

Smart Innovation, Systems and Technologies 383

António Abreu
João Vidal Carvalho
Pedro Liberato
Hazael Cerón Monroy *Editors*



Advances in Tourism, Technology and Systems

Selected Papers from ICOTTS 2023,
Volume 1

The logo for AES International, featuring the letters 'AES' in a stylized blue font with a white outline, and the word 'International' in a smaller blue font below it.

The Springer logo, which consists of a stylized chess knight icon to the left of the word 'Springer' in a serif font.

Smart Innovation, Systems and Technologies

Volume 383

Series Editors

Robert J. Howlett, KES International, Shoreham-by-Sea, UK

Lakhmi C. Jain, KES International, Shoreham-by-Sea, UK

The Smart Innovation, Systems and Technologies book series encompasses the topics of knowledge, intelligence, innovation and sustainability. The aim of the series is to make available a platform for the publication of books on all aspects of single and multi-disciplinary research on these themes in order to make the latest results available in a readily-accessible form. Volumes on interdisciplinary research combining two or more of these areas is particularly sought.

The series covers systems and paradigms that employ knowledge and intelligence in a broad sense. Its scope is systems having embedded knowledge and intelligence, which may be applied to the solution of world problems in industry, the environment and the community. It also focusses on the knowledge-transfer methodologies and innovation strategies employed to make this happen effectively. The combination of intelligent systems tools and a broad range of applications introduces a need for a synergy of disciplines from science, technology, business and the humanities. The series will include conference proceedings, edited collections, monographs, handbooks, reference books, and other relevant types of book in areas of science and technology where smart systems and technologies can offer innovative solutions.

High quality content is an essential feature for all book proposals accepted for the series. It is expected that editors of all accepted volumes will ensure that contributions are subjected to an appropriate level of reviewing process and adhere to KES quality principles.

Indexed by SCOPUS, EI Compendex, INSPEC, WTI Frankfurt eG, zbMATH, Japanese Science and Technology Agency (JST), SCImago, DBLP.

All books published in the series are submitted for consideration in Web of Science.

António Abreu · João Vidal Carvalho ·
Pedro Liberato · Hazael Cerón Monroy
Editors

Advances in Tourism, Technology and Systems

Selected Papers from ICOTTS 2023,
Volume 1

 Springer

Editors

António Abreu
Institute of Accounting and Administration
of Porto (ISCAP)
Polytechnic of Porto
São Mamede de Infesta, Portugal

João Vidal Carvalho
Institute of Accounting and Administration
of Porto (ISCAP)
Polytechnic of Porto
São Mamede de Infesta, Portugal

Pedro Liberato
School of Hospitality and Tourism
Polytechnic of Porto
Porto, Portugal

Hazael Cerón Monroy
Faculty of Tourism and Gastronomy
Universidad Anáhuac México,
Huixquilucan Estado de México
Mexico, Mexico

ISSN 2190-3018

ISSN 2190-3026 (electronic)

Smart Innovation, Systems and Technologies

ISBN 978-981-99-9883-8

ISBN 978-981-99-9765-7 (eBook)

<https://doi.org/10.1007/978-981-99-9765-7>

© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2024

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors, and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Singapore Pte Ltd.

The registered company address is: 152 Beach Road, #21-01/04 Gateway East, Singapore 189721, Singapore

Paper in this product is recyclable.

Preface

This book—*Advances in Tourism, Technology and Systems Volume 1*—from the SIST Series is composed of the best selected papers accepted for presentation and discussion at the 2023 International Conference on Tourism, Technology and Systems (ICOTTS'23). The ICOTTS is a multidisciplinary conference with a special focus on new technologies and systems in the tourism sector and was held between 02 and 04 November 2023. The ICOTTS'23 was supported by the Anáhuac University, Bacalar, Mexico, and by International Association for Digital Transformation and Technological Innovation (IADITI).

The International Conference on Tourism, Technologies and Systems is an international forum for researchers and professionals in the tourism sector, which enables the discussion of the latest innovations, trends and concerns in several areas, in the Tourism sector, associated with Information Technologies and Systems. It is an event for professionals in the sector, in search of technology solutions, where academics, IT experts and business managers meet to discuss new ideas that help them maximize the potential of tourism business through technology.

