



Lisbon School
of Economics
& Management
Universidade de Lisboa

MASTERS IN MANAGEMENT (MIM)

MASTER'S FINAL WORK

DISSERTATION

**SUSTAINABLE PRACTICES IN UNIVERSITY EVENTS: THE
ISEG CASE STUDY**

TIAGO LAJAS MARTINS

JANUARY - 2026



Lisbon School
of Economics
& Management
Universidade de Lisboa

MASTERS IN MANAGEMENT (MIM)

MASTER'S FINAL WORK

DISSERTATION

SUSTAINABLE PRACTICES IN UNIVERSITY EVENTS: THE ISEG CASE STUDY

TIAGO LAJAS MARTINS

SUPERVISOR:

PROF. GRAÇA MARIA DE OLIVEIRA MIRANDA SILVA

JURY:

PRESIDENT: PROF. JOSÉ MANUEL CRISTÓVÃO VERÍSSIMO

RAPPORTEUR: PROF. JOSÉ MIGUEL ARAGÃO CELESTINO SOARES

SUPERVISOR: PROF. GRAÇA MARIA DE OLIVEIRA MIRANDA SILVA

JANUARY - 2026

ACKNOWLEDGMENTS

To my supervisor, Professor Graça Silva, I am thankful for rigorous orientation, incisive feedback and confidence in moments of doubt, that transformed this dissertation.

To my interviewers, I am grateful for their generosity by sharing their perspectives and facilitating access to empirical data.

To ISEG I am grateful for the stimulating academic environment, for being my second home for the past six years and for preparing me for this moment.

I would like to thank my family for their support and confidence, and for the motivation they always gave me.

I also would like to say thank you to my Masters colleagues for the moments over the past year, enriching discussions and logistic support preparing the interviews, especially Guilherme Pires, Miguel Silva and Floris van der Bruggen.

Finally, to all my friends, thank you for being my support during difficult times.

I USED ARTIFICIAL INTELLIGENCE TOOLS TO IMPROVE MY WRITING.

RESUMO

A indústria dos eventos tem vindo a assumir uma relevância crescente nas economias contemporâneas e, consequentemente, gera benefícios, mas está também associada a impactos ambientais e sociais significativos. Este estudo analisa de que forma eventos universitários de pequena e média escala podem reduzir a sua pegada ecológica através de práticas sustentáveis, utilizando o ISEG como caso paradigmático, dado que a instituição organiza aproximadamente 380 eventos por ano. Através de uma análise temática de três entrevistas semiestruturadas realizadas aos departamentos de Sustentabilidade, Marketing e Logística, identificaram-se convergências com modelos teóricos estabelecidos (METER, economia circular) em práticas operacionais controláveis, bem como divergências estruturais relacionadas com a monitorização quantitativa ao nível de cada evento, a disponibilidade de dados de Scope 3 e a aplicabilidade da norma ISO 20121 a contextos de eventos de elevada frequência.

O estudo identifica cinco lacunas teóricas críticas: a necessidade de modelos de monitorização cumulativa para eventos frequentes; as limitações impostas pelos sistemas de contratação pública; especificidades legais nacionais subestimadas; a imaturidade dos dados de Scope 3; e a insuficiente integração da dimensão cultural face a métricas quantitativas rígidas. Para os gestores, o estudo recomenda abordagens de monitorização agregada, o desenvolvimento de *proxies* para o Scope 3, a adaptação dos standards de sustentabilidade à escala dos eventos e a priorização da sensibilização e do envolvimento cultural.

Este trabalho contribui para o desenvolvimento de *frameworks* sustentáveis adaptados a eventos universitários de pequena e média escala e de elevada frequência.

Palavras-Chave: Sustentabilidade, Eventos universitários, Pegada ecológica, Economia circular, Eventos pequenos e médios

ABSTRACT

The events industry is assuming increasing relevance in contemporary economies and consequently generates benefits but is also associated with significant environmental and social impacts. This study examines how small- and medium-scale university events can reduce their ecological footprint through sustainable practices, using ISEG as a paradigmatic case, as the institution organizes approximately 380 events per year. Through thematic analysis of three semi-structured interviews conducted with the Sustainability, Marketing, and Logistics departments, points of convergence with established theoretical models (METER, circular economy) were identified in controllable operational practices, alongside structural divergences related to quantitative monitoring at the event level, Scope 3 data availability, and the applicability of ISO 20121 to high-frequency event contexts.

The study identifies five critical theoretical gaps: the need for cumulative monitoring models for frequent events; constraints imposed by public procurement systems; underestimated national legal specificities; the immaturity of Scope 3 data; and insufficient integration of the cultural dimension when faced with rigid quantitative metrics. For managers, the study recommends aggregated monitoring approaches, the development of Scope 3 proxies, the adaptation of sustainability standards to event scale, and the prioritization of cultural awareness and engagement.

This work contributes to the development of sustainable frameworks tailored to small and medium-sized, high-frequency, university events.

Keywords: Sustainability, University events, Ecological footprint, Circular economy, Small and medium-sized events

ABBREVIATIONS

CE – Circular Economy

DLAT – Division of Logistics and Technical Support

ISEG – Instituto Superior de Economia e Gestão

LCA – Life Cycle Assessment

METER – Measuring Events Through Environmental Research

SDG – Sustainable Development Goals

TBL – Tripple Bottom Line

UN – United Nations

ÍNDEX

ACKNOWLEDGMENTS	I
RESUMO	III
ABSTRACT	IV
ABBREVIATIONS	V
ÍNDEX	VI
1. INTRODUCTION	1
2. LITERATURE REVIEW	2
2.1. Sustainability Concept	2
2.2 Sustainability in Events	3
2.2.1 Introduction to event's sustainability	3
2.2.2 Sustainability standards and certifications in event industry	4
2.3 Environmental sustainability in the events industry	5
2.2.3 Measure environmental sustainability	8
2.3 Circular Economy in the Event Sector	10
2.4 Drivers and barriers	12
2.5 Social sustainability in events	14
2.6 Stakeholders perceptions of sustainability in events	15
2.7 Criticism to current approaches and literature gaps	16
2.7.1 Symbolic sustainability, greenwashing and performative practices	16
2.7.2 Overemphasis on operational actions and neglect of systemic change	17
2.7.3 Lack of standardized metrics	17
2.7.4 Underrepresentation of small and medium-sized events	18
3. METHODOLOGY	18
3.1 Research Design	18
3.2 Sample and Data Collection	19
3.3 Data Analysis	20
3.4 Methodological Rigor Without Software	20
3.5 Considerations of Rigor and Ethics	21
4. DATA ANALYSIS AND DISCUSSION	21
4.1 Introduction	21
4.2 Findings	22
4.2.1 Understanding sustainability in the context of university events	22
4.2.2 Implementation of sustainable practices	23
4.2.3 Institutional experience	25
4.2.4 Limitations	26
4.3 Discussion	28
4.4 Gaps in existing frameworks	33
4.5 Synthesis of findings and discussion	35
5. CONCLUSIONS	36

5.1 Overall conclusions.....	36
5.2 Theoretical implications.....	36
5.3 Managerial implications	37
5.4 Limitations of the study	38
5.5 Suggestions for future research.....	39
REFERENCES.....	41
APPENDICES	45
Appendix A1 – General Interview guide	45
Appendix A2 – Semi-structured interviews: interviewees characterization	45
Appendix A3 – Interview guide to Sustainability Department (Interviewee 1)	46
Appendix A4 – Interview guide to Marketing Department (Interviewee 2).....	47
Appendix A5 – Interview guide to Division of Logistics and Technical Support (Interviewee 3) ...	49

1. INTRODUCTION

The events industry is becoming increasingly important in modern economies. In 2017, it generated approximately USD 1.07 trillion in global direct expenditure, and it is projected to grow by over 11% in the next decade (Events Industry Council, 2018; Cavallin Toscani et al., 2024). While events generate economic, social and institutional benefits, they are also associated with significant environmental and social impacts, particularly with regard to transportation, energy, catering, materials and waste management (Boggia et al., 2018; Piccerillo et al., 2023).

The approach to sustainability in events has evolved to become more integrated, aligning with the Triple Bottom Line framework (Elkington, 1998) and the United Nations Sustainable Development Goals (UN SDGs). Tools and frameworks supporting this integration include ISO 20121, the METER model (Boggia et al., 2018) and Life Cycle Assessment (LCA). However, the literature warns that circularity does not necessarily lead to effective environmental sustainability, as it can mask increases in emissions if a comprehensive evaluation is not carried out (Haupt & Hellweg, 2019; Moraga et al., 2019).

Despite these conceptual advancements, significant gaps remain. Most research has focused on mega-events, neglecting the majority of events in the sector, which are small- to medium-sized (Mair, 2021; Cavallin Toscani et al., 2024). Consequently, symbolic or superficial 'green' actions are often prioritized, which fosters greenwashing and fails to integrate circularity, environmental and social impacts, and stakeholder perceptions — particularly in university contexts, where educational responsibilities amplify the imperative for sustainability (Mair & Jago, 2010).

Against this backdrop, the following research question is addressed in this study:

How can small- and medium-sized university events reduce their ecological footprint by adopting sustainable practices?

This study aims to understand how such events, such as those organized at the Instituto Superior de Economia e Gestão (ISEG), can reduce their environmental and social impact through integrated sustainability practices. This objective is operationalized through the following specific objectives:

- 1) To analyse current sustainability practices adopted at ISEG events.
- 2) Identifying the key drivers and barriers influencing the adoption of sustainable practices.
- 3) To examine the role of supply chain actors, particularly suppliers, in supporting sustainable practices.
- 4) To explore how institutional and contextual factors shape the understanding and implementation of sustainability in university events.
- 5) To propose evidence-based recommendations for improving sustainability in similar contexts.

To address these aims, the study takes an exploratory, qualitative approach. A case study strategy is employed, focusing on a single case study of ISEG. Data is collected through semi-structured interviews. The findings are derived from a thematic analysis of three such interviews.

This study makes a valuable contribution to the qualitative research literature on small- and medium-sized university events. It responds to calls for greater empirical diversity in sustainability research (Mair, 2021; Cavallin Toscani et al., 2024) by providing evidence-based insights. From a societal perspective, the study reinforces the role of universities as agents of change by promoting sustainability in line with the SDGs, while avoiding symbolic or superficial approaches.

The dissertation is organized into five chapters: Introduction; Literature Review; Methodology; Data Analysis and Discussion; and Conclusion.

2. LITERATURE REVIEW

2.1. Sustainability Concept

The concept of sustainability has evolved from an environmental perspective to an approach that considers the environmental, social, and economic dimensions (Nikolaou et al., 2021).

Traditionally, sustainability has been defined using the triple bottom line (TBL) approach, which views sustainability as the balanced integration of economic, social, and environmental dimensions (Elkington, 1998). In other words, it interrelates three dimensions: environmental responsibility, social responsibility, and economic profitability. This rejects the usual idea of sustainability as economic profitability alone. In recent years, definitions of sustainability based on the TBL approach have been used in many studies.

The circular economy (CE) aims to minimize waste generation and maximize the efficient use of resources throughout economic systems (Shaikh et al., 2024). This concept is based on three fundamental principles: reduce, reuse and recycle. These principles aim to mitigate environmental impacts, promote resource efficiency and extend product life cycles (Shaikh et al., 2024). The circular economy therefore emphasizes the sustainable management of materials, energy and waste at every stage of the product lifecycle, from design and production to consumption and end-of-life treatment.

Despite its growing relevance, however, circularity should not be equated with environmental sustainability. As Moraga et al. (2019) and Haupt and Hellweg (2019) have highlighted, higher levels of circularity do not automatically lead to improved environmental outcomes. Many existing indicators measure general environmental impacts, such as emissions or resource depletion, but fail to adequately assess circular material flows or the actual environmental benefits of circular strategies. It is therefore critical to understand the distinction between circularity and

environmental sustainability, as this prevents the uncritical adoption of practices such as recycling, reducing, or reusing without a comprehensive evaluation of their net environmental impacts.

