MULTI-CRITERIA DECISION MAKING TRENDS IN ECOTOURISM AND SUSTAINABLE TOURISM

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ABSTRACT

The goal of this paper is to provide a comprehensive overview of application of multi-criteria decision making (MCDM) methods in papers from the field of ecotourism and sustainable tourism. A search has been done of the relevant terms in titles, abstracts and keywords found in papers from 26 prominent journals from the field of tourism belonging in Web of Science (WoS) Clarivate Analytics. It has been established which MCDM methods were used and who are the most common authors of such papers. A keyword frequency analysis was also performed. It is established there are 39 papers in the field of ecotourism and sustainable tourism where MCDM methods were applied whereby all were published after the year 2000, as well as that their number is constantly increasing.

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Introduction

Due to an exponential increase in the global focus on sustainable development, a new area of tourism appeared based on its principles. According to Maksin et al. (2009), sustainable tourism first appeared in the early 20th century, and its main characteristic is that it "makes a lasting contribution to the environmental improvement, social well-being, economic prosperity and the conservation of natural and man-made resources, cultural values and local community identity" (p. 16). UNEP & WTO (2005) define sustainable tourism 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" (p. 12).

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Ecotourism has its own conceptual definition as well. Maksin et al. (2009) define it as an "ecologically responsible journey and a visit to the areas with relatively conserved nature, for enjoying, studying and appreciating the values of nature, landscapes and cultural heritage, promoting and being involved in protecting and enhancing those values, as well as the environment and the local community" (p. 24). Voza & Fedajev (2020) stand out that for developing countries "ecotourism can be an opportunity for accelerating economic development by exploiting natural resources, without changing their original state" (p. 89). The environmentally sustainable tourism can be distinguished as a strategic determinant not only for the economic, but social development as well (Vuković et al., 2019). On the other hand, Diamantis (1999) argues that "the definition of ecotourism is not really necessary if the discussion focuses on the concepts rather than the issues implied by ecotourism", whereby "the three common concepts within ecotourism are natural-based, educational, and sustainable (which includes economic and social criteria)" (p. 93). As far as the hotel industry is concerned, Kostić et al, (2019) revealed that "the application of green business practices, which is in accordance with the principles of environmental protection, positively affects the satisfaction of the guests" (p. 54).

The number of papers on sustainable tourism increased dramatically in the recent past according to Ruhanen et al. (2015). They conducted a 25-year bibliographic analysis in the four best ranked tourism journals and came to the conclusion that despite the increase in the number of published papers, the subjects and topics remained constant. Also, most papers were case studies, empirical studies and critical reviews. The increase in the number of papers on sustainable tourism was also indicated by Zolfani et al. (2015).

In the sphere of sustainable tourism and ecotourism, there are numerous factors i.e. criteria which are to be taken into consideration upon decision-making. Therefore, the methods of multi-criteria decision making have found application in these fields as well. Multi-criteria decision making (MCDM) has been present in science since the middle of the 20th century but the number of papers published on the application of MCDM to various fields has been increasing since the 90s (Köksalan et al. 2011). An increasing number of academic publications in this field made various authors to deal with its systematization. However, not a single paper referred to the use of MCDM in the field of ecotourism and sustainable tourism.

Thus, based on the aforementioned, the overall goal of this paper was the overview of multi-criteria decision making methods implementation in scientific papers which refer to ecotourism and sustainable tourism, and have been published in the most prominent academic journals in the field of tourism. The main research questions were:

- What is the historical trend of knowledge development in the analyzed scientific fields like?
- In which journals were papers mostly published?
- Which methods of MCDM were mostly implemented?
- Which authors were the ones to deal with these topics most often?

- What are the most frequently used keywords?
- What are the most significant sub-fields of research (key topics)?

Materials and methods

In order to find the answers to the main research questions, authors conducted a bibliometric analysis – "the quantitative study of physical published units, or of bibliographic units, or of surrogates of either" (Broadus, 1987).

The importance of bibliometric analyses in the field of tourism is seen based on the review of bibliometric papers to this day in this domain (Koseouglu et al., 2016). The application of bibliometric analyses is present in the field of sustainable tourism (Ruhanen et al., 2015; Garrigos-Simon et al., 2018; Sánchez-Cañizares et al., 2018; Della Corte et al., 2019; Niñerola et al., 2019; Segui-Amortegui et al., 2019; Serrano et al, 2019; Jiménez-García et al., 2020; Lima Santos et al., 2020; Moyle et al., 2020; Milalic et al., 2021; León-Gómez et al., 2021; etc.), as well as in the field of ecotourism (Nordin & Jamal, 2020; Liu & Li, 2020; Khanra et al., 2021; etc.).