The ICOTTS'23 Scientific Committee is composed of a multidisciplinary group of 140 experts who assessed some 298 papers from 24 countries, received for each of the main topics proposed for the conference: (a) Tourism research in providing innovative solutions to social problems; (b) Information and communication technologies in hospitality and tourism industry; (c) Sustainable tourism; (d) Tourism Trends; (e) Health and wellness tourism; (f) Tourism management; (g) Marketing strategies in hospitality and tourism industry; (h) Hospitality, tourism and food service environment; (i) Tourism in the different scientific areas; and (j) eTourism and Tourism 2.0.

The papers accepted for presentation and discussion at the Conference are published by Springer and will be submitted for indexing by ISI, Scopus, EI-Compendex, Google Scholar and SpringerLink.

We thank all those who contributed to the ICOTTS'23 Conference (authors, committees, workshop organizers and sponsors). We deeply appreciate your involvement and support, which were crucial to the success of the conference.

Porto, Portugal
November 2023

António Abreu
João Vidal Carvalho
Pedro Liberato
Hazael Cerón Monroy

Contents

1	Competencies and Skills for Tourism Education Advancement: A Bibliometric Analysis and Literature Review	1
	Manuel Au-Yong-Oliveira, Mastoureh Bampoori, Ana Moreira, and Theodoros Grassos	
2	The Importance of Food and Beverage Service in the Cruise Passengers	13
	V. Casales-Garcia, L. M. López-Bonilla, and L. Gonzalez-Abril	
3	Environmental Sustainability of Social and Executive Events in Ciudad Juárez, Mexico	23
	Manuel Ramón González Herrera, Mercedes de Los Ángeles Rodríguez Rodríguez, and Evelyn Espinoza Vargas	
4	Health and Economy: A Necessary Relationship to Face the Path Towards Sustainable Development in Latin America and the Caribbean, Post-covid	35
	Tania Morales Molina, Ximena Morales Urrutia, Chabely Figueredo Morales, and Geri Belén Bucheli Vásquez	
5	Covid-19 and the Challenge of the Health, Tourism, and Economic Sectors, Toward the Path of Sustainable Development in Latin America and the Caribbean	47
	Tania Morales Molina, Ximena Morales Urrutia, Chabely Figueredo Morales, and Geri Belén Bucheli Vásquez	
6	The Importance of Foreign Language Mastery in the Tourism Sector	59
	Diana Coelho, Dina Ramos, and Bruno Barbosa Sousa	
7	Tourism Destination Branding as a Marketing Factor: A Short Literature Review with a Focus on Northern Cyprus	71
	Malika Kudratova, Rui Alexandre Castanho, and Eleonora Santos	

Chapter 3

Environmental Sustainability of Social and Executive Events in Ciudad Juárez, Mexico



Manuel Ramón González Herrera ,
Mercedes de Los Ángeles Rodríguez Rodríguez ,
and Evelyn Espinoza Vargas

Abstract The results of the diagnostic and proposal study are presented to promote good environmental sustainability practices in enterprises that organize and celebrate social and executive events in hotels, restaurants, and halls in Ciudad Juárez, and thus offer a contextualized strategic agenda at a local level, which promotes environmental positioning and more outstanding environmental leadership. The methodological design was qualitative–quantitative, cross-sectional, and applied, using mixed information sources; among the empirical methods were participant observation, document analysis, surveys, and interviews. At the theoretical level, analytical–synthetic, historical–logical, systemic–structural methods, and conceptual models were used. It is concluded that there is a lack of sensitivity on the part of the enterprises that promote events in the face of the negative environmental impact they generate and that it will be necessary to project good practices of environmental sustainability in all tourist enterprises that organize and celebrate social and executive events in hotels, restaurants, and halls in this city.

3.1 Introduction

Social and executive events have become a source of great economic importance and social well-being for receptive tourist destinations since they are highly profitable [1–4]. These are organized events in which a group of people with specific motivations meets in a pre-established space–time scenario to celebrate a set of related activities [5], which are part of MICE tourism from its acronym in English (Meetings, Incentives, Conventions or Conferences and Exhibitions/Events) [6, 7]. According

M. R. G. Herrera (✉) · E. E. Vargas
Autonomous University of Ciudad Juárez, Chihuahua, Mexico
e-mail: manuel.gonzalez@uacj.mx

M. de Los Ángeles Rodríguez Rodríguez
University of Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

to the Royal Spanish Academy, an event is an important and scheduled event that can be of a social, academic, artistic, or sports nature.