The Triple Bottom Line (TBL) framework and the concept of the circular economy (CE) are closely aligned with the United Nations' Sustainable Development Goals (SDGs), which provide a “shared blueprint for peace and prosperity for people and the planet, now and into the future” (United Nations, 2015). Sustainable business practices contribute directly to several SDGs, including decent work and economic growth (SDG 8), reduced inequalities (SDG 10), sustainable cities and communities (SDG 11), responsible consumption and production (SDG 12), and climate action (SDG 13).

Within the context of sustainability assessments, the concept of the ecological footprint has gained increasing relevance. It is defined as an indicator that measures human demand on global biological resources and has been progressively applied as a metric for organizational and corporate environmental performance, as well as an indicator of the environmental sustainability of products (Wiedmann & Barrett, 2010). It encompasses multiple dimensions, including carbon footprint, energy consumption, material use and waste generation, providing a comprehensive view of environmental pressure across production and consumption systems.

2.2 Sustainability in Events

2.2.1 Introduction to event's sustainability

According to Cavallin Toscani et al., (2024, p. 2664), the events industry “has grown enormously in size and revenue generated worldwide” in recent decades. In 2017, the sector was expected to generate around USD 1.07 trillion in direct spending, emphasizing its significant economic importance (Events Industry Council, 2018). Furthermore, the global events market is projected to grow at an annual rate of over 11.2% during the current decade, further reinforcing its rapid expansion and economic significance (Cavallin Toscani et al., 2024).

However, despite the considerable socio-economic benefits associated with this growth, the events industry also generates significant environmental impacts and cost-related challenges. These include high levels of resource consumption, waste generation and carbon emissions. Therefore, both the positive economic contributions and the negative environmental externalities are central to understanding the increasing importance of sustainability within the events industry.

The impacts generated by events can be broadly classified as environmental or social. According to Boggia et al. (2018), the main environmental impacts of events are related to factors such as location, energy consumption, water management, catering, promotional giveaways, use of materials, internal transport and waste management. In addition to environmental effects, events also generate significant social impacts, including the creation of employment

opportunities, community engagement, cultural exchange, accessibility and inclusion, and considerations relating to public health and safety.

In the context of events, sustainability is defined as integrating environmental, social and economic considerations into event planning, execution and legacy, rather than focusing exclusively on environmental measures (Mair, 2021). However, the majority of existing academic research and practical sustainability initiatives concentrate on mega-events. Consequently, small- and medium-sized events have remained relatively understudied despite their cumulative environmental and social impacts, as well as their exposure to specific challenges, particularly with regard to limited financial, technical, and human resources (Cavallin Toscani et al., 2024).

In response to growing awareness of these impacts, various sustainability standards, certification schemes and assessment models have been developed to help event planners identify, manage and mitigate the environmental and social effects of events.

From planning to the post-event stage, these tools are designed to assist event planners in methodically incorporating sustainability (Boggia et al., 2018, Cavallin Toscani et al., 2024).

2.2.2 Sustainability standards and certifications in event industry

- **ISO 20121 – Event Sustainability Management System**

Originally created for the London 2012 Olympic Games, ISO 20121 is the most widely accepted standard for sustainable event management. ISO 20121 creates a management system based on the Plan-Do-Check-Act (PDCA) cycle, which incorporates environmental, social and economic concepts into organizational decision-making, in contrast to separate impact assessment methods (Boggia et al., 2018; Mair, 2021; Cavallin Toscani et al., 2024).

Instead of establishing precise environmental goals, this standard mandates that organizations determine the event's environmental effects, establish quantifiable sustainability goals, implement operational procedures to meet those goals, track outcomes, and encourage ongoing improvement (Boggia et al., 2018; Fernandes et al., 2024; Mair & Jago, 2010).

In the context of events, ISO 20121 supports Mair's (2021) systemic approach, which moves the emphasis from particular acts (such as recycling) to stakeholder participation, governance and strategic planning. However, due to resources, time, and technological knowledge constraints, a number of publications note that its implementation can be difficult for small and medium-sized events (Cavallin Toscani et al., 2024).

- **Green Event Certifications and Guidelines**

In addition to ISO 20121, several green event certifications and guidance frameworks have been developed. These include the ASTM Green Meetings Standards (developed by the American

Society for Testing and Materials), the Green Meeting Guide and the Global Reporting Initiative – Event Organizers Sector Supplement (GRI-EOSS), as well as various local and regional environmental certification programs. These instruments primarily focus on operational practices such as energy efficiency, waste management, sustainable catering, mobility and transport, and communication and environmental awareness initiatives (Boggia et al., 2018; Cavallin Toscani et al., 2024; Fernandes et al., 2024).

According to Boggia et al. (2018), such certifications play a crucial role in translating abstract sustainability principles into concrete operational requirements, thereby facilitating their adoption by event organizers. However, critical literature highlights the risks of fragmentation, lack of standardization, and greenwashing practices when certifications are predominantly used as marketing tools and are not supported by comprehensive impact assessments (Mair & Jago, 2010; Fernandes et al., 2024).

Therefore, standards and certifications should be viewed as tools to promote sustainable management. Their efficacy depends on how well they are aligned with environmental performance measures and strategic decisions, rather than being an end in themselves (Mair, 2021; Mair & Jago, 2010).

2.3 Environmental sustainability in the events industry

Tangible impacts of events are the primary obstacles to environmental sustainability in the events industry, especially in areas such as transport, energy, food, materials and waste. Empirical studies have identified specific hotspots (associated with social, economic and environmental effects) that event organizers should consider, building on the overall growth of the industry.

- **Transport and carbon emissions**

Transportation is, according to numerous empirical studies and systematic literature reviews, the primary environmental hotspot of events. Piccerillo et al. (2023) show that in a national competition (college level) with about 640 competitors, 67.5% of the total emissions were caused by transportation, which shows how participants' mobility defines the carbon footprint.

In a groundbreaking study on environmental effects of festivals, Collins et al. (2009) state that “visitor travel is responsible for a significant proportion of environmental impacts” of large-scale events, exceeding operational sources like energy or waste. For example, an analysis of the Hay Festival indicated that approximately 69% of attendees traveled by car, substantially contributing to the overall carbon emissions of the event. Carbon emissions are among the most significant environmental impacts found in literature (Cavallin Toscani et al., 2024). Boggia et al. (2018) by introducing “location” and “internal travels” as different operational categories, recognizes that both the choice of location and moving within the event contribute to resource consumption and greenhouse gas emissions.

For small and medium sized events, studies agree that transport emissions continue to be the biggest (environmental) contribution, accounting frequently more than 60% of the total carbon footprint. This, despite the event's limited infrastructure and reduced energy consumption (Piccerillo et al., 2023), Collins et al., 2009).

- **Energy use and venue operations**

Although its overall contribution is generally lower than that of transportation, energy consumption remains a critical environmental impact area in events. Boggia et al. (2018) allocate a dedicated operational category to energy within their Measuring Events Through Environmental Research (METER) model, covering illumination, audiovisual equipment, heating, air conditioning, and temporary infrastructure. They also observe that energy requirements fluctuate based on the venue type, event duration, and technologies employed.

Similarly, Piccerillo et al. (2023) emphasize that, although energy consumption generally has a smaller environmental impact than transportation, it remains a significant factor, especially for events utilizing existing academic infrastructures, such as university championships. In the case of the Hay Festival, Collins et al. (2009) identified operational energy, covering external lighting, stages and audiovisual equipment, as a substantial component of the event's direct environmental impact. Cavallin Toscani et al., (2024) also confirm that energy consumption is consistently recognized as one of the four main areas of environmental impact in event literature.

Nevertheless, sustainable practices related to energy use have been limited, often focusing exclusively on reducing direct operational impacts (Mair, 2021). Mair (2021) in particular argues that attention to energy has largely remained at a micro-operational level, such as illumination, without considering how energy consumption is influenced by strategic decision-making, governance structures, and long-term sustainability objectives.

- **Food, catering and water**

Food and catering are another critical area in terms of the environmental impact of events, due to the production of greenhouse gases, water consumption, food transport and organic waste generation. Piccerillo et al. (2023) demonstrated that, in the analyzed case study, accommodation and catering together were the second largest source of emissions. Boggia et al. (2018), using the METER model, recognized catering and water management as two operational areas with significant event-related impacts. The catering category considers the environmental impact of the food on offer, such as the type of food available, the use of local or organic produce, and the adoption of sustainable practices to reduce environmental pressure. Conversely, Boggia et al. (2018) state that water management considers the consumption and efficient use of hybrid resources, as well as reduction, saving and reutilization measures. By including these categories in the METER model, Boggia et al. (2018) reinforce the importance of both in evaluating the environmental impact of events. Cavallin Toscani et al. (2024) confirm that, in events' literature,

resource consumption, including water and food, consistently appears as a critical area. According to Santos et al. (2023), catering is one of the main areas of influence to participants, especially around females and older participants, who value sustainable food choices.

- **Materials, promotional giveaways and waste**

Materials, promotional giveaways, and waste are identified by Boggia et al. (2018) as three areas of significant environmental impact within events. Materials encompass a wide range of resources used at all stages of an event, including flowers and plants, paper, brochures and documents, detergents, packaging and other products 'used to consider possible features not covered by the other items' (Boggia et al., 2018, p. 5). Promotional giveaways are usually described as 'unusual, original, inexpensive and attractive items given away for promotional purposes' and can include non-food items, food-related items and packaging (Boggia et al., 2018, p. 5). Finally, waste is a critical impact area as improper management can lead to large volumes of residual materials with negative environmental consequences (Hottle et al., 2015). Together, these three operational dimensions emphasize the importance of materials management and sustainable practices in reducing the ecological footprint of events. Collins et al. (2009) analyzed Hay festival and showed that events generate substantial volumes of solid waste. Even though there are systems of separation already implemented, the real recycling taxes are limited by contamination and low conformity of participants which creates high emissions of methane with big impacts.

Besides the direct environmental impact associated with materials, giveaways and waste, literature shows the importance of perception and acceptance of those practices from participants. Ye et al. (2020), explain that an ecological image of the event, normally built from reduction of promotional giveaways, responsible materials' use and proper waste management, increases confidence of participants in the event.

- **Location and internal logistics**

The strategic location of an event and its internal logistics significantly influence multiple categories of environmental impact. In the METER model, Boggia et al. (2018) treat location and logistics as distinct operational dimensions. They emphasize that choosing an event site is linked to transportation for participants and suppliers, infrastructure requirements (temporary or permanent) and pressure on local resources.

Piccerillo et al. (2023) demonstrate that even when existing academic infrastructures are utilized, the location of an event can substantially contribute to increased emissions, primarily due to participant mobility and the need for temporary accommodation outside of their usual residence. Building on this, Cavallin Toscani et al. (2024) emphasize that strategic location is a key factor in planning and managing sustainable events.

Literature further underscores the importance of internal logistics, noting that gatekeepers often hesitate to adopt information and communication technologies designed to optimize internal flows due to concerns that such interventions might compromise the perceived authenticity of the live experience. Furthermore, Santos et al. (2024) demonstrate that implementing hybrid events directly influences location choices, thereby mitigating pressure on physical venues and reducing travel-related environmental impacts.

These areas do not cause only operational effects on the environment, they also result from strategic choices in event management not align with established sustainability norms (Mair, 2021). Sustainable management standards and models, such as ISO 20121 and Green Event Management guidelines, provide a regulatory and operational framework to address these impacts (Boggia et al., 2018; Cavallin Toscani et al., 2024).