Firstly, a search has been done for the already defined relevant terms in titles, abstracts and keywords of 26 tourism/hospitality related journals with an impact factor from the Web of Science (WoS) Clarivate Analytics. Advanced search options were used on the websites of the journals' publishers: journals.sagepub.com (6 journals); www.sciencedirect.com (8 journals); www.emerald.com (3 journals); www.tandfonline.com (8 journals); onlinelibrary.wiley.com (1 journal).

The search was not limited to a certain data publishing period, but to the entire history of publishing the papers of the analyzed journals. The search has been done during July 2020, based on words which point to ecology i.e. sustainability, and determinants which refer to MCDM, as well as abbreviations or full forms of the most prominent methods, according to Zavadskas et al. (2014), Mardani et al. (2015), etc.: WPM, WSM, AHP, COPRAS, TOPSIS, VIKOR, ELECTRE, MOORA, MULTIMOORA, DEMATEL, SWARA, ANP, PROMETHEE, WASPAS, SAW, ARAS, DEA, MAUT, MCDM, MADM, MCDA, MODM.

Subsequently, content analysis of the results was conducted by reading the full papers. This way it was confirmed whether the certain paper fulfilled the requirements to be included in the dataset for further analysis. Thus, the following has been unequivocally established: Is the method in question truly implemented in the paper or is it there for some other reason? Does a certain abbreviation truly represent some of the methods or does it refer to some other term? Does the paper essentially focus on ecotourism and sustainable tourism or do the listed terms come up for other reasons?

Data about the publications who found themselves in final selection were coded in a simple flat-file database in Excel. The attributes for which values which were entered for each paper were the following: (1) the journal's title; (2) the paper's title; (3) the author's names; (4) the authors' affiliations (institutions and countries); (5) the year of

publication; (6) keywords; (7) MCDM method used; (8) area of tourism to which the paper refers (ecotourism or sustainable tourism); (9) key topic to which the method is implemented.

The keywords from the papers selected were processed through the Rapid Miner tool, and based on them a word cloud was made where the most frequently used words and phrases were visually highlighted.

In accordance with the aforementioned, figure 1 briefly depicts the structure of the research, whick consists of five phases.

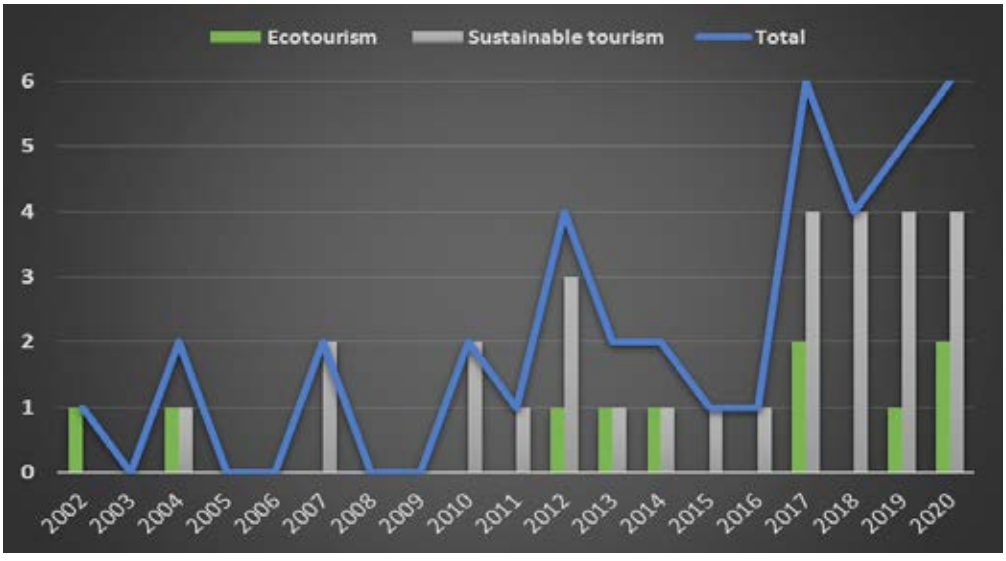
Figure 1. Structure of the research

Results and Discussion

Based on the defined methodology, there were 39 papers in the final selection which were the subject of further analysis.