Gascón and Ruiz [8] state that events can negatively impact the environment, therefore, a system of actions must be implemented for holistic management. In this regard, different management instruments have been developed, such as the guide on sustainable events [9], which serves as a tool to promote the need to change the planning and organization of this type of meeting. Similarly, high-impact cases are presented in the Green Events Manual [10, 11]. It is highlighted how their organizers have introduced sustainability principles in their organization and celebration, concentrating mainly on waste prevention. In turn, the contribution of the United Nations Environment Program [12] is recognized to help event organizers and meeting hosts to generate a low negative impact on the receiving environment.

As a national experience, the Manual for the Certification of Sustainable Events [13] has been developed, which presents the reasons why sustainable practices should be carried out in events and, in turn, the contributions that these would generate to the company that carries them out. The Green Book [14] contains over 150 tips for creating events based on the best environmental practices. It should be noted that, derived from the analysis of the background of the investigation, it was possible to notice that, in Mexico, unfortunately, sustainability in events has not had the same relevance that is conferred on it in countries with a high level of development, such as Spain, or Canada, among others.

Taking into consideration the international scientific production reviewed randomly in ResearchGate and Academia.edu [15] (2020, 2021) on the subject, it was possible to identify as a research problem the lack of sensitivity of the companies promoting events with the negative environmental impact they generate, despite the international trend of being committed to environmental care. Based on this problem, research questions are presented: What is the sustainable environmental dimension of social and executive events that take place in tourism companies in Ciudad Juárez? How to improve the sustainable environmental performance of social and executive events?

Consequently, the general objective of the research is to diagnose and project the best environmental sustainability practices in companies that organize and celebrate social and executive events in hotels, restaurants, and event halls in Ciudad Juárez and thus offer a contextualized agenda at a local level, which favors strategic environmental positioning and more outstanding environmental leadership for this type of MICE tourism.

3.2 Literature Review

An event is an activity related to MICE tourism [6, 7] since MICE tourism “includes all those actions that have the objective of a business or professional trip” [6], also known as a business trip [4]. According to the World Tourism Organization [16], event tourism includes all travel activities carried out outside the usual environment of

people for reasons related to the celebration of a specific event, therefore, it becomes one of the most important segments of the tourism sector. For this research, the following definition of event tourism has been used [17]:

It can be defined and studied by reference to its supply side. Event tourism at the destination level is the development and marketing of planned events as tourist attractions, catalysts, entertainers, image makers, and venue marketers ... From the demand perspective, event tourism refers to the propensity to travel to attend events, both by event tourists who are motivated to travel to specific events and other tourists who attend events while away from home (p. 352).

Donald Getz [18] specifies in his book *Event Management & Event Tourism* that the main types of events, depending on the activity carried out, can be (i) cultural: training, dissemination, artistic, recreational, recreational activities, (ii) socio-educational: parties, meetings of organizations, mobilization actions, social welfare, information to civil society; (iii) sports: sports and leisure events, outdoors, nature and the environment; and (iv) business and corporate: meetings, talks, product presentations, seminars, conferences, meetings, congresses, and fairs.

For this research, executive or business events are considered to be of public importance and related to some economic or commercial purpose, such as fairs, congresses, exhibitions, product launches, breakfasts, awards ceremonies, and showrooms [1, 19]. Events external to the company are aimed at a public outside the organization, so they are a powerful tool to promote communication and differentiate themselves from the competition, while internal events are held within the same company and are guided by the same objectives [20].

According to Ortega and Izaguirre [21], events of this type include the symposium, which is a participatory activity where a team of experts develops aspects of a topic successively in front of an audience, a round table in which groups of experts hold their points of view on a subject; a panel in which a group of experts participates to follow a dialogue; a forum in which all the participants on an equal footing discuss or exchange ideas around a specific topic under the guidance of a moderator; corporate conventions in which participants attend by a call; a company party to celebrate posadas, national holidays; trade union or association congresses held when associations, federations, confederations, and other groups meet [14], and exhibitions that can be held by invitation or open to the public, but convened by a business person to meet supply and demand in a business-oriented environment [14].

On the other hand, Argumedo and Di Cesar [19], in their essay titled *Typology and Classification of Events*, define that “a social event brings together a certain number of participants where its significance, in most cases, does not go beyond the limits of those who were invited” (p. 1). The field of action of these events is generally oriented to the private, family, or human relations sphere. The most important festivities of social celebration that take place in Mexico are weddings, first communions; baptisms; birthday parties; girls turning fifteen parties; and graduations [22, 23].