The literature systematically addresses the impact of transportation through criteria related to event location, incentives for collective mobility and the adoption of hybrid formats as structural strategies to reduce emissions (Collins et al., 2009; Piccerillo et al., 2023). Energy consumption is another central element of sustainable event management. It is influenced by technological choices, venue efficiency and the planning of temporary infrastructure. Energy consumption is also integrated into broader energy management policies (Boggia et al., 2018). Similarly, environmental impacts associated with food and catering can be mitigated by sustainable procurement practices, short supply chains and food waste reduction strategies.

These are recurring areas emphasized in green event guidelines and certifications (Boggia et al., 2018). The management of materials, promotional giveaways and waste reflects the extent to which the principles of the circular economy (CE) and waste prevention are embedded in event operations, moving beyond approaches that focus solely on symbolic recycling (Haupt & Hellweg, 2019). In this sense, Boggia et al. (2018) argue that environmental effects can be used as a starting point for implementing sustainability standards. However, Mair (2021) argues that a straightforward correlation between identified impacts and implemented measures cannot ensure the successful adoption of sustainability practices. Without comprehensive evaluation and consistent monitoring, interventions risk becoming fragmented and having only a limited positive effect on the environment. Consequently, effectively linking environmental impacts to sustainability standards requires the adoption of best practices, as well as their systematic monitoring, evaluation and strategic integration. This is particularly important for small and medium-sized events, where structural decisions can proportionally influence the total ecological footprint more significantly (Boggia et al., 2018; Mair, 2021).

2.2.3 Measure environmental sustainability

The growing evidence of environmental impacts associated to events – namely transportation, energy, food, materials and waste – has led to developing models and indicators to measure

environmental sustainability systematically. Measurement is essential to identify hotspots, support decisions and allow comparisons between events or editions of events (Boggia et al., 2018, Piccerillo et al., 2023).

- **METER Model**

Boggia et al. (2018) propose METER (Measuring Events Through Environmental Research), which is a multicriteria model designed to evaluate environmental impacts across nine categories: catering; energy; internal travel; location; materials; promotional giveaways; waste; and water. Each category uses a combination of qualitative and quantitative indicators to produce a final, comparable index.

The METER model encompasses the entire event lifecycle, from planning to post-event evaluation, employing a participatory, bottom-up approach that actively involves stakeholders in the assessment process. This approach enables the objective measurement of impacts and the identification of critical areas requiring intervention. Practical applications of the model have demonstrated that METER can effectively highlight the primary impact vectors, such as participant travel and energy consumption, even in small-scale academic events (Boggia et al., 2018). A key advantage of METER is its operational flexibility and capacity to facilitate comparisons between different events or successive editions, supporting the definition of mitigation goals and sustainability strategies. However, as the model relies on user-defined indicators rather than universally recognized international standards, careful adaptation to the specific context and characteristics of each event is required for its implementation (Boggia et al., 2018).

- **Life Cycle Assessment (LCA)**

The Life Cycle Assessment (LCA) is a widely recognized methodology, formalized by ISO standards 14040 and 14044, which allows the environmental impacts of a product, service or process to be assessed at all stages, from planning to post-event.

ISO 14040 defines the principles and general framework of LCA, including the structure of the main phases: definition of objective and scope, inventory, impact assessment and interpretation of results (Haupt & Hellweg, 2019). This standard establishes the fundamentals of the life cycle approach, emphasizing aspects such as systematic coverage, transparency, consistency and consideration of all phases of the life cycle.

ISO 14044 complements 14040 by specifying the requirements and operational guidelines for conducting an LCA study: how to define objectives, delimit system boundaries, collect and validate inventory data, perform impact assessment, and interpret results in a robust manner.

When applied to events, Life Cycle Assessment (LCA) allows environmental impacts, such as energy consumption, greenhouse gas emissions and resource use, to be quantified across the different phases of an event, including assembly, operation and dismantling. Recent studies, such

as that by Piccerillo et al. (2023), have used LCA and carbon footprint analysis to examine the environmental impact of university events. These studies have shown that transport, accommodation, catering, and operational activities are the main contributors to this impact. This approach provides a comprehensive view of an event's life cycle, supporting strategic decisions regarding suppliers, logistics, and resource management.

A key component of sustainable management standards and certifications for events is the measurement of environmental sustainability. Tools such as METER (Measuring Events Through Environmental Research) (Boggia et al., 2018) and LCA enable normative sustainability principles to be translated into concrete, measurable performance indicators (Cavallin Toscani et al., 2024; Mair, 2021). METER classifies impacts into operational categories that largely correspond to the domains addressed by certifications and management standards, such as ISO 20121 (Boggia et al., 2018). These correspondences facilitate the use of METER as an environmental diagnostic tool and as a basis for defining sustainability goals. They also support the continuous monitoring required by management systems. Though life cycle assessment (LCA) provides a robust framework for the integrated evaluation of environmental impacts, as formalized in ISO 14040 and ISO 14044 standards, its practical application to small- and medium-sized events is often limited by the requirement for precise data, specialized technical expertise and time-consuming processes (Haupt & Hellweg, 2019; Piccerillo et al., 2023). To address these limitations, organizers often use simpler indicators, multicriteria models or hybrid frameworks as a partial substitute for full LCA (Boggia et al., 2018; Cavallin Toscani et al., 2024). These approaches are vital for minimizing the risk of greenwashing, promoting evidence-based decision-making and ensuring that sustainability performance is quantifiable and comparable (Mair, 2021).

To maintain the validity of environmental assessments, the literature emphasizes the importance of distinguishing between environmental impact indicators, circularity indicators, and operational indicators (Moraga et al., 2019; Shaikh et al., 2024; Haupt & Hellweg, 2019). Accordingly, the relationship between measurement, certification, and event management must be viewed as an integrated system: standards inform procedures, indicators evaluate results, and organizers use this information to redesign formats, practices, and strategies. This integrated approach is particularly relevant in university contexts and for small and medium-sized events, where strategic operational decisions have a greater proportional effect on the overall ecological footprint (Boggia et al., 2018; Cavallin Toscani et al., 2024; Mair, 2021).

2.3 Circular Economy in the Event Sector

The application of the circular economy (CE) to events stems from the realization that its fundamental principles — reduction, reuse, recycling and extending resource life cycles (Shaikh,

2024) - do not inherently guarantee environmental sustainability, despite the close relationship between the two concepts (Moraga et al., 2019; Haupt & Hellweg, 2019). Moraga et al. (2019) demonstrate that many CE indicators primarily track material flows and recirculation rates, but do not directly capture actual reductions in environmental impact. In some cases, they may coexist with increases in energy consumption or greenhouse gas emissions. Similarly, Haupt and Hellweg (2019) argue that, under certain conditions, a more circular system can lead to increased resource use or alter the environmental effects associated with different life cycle stages. These observations highlight the importance of distinguishing sustainability from circularity conceptually, and of linking circularity indicators with comprehensive impact assessment methods such as Life Cycle Assessment (LCA) to provide a more accurate evaluation of environmental outcomes. In the context of events, the circularity assessment framework proposed by Franco et al. (2021) offers a practical approach to implementing circular economy principles in areas such as transport, energy, catering, materials, promotional gifts and waste. Based on this framework, events can be conceptualized as temporary systems in which the focus is on reducing consumption, reusing structures and equipment, and extending the useful life of resources through strategies such as sharing, renting, or remanufacturing. This approach is consistent with the circularity strategies outlined by Franco et al. (2021), which prioritize reduction and reuse over strategies centered solely on end-of-life recycling. It also aligns with practices highlighted in event-related literature, such as minimizing promotional giveaways and embracing short food supply chains (Boggia et al., 2018; Piccerillo et al., 2023). It is particularly important to extend the useful life of event materials and equipment, as frequently replacing structures, technological devices and decorative elements increases their ecological footprint over the course of their life cycles. Techniques such as repair, remanufacturing, and modular use, when combined with energy efficiency and sustainable material selection, can prolong resource utility and reduce the demand for new materials, thereby minimizing total environmental impact (Franco et al., 2021). However, Haupt and Hellweg (2019) caution that prolonging the useful life of resources only contributes to sustainability if the benefits of extended use outweigh the environmental costs associated with maintenance, storage or technological updating. This highlights the importance of incorporating a life cycle perspective into event design and operational decision-making.

In this context, the literature identifies the concept of symbolic circularity, whereby actions adopt CE terminology and certain tools without producing any measurable reduction in environmental impact (Moraga et al., 2019; Haupt & Hellweg, 2019). Moraga et al. (2019) and Haupt and Hellweg (2019) caution that a focus on indicators such as the proportion of recycled material or the number of reusable products may improve circularity metrics while leaving overall environmental impacts unchanged or even increasing them. These criticisms resonate with Mair's (2021) observations that many green event initiatives remain at a micro-operational level — for example, substituting reusable cups while relying on marketing messages — without addressing

the event's business model, format or mobility patterns, which are often the most significant contributors to its ecological footprint. Therefore, incorporating circular economy (CE) principles into event management requires strategies that prioritize reduction, reuse and life extension, supported by impact measurement systems capable of verifying whether interventions genuinely enhance environmental sustainability. Integrating Franco et al.'s (2021) circularity framework, the indicators proposed by Moraga et al. (2019) and Haupt and Hellweg (2019), and operational assessment models such as METER and Life Cycle Assessment enables circularity to become a strategic, evidence-based tool aligned with environmental goals and subject to ongoing monitoring, rather than merely symbolic. This is particularly important for small- and medium-sized events, where design and procurement decisions have a greater proportional influence on the total ecological footprint.

2.4 Drivers and barriers

The literature on sustainability in events shows that the adoption of sustainable practices is conditioned by a set of interrelated factors that act as drivers and barriers, influencing the degree and depth of sustainability integration through the event's lifecycle. These factors operate at different levels – strategic, organizational, operational and contextual – and are particularly relevant in small and medium-sized events (including university events where existing infrastructures facilitate but do not eliminate challenges), where resource constraints, dependence on external suppliers and structural decisions have a proportionally high impact on the total environmental footprint (Collins et al., 2009; Boggia et al., 2018; Piccerillo et al., 2023; Cavallin Toscani et al., 2024).

- **Drivers**

Strategic and institutional commitment to sustainability is one of the most frequently cited driver in literature. Research indicates that the systematic adoption of environmental practices, combined with the use of monitoring and continuous improvement tools, is more likely when sustainability is embedded within an organization's mission, internal policies and decision-making processes (Mair, 2021; Fernandes et al., 2024; Cavallin Toscani et al., 2024). This is particularly relevant in academic and institutional settings, where social responsibility, educational values and institutional cohesion can drive change.

Another widely documented driver of sustainable practices is stakeholder pressure. Participants, sponsors, public authorities and local communities influence strategic decisions relating to transport, emissions and waste management (Collins et al., 2009). More recent studies emphasize the growing importance of environmental criteria in financing, sponsorship, and institutional support, highlighting how sustainability expectations are increasingly shaping event organizations (Santos et al., 2024; Cavallin Toscani et al., 2024).

The availability of standards, certifications and management frameworks, such as ISO 20121, the Green Event Management Guide and operational assessment models, constitutes a crucial supporting factor. These tools provide normative structures, operational categories and measurable indicators to help organizers translate abstract sustainability concepts into concrete practices and reduce uncertainty regarding operational implementation (Boggia et al., 2018; Fernandes et al., 2024; Cavallin Toscani et al., 2024).

Organizational and technological innovation also emerges as an important, albeit ambivalent, driver. Adopting hybrid event formats, digital solutions, equipment-sharing systems and new supply models has been linked to reductions in material consumption and emissions related to mobility (Piccerillo et al., 2023; Santos et al., 2024).

