1	Percentage of men and women employed in the tourism sector			Gathering data is difficult and requires a qualitative research among businesses in the tourist sector.
	C.2.1.1	Percentage of tourism businesses where the general manager position is held by a woman			
	C.2.1.2	Average wage in tourism for women compared to average wage for men (sorted by tourism job type)			
C.3 Inclusion/accessibility	C.3.1	Percentage of commercial accommodation establishments accessible for people with disabilities/participating in recognised accessibility information schemes	X	X	Given that there are no data available at the destination level, we will proceed to a deductive reasoning. According to the Order 65/2013 of the National Authority for Tourism regarding the classification of tourist accommodation establishments, for hotels and hotel-apartments, ranked from 1 to 5 stars inclusively, the presence of the "wheelchair access ramp for persons with locomotor disabilities" is mandatory. This will determine the share of hotels and hotel-apartments ranked from 1 to 5 stars in the total number of accommodation units, resulting in that this percentage corresponds to accommodation units that have facilities for disabled people. The data are provided by the Braşov County Statistics Department.
	C.3.1.1	Percentage of destination served by public transport that is accessible to people with disabilities and people with specific access requirements	X		No data available for this indicator.
	C.3.2	Percentage of tourist attractions that are accessible to people with disabilities and/or participating in recognised accessibility information schemes	X		
	C.3.2.1	Percentage of visitors satisfied with the accessibility of the destination for those with disabilities or specific access requirements	X		Gathering data is difficult and requires a qualitative research among visitors.
	C.4.1	Percentage of the destination covered by a policy or plan that protects cultural heritage	X		No data available for this indicator.
C.4 Protecting and Enhancing Cultural Heritage, Local Identity and Assets	C.4.1.1	Percentage of residents who have positive or negative views on the impact of tourism on destination identity			Gathering data is difficult and requires a qualitative research among residents.
	C.4.1.2	Percentage of the destination's biggest events that are focused on traditional/local	X	X	The list of destination events was done by aggregating the data received from ANT Braşov

Table A1. Cont.

		culture and assets			and APDT Braşov.
D. Environmental impact	D.1 Reducing Transport Impact	D.1.1	Percentage of tourists and same day visitors using different modes of transport to arrive at the destination (public/private and type)		Gathering data is difficult and requires a qualitative research among visitors.
		D.1.1.1	Percentage of visitors using local/soft mobility/public transport services to get around the destination		
		D.1.2	Average travel (km) by tourists to and from home or average travel (km) from the previous destination to the current destination		
		D.1.2.1	Average travel (km) by same day visitors from and to destination		
	D.2 Climate Change	D.2.1	Percentage of tourism businesses involved in climate change mitigation schemes—such as: CO2 offset, low energy systems, etc.—and “adaptation” responses and actions		Gathering data is difficult and requires a qualitative research among businesses in tourism.
		additional indicator	Emissions of classical pollutants	X	The data are provided by the Braşov Environmental Protection Agency.
		D.2.1.1	Percentage of the destination included in climate change adaptation strategy or planning		No data available for this indicator.
		D.2.1.2	Percentage of tourism accommodation and attraction infrastructure located in “vulnerable zones”		
	D.3 Solid Waste Management	D.3.1	Waste volume produced by destination (tonnes per resident per year or per month)	X	The data are provided by the Braşov Environmental Protection Agency.
		D.3.1.1	Percentage of tourism businesses separating different types of waste		Gathering data is difficult and requires a qualitative research among tourist businesses from the destination.
		D.3.2	Volume of waste recycled (percent or per resident per year)		No data available for this indicator.
	D.4 Sewage treatment	D.4.1	Percentage of sewage from the destination treated to at least secondary level prior to discharge		
		D.4.1.1	Percentage of commercial accommodation connected to central sewage system and/or employing tertiary sewage treatment		
	D.5 Water management	D.5.1	Fresh water consumption per tourist night compared to general population water consumption per person night		

Table A1. Cont.

		D.5.1.1	Percentage of tourism businesses with low-flow shower heads and taps and/or dual flush toilets/waterless urinals		Gathering data is difficult and requires a qualitative research among the tourism businesses from the destination.
		D.5.1.2	Percentage of tourism businesses using recycled water		
		D.5.1.3	Percentage of water use derived from recycled water in the destination		No data available for this indicator.
		additional indicator	Drinking water supplied to household users per inhabitant	X	Data provided by the Braşov County Statistics Department.
D.6 Energy Usage		D.6.1	Energy consumption per tourist night compared to general population energy consumption per person night		No data available for this indicator.
		D.6.1.1	Percentage of tourism businesses that have switched to low-energy lighting		Gathering data is difficult and requires a qualitative research among the tourism businesses from the destination.
		D.6.1.2	Annual amount of energy consumed from renewable sources (Mwh) as a percentage of overall energy consumption		No data available for this indicator.
D.7 Landscape and Biodiversity Protection		D.7.1	Percentage of destination (area in km ²) that is designated for protection		Data provided by the Braşov County Statistics Department.
		additional indicators	Surface of forests and other forestry fields	X	
			Surface of green areas	X	
			Surface occupied with constructions	X	Gathering data is difficult and requires a qualitative research among businesses in the tourist sector.
		D.7.1.1	Percentage of local businesses in the tourism sector actively supporting protection, conservation, and management of local biodiversity and landscapes		
D.8 Light and Noise Management		D.7.1.2	Percentage of destination covered by a biodiversity management and monitoring plan.		No data available for this indicator.
		D.8.1	The destination has policies in place that require tourism businesses to minimise light and noise pollution		
D.9 Bathing Water Quality		D.8.1.1	Percentage of the destination and percentage of population covered by local strategy and/or plans to reduce noise and light pollution		Not applicable. The destination is not situated in the seaside area.
		D.9.1	Level of contamination per 100 mL (faecal coli forms, campylobacter)		
		D.9.1.1	Number of days beach/shore closed due to contamination		

Source: own representation based on European Commission [31]; x—does apply.

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