At the same time, it is necessary to specify that events can imply [24]:

the creation of new infrastructure; they can occur in environmentally sensitive locations; they require the transportation of attendees, goods and services, and other scarce resources in large quantities. As society gains a greater understanding of these impacts, events are challenged to be more responsible in their management decisions and produce results that are more sustainable across multiple criteria (p. 1).

For an event to be responsible for the place where it takes place, the requirements for environmentally sustainable events must be considered. A sustainable event is any meeting that balances the environment and the resources used, from planning to holding the event [25]. The main reason for taking sustainable development as a priority in events is due to the environmental deterioration that our planet has suffered due to various factors that have ignored the environmental dimension of development. It is possible to make a sustainable event without giving up the main objects of a celebration if the activity is appropriately planned, at the same time, it can generate significant benefits and advantages if it is designed and executed in an environmentally sustainable way [9].

These benefits and advantages are achieved only by collaborating with stakeholders in charge of carrying out events [26]. The main interest groups identified are management, the organizing committee, suppliers, sponsors, partners, attendees, and the media [26]. For an event to be sustainable and have a positive impact on the social, economic, and environmental dimensions, aspects such as support for social actions and mobility must be considered, waste recycling, efficient management of natural resources, calculation of the carbon footprint, communication, promotion, dissemination, and energy efficiency; resort to local suppliers, food services and reuse of materials [25].

A practical way to drive an event toward sustainability is to make a checklist where each event phase is contemplated and the sustainable practices that can be applied in each, adding a percentage of compliance. It is mentioned by Getz [1] that:

Event tourism outcomes must be assessed from multiple perspectives, reflecting the goals and meanings that all stakeholders attribute to events and tourism. Impact assessment has been dominated by economic concerns, particularly the application of multipliers to tourism spending and other event-dependent monetary revenues for destinations, often leading to exaggerated benefits and discounted or ignored costs (p. 161).

3.3 Methodological Framework

The deductive route was used since it started from the general theory/paradigm of environmental sustainability of social and executive events to implement in the case of hotel, restaurant, and event hall companies in Ciudad Juárez. The methodological design was qualitative–quantitative, cross-sectionally applied, using mixed information sources. A population of 30 companies represented by hotels, restaurants, and event halls located in a sector of Ciudad Juárez was considered, and a sample of 24 companies taking into account the confidence level of 95% with a margin of error of 5%.

Table 3.1 Companies consulted for the diagnosis of the celebration of events

Hotel	Restaurant	Event hall
Holiday Inn	El Arracadero	Convention Center Cibeles
Hotel Fiesta Inn	La Nueva Central	Convention Center Anitas
María Bonita	Playa Bichis	Event Hall Milán
Hotel Suites el Paseo	Muzza	
Real Inn	Ardeo	
Gamma Hotel	Great American	
Lucerna	La Diana	
Courtyard by Marriott CJ	Applebeas Campos Eliseos	
Hotel Conquistador	Rocco Café	
Hotel Mesa Luna	Los Arcos	

Empirical and theoretical methods and qualitative and quantitative techniques were used. The empirical methods used were participant observation, document analysis, surveys, and interviews. At the theoretical level, analytical–synthetic, historical–logical, systemic–structural methods, and conceptual models were used. The instruments implemented for data collection included an observation guide, a checklist, and a questionnaire. The primary method was the semi-structured interview with eight questions about the organization of events and the environmental practices that the organizers of these activities manage; in turn, the documentary review method was used since this tool guides the types of documents that must be reviewed as part of the diagnosis and possible proposals.

For the general diagnosis of the events in Ciudad Juárez, 200 interviews were conducted in 24 companies that celebrate social and executive events. These were provided by banquet managers, floor managers, and event planners. The script included topics such as the capacity of attendees, monthly average of events, timing of events, and environmental practices carried out during their celebration (Table 3.1).

Based on the previous diagnosis, a series of practices were suggested that can be applied during the life cycle of an event in the city. For the pilot study, a survey was used to determine what practices they would carry out in two selected companies as study case. Finally, an agenda for best environmental practices for social and executive events was elaborated for both study cases.