Finally, legislation, competitive advantage and organizational capacity building complement these drivers. Regulatory requirements and financial incentives encourage the adoption of sustainable practices, while perceived competitive advantages, such as attracting environmentally conscious participants and enhancing brand image, serve as economic drivers (Ye et al., 2020). At the same time, training initiatives and the exchange of best practices among organizers help to reduce knowledge gaps and build confidence in implementing sustainable solutions.

- **Barriers**

Despite multiple drivers for sustainability, literature identifies persistent structural and operational barriers that hinder the effective implementation of sustainable practices at events. One of the most frequently cited barriers is the scarcity of financial, human and temporal resources, particularly for small and medium-sized events. Boggia et al. (2018) and Piccerillo et al. (2023) demonstrate that budget limitations often result in a focus on immediate costs, hindering investment in sustainable solutions offering medium- to long-term benefits.

The complexity of measuring and assessing environmental impacts is another critical barrier. Adoption of simplified metrics or absence of systematic assessment is often driven by challenges in obtaining reliable data, lack of standardized indicators and perception that comprehensive methodologies such as Life Cycle Assessment (LCA) are excessively resource-intensive (Haupt & Hellweg, 2019; Moraga et al., 2019; Shaikh et al., 2024).

The fragmentation of value chains and reliance on multiple suppliers is also highlighted as a significant obstacle. According to Collins et al. (2009) and Cavallin Toscani et al. (2024), events are usually characterized by temporary, fragmented supply networks over which organizers have limited influence regarding decisions related to transportation, catering, infrastructure and promotional materials.

Finally, several authors caution against the risk of adopting a merely symbolic or superficial approach to sustainability, which is often associated with marketing and green communication strategies. Mair (2021) argues that many initiatives remain confined to micro-operational levels,

such as substituting reusable cups, without addressing the structural aspects of events, including their format, mobility patterns and overall consumption volumes.

2.5 Social sustainability in events

The social dimension of sustainability in events has received increasing attention in recent literature, reflecting a more integrated approach that considers events as temporary social systems, as well as their environmental and economic functions (Mair, 2021; Cavallin Toscani et al., 2024). This dimension encompasses the impacts of events on individuals, groups and communities, addressing issues such as inclusion, equity, accessibility, working conditions, stakeholder participation, perceived value and long-lasting social contributions (Raj et al., 2013; Fernandes et al., 2024). The literature emphasizes that social sustainability goes beyond avoiding harm; it aims to foster human well-being, community cohesion, and social justice, in line with key principles such as equity, participation, and social interaction (Mair, 2021). Contemporary literature emphasizes that events can generate significant social benefits, including promoting social interaction, strengthening institutional or community identity, creating opportunities for learning and civic participation, and facilitating collaborative networks (Mair, 2021; Ye et al., 2020; Santos et al., 2024). However, these benefits often coexist with social risks, such as the exclusion of certain groups, the unequal distribution of costs and benefits, labor practices that are precarious due to the temporary nature of the sector, and potential conflicts with local communities (Fernandes et al., 2024; Collins et al., 2009). Consequently, achieving social sustainability requires a critical evaluation that moves beyond marketing rhetoric and takes into account the actual consequences of organizational choices, including the attitudes and perceptions of participants (Mair, 2021; Ye et al., 2020; Santos et al., 2024).

The social dimension of sustainability is also closely linked to organization and working conditions at events. Recent studies (Cavallin Toscani et al., 2024; Fernandes et al., 2024; Raj et al., 2013) have highlighted that significant reliance on temporary labor, unpaid volunteering and subcontracting raises ethical concerns relating to safety, well-being, recognition, labor equity and skill development. While these issues are frequently overlooked in favor of environmental considerations, the literature emphasizes that responsible labor practices are a fundamental component of social sustainability and a key factor in determining the legitimacy of an event as a socially responsible activity, particularly in the context of small events where labor precarity is more prevalent (Yawar & Seuring, 2017). Accessibility and inclusion are critical components of social sustainability at events. Recent research emphasizes that social sustainability requires ensuring event accessibility for diverse social groups by taking into account organizational, digital, cultural, economic and physical barriers, as well as the specific needs of vulnerable audiences (Mair, 2021; Cavallin Toscani et al., 2024; Darcy et al., 2014). An inclusive approach

is essential to avoid reinforcing existing inequalities and to ensure alignment with broader principles of social justice, particularly in institutional contexts such as universities, where hybrid formats have been identified as facilitating greater inclusion by reducing geographical and financial barriers (Griffin et al., 2017; Santos et al., 2024). Another key aspect is stakeholder engagement, which is viewed as a form of social governance rather than just a communication tool. Studies have shown that effectively involving host communities, institutional partners, volunteers, suppliers and participants in the planning process can increase social legitimacy, reduce conflicts, encourage collective innovation and ensure that event objectives align with social interests (Collins et al., 2009; Mair, 2021; Fernandes et al., 2024). However, some authors caution that such involvement is often merely symbolic and fails to influence strategic decisions, potentially generating perceptions of greenwashing or mistrust (Griffin et al., 2017; Ye et al., 2020).

The concept of social legacy is also gaining attention. Defined as 'intangible or "soft" legacies', social legacy refers to the planned and unplanned, positive and negative, tangible and intangible structures created by and for an event (Thomson et al., 2019). Although social legacy is often associated with mega-events, contemporary studies argue that small- and medium-sized events can also produce significant social impacts, particularly when integrated with institutional contexts, the continuity of initiatives and organizational learning (Mair, 2021; Cavallin Toscani et al., 2024; Small, 2007). In the context of university or recurring events, such legacies frequently manifest as academic networks, institutional cultural changes, and the enhancement of sustainable skills. These legacies have the potential to influence long-term practices within host communities (Santos et al., 2023). Overall, the literature agrees that achieving social sustainability at events requires a structural and ethical approach based on equity, inclusion and organizational responsibility rather than merely implementing isolated actions (Mair, 2021). To consistently promote social well-being, reduce ecological footprints, and support the Sustainable Development Goals (SDGs), event organizers must integrate responsible labor practices, participatory governance mechanisms, social legacy objectives, and stakeholder perception responses into their strategic and operational decision-making processes (Ye et al., 2020; Santos et al., 2024).

2.6 Stakeholders perceptions of sustainability in events

Recent literature on sustainability in events recognizes that the effectiveness of environmental and social strategies depends not only on their technical design or alignment with standards such as ISO 20121, but also on how they are perceived, interpreted and accepted by different stakeholders involved in the event (Mair 202; Ye et al., 2020). This dimension is particularly relevant in small and medium-sized events, where limited resources and proximity between

stakeholders amplify the impact of individual perceptions (Cavallin Toscani et al., 2024; Boggia et al., 2018).

Organizers, institutional gatekeepers, suppliers, participants, sponsors and host communities are consistently identified as the primary stakeholders in sustainable event management (Collins et al., 2009; Mair, 2021). However, empirical studies reveal notable asymmetries in stakeholder perceptions: gatekeepers prioritise reputational risk and the preservation of event authenticity, while participants emphasise visible sustainability cues and the event's ecological image (Ye et al., 2020; Santos et al., 2023). These differences can generate tensions, as environmentally effective but less visible practices may be undervalued by participants, while symbolic or communicatively strong actions may be overvalued (Mair et al., 2021).

Communication plays a central role in shaping stakeholder perceptions, but it is subject to a tension between technical evidence and symbolic value. The credibility of sustainability initiatives and the evolution of event research depend on consistency between discourse, operational practice and participant experience (Getz & Page, 2016). Ye et al., (2020) demonstrates that organizers may oppose certain environmental practices for fear of undermining the perceived 'authenticity', emphasizing that sustainability is evaluated not only by metrics, but also by participants' cultural expectations and identity associations (Ye et al., 2020). From the organizers' perspective, the perception of sustainability is strongly influenced by organizational capacity, technical expertise, and prior experience (Laing, 2010). In small- and medium-sized events, stakeholder perceptions are particularly influential, as individual decisions have a greater proportional effect on environmental and social performance (Boggia et al., 2018; Cavallin Toscani et al., 2024). There is a consensus in the literature that sustainability is most effective when it is understood and accepted by stakeholders (Ye et al., 2020; Santos et al., 2023), perceived as authentic and consistent (Ye et al., 2020) and supported by robust indicators and systematic evaluation (Mair, 2021; Boggia et al., 2018). Therefore, stakeholder perception is a central element in the design of effective, participatory and context-specific sustainability strategies for university events and small- to medium-sized gatherings (Mair, 2021; Santos et al., 2024).

2.7 Criticism to current approaches and literature gaps

Despite the growing volume of research on sustainability in events, recent literature has taken an increasingly critical stance towards dominant approaches, highlighting conceptual, methodological and empirical limitations that constrain both academic progress and practical impact (Mair, 2021).

2.7.1 Symbolic sustainability, greenwashing and performative practices

The prominence of symbolic or performative sustainability initiatives, which are often associated with greenwashing, is a common theme in critical literature. Greenwashing is defined

as 'the intersection of two firm behaviors: poor environmental performance and positive communication about environmental performance. Mair (2021) argues that many event-related sustainability efforts are superficial, focusing on minor operational actions while overlooking the structural and strategic choices that generate most environmental impacts.

It further illustrates this issue from the perspective of institutional gatekeepers, demonstrating that decisions relating to sustainability are often influenced more by concerns regarding authenticity, brand equity, and audience expectations than by a methodological assessment of environmental consequences. This tendency highlights the risk that well-intentioned sustainability initiatives may be driven by symbolic or performative considerations rather than evidence-based environmental effectiveness.

2.7.2 Overemphasis on operational actions and neglect of systemic change

Another common criticism in the literature is the prevalence of operational-level interventions in research and practice. Mair (2021) notes that the concept of sustainability in events is often considered in isolation, rather than as a systemic transformation involving governance structures, business models and stakeholder relationships. This fragmented perspective limits the ability of events to meaningfully contribute to broader sustainability transitions.

Furthermore, Mair (2021) argues that much of the literature implicitly assumes that incremental improvements in operational efficiency will automatically lead to sustainability without critically examining whether the scale, frequency and growth-oriented logic of events are compatible with long-term sustainability objectives. This approach risks overstating the environmental and social benefits of operational interventions while overlooking the structural and strategic determinants of impact.

2.7.3 Lack of standardized metrics

A persistent limitation highlighted in literature is the lack of standardized, comparable metrics for assessing the sustainability performance of events. Although models such as METER (Measuring Events Through Environmental Research) offer valuable frameworks for operational evaluation (Boggia et al., 2018), there are still significant challenges regarding data availability, methodological complexity and contextual variability, especially for small and medium-sized events (Moraga et al., 2019; Piccerillo et al., 2023).

Mair (2021) observes that, in the absence of robust measurement frameworks, organizations may rely on unreliable metrics or engage in selective reporting to demonstrate sustainability success. This practice makes it difficult to differentiate between genuine reductions in environmental or social impacts and mere symbolic commitment to sustainability norms.

Furthermore, the social dimension of sustainability is underdeveloped due to a lack of indicators and evaluative tools, which limits the ability to assess social impacts with the same rigour as environmental outcomes (Griffin et al., 2017; Fernandes et al., 2024).

2.7.4 Underrepresentation of small and medium-sized events

Another significant gap in the literature is the disproportionate focus on mega-events in sustainability research. Although large-scale events offer greater visibility and more readily available data, some authors argue that this focus limits the generalizability of findings and marginalizes the realities of smaller events (Mair, 2021; Cavallin Toscani et al., 2024).

Cavallin Toscani et al. (2024) point out that smaller events make up the majority of the global events sector, yet they are underrepresented in empirical studies, especially those using rigorous environmental assessment methodologies. This is problematic because smaller events often operate under severe resource constraints, fragmented value chains and limited institutional support, all of which influence sustainability practices differently to those of larger events (Boggia et al., 2018; Piccerillo et al., 2023).