The following figure shows a yearly dynamics of paper publishing to this day. Each of the papers was published in the 21st century, the oldest one dating from 2002.

Figure 2. Yearly dynamics of paper publishing



Source: Authors' research

In the previous decade which makes up half of the time periods since such papers have been published, there were 32 papers published which is 82% of the total. In the decade before that there were 7 papers published (17.9%), out of which 2 were from the field of ecotourism, and 5 from the field of sustainable tourism.

It is expected that the number of papers with the subject theme will continue to increase in the upcoming period, which goes hand in hand with the increase of the number of papers published which deal with MCDM (Zavadskas et al. (2014); Mardani et al. (2015)) and sustainable tourism (Ruhanen et al. (2015); Zolfani et al. (2015)) separately.

For a simpler overview of the results obtained, as well as their discussion, the rest of this section will be shown and explained in four separate chapters which refer to journals, methods, authors and key words and topics.

Part 1: Prominent journals

The results of the research show that ecotourism and sustainable tourism are the matter of MCDM in about 39 papers which were published in 10 out of 26 analyzed journals (38.46%). The following table shows journals which had papers published according to the subject matter, as well as the number of such papers in journals and the fields they cover.

Table 1. Number of papers per journal

Journal	Ecotourism	Sustainable tourism	Total papers	
			No.	%
Tourism Management	4	5	9	23.08
Journal of Sustainable Tourism	2	6	8	20.51
Tourism Economics	1	4	5	12.82
Asia-Pacific Journal of Tourism Research	2	2	4	10.26
Current Issues in Tourism	1	2	3	7.69
International Journal of Tourism Research	0	3	3	7.69
Tourism Management Perspectives	0	2	2	5.13
International Journal of Contemporary Hospitality Management	0	2	2	5.13
International Journal of Hospitality Management	0	2	2	5.13
Journal of Hospitality and Tourism Technology	0	1	1	2.56
TOTAL	10	29	39	100.00

Source: Authors' research

The greatest number of published papers was in the Tourism Management journal (8 papers, 23.08%) which can be related to the impact factor, which is the largest among all analyzed journals. The significant presence of papers published in the Journal of Sustainable Tourism (20.51%) is logical given the name and subject matter of this journal. Ruhanen et al. (2015) also reported these two journals had the largest number of published papers on sustainable tourism in the period 1987–2012.

The papers which refer to ecotourism (10 papers) can be found in five journals, while papers which refer to sustainable tourism (29 papers) can be found in ten journals. Once again, the most prominent journals are Tourism Management and Journal of Sustainable Tourism. The most probable reason for the disproportion in the number of papers on ecotourism vs. sustainable tourism is that sustainable tourism represents a broader concept.

Part 2: Prominent methods

The following table shows a review of established MCDM methods in the analyzed journals. All of the six methods were found only in the Tourism Management journal, while four of them were implemented in the Journal of Sustainable Tourism. Once again, such results are probably a consequence of the high impact factor as well as the journals' topic.

Table 2. Frequency of MCDM methods in journals

	AHP	ANP	DEMATEL	DEA	VIKOR	ELECTRE	Total methods in journal
Tourism Management	2	1	1	3	1	1	6
Journal of Sustainable Tourism	2	3	1	1	0	0	4
Tourism Economics	1	0	0	4	0	0	2
Asia-Pacific Journal of Tourism Research	2	0	0	1	0	0	2
Current Issues in Tourism	0	1	2	0	2	0	3
International Journal of Tourism Research	1	0	0	1	0	0	2
Tourism Management Perspectives	0	0	0	1	0	0	1
International Journal of Contemporary Hospitality Management	1	1	1	0	0	0	3
International Journal of Hospitality Management	0	0	0	2	0	0	1
Journal of Hospitality and Tourism Technology	0	0	1	0	0	0	1
Total journals per method	6	4	5	7	2	1	
Total papers per method	9	6	6	13	3	1	

Source: Authors' research

The method which is most commonly used in papers is DEA (13 papers in 7 journals). This result is in accordance with Emrouznejad's & Yang's allegations (2018) that DEA is one of the MCDM methods which has experienced exponential growth when it comes to "the number of publications related to its theory and applications". Ashrafi et al. (2013) point out that the "existing literature related to evaluating the efficiency of the hotel industry, generally, uses different types of radial Data Envelopment Analysis (DEA) to compare the relative efficiency of different hotels in a location" (p. 31).