3.4 The Study Context

According to Arduinna [27], Ciudad Juárez has a strategic location for the development of events. The state of Chihuahua is the most extensive border with the United States. It has daily flights to the main markets in North America and several international bridges connecting Juárez with the city of El Paso, Texas. One of the

advantages of a meeting tourism destination is that the state has natural, historical, cultural, and economic attractions, among which its gastronomic offer stands out. It also has a modern and spacious tourist plant, favoring the development of social and executive events.

Based on the statistics of the state agency, during the year 2017, the city obtained an economic income of 183 million 344 thousand 235 pesos, with 160 events held, which generated more than 24 thousand visitors who occupied more than 48 thousand room nights in lodging, contributing in this way, more than 53 percent of lodging tax collection [28].

More than 20,000 visitors generated significant economic spillovers for tourism service providers during the period. Only in the first month of that year, hotel occupancy was close to 70% in the entire square at the business level. Due to the impact of business tourism that year, the Trust reinforced staff training in meeting tourism [28]. In the first half of 2018, 99 events in the business segment and meetings were held, with close to 20,000 visitors and more than 20,000 room nights, generating an economic benefit of 105 million pesos (Moreno Villafuerte, personal communication, October 14, 2023).

In 2018, the congresses and conventions bureau closed with more than 200 events, a record figure of more than 200 million Mexican pesos. For 2019, 40 events were scheduled, thus estimating to maintain the 2018 figure with around 160–200 business events in the city [29]. The crisis generated by the COVID-19 pandemic marked the total drop in events of this type, and a discreet slow period of recovery is just beginning.

3.5 Results

3.5.1 *General Diagnoses of Events in Ciudad Juárez*

Business managers mentioned that the strengths of their events are the executive events. Everyone agreed that they hold executive events at least five times a week, while social events only take place an average of four times a month in hotels. On the other hand, the event halls mentioned that for them social events are their strength and that, regularly every weekend, Friday, Saturday, and Sunday, they have their premises busy with this type of event, while the executive events were sporadic and normally, they were only held on the dates of festivities, Christmas Day and Mother's Day.

In the restaurant area, social events are more frequent, the participants mentioned that they do not have reservations scheduled, but they recognize their importance due to the number of diners at specific tables. They are usually to celebrate birthdays or meals outside of office work hours. Few restaurants have private event rooms, such as Apple Beas on the Campos Elíseos, Rocco Café, and the Great American.

The average attendance for events is variable according to their type. The meeting room attendance capacity for social events is at least 80 people. The event organizers of these companies also mentioned that it is difficult to calculate a minimum attendance flow in executive events since this varies from ten people to the total occupancy of their rooms. Within the restaurant area, they commented that the maximum occupancy that has been had in some events is an average of 25–30 people, and the minimum can be five people occupying a table, both for social events and for executive events. Executive events generate a significant economic benefit for these companies since the minimum average of monthly events is 20, becoming the main market in the hotel sector.

Regarding sustainable practices in environmental matters when celebrating some event, of the 24 companies, only a quarter of them (25%) stated that they implemented some type of practice that could be called environmental for the organization of their events. On the other hand, 62% of these companies answered that they did not include any sustainable practices. The rest need to know whether there is any environmental protocol for the event's organization in their organization.

Taking into account the six organizations that answered that they implement these practices, the majority mentioned that the main action taken is the elimination of straws, three of them added that they use energy savers, and all commented that they apply recycling as the main method, as well as waste separation. It is worth mentioning that two companies added that they use awareness campaigns for environmental care in their events.

These two companies that prioritize environmental care mentioned that they not only care about being eco-friendly but also about creating awareness about caring for the environment in their attendees. Rocco Café was one of them, pointing out an environmental campaign they use on the business screens to promote their menu or specials and messages about caring for the environment and education for the diners themselves. In an informed way, they help care for the environment by not using disposables or straws, and they use energy savers.

Similarly, the Anitas and Cibeles Convention Centers use recycling as their main environmental practice. In turn, these companies care about the environment by removing disposable material at their events; all the food is served in crockery, and the napkins are changed to cloth; thus, less waste is generated.

The information collected reflects the little importance attached to caring for the environment and sustainability by these companies. The most worrying thing during the interviews was that many organizers and managers had not contemplated creating practices for this area when mentioning the environmental practices used. Others did not know whether there were actions for the care of the environment and in cases where they have these, they need to know whether they are applying them.