Furthermore, Mair (2021) argues that knowledge derived from mega-events may promote unrealistic expectations or inappropriate solutions when applied to smaller contexts. This could lead to superficial compliance and detract from context-sensitive sustainability strategies.

3. METHODOLOGY

3.1 Research Design

The current study takes a qualitative approach, which is appropriate given the exploratory nature of the research issue and the defined objectives. The study's main objective is to comprehend how small and medium-sized events could decrease their ecological footprint by using sustainable methods while taking into account environmental and social impacts. When investigating complex phenomena in real world situations, qualitative research is especially suitable since it enables the comprehension of meanings, perceptions and organizational processes (Creswell, 1994). This approach allows for the analysis of concepts considering their interpretation in specific contexts, which is essential in a study focused on sustainability practices in events, strongly influenced by institutional, operational and cultural factors (Ketokivi & Choi, 2014). Qualitative research is unique because it prioritizes a thorough comprehension of the processes under study rather than relying primarily on numerical data or strict deductive logics.

The chosen research method is the case study, which is seen to be especially appropriate for responding to “how” and “why” inquiries (Yin, 1984). When the boundaries between the phenomena and the background are unclear, the case study enables an extensive investigation of

a modern phenomenon within its actual context (Yin, 1984). This approach is complemented by Simons' (2009) perspective, which highlights the case study as a strategy to capture the complexity of specific instances in action, integrating the subjective and contextual perspectives of stakeholders involved. In this way, the case study serves as the research unit for analysis (Voss et al 2002), enabling the integration of various evidence sources and capturing the intricacy of sustainable-related organizational practices. ISEG is regarded in the current work as a university that organizes different small and medium-sized events during the year, which supports the significance of its choice as an empirical unit of analysis (Voss et al., 2002).

The study focuses on a single case study, and the small and medium-sized events that ISEG organizes are the subject of examination. These events are taken into consideration both in their current practice and in a transversal approach. A deeper level of analysis and a thorough comprehension of internal dynamics, decision-making procedures and organizational limitations related to the adoption of sustainable practices are made possible by selection of a particular case (Voss et al., 2002). Furthermore, when the goal of the study is to comprehend the connection between the organizational context and the phenomenon being examined, the decrease of the ecological footprint in events, the case study is especially appropriate.

3.2 Sample and Data Collection

The research employs qualitative data collection methods, with interviews being the primary empirical instrument. Literature recognizes that case study-based research benefits from the use of multiple data sources, including interviews, documents and observation, allowing for the analysis of information and the enhancement of result robustness (Eisenhardt, 1989; Voss et al., 2002).

Semi-structured interviews, which are regarded as one of the most reliable techniques for obtaining qualitative data in organizational studies, were used to collect primary data for this study (Lindgreen et al., 2020). According to De La Croix et al. (2018), this kind of interview combines a predetermined selection of questions with the flexibility required to explore new developing dimensions during the conversation. This flexibility is particularly relevant in an exploratory study, allowing for a deeper exploration of practices, perceptions and constraints associated with sustainability in events.

Three semi-structured interviews were conducted, all within the context of ISEG, involving the Marketing Department, the Sustainability Department and the Division of Logistics and Technical Support (DLAT), all linked to event organization. In order to guarantee the inclusion of the key decision-makers and implementers of sustainable practices in the contexts of events, the respondents were chosen using a purposive sample technique that was directed by the relevance of the roles performed to the topic under consideration. This functional diversity contributes to an

integrated understanding of current methods and their limitations by enabling the capture of many viewpoints on the planning, implementation and effect of events (Lindgreen et al., 2020). The number of interviews was determined based on functional relevance and the expectation of achieving minimal thematic saturation for exploratory objectives of the study.

The interviews were conducted based on a semi-structured guide from the research question, the study objectives and the main conceptual dimensions identified in the literature review. The use of an interview protocol helped ensure consistent coverage of relevant topics without compromising the flexibility of the qualitative approach (Lindgreen et al., 2020). In order to ensure an accurate representation of respondents' discourse, the interviews were recorded with the participants' informed consent and then fully transcribed. According to Yin (1984) and Voss et al. (2002), meticulous interview recording is considered necessary to guarantee the caliber and legitimacy of qualitative research, enabling systematic analysis and subsequent verification. Participants' anonymity and confidentiality were protected in accordance with ethical research guidelines.

3.3 Data Analysis

The analysis of the collected data followed an interpretative qualitative approach, based on systematic and iterative reading of the interview transcripts. The analysis was conducted through a thematic approach, combining deductive categories from the literature review with inductive categories emerging from the empirical data.

3.4 Methodological Rigor Without Software

Given the limited size of the empirical corpus (three semi-structured interviews) the use of computer-assisted qualitative data analysis software (CAQDAS) was not considered necessary. Qualitative software is particularly advantageous when dealing with large datasets, multiple coders or complex data management demands (Lewins & Silver, 2014; Miles et al., 2014). In this study, the reduced volume of data made it feasible to conduct a detailed manual analysis without compromising analytical depth or transparency.

Moreover, several methodological authors emphasize that CAQDAS does not “do” the analysis; it merely supports the organization, coding and retrieval of data (Bazeley, 2013; Lewins & Silver, 2014). The quality of qualitative analysis depends primarily on the researcher's interpretative work, rather than the specific tools used. Manual coding can even enhance familiarity with the material, foster reflexivity and support a more nuanced reading of meanings (Braun & Clarke, 2006; Creswell & Poth, 2018).

Manual procedures are also consistent with recommendations for rigorous qualitative analysis, provided that the coding process is systematic, documented and theoretically grounded (Lincoln

& Guba, 1985; Yardley, 2000). In this dissertation, the analytical steps followed established guidelines for thematic analysis (Braun & Clarke, 2006, 2021), ensuring methodological robustness even in the absence of dedicated software.

3.5 Considerations of Rigor and Ethics

From an ethical standpoint, all participants were informed about the objectives of the research, type of data collected and how this data would be used. Information consent was obtained before the interviews were conducted and the collected data were used exclusively for academic purposes, in accordance with ethical principles of social science research.

4. DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the empirical results obtained from three semi-structured interviews involving the department of Sustainability of ISEG, the department of Marketing of ISEG and the Logistics and Technical Support Division (DLAT) of ISEG.

This study addresses the following research question: How can small and medium-sized university events reduce their ecological footprint by adopting sustainable practices? A qualitative interpretative approach has been adopted to answer this question, in which the empirical data are analyzed thematically and subsequently integrated with the existing literature on sustainable event management. Accordingly, this chapter is structured to distinguish between presenting the empirical findings and critically interpreting them. Section 4.2 presents the analytical findings, while Sections 4.3 and 4.4 discuss these results in relation to relevant theoretical frameworks and prior research. The findings are interpreted based on various theoretical frameworks discussed in the literature review chapter. Based on these theoretical frameworks, the thematic analysis of the interviews identified a set of empirical dimensions that structure the presentation of the findings in this chapter. Particularly noteworthy is the METER model proposed by Boggia et al. (2018), which identifies nine operational categories relevant to sustainability of small and medium-sized events. Complementary, the perspective of Mair (2021) is employed, which distinguishes between systemic approaches to sustainability and micro-operational practices, framed within the Triple Bottom Line Model (Elkington, 1998). The analysis also incorporates contributions from Haupt and Hellweg (2019) on circularity, as well as recent studies that identify specific barriers to sustainability in smaller-scale events, namely resource limitations and measurement difficulties (Cavallin Toscani et al., 2024). Additionally, the literature on the environmental impacts of

events, particularly regarding transportation as the main emission hotspot (Collins et al., 2009; Piccerillo et al., 2023), serves as a central reference for the discussion.

From a methodological standpoint, the thematic analysis of the interviews allowed for the identification of four main emerging dimensions: the conception of sustainability in the context of university events; the operational practices adopted; the institutional experience associated with the sustainable management of events; and the limitations and operational challenges that affect the implementation of sustainable practices. These dimensions guide the presentation of the findings and ensure coherence between the empirical data, the study's objective and the research question.

4.2 Findings

This section presents the main empirical findings emerging from the thematic analysis of the semi-structured interviews conducted with ISEG employees. The presentation of the results favors a descriptive and analytical approach, using verbatim excerpts from the interviews to illustrate recurring patterns, without yet proceeding to an in-depth interpretation in light of the literature, which is developed in the Discussion section.

4.2.1 Understanding sustainability in the context of university events

Sustainability in the context of university events is understood by the interviewees as an essentially pragmatic concept, focused on the responsible management of mobilized resources and the adoption of more conscious daily behaviors. This vision is expressed in the following quote: "More care with the resources that are mobilized and used during the event, from energy to water to waste, always with common sense" (interviewee 1).

This definition highlights an operational approach, where sustainability is less associated with complex metrics or formal models and more with waste prevention and the rational use of resources such as energy, waste, water and catering. Sustainability is also perceived as an incremental and evolutionary process, which should be implemented progressively, in line with the level of awareness and institutional maturity.

Interviewee 1 also emphasized the importance of starting with the basic measures before increasing the level of demand: "Start with the basics and, as it evolves, raise the level of demand." (interviewee 1).

Beyond the perspective of Interviewee 1, the evolution in the internal understanding of the concept is also reflected in the other areas involved in event management. Interviewee 2, highlights a growing attention to reducing unnecessary materials and adopting digital solutions, recognizing that practices previously considered "normal", are now being questioned in light of sustainability criteria. This cultural shift is reflected, for example, in the systematic reduction of

printed materials, replaced by digital solutions such as QR codes, even when initial requests foresee large quantities of paper programs. Complementary, Interviewee 3 associates sustainability with a more efficient use of available resources, even though framed by budgetary limitations and public procurement procedures, demonstrating that the concept has been incorporated into everyday operational decisions.

From the analysis of the interviews, the three dimensions of Triple Bottom Line implicitly emerge. The environmental dimension takes precedence, being associated with the management of resources, waste, energy and catering. The social dimension manifests itself through concerns about the accessibility of infrastructures for different audiences. The economic dimension, although less emphasized discursively, emerges as a structural constraint, mainly referred by Interviewee 3.

This Conception of sustainability as a pragmatic, gradual process conditioned by institutional context forms the basis for the implementation of the operational practices analyzed in the next section, guiding concrete choices in the planning and management of university events.

4.2.2 Implementation of sustainable practices

This subsection describes the concrete sustainable practices identified from the thematic analysis of interviews conducted. The practices are organized into five operational dimensions: catering and water management; materials and communication; energy and infrastructure; transportation and mobility; waste management. The presentation of the results is exclusively descriptive and based on empirical evidence.

- **Catering and water management**

All interviewees identified catering as a key area of operational impact in the events organized by ISEG. Interviewee 1 explicitly stated that catering had the biggest impact, as shown in the following quote: “The biggest impact it has is in relation to catering”

In response to this, several formal practices have been implemented to enhance sustainability. Interviewees reported that the catering service specifications explicitly prohibit the use of plastic and disposable materials. Consequently, reusable dishes, such as porcelain plates, glass cups and metal cutlery, are systematically employed at events. Providing individual plastic bottles for speakers has also been replaced with reusable glass pitchers, reflecting the institution's commitment to reducing single-use plastics.

Another widely adopted practice is the careful control of food quantities. Interviewee 1 emphasized the importance of accurately estimating the number of participants to minimize food waste. Together, these measures demonstrate how operational procedures in catering are being adapted to reduce environmental impact while maintaining event functionality.

- **Material management and communication**

The replacement of printed materials with digital solutions is becoming a common practice in event organization. The interviewees describe an institutional preference for digital communication, particularly the use of QR codes to access programs, information, and participant lists.