AHP is the next most significant method when it comes to the application in ecotourism and sustainable tourism. Its use is convenient when there are various criteria which can be put into certain categories (Hermann et al., 2007; Agarski et al., 2012), as well as when it is needed to determine the weights of criteria (Papić, 2016) upon which every comparison between two elements of the hierarchy is performed based on the Saaty's Rating scale or so-called "nine-point" scale (Saaty, 2008).

The following table (*Table 3.*) shows a review of established MCDM methods in the papers per analyzed topics. The broader conceptual determination of sustainable tourism over ecotourism has prevailed once again in terms of quantitative indicators.

Table 3. Frequency of MCDM methods per topic

	AHP	ANP	DEMATEL	DEA	VIKOR	ELECTRE	Total methods
Ecotourism	2	2	1	3	0	0	4
Sustainable tourism	7	4	5	10	3	1	6

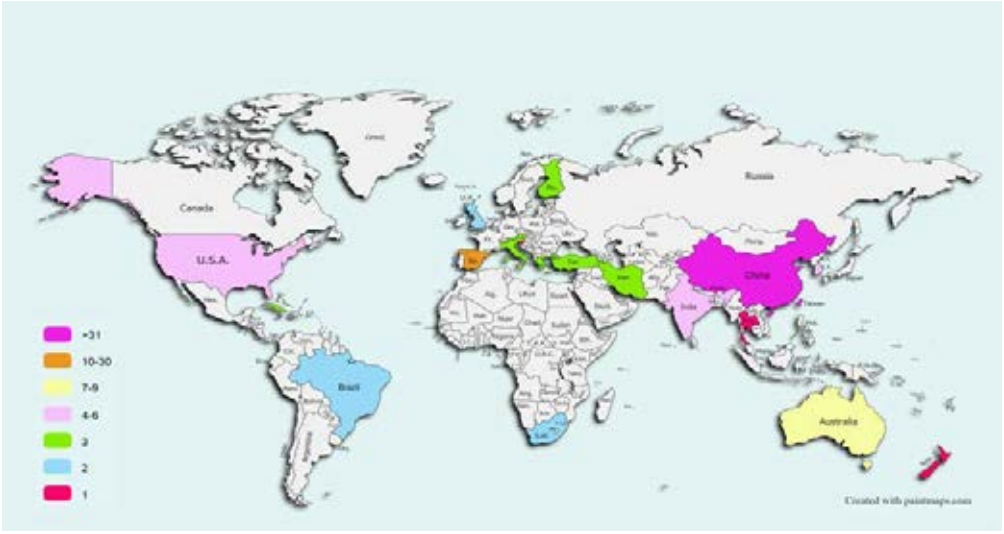
Source: Authors' research

A significant result of this research is the finding that methods such as WPM, WSM, COPRAS, TOPSIS, MOORA, MULTIMOORA, SWARA, PROMETHEE, WASPAS, SAW, ARAS and MAUT haven't been used in papers in the field of ecotourism and sustainable tourism.

Part 3: Prominent authors

The number of the authors who contributed to the 39 papers analysed is 116, and that from 20 different countries (*Figure 3.*).

Figure 3. Authors by countries



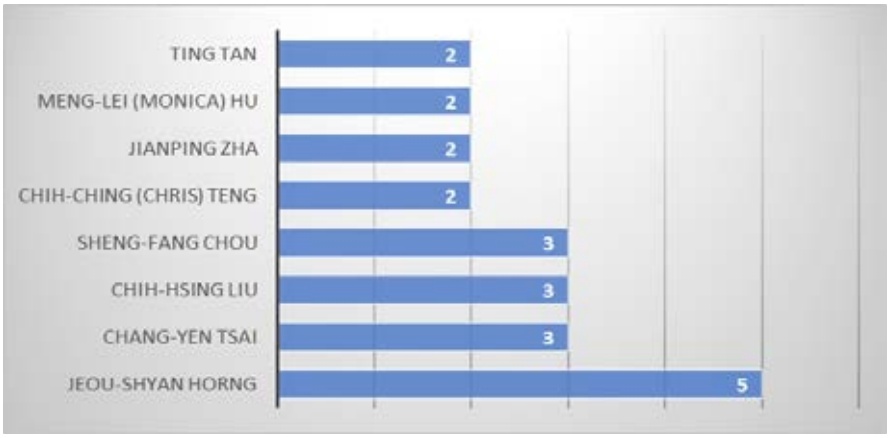
Most of the authors were from China (n=39 including 18 from Taiwan). The academic interest of Chinese authors in the analyzed research field can potentially be related to the state of the tourism sector in China, which is recording progress. For example, according to the World Bank data, China ranks first in the world for expenditures for travel items. Also, these expenditures were constantly increasing from 1995 to 2018 (World Bank, International tourism, expenditures for travel items (current US$) – China). Moreover, the importance of tourism in China according to the World Bank can be seen by the fact that the number of arrivals has been constantly increasing since