3.5.2 *Suggested Environmental Practices for the Organization of Social and Executive Events in Ciudad Juárez*

Tables 3.2 and 3.3 summarize the environmental practices they are willing to commit to holding environmentally sustainable events at the study cases of Gamma and Conquistador Hotels in Ciudad Juárez.

According to the responses obtained at the Hotel Gamma, the proposed practices are feasible for holding events with a sustainable environmental approach. The point evaluated as lowest was the composting of organic waste from each event. The company mentioned that this is the most complicated measure since it would generate an extra expense since they would have to train the staff so that they would be able to compost the waste, and at the moment, they could not afford it; however, this commitment seemed a good idea to them and that, in the long term, it could be beneficial for the company by becoming a business opportunity.

The responses of this hotel were more favorable than those of Hotel Gamma since it had five proposals as very likely to be implemented in its events. At the same time, at the Hotel Gamma, it only considered 4 for the moment. In turn, none of their responses decreased to below level 3, as shown in Table 3.3. The lowest responses were to reduce the use of wrappers and replace paper napkins with cloth napkins, with a response of 3, because these actions are not directly based on their own decision but

Table 3.2 Gamma Hotel Ciudad Juárez

Environmental commitments	Scale that measures the probability of adoption of the environmental practices				
	1	2	3	4	5
1. Food banks: donate leftover food in good condition to shelters/ homes				X	
2. Use panels with QR codes					X
3. Use crockery instead of disposables					X
4. Replace paper napkins with cloth napkins					X
5. Use biodegradable plastic bags			X		
6. Have designated garbage containers for each type of waste				X	
7. Compost the organic waste from each event		X			
8. Buy healthy products				X	
9. Minimize the use of cans and prefer bottled products				X	
10. Reduce the use of wrappers				X	
11. Reduce the consumption of products based on polluting substances					X

Table 3.3 Hotel conquistador Inn by US consulate, Ciudad Juárez

Environmental commitments	Scale that measures the probability of adoption of the environmental practices				
	1	2	3	4	5
1. Food banks: donate leftover food in good condition to shelters/ homes				X	
2. Use panels with QR codes					X
3. Use crockery instead of disposables					X
4. Replace paper napkins with cloth napkins			X		
5. Use biodegradable plastic bags				X	
6. Have designated garbage containers for each type of waste					X
7. Compost the organic waste from each event					X
8. Buy healthy products					X
9. Minimize the use of cans and prefer bottled products				X	
10. Reduce the use of wrappers			X		
11. Reduce the consumption of products based on polluting substances				X	

on that of the owners and managers of the operation; however, there is a probability of being able to carry them out in the future.

3.5.3 *Agenda for Best Environmental Practices for Social and Executive Events*

The proposals below were based on the results obtained through interviews and surveys taken in the selected companies. In them, a series of guidelines to be followed during the organization and celebration of sustainable events at a local level are proposed in a participatory manner. This agenda was structured in three axes for the first stage of the change:

Axis 1 Reuse: donate leftover and unspoiled food to food banks and shelters within the city and reuse decorations and centerpieces at future events.

Axis 2 Reduction of the impact: using biodegradable bags since this practice will minimize the negative effects on the environment. It is necessary to know the problems that traditional bags currently generate to assimilate the benefits this practice will bring. In addition, purchasing attractive organic products is a healthy and ethical option for consumers, using QR code panels instead of invitations or passes and avoiding disposables, bottles, and cans.

Axis 3 Recycling: using marked garbage containers for each type of waste and composting organic waste from each event. The latter is a biological process that

occurs with the presence of oxygen, temperature, and humidity that ensures a hygienic transformation of organic remains [30].

For each axis, the objectives were defined, the actions to be implemented to fulfill the proposed environmental commitments (Tables 3.2 and 3.3), the time frames for their execution, the participants, those responsible for each task, and the required budget. This information is not presented because it is confidential and specific to both companies. It is mentioned to inform how each axe's operationalization was carried out.

3.6 Conclusion

This study confirmed that in Ciudad Juárez, there is a lack of sensitivity on the part of the companies that promote events in the face of the negative environmental impact they generate. Despite understanding the importance of the problem, they are not aware that investment in sustainable environmental solutions is reverted to benefits for their businesses, which is why the sustainable environmental dimension of social and executive events that are held in tourism companies in Ciudad Juárez lack responsible environmental behaviors and lack of environmental leadership in contrast to many international companies that promote the organization and celebration of sustainable events.