One recurring example mentioned in the interviews is the initial request for the large-scale printing of event programs, which are later amended, as mentioned by Interviewee 1: “a request was made for the program to be printed, with 300 copies”. This illustrates a systematic reduction in the volume of printed materials, with only a small number of physical copies remaining.

Regarding physical materials used at events, such as signage and visual aids, the interviewees said that these are designed to be more durable and reusable. When this is not possible, the materials are sent for proper waste separation, as stated by interviewee 3: “Materials are always designed to be more durable so that they can be reused. When reuse is not possible, they are disposed of appropriately and in accordance with proper procedures”.

- **Energy and infrastructure**

With regard to energy, Interviewee 1 mentions an institutional monitoring system for electricity consumption, which takes records every 15 minutes, confirmed by Sustainability department: “We have a monitoring model with data recorded at 15-minute intervals.” (interviewee 1). This system enables consumption peaks associated with certain periods of the year and major events, such as ISEG’s anniversary, to be identified.

Interviewee 1 also mentions that the majority of institution's electricity comes from renewable sources: “We already procure the majority of our energy from renewable sources and also monitor water use and consumption” However, the interviewees clarify that energy consumption is not monitored at the level of each individual event but analyzed only in aggregate at the institutional level.

- **Transportation and mobility**

In the field of transportation, the identified practices are primarily communication-based. Interviewee 1 states that invitations and communications for events include information on sustainable mobility options, such as public transport, bike parks and electric bike charging points. There is also an explicit message encouraging people to reduce their use of private vehicles. However, the interviewees confirm that data on participants' modes of transport are not collected. When asked about difficulties in measuring the ecological footprint, interviewee 1 said: “First, transportation, because in order to calculate the ecological footprint of any event, you need to map how each person traveled to the event at check-in.”

- **Waste management**

Regarding waste management, the interviewees explained that selective separation is available upon request from the Division of Logistics and Technical Support, which provides the

appropriate containers for events. Since 2025, ISEG has started weighing waste as part of its institutional circularity policy. However, the collected waste is accounted for as the institution's overall waste rather than as waste from individual events, which interviewee 3 confirmed: "From this year on, now that the scales are also installed, ISEG begins carrying out the weighing." Interviewee 1 added: "The collected waste is separated by category and then it will be weighed as waste from ISEG, not from the event."

In summary, the empirical results demonstrate a consistent set of sustainable practices implemented at ISEG events, particularly in areas that are directly controllable by the organization. However, clear limitations are observed in the monitoring of specific events, particularly with regard to energy, transport and waste. This aspect will be discussed in more detail in the following section. Nevertheless, these limitations are somewhat justifiable given that ISEG is an educational institution and not an event organization company

4.2.3 Institutional experience

ISEG's institutional experience of organizing and managing events is rooted in a formal, hierarchical structure designed for high volumes of activity, as stated by interviewee 2: "There are many events, ranging from small events, such as small seminars, to international conferences.". According to empirical data collected through interviews, the institution organizes around 380 events per year ("ISEG hosts around 380 events per year.", interviewee 1). Only around five events per year are classified as large-scale, including the ISEG anniversary, the Career Forum and the Diploma Award Ceremonies (quote).

The operational process follows a well-defined institutional flow involving the identification of the event need, submission of a request, approval by the President and subsequent development of the public procurement procedure by the Division of Logistics and Technical Support (DLAT) in accordance with public service regulations. This was explained by interviewee 3: "This information is submitted to the Management Board, namely to the body headed by the President. If the opinion is positive, it is forwarded to the procurement area. We then prepare the documentation for the contracting decision and submit all these documents for authorization by the competent body with the authority to contract, which in the case of ISEG is the President." Within this framework, DLAT provides an operational checklist incorporating the Sustainable Events Guide, developed in 2025. Although the guide is distributed alongside the space reservation and logistical support processes, it is not mandatory and primarily functions as a guidance tool, as interviewee highlights: "It is a guide. It is not mandatory. It is much more a tool for awareness-raising and organization."

At the institutional level, ISEG holds various certifications and recognitions that indirectly influence event planning and execution. Interviewees 1 and 2 mentioned certifications such as

ISO 9001 and ISO 14001, as well as the Triple Crown recognition. These reinforce a culture oriented towards quality, environmental management and institutional reputation. ISO 20121 is a technical standard for sustainable event management that is recognized internally, but it is considered unsuitable for most small-scale events: 'ISO 20121 is a technical reference, but for small events, it is an excessive burden' (Interviewee 1). Nevertheless, the existence of an ISEG Sustainability Strategy and the production of an annual sustainability report provide a framework that legitimizes sustainable practices, even when they are not formally certified. Another distinctive feature of ISEG is its systematic engagement of student volunteers, who provide operational support and help raise awareness of sustainability.

The cultural and evolutionary dimensions of institutional experience are also evident in the data. Interviewees 1 and 2 described a continuous process of internal awareness that began in 2019 and progressively consolidated until 2026: “Since 2019, when this project started at ISEG, it has certainly delivered very positive results” (interviewee 1) and “One of the innovations we have since introduced was the launch of Family Days” (interviewee 2)

This is reflected in increased attention from teams involved in event organization. Departments such as Marketing and DLAT now proactively identify and flag requests that do not adhere to sustainable practices, eliminating the need for external intervention. This cultural shift is attributed to the ongoing work of the Sustainability Department and the reputational pressure faced by educational institutions as agents of change, as emphasized by interviewee 1: “We already observe, for example, that the marketing team is much more aware of these issues... When I speak with DLAT, it is the same.”. The use of student volunteers further reinforces this culture by integrating the academic community and providing operational support and a practical means of raising awareness, as stated by interviewee 3: “We have volunteers, the students, who also help us a lot”.

Taken together, these structural and cultural components illustrate an institutional experience characterized by community involvement, progressive organizational learning and a strategic orientation towards sustainability.

4.2.4 Limitations

Despite ISEG's consistent implementation of sustainable practices in its events, the interviewees identified six structural and operational limitations that hinder the expansion and systematization of these practices. Thematic analysis of the interviews revealed barriers relating to environmental monitoring, market maturity, the availability of supplier data, the absence of specialized human resources, the public sector's legal framework, and the lack of data on participants' transportation.

The first limitation concerns the complexity of environmental monitoring at the event level. The interviewees noted the practical challenges of systematically mapping all consumption and impact

associated with individual events and distinguishing them from the institution's routine operations. Interviewee 1 emphasized this difficulty: "It's a brutal job to map everything that was consumed at an event: transportation, energy per event, waste." Addressing this task requires cross-referencing data from multiple areas, including logistics, accounting, suppliers and participants, which significantly increases the operational burden associated with monitoring.

The second barrier relates to the immaturity of the market for sustainable event services. Interviewee 1 noted that many service providers, particularly in the catering sector, lack the tools or practices to measure or report environmental impacts, as stated by the following quotes: "Catering suppliers do not measure the ecological footprint", "the market is still not ready (for sustainable events)". This external constraint limits the institution's ability to conduct more comprehensive environmental assessments, even when there is organizational willingness to do so.

The third barrier is closely linked to this and involves the lack of data regarding the indirect emissions from suppliers. Interviewee 1 emphasized that information on the emissions associated with products and services acquired for events, particularly food, is largely unavailable. Without such data, it is not possible to evaluate the environmental impact of events thoroughly.

The fourth barrier is the lack of specialized human resources and sufficient time to implement detailed measurement procedures. Interviewee 1 highlighted the difficulty of distinguishing event-specific consumption from the institution's general operations and emphasized the technical proficiency necessary for calculating the carbon footprint of individual events: "a carbon specialist was needed to do the calculations per event" (Interviewee 1). The institution's accounting systems do not allow event-specific data to be disaggregated, and the lack of personnel reinforces the human resource-intensive nature of comprehensive environmental monitoring.

The fifth barrier arises from legal constraints associated with the institution's public status. Even if it were possible to calculate the carbon footprint of events, the institution lacks the legal authority to offset emissions by purchasing carbon credits. As Interviewee 3 stated: "Public institutions cannot buy carbon credits". This legal framework limits the options available for emission-neutral strategies.

Finally, the sixth barrier relates to the absence of monitoring of participants' travel methods. Although sustainable mobility options are communicated through invitations and event materials, the institution does not collect data on participants' actual transport choices, which limits the ability to assess and manage transport-related emissions.

Together, these six barriers demonstrate the structural and operational challenges that hinder the adoption and systematic implementation of sustainable practices at small and medium-sized university events.

4.3 Discussion

This section provides a systematic comparison of the empirical results with established theoretical frameworks, emphasizing the areas of convergence and divergence between theory and practice regarding event sustainability.

- **Convergence between theory and practice**

One of the most evident convergences concerns the systematic use of reusable dishes at events organized by ISEG. According to interviewee 1, the use of reusable dishes has been institutionalized since 2019, and it is a currently standard requirement in catering services. This practice exemplifies the 'catering' category identified in the METER model (Boggia et al., 2018). At the same time, this option operationalizes direct reuse (Haupt & Hellweg, 2019), by preventing waste generation at the source, and is aligned with results of Hottle et al. (2015), which demonstrate significant reductions in environmental impact in zero waste-oriented events.

The digitization of materials and the use of QR codes are another relevant area of convergence between practice and theory. Both Interviewee 1 and Interviewee 2 described the systematic replacement of printed programs with digital formats. This approach aligns with the conceptual frameworks proposed by Moraga et al. (2019) and Franco et al. (2021), which emphasize minimizing physical materials and enhancing information flow traceability. The ISEG case study demonstrates the practical application of circular economy principles in a broad context, going beyond the more traditional practices identified in earlier studies. While the events literature continues to address digitalization in a fragmented manner, the findings suggest a more integrated and operationalized adoption of these principles in the context of university events.

In the field of waste management, empirical results indicate a strong convergence with event literature. Interviewee 1 states that ISEG events follow the logic of complete waste separation, with the explicit goal of avoiding landfill disposal. This practice is in line with the results presented by Piccerillo et al. (2023), as well as with the practical recommendations of Griffin et al. (2017) on sustainable event management. The ISEG case therefore demonstrates that near-zero landfill standards can be achieved even in small-scale and high-frequency events.

The use of volunteers as a mechanism for awareness and training constitutes another clear convergence. According to interviewee 3, ISEG annually involves student volunteers in tasks supporting events. This practice exemplifies the social dimension of sustainability (Elkington, 1998), confirming Mair's (2021) perspective on stakeholder engagement and aligning with Ye et al. (2020), who link participant awareness to higher commitment to sustainable behaviors.

The location of events on the university campus also emerges as a relevant structural convergence. Interviewee 1 highlights that most events take place on campus, significantly reducing the need for additional travel. This characteristic empirically confirms the conceptual model of Mair and Jago (2010), which identifies location as key factor in reducing the

environmental impact of business events, giving ISEG a clear structural advantage in the context of sustainability.

Regarding the selection of local suppliers, Interviewee 3 expressed a preference for prioritizing those located within a 50-kilometre radius. They acknowledged the potential benefits of this approach, despite facing practical constraints imposed by public institution regulations. This approach is consistent with the findings of Fernandes et al. (2024) regarding social sustainability in events, which emphasize the positive impact of local sourcing on the regional economy and the strengthening of proximity-based supply chains. Additionally, the analysis reveals a strong alignment with the principles of the circular economy, particularly with regard to material reuse. Interviewee 3 explained that materials such as signage and visual aids are designed for repeated use at multiple events. This demonstrates that circular economy concepts can be effectively implemented in the context of university events, supporting the theoretical frameworks proposed by Haupt and Hellweg (2019) and Franco et al. (2021). Similarly, using reusable dishes, glassware and cutlery for catering reduces single-use waste and reinforces sustainable operational practices.