2014, according to which China ranks third in the world (World Bank, International tourism, number of arrivals – China).

The number of Spanish authors is significant as well (n=22), upon which 15 contributed to the Navarro Jurado et al. (2012) paper. An average number of authors who contributed to papers while excluding the aforementioned one is 3.07.

The following figure (*Figure 4.*) shows an overview of authors who have two or more papers with the subject theme. Upon analyzing the authors of subject works, the individuals were taken into consideration irrelevant of being main authors or co-authors i.e. independent of their position.

Figure 4. Most frequent authors (≥ 2 published papers)



Source: Authors' research

The most prominent author is Jeou-Shyan Horng with five papers published (12.82% of all papers), four of which she was the main author. Professor Horng has a long and successful research career in the field which can be seen in how many times her papers were cited (n = 1941) and her *h*-index of 23 (Scopus preview – Horng, Jeou Shyan – Author details – Scopus, 2021).

What could also be noticed in the previous picture confirms the allegations regarding the engagement of Chinese authors in this research field according to its quantity and quality. According to World Bank data, China ranks first in the world according to the number of Scientific and technical journal articles which was constantly increasing from 2000 to 2018 (the whole period for which data exists) (World Bank, Scientific and technical journal articles – China).

Part 4: Key words and key topics

The following figure (*Figure 5.*) shows the most frequent keywords in analysed papers. It can be concluded that the most frequent keyword is Data envelopment analysis which is a full form for the MCDM method DEA. When it comes to the methods, among all the keywords

the prominent one is Analytic Hierarchy Process – full form for AHP. Such results were expected considering the number of papers where the aforementioned methods were used (13 and 9, respectively). The other prominent keywords were sustainability and multicriteria analyses, which were also expected considering the subject theme of the papers.

Figure 5. Word cloud of the keywords

Still, having analysed the 201 keywords which could be found in the 39 papers, the fields of application of MCDM methods could not be fully established. Therefore, the authors had to re-read the papers and single out key topics which were used for MCDM methods in the domain of ecotourism (*Table 4*.) and sustainable tourism (*Table 5*.). The authors of the papers with the year of publication, key topics and applied MCDM methods are listed for each paper in both of the tables.

In 8 out of 39 papers there has not been a single MCDM method used which were the subject of the search, but solving certain issues in accordance with the multi criteria approach has been taken into consideration in analysis (multi criteria analysis – MCA), evaluation (multi criteria evaluation – MCE), i.e. decision making (multi criteria decision making – MCDM). The MCDM abbreviation was also used for papers where certain hybrid methods were applied (Hajizadeh et al., 2020).

Table 4. The review of papers on ecotourism

Author(s)	Topic	MCDM method
Herath (2002)	The author emphasized the importance of using certain analytical tools in the ecotourism planning process.	MCDM
Zografos & Oglethorpe (2004)	The authors emphasized the three-dimensional MCA (adding sociocultural objectives) and its application in the field of ecotourism, as well as the importance for the analysis of the preferences of different stakeholders. Also, the authors demonstrated the possibilities of MCA for the integration of quantitative and qualitative research approaches.	MCA
Horng et al. (2012)	The authors singled out 35 energy saving and carbon reduction indicators based on literature/documents reviews and expert interviews and determined their relative weights. Their implementation was conducted through a questionnaire survey which highlighted key elements for improvement.	ANP
Horng et al. (2013)	The authors developed an innovative physical dining environment design (IPDE) assessment model for use in restaurants taking into account the relationship between creativity, eco-friendliness, aesthetics and performance.	ANP, DEMATEL
Dhami et al. (2014)	The authors used visitors' preferences and physical characteristics of the environment to map forest ecotourism areas.	AHP
Li et al. (2017)	The authors created a framework for evaluating electronic word-of-mouth (eWOM) and concluded that ecological-biological attractions failed to make tourists feel very satisfied in various aspects.	AHP
Peng et al. (2017)	The authors analyzed the determinants of eco-efficiency and concluded that eco-efficiency is continuously increasing, that „eco-efficiency is more relevant to scale efficiency than to pure technical efficiency" and that the development of eco-efficiency has four phases.	DEA
Ruan et al. (2019)	In order to measure ecological security and observe "quality" from the perspective of "efficiency", the authors created a new model of evaluation: Driver-Pressure-State-Impact-Response - Data Envelopment Analysis (DPSIR – DEA).	DEA
Zha et al. (2020)	The authors created a model for measuring changes in eco-efficiency and eco-productivity and broke down the 6 elements of tourism growth.	DEA
Hajizadeh et al. (2020)	The authors evaluated the possibilities for the development of ecotourism using Weighted Linear Combinaiton (WLC) and Fuzzy Ordered Weighted Average (Fuzzy-OWA) methods, concluding that "OWA has a high potential for modeling complex decision problems because of a new concept in this method called order weights".	MCDM