In order to improve the sustainable environmental performance of events in the city, it will be necessary to project good practices of environmental sustainability in all tourism companies that organize and celebrate social and executive events in hotels, restaurants, and event halls in Ciudad Juárez and introduce the management agenda contextualized at the local level with the participation of different actors, which can favor the optimized practice of this modality, as various authors have confirmed [4, 24, 31, 32].

The main limitations of the research are the need for more entrepreneurs to participate in the study; the low level of general knowledge about the environment and sustainability; and the absence of previously published studies that address the topic in depth in this study area. Future research lines should expand the pilot study's scope to other companies that carry out this type of event; likewise, studies on training and certification on the subject should be established, as well as promoting the communication of best environmental practices in all local tourism enterprises.

References

1. Getz, D.: Event tourism. In: Encyclopedia of Tourism Management and Marketing, pp. 158–161. Edward Elgard Publishing (2022). <https://doi.org/10.4337/9781800377486.event.tourism>

2. Haiyan, M., Chiu, H., Tian, Z., Zhang, J., Guo, Q.: Safety or travel: which is more important? The impact of disaster events on tourism. *Sustainability* **12**(7), 3038 (2020). <https://doi.org/10.3390/su12073038>
3. Mena-Navarro, A., Almeida-García, F., Cortés-Macías, R.: The role of the MICE sector in Singapore's tourism policy. A historical perspective. *J. Policy Res. Tour. Leisure Events* (2022). <https://www.tandfonline.com/doi/abs/https://doi.org/10.1080/19407963.2022.2043880>
4. Perlaza-Lopera, C., Corre-Cortes, J., Tamayo-Galeano, C.: Turismo de Reuniones y Eventos. *Intersección* **2**(3), 38–52 (2016). <https://www.studocu.com/co/document/universidad-del-tolima/taller-de-lectura-y-redaccion/turismo-reuniones-eventos-1/21683794>
5. Sánchez, R.: Cómo Organizar Eventos con Éxito. Publicado por Varios Lantia. España (2009). <https://www.iberlibro.com/9789871547036/C%C3%B3mo-organizar-eventos-%C3%A9xito-Rosario-987154703X/plp>
6. Lorente, P.: Turismo MICE, ¿qué es y por qué está en auge? ESIC (2022). <https://www.esic.edu/rethink/marketing-y-comunicacion/turismo-mice-que-es-y-para-que-sirve-c>
7. Tallardà, L.: ¿Qué es el turismo MICE? (2019). <https://www.lavanguardia.com/economia/innovacion/20190508/462124803269/que-es-turismo-mice.html>
8. Gascón, A., Ruiz, S.: Eventos sostenibles: una propuesta para elevar la calidad en las universidades. *RECUS: Revista Electrónica Cooperación Universidad Sociedad* **2**(3) (2017). <https://dialnet.unirioja.es/servlet/articulo?codigo=6719889>
9. Lozano, R., Fuentes, V., Sánchez, C., Martín, P.: Manual de Eventos Sostenibles. Fundación Oxígeno (2014). <http://eventossostenibles.org/wp-content/uploads/2014/03/Manual-ES-v4.pdf>
10. Jiménez, G.: Eventos Verdes, en pro del medio ambiente. *Industria de Reuniones, el referente en América Latina* (2023). <https://industriadereuniones.com/eventos-verdes-en-pro-del-medio-ambiente/>
11. Valiente, O.: El kit de compra verde como herramienta de sensibilización en la Universidad de Barcelona. Universidad de Barcelona (2010). <https://www.ub.edu/ossma/wp-content/uploads/2021/03/kit-compra-verde-ub.pdf>
12. UNEP: Environmental Programme (n.d.). <https://www.unep.org/>. Last Accessed 20 May 2023
13. Secretaría de Medio Ambiente y Desarrollo Territorial. Manual para la certificación de eventos sustentables (2016). https://eventossustentables.com/wp-content/uploads/2016/11/Manual_eventos_sustentables_Jal.pdf
14. Compeán, F.: El Libro Verde. Más de 150 tips para planear eventos ecosustentables. Mundo Editorial. México (2010)
15. Real Academia Española.: Eventos (2019). <http://www.rae.es/la-institucion/presentacion/informacion>
16. UNWTO.: La OMT presenta el informe global sobre la industria de reuniones (2014). <https://www.unwto.org/es/archive/press-release/2014-03-31/la-omt-presenta-el-informe-global-sobre-la-industria-de-reuniones>
17. Getz, D.: Festival and event. In: Jafari, J., Xiao, H. (eds.) *Encyclopedia of Tourism*. Springer, Cham (2016). https://doi.org/10.1007/978-3-319-01384-8_84
18. Getz, D.: Event Management & Event Tourism. Cognizant Communication Corporation (2005). https://books.google.com.mx/books/about/Event_Management_Event_Tourism.html?id=3TosAQAAAMAJ&redir_esc=y
19. Argumedo, M., Di-Cesar, M.: Tipología y clasificación de eventos. *Fundacion Universitas* (2012). <https://rppfu.files.wordpress.com/2012/08/lectura-nc2ba-2-1-tipologia-y-clasificacic3b3n-de-los-eventos.pdf>
20. Arroqante, A.: Organización de Eventos Empresariales. Ediciones Paraninfo S.A. España (2022)
21. Ortega, C., Casado, M.: Los eventos: funciones y tendencias. Documento de Estudio de Ocio 39 (2010). http://www.deusto-publicaciones.es/ud/openaccess/ocio/pdfs_ocio/ocio39.pdf
22. DDF (2021). <https://divulgaciondinamica.es/tipos-de-eventos-definiciones-y-clasificacion/>. Last Accessed 25 Jan 2023