Finally, the presence of sustainability checklists and operational guides, as mentioned by Interviewee 1, highlights the importance of systematizing sustainable practices, as emphasized in the literature. This approach is consistent with the practical guidelines suggested by Griffin et al. (2017) and Raj et al. (2013), which demonstrate that formalizing procedures improves the consistency and replicability of adopted practices.

In summary, the ISEG case empirically confirms eight out of the nine categories identified in the METER model (Boggia et al., 2018) and demonstrates the practical operationalization of circular economy principles (Haupt & Hellweg, 2019). Furthermore, it positions university events as arenas of institutional leadership in sustainability. In several respects, the case even anticipates international benchmarks documented in the literature, as highlighted by Piccerillo et al. (2023), indicating a proactive and forward-thinking approach to sustainable event management.

- **Divergence between theory and practice**

These divergences do not constitute institutional failures, but rather structural limitations of the theory, often designed for one-off, large-scale events with dedicated resources, as highlighted by Cavallin Toscani et al. (2024) and Getz and Page (2016).

The first major difference is the lack of formal, quantitative monitoring of the environmental impact of events. As one Interviewee acknowledged, that ISEG does not conduct event assessments. The METER model, which was proposed by Boggia et al. (2018), presupposes the systematic measurement of nine operational categories through quantifiable indicators. However, in the case of ISEG, this requirement is impractical and is replaced by qualitative control instruments instead. As Interviewee 1 explained, existing tools primarily function as non-mandatory checklists and are “not measured in a quantitative way”. This divergence empirically supports Mair's (2021) critique that sustainability in event management often remains at a

normative or procedural level, lacking the operational capacity for continuous and standardized measurement. Such limitations are particularly evident in institutional contexts characterized by limited resources, where the implementation of comprehensive quantitative monitoring systems may be impractical.

The second major divergence identified in the analysis relates to the practical difficulties of measuring indirect emissions, especially those associated with catering services. Although recent studies have demonstrated the feasibility of applying comprehensive life cycle assessment (LCA) methodologies to university events (Piccerillo et al., 2023), empirical evidence from ISEG suggests that such approaches are largely impracticable in the Portuguese context. This is primarily due to a lack of market maturity, insufficient supplier-level environmental data and the absence of standardized Scope 3 emissions reporting. These constraints reinforce the caution raised by Cavallin Toscani et al. (2024) regarding uncritically transferring advanced methodological frameworks to organizational contexts lacking the necessary technical and informational infrastructure.

Another difference relates to the applicability of standardized sustainability frameworks, such as ISO 20121, which were originally designed for large-scale, high-profile events. The overwhelming majority of ISEG events are small-scale, with only a limited number of large events organized annually. This scale mismatch makes the application of frameworks developed for festivals or mega-events operationally unfeasible, thus confirming Laing and Frost's (2010) critique of 'one-size-fits-all' approaches to sustainable event management. Furthermore, the high frequency of events creates significant operational pressure, which further constrains the feasibility of implementing resource-intensive sustainability standards.

While much of the literature conceptualizes events as isolated occurrences, the ISEG case reveals a markedly different reality, characterized by an average of more than one event per day. This frequency creates a substantial cumulative environmental impact that remains invisible within traditional event sustainability models. In this context, the absence of event-by-event quantitative measurement does not indicate a lack of institutional commitment to sustainability; rather, it reflects a pragmatic adaptation to the scale and rhythm of operations. This finding supports Getz and Page's (2016) call for greater contextual sensitivity in event research, particularly in settings with continuous event activity.

At ISEG, sustainability management is therefore primarily embedded in qualitative, procedural and cultural processes, rather than in formalized quantitative assessments. Although post-event evaluations are conducted, environmental performance metrics are not systematically included. Nevertheless, the internalization of sustainable practices is evident through the routine use of digital communication tools, standardized briefings for core events and increased sustainability awareness across organizational units. Such cultural and organizational learning processes cannot easily be captured by numerical indicators or technical models, such as those proposed by Haupt

and Hellweg (2019). This corroborates Mair's (2021) critique of overly technocratic approaches to sustainability, which overlook the informal and cultural dimensions of change.

Despite the clear institutional intention to reinforce social sustainability by prioritizing local suppliers, there are significant practical limitations. Public procurement rules and structural dependence on outsourced services restrict the ability to systematically favor proximity-based suppliers, resulting in a persistent gap between social sustainability objectives and logistical feasibility. These findings align with those of Fernandes et al. (2024), who also identify tensions between social intentions and operational constraints in public-sector event contexts.

Dependence on external suppliers also limits the implementation of circular economy principles. Although efforts are made to reuse communication materials and visual assets internally, the main physical flows associated with events, such as furniture, technical equipment and catering infrastructure, remain outside the institution's direct control. Consequently, the application of advanced circularity indicators, which require organizational control over material cycles (Haupt & Hellweg, 2019), is significantly constrained. This highlights a structural discrepancy between the theoretical principles of circular economy frameworks and their practical implementation in public university settings, which are characterized by legal constraints and outsourcing dependencies.

Overall, the ISEG case study shows that dominant sustainability frameworks such as METER, ISO 20121 and LCA methodologies are designed primarily for one-off, large-scale events. In a context characterized by approximately 370 small- and medium-sized events per year, the limitations of these models become evident. Importantly, this divergence does not reflect institutional failure but rather highlights structural limitations within existing theoretical approaches. These findings corroborate critiques by Mair (2021), Getz and Page (2016) and Cavallin Toscani et al. (2024) and highlight the need to develop new conceptual models adapted to high-frequency, small-scale and institutionally embedded event settings. In this sense, university events not only emerge as objects of analysis, but also as potential laboratories for innovative theoretical contributions to sustainable event management.

- **Discussion of the barriers**

Limitations in human and operational resources were identified as the most prevalent barrier to implementing sustainability practices at events. Interview data suggest that environmental monitoring and coordination across functional areas, such as logistics, financial management, supplier engagement and participant interaction, are considered labor-intensive tasks that often exceed the organizational capacity of event programs. These findings corroborate literature highlighting staffing and operational capacity constraints as critical impediments to effective sustainability implementation (Cavallin Toscani et al., 2024; Mair et al., 2010). In the context of institutional and academic events, researchers have also observed that sustainability is often implemented in a fragmented or partial manner due to structural and administrative limitations

within organizations (Mair, 2021; Bramwell & Lane, 2011). Furthermore, scholar-practitioners have observed that resource constraints can lead to a reliance on informal sustainability practices rather than formalized, systematic approaches (Jones, 2014), which reinforces the conclusion that human and operational capacity is a determining factor in sustainable event management.

A second widely recognized barrier relates to the inaccessibility of Scope 3 emissions data within event supply chains. According to interviewees, key suppliers such as catering firms do not measure or disclose ecological footprint data. Dependence on external services, including furniture outsourcing, further complicates the process of conducting a comprehensive environmental assessment. This is consistent with event literature that identifies supplier dependence and supply chain opacity as structural obstacles to sustainability, particularly with regard to measuring environmental performance (Mair et al., 2010; Yawar & Seuring, 2017). Research in sustainable supply chain management demonstrates how a lack of transparency and data integration across the value chain undermines efforts to quantify and reduce environmental impacts (Seuring & Müller, 2008; Ahi & Searcy, 2013), thus reinforcing these barriers.

A third confirmed barrier is the immaturity of the national market for sustainable events. Interviewees perceived those key sectors, particularly the catering industry, were not ready to engage with sustainability requirements. This perception is supported by previous research showing that less mature event markets have weaker sustainability practices and lower rates of environmental innovation adoption (Laing & Frost, 2010; Mair et al., 2010). Furthermore, Getz and Page (2016) emphasize that, in less consolidated markets, the adoption of sustainable event practices by organizations is constrained by limited vendor expertise, minimal client demand for sustainability attributes and underdeveloped sustainability infrastructures.

A fourth barrier relates to the legal and administrative constraints associated with the status of public institutions. Interviewees reported that Portuguese public entities are prohibited from purchasing carbon credits, which makes certain mitigation strategies unfeasible, even when emissions have been quantified. While this particular restriction is not widely discussed in event management research, it is consistent with broader findings that regulatory frameworks and institutional mandates can significantly limit the scope of organizational sustainability initiatives, particularly in public or quasi-public contexts (Getz & Page, 2016). Such constraints highlight the importance of contextualizing sustainability strategies within legal and policy environments.

External logistical dependence is another significant barrier. Interviewees noted limitations in material reuse and storage capacity, particularly when furniture and equipment have to be outsourced. This finding is consistent with literature that highlights the challenges of managing complex and fragmented supply chains in sustainable event settings (Yawar & Seuring, 2017). Furthermore, literature on the implementation of the circular economy in events indicates that logistical constraints, such as a lack of infrastructure for storage, repair or remanufacturing, hinder

the adoption of advanced circularity indicators and practices (Franco et al., 2021). This emphasizes the practical limitations of circular strategies in everyday operations.

Finally, the non-mandatory nature of sustainability tools, such as guides and checklists, was identified as a cultural and organizational barrier. While interviewees acknowledged the existence of sustainability checklists, they noted their voluntary application and the absence of environmental evaluation in post-event assessment. This voluntary approach reinforces analyses in the literature identifying cultural resistance, the absence of formalized accountability mechanisms and weak regulatory drivers as significant obstacles to the integration of sustainability on a systemic level (Mair, 2021; Hall, 2014). Scholars argue that, without institutionalized requirements and performance metrics, sustainability will remain peripheral to operational priorities, particularly when immediate operational demands conflict with long-term environmental goals (Bramwell & Lane, 2011; Getz & Andersson, 2010).

In summary, the six barriers identified through empirical analysis are strongly corroborated by academic literature, confirming that these constraints are not unique to the ISEG case, but rather reflect the widely recognized challenges of sustainable event management. While the ISEG case highlights institutional-level constraints that are common to small- and medium-scale, high-frequency events, it also draws attention to context-specific limitations within the Portuguese public sector. Together, these insights reinforce the need for theoretical models of event sustainability that better reflect the organizational realities and structural conditions of institutional settings.

4.4 Gaps in existing frameworks

Despite the convergences and divergences identified in the preceding analysis, examination of the ISEG case reveals theoretical gaps not adequately addressed by dominant sustainable event management frameworks. These gaps are not due to shortcomings in institutional implementation but rather stem from structural omissions in the literature when existing models are applied to small- and medium-sized university events that occur frequently and are embedded within public institutions. Accordingly, this subsection presents a critical triangulation of empirical findings and theory to identify this study's original contributions to research on sustainable event management.

Much of the literature on sustainability in events, including the METER model (Boggia et al., 2018) and life cycle assessment (LCA)-based approaches (Piccerillo et al., 2023), implicitly assumes that environmental impacts can be monitored and assessed on an event-by-event basis. However, this assumption does not align with the operational reality at ISEG, where approximately 380 events are organized per year, around 95% of which are small-scale. In such

a high-frequency context, systematically applying individual event-level environmental assessments becomes impractical.

This gap is evident in institutional practice. As noted by Interviewee 2, post-event evaluations are conducted but do not include environmental assessments. In other words, although there are formal mechanisms for reflection and continuous improvement, these do not result in systematic environmental metrics. Consequently, literature tends to underestimate the cumulative operational burden associated with environmental monitoring in high-frequency event settings, particularly within public institutions characterized by limited human and technical resources. Consequently, there is a lack of conceptual and methodological development in models capable of capturing daily or weekly cumulative environmental impacts as opposed to isolated, event-based assessments.

Another significant theoretical gap concerns the assumption of organizational control over suppliers and procurement processes, which underpins standards such as ISO 20121. However, empirical evidence from ISEG challenges this assumption. Interviewee 3 emphasized that public procurement regulations strongly influence purchasing decisions, with economic criteria often taking precedence over environmental considerations. Interviewee 1 reinforced this limitation, highlighting the technical implications of limited contractual power and noting that the absence of supplier-level data makes environmental impact assessment particularly challenging. These constraints reveal a mismatch between dominant sustainability frameworks and the legal and institutional realities of public-sector organizations.