Source: Authors' research

Based on the data shown it could be concluded that the given MCDM methods were used predominantly for means of planning and development of ecotourism, mainly in places where authors live and work. Table 4 also shows that Horng et al. (2013) have combined two methods – ANP i DEMATEL, which was not visible from data listed in Table 3.

Table 5. The review of papers on sustainable tourism

Author(s)	Topic	MCDM method
Kajanus et al. (2004)	The authors used the A'WOT method (a combination of AHP and SWOT) indicating the importance of local culture to the development of rural tourism.	AHP
Schianetz et al. (2007)	The authors provide an overview of tools for sustainability assessments for tourism destinations, considering their characteristics (strengths, weaknesses, specifics of application to certain areas, examples of use).	MCA
Tsaur & Wang (2007)	The authors proposed a procedure for evaluation of sustainable tourism development that can be applied to a specific tourist destination (3 elements at the objective level, 10 at the attribute level and 28 at the criterion level).	AHP
Lee et al. (2010)	The authors developed a model for assessing the attractiveness of the destination in terms of sustainable forest recreation tourism (23 determinants).	AHP
Moriarty (2010)	Author compared economic sustainability measures between divisions of New Zealand's hospitality industry and national tourism exemplars.	DEA
Park & Yoon (2011)	The authors developed community-based rural tourism development indicators (33 indicators, 4 dimensions).	AHP
Jurado et al. (2012)	The authors created an approach to assess the growth constraints of coastal tourist destinations. The two main advantages are: 1) "focuses on an open coastal area with an economy based on mass tourism", 2) "flexible formula – adaptable to other coastal areas".	MCDM
Assaf et al.. (2012)	The authors dealed with the impact of the triple bottom line (TBL) reporting (social, environmental and economic) on hotel performance, concluding that extensive reporting on all three dimensions leads to better performance (environmental reporting in particular).	DEA
Chan (2012)	Focus of this paper was on the hotel energy benchmarking framework based on prevailing conditions in China.	DEA
Hu et al. (2013)	The authors created a model for energy conservation and carbon reduction (ECCR) for restaurants (30 ECCR criteria, 5 dimensions – the most important „buildings").	ANP
Hyman (2014)	The author determined the impact of climate change on beach and non-beach tourism using "43 pre-determined literature-linked indicators" which include "bio-geophysical, social, technological, economic, technological and institutional factors".	MCDM
Malik & Bhat (2015)	The authors divided the territory of Kashmir into three parts based on tourism potential (based on natural and socio-economic characteristics) and emphasized the importance of tourism carrying capacity (TCC) for regulating the impact of tourism on the environment.	MCE
Michailidou et al. (2016)	The authors created a "methodological framework to plan, manage and implement climate change mitigation and adaptation measures in the tourism context" ("18 mitigation and 16 adaptation measures under 4 criteria i.e. environmental benefit, applicability, cost and social acceptance").	ELECTRE
Fernández-Tabales et al. (2017)	The authors created indicator systems of sustainability in tourism destinations based on the roles of the "public administration, tourism businesses and the local community" (43 indicators divided into 5 sub-systems).	AHP