23. Hacienda Santa Mónica. Tips graduación, el más solemne acto académico. (2015). <http://www.haciendasm.com/uncategorized/tips-graduacion-el-mas-solemne-acto-academico/>
24. Dickson, C., Arcodia, C.: Environmentally sustainable events: a critical review of the literature. Events Congress IV Festivals & Events. The University of Queensland, Brisbane, Australia (2010)
25. Universidad Autónoma de Tamaulipas. Eventos Sustentables. Guía de Certificación (2018). <https://storage.googleapis.com/stars-static/secure/788/7/701/5743/Guia%20para%20evento%20sustentable%20UAT.pdf>
26. Henao-Ricardo, A., Martínez-Medrano, V.M., Olano-Esquivel, P.A.: Factibilidad de una empresa organizadora de eventos empresariales y ejecutivos en el Municipio de Caucasia. Institución Universitaria ESUMER (2009). <https://repositorio.esumer.edu.co/handle/esumer/2564>
27. Arduinna, S.: Turismo de Reuniones en Ciudad Juárez. (2018). <https://programadestinomexico.com/destinos/ciudad-juarez.html>
28. Diario de Juárez.: Genera turismo de reuniones derrama de 180 MDP en 2017 (2018a). <https://www.juarezadiario.com/de-viaje/genera-turismo-reuniones-derrama-180-mdp-2017/>
29. Diario de Juárez.: Juárez el mayor generador de turismo de reuniones (2018b). <https://www.juarezadiario.com/de-viaje/juarez-el-mayor-generador-de-turismo-de-reuniones/>
30. Román, P., Martínez, M., y Pantoja, A.: Manual de compostaje de agricultor. Organización de las Naciones Unidas para la Alimentación y la Agricultura (FAO) (2015). <http://www.fao.org/docrep/019/i3388s/i3388s.pdf>
31. Boggia, A., Massei, G., Paolotti, L., Rocchi, L., Schiavi, F.: A model for measuring the environmental sustainability of events. *J. Environ. Manage.* **206**, 836–845 (2018). <https://doi.org/10.1016/j.jenvman.2017.11.057>
32. Han, H.: Consumer behavior and environmental sustainability in tourism and hospitality: a review of theories, concepts, and latest research. *J. Sustain. Tour.* **29**(7), 1021–1042 (2021). <https://doi.org/10.1080/09669582.2021.1903019>
33. Asociación de Estados del Caribe. Turismo de Reuniones: Conceptualización y Visión Regional **31** (2017). http://www.acs-aec.org/sites/default/files/turismo_de_reuniones_june_2017.pdf
34. Goodenough, J.: La Contaminación por plásticos está en todas partes, 91–128 (2016). <https://doi.org/10.1146/annurev.matsci.33.022802.091651>
35. Navarete, I.: ¿Qué aspectos positivos conlleva el manejo de bolsas biodegradables? *Universidad Militar Nueva Granada* **13**(3), 1576–1580 (2015). <https://repository.unimilitar.edu.co/handle/10654/6351>