Moreover, international literature rarely takes into account national legal specifics that constrain sustainability strategies. In the Portuguese public sector, for example, the legal impossibility of public institutions purchasing carbon credits is a structural limitation that is not addressed by existing frameworks. This underscores the need for sustainability models that acknowledge differentiated legal regimes rather than assuming universal governance and market conditions.

Furthermore, approaches grounded in circular economy principles and LCA methodologies (Haupt & Hellweg, 2019; Piccerillo et al., 2023) rely on detailed data being available across the value chain, especially regarding Scope 3 emissions. However, empirical findings indicate that supplier markets in the studied context remain environmentally immature. Interviewee 2 noted that, despite efforts to select suppliers perceived as sustainable, it is not possible to have full oversight of their environmental practices. Similarly, Interviewee 3 pointed out that many suppliers do not commit to formal environmental certifications. This exposes a gap in literature, which predominantly focuses on mega-events or organizations with mature, transparent supply chains. This limits its applicability to small- and medium-sized university events.

Finally, a conceptual gap emerges between the literature's emphasis on rigid quantitative indicators (Cavallin Toscani et al., 2024; Mair, 2021) and how sustainability is actually implemented at ISEG. Empirical evidence emphasizes the pivotal role of cultural awareness,

organizational learning and routine behaviors in promoting sustainable practices. As Interviewee 2 noted, teams have become significantly more aware over time, leading to the intuitive adoption of practices such as automatically using QR codes. While these forms of incremental, culturally embedded change are essential to everyday sustainability performance, they are poorly captured by existing models that prioritize standardized, comparable metrics.

Consequently, literature lacks hybrid frameworks capable of integrating qualitative dimensions, such as behavioral change, institutional routines and social norms, with simplified environmental metrics adapted to the scale and frequency of small and medium-sized events.

In summary, the findings demonstrate that current sustainability frameworks are not well adapted to the realities of high-frequency, small and medium-sized events within public institutions. The ISEG case study reveals the cumulative nature of environmental impacts in recurring university events, and it reinforces the need for alternative, context-sensitive approaches to sustainability management and highlights the need for context-sensitive approaches that combine cultural awareness, qualitative instruments and simplified environmental proxies. This study therefore contributes to answering the research question and advancing the theoretical understanding of sustainable event management in institutional and educational settings.

4.5 Synthesis of findings and discussion

The analysis of ISEG's event management practices reveals a nuanced picture of the implementation of sustainability in small and medium-sized university events. Although there are significant convergences between empirical practices and established theoretical frameworks, particularly in operational areas such as catering, waste management, digitalization and stakeholder engagement, structural divergences persist in areas that require quantitative monitoring, availability of Scope 3 data and applicability of formal certifications.

These divergences are systematically validated by literature as barriers characteristic of high-frequency institutional contexts with limited resources, while revealing five specific theoretical gaps: inadequacy of event-by-event monitoring models for high-frequency cumulative scenarios, constraints in public procurement, national legal specificities, immaturity of Scope 3 data and underrepresentation of the cultural and qualitative dimensions of sustainability.

Collectively, these results demonstrate that ISEG is a paradigmatic case of pragmatic adaptation of sustainability, in which operational leadership coexists with structural limitations inherent to the institutional context. This duality highlights both the practical progress achieved, and the theoretical refinements still needed to develop comprehensive sustainability frameworks applicable to university event ecosystems.

5. CONCLUSIONS

5.1 Overall conclusions

This study addressed the research question: How can small and medium-sized university events reduce their ecological footprint through sustainable practices? The case of ISEG reveals that pragmatic operational leadership coexists with structural limitations, while confirming convergences with established frameworks and the need for context-sensitive theoretical adaptations.

5.2 Theoretical implications

The ISEG case study offers five fundamental theoretical contributions to the literature on sustainable event management, addressing critical gaps identified in existing frameworks:

First, this research questions the dominant assumption of event-by-event monitoring underlying models such as METER (Boggia et al., 2018) and LCA approaches (Piccerillo et al., 2023). The reality of ISEG, which hosts around 380 events per year, demonstrates that this type of granular assessment is operationally unfeasible in high-frequency institutional contexts. These results imply that theoretical models should incorporate cumulative monitoring frameworks capable of capturing the aggregate environmental impact of continuous event activity, rather than isolated occurrences.

Secondly, the study reveals the limitations of frameworks that assume organizational control over supply chain sustainability. Standards such as ISO 20121 assume autonomy in contracting that does not exist in public institutions subject to Portuguese public procurement legislation. This structural limitation implies the need for theoretical models that differentiate between governance regimes and procurement contexts, rather than assuming a universal influence on the supply chain.

Thirdly, national legal specificities absent from international literature emerge as critical theoretical gap. Legal prohibition on Portuguese public institutions acquiring carbon credits represents a structural limitation not addressed in the dominant frameworks. These results suggest that sustainability models should integrate regulatory constraints specific to each jurisdiction in order to maintain their practical applicability in diverse institutional contexts.

Fourthly, the empirical immaturity of Scope 3 data availability calls into question the methodological foundations of circularity and LCA approaches (Haupt & Hellweg, 2019; Piccerillo et al., 2023). ISEG's experience demonstrates that advanced theoretical constructions presuppose a maturity of the supply chain that is absent in many national contexts. This implies the development of proxy-based assessment methodologies adapted to data-scarce environments.

Finally, the study highlights a conceptual gap between the rigid quantitative metrics emphasized in literature (Cavallin Toscani et al., 2024; Mair, 2021) and the cultural and qualitative processes

that drive sustainability at ISEG. Such practices demonstrate incremental processes of organizational learning that are poorly captured by existing indicator-based models. These results advocate the development of hybrid theoretical frameworks that integrate behavioral and cultural dimensions with simplified environmental metrics, particularly suited to small and medium-sized events.

Overall, these theoretical implications position university events as laboratories for advancing the theory of sustainable event management beyond large-scale paradigms, contributing contextualized refinements to established frameworks.

5.3 Managerial implications

The ISEG case study provides event managers operating in high-frequency, resource-constrained institutional contexts with concrete, actionable recommendations. These recommendations are not only relevant for university events, but also for other organizations facing similar operational and structural constraints.

1. Prioritize cumulative environmental monitoring over event-by-event assessment.

Traditional models, such as METER (Boggia et al., 2018), require granular measurement for each event, but this is impractical for organizations managing over 370 small- to medium-sized events per year. Managers should implement aggregate monitoring systems that capture the

institution-wide environmental impact of ongoing event activity. Monitoring should focus on high-impact categories such as catering, energy use, transportation and waste generation rather than attempting full life cycle assessments for every event.

2. Develop pragmatic Scope 3 proxies adapted to market immaturity.

The unavailability of supplier-level environmental data is a structural constraint rather than an institutional failure. Managers should establish simplified emission factors for common event services (e.g. catering, audio-visual services and printing) based on national averages. This approach enables meaningful environmental accounting within the limits of public procurement regulations, without requiring detailed disclosures from suppliers which are often impractical.

3. Scale sustainability standards to event characteristics.

Standards such as ISO 20121, which are designed for large-scale events, can pose an operational burden for smaller, more frequent university events. Event organizers should create simplified operational checklists based on core principles that focus on directly

controllable practices, deferring resource-intensive requirements to larger or less frequent events.

4. Use cultural awareness alongside formal metrics.

The ISEG case study shows that behavioral change often occurs before quantitative measurement is possible. Managers should promote organizational learning by holding mandatory sustainability briefings, providing peer-to-peer training and setting progressive goals. They should recognize that practices embedded in a culture are more likely to be adopted in the long term than metrics imposed hierarchically in contexts where resources are limited.

5. Advocate for reforms in public procurement processes.

Current regulations prioritize price over environmental performance and therefore systematically limit sustainable event management. University event managers should collaborate with procurement offices to integrate minimum sustainability requirements into service specifications, and document case studies that demonstrate the long-term cost-effectiveness of sustainable practices. These efforts can support institutional and policy-level reform.

Social implications

Adopting these recommendations also has broader social and institutional implications. By embedding sustainability into routine operational practices, universities can demonstrate responsible resource use, environmental stewardship and stakeholder engagement, thereby strengthening their role as agents of change. Furthermore, encouraging sustainability-oriented behaviors among staff and students can have a wider societal impact, influencing broader societal norms and promoting the incorporation of environmental awareness into educational programs and community initiatives.

5.4 Limitations of the study

This research has several methodological limitations that should be considered when interpreting the findings.

Firstly, the study uses a single-case study approach, focusing exclusively on ISEG. While this allows for an in-depth analysis of institutional practices and contextual factors, it limits the generalizability of the results to other universities, event types or national frameworks. Patterns observed in private organizations, commercial event promoters or

universities operating in different cultural or regulatory environments may differ significantly.

These limitations are intrinsic to the exploratory and qualitative nature of the study. They highlight opportunities for future research involving broader samples, comparative case studies, multi-method approaches and quantitative validation, which could enhance the generalizability and applicability of insights into sustainable event management.

Secondly, the empirical data was collected through three semi-structured interviews with representatives from the Sustainability, Marketing and Logistics departments. While these interviews provided comprehensive insights into operational practices and institutional perspectives, the small sample size restricts the ability to capture potential internal divergences or conflicting viewpoints. A broader range of perspectives may have revealed additional nuances in the adoption of sustainable practices.

Thirdly, the study does not include any quantitative measurements of environmental performance, such as carbon footprint calculations, waste audits or detailed resource consumption metrics. This reflects the operational constraints documented at ISEG, where systematic monitoring is not conducted at the level of individual events. However, the absence of quantitative data means that the environmental impact of the adopted practices cannot be empirically validated, so conclusions are based primarily on reported behaviors and qualitative assessment.

Fourthly, focusing on the Portuguese public university context, including specific public procurement regulations and the maturity of the national supplier market, limits the transferability of the findings to jurisdictions with different legal frameworks or more developed sustainable

event ecosystems. Practices that are feasible within ISEG may not be applicable to contexts with different governance structures, procurement rules or supplier capabilities.

5.5 Suggestions for future research

The text outlines five key areas for future research on event sustainability, based on the theoretical gaps and methodological limitations that were identified during this study. Firstly, it proposes the development of cumulative sustainability monitoring models that extend beyond traditional event-by-event evaluations. Such models would capture continuous environmental and social impacts across high-frequency institutional event portfolios. Secondly, it recommends conducting comparative analyses of public and

private event procurement practices, particularly within the Portuguese context of fiscal constraints, in order to identify transferable governance strategies that balance budgetary regulations with environmental objectives. Thirdly, the research agenda emphasizes the need to validate proxy methodologies for Scope 3 emissions by establishing standardized factors for common services, such as catering, audiovisual support, and logistics. This would facilitate environmental accounting for small-scale events in contexts where there is limited supplier data. Fourthly, it encourages creating hybrid sustainability maturity indices that integrate cultural and behavioral dimensions with simplified quantitative metrics using mixed methods approaches. Finally, multi-institutional longitudinal studies are advocated to track the evolution of sustainability practices across university networks, comparing high- and low-frequency event portfolios and disentangling institutional effects from market maturity. Together, these research directions transform the contextual insights of this study into scalable theoretical and practical contributions, thereby advancing the field of sustainable event management.

REFERENCES

- Ahi, P., & Searcy, C. (2013). A comparative literature analysis of definitions for green and sustainable supply chain management. *Journal of Cleaner Production*, 52, 329–341.
- Bazeley, P. (2013). *Qualitative data analysis: Practical strategies*. Sage.
- Boggia