Author(s)	Topic	MCDM method
Pérez et al. (2017)	The authors were focused on measuring the degree of sustainability of tourist destinations, taking into account the perception of stakeholders (3 dimensions – social, economic, patrimonial; 17 indicators).	MCDM
Önder et al. (2017)	The authors synthesized various frameworks for sustainable tourism indicators for subnational regions and cities, concluding that it is more feasible to analyse existing sustainable tourism indicators than to introduce new measures lacking in direct practical applicability for the organizations.	DEA
Park & Kim (2017)	The authors used 153 sustainable practices and their relative importances/weights for the development of guidelines for a green convention (7 categories and 37 subcategories).	AHP
Horng, Hsu & Tsai (2018)	The authors created an assessment model of corporate social responsibility (CSR) practice in the field of tourism (5 dimensions i 15 criteria).	ANP, DEMATEL
Chiu (2018)	The author analyzed the bed and breakfast (B&B) industry in the context of managerial efficiency.	DEA
van Heerden & Saayman (2018)	The authors analyzed the sustainability of national arts festivals in order to "identify the presence of tendencies to overspend and budget mismanagement exhibited by visitors at the Innibos National Arts Festival", creating a framework for the development of "price discounts or package combos" which needs to be adjusted according to gender.	DEA
Horng et al. (2018)	For the hospitality industry, the authors are developing a sustainable service innovation (SSI) framework.	DEMATEL, ANP
Peng & Tzeng (2019)	The authors explored the feasibility of performance-improving strategies.	DEMATEL, VIKOR, ANP
Kularatne et al. (2019)	The authors examined the impact of environmentally sustainable practices on hotel efficiency.	DEA
Andria et al. (2019)	The authors ranked tourist destinations and evaluated their performance in terms of sustainability (two-step FAHP-FMCDM method).	DEA, AHP
Ozturkoglu et al. (2019)	The authors identified dimensions for sustainability-oriented hospitality service innovation (SOHSI) for the food and beverage (F&B) industry. The specificity is that not one, but three dimensions were used (social, environmental and economic; so-called „triple bottom line – TBL").	DEMATEL
Lin (2020)	The authors evaluated the system of urban and rural tourism based on four aspects: cultural preservation, environment sustentation, economic development, and social consciousness.	DEMATEL, VIKOR
Kim & Chung (2020)	The authors analyzed the visitor return rate of millennials on the example of national museums.	DEA
Zha et al. (2020)	The authors developed an approach to identify the seven elements of tourism growth ("technological efficiency, technology gap effect, technological progress, labor input effect, capital input effect, tourism resource endowment effect, and environmental overload effect").	DEA
Kumar et al. (2020)	The authors established criteria for evaluating the green performance of airports using the Best Worst Method (BWM) and VIKOR. It has been established that "green policies and regulations are the most important performance criteria for green airports".	VIKOR

Source: Authors' research

DEMATEL was also combined with other methods in the field of sustainable tourism (primarily VIKOR and ANP) in 4 out of 5 papers where two or three methods were used (Horng, Hsu & Tsai, 2018; Horng et al., 2018; Andria et al., 2019; Lin, 2020; Peng & Tzeng, 2019). One could notice that all of the aforementioned papers are of a more recent date, thus, the phenomenon presented could be observed as a future trend.

Conclusions

Based on the analysis conducted in this paper, important facts were ascertained, ones which refer to the application of MCDM in the field of tourism, taking the component of ecology and sustainability as a whole into consideration. Analyzing the most prominent journals in the field of tourism, it has been established that in 10 journals (out of 26), there are papers which refer to the application of MCDM in ecotourism and sustainable tourism. The total number of analyzed papers is 39, whereas the journal with the most papers published is Tourism Management. All papers were published in 21st century (from the year 2002). Methods used in papers were: DEA (13), AHP (9), ANP (6), DEMATEL (6), VIKOR (3) and ELECTRE (1).

Based on the other specific findings of this research, stated in the results and discussion section, it can be said that the paper represents a strong database but also a knowledge base, and it provides beneficial guidelines for further research in specific academic area.

What this paper lacks is that it focuses solely on journals with an impact factor (IF) in Web of Science (WoS) Clarivate Analytics and not on other means of dissemination scientific results (conference proceedings, monographs, books, dissertations, etc.). This limitation is a good starting point for broadening the quantity of publications where papers of that subject theme can be found. The second direction for further research is broadening the area of the application of the MCDM methods so that it includes tourism in its entirety, not just its specific subfields. Finally, further research could include lesser known MCDM methods.

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Conflict of interests

The authors declare no conflict of interest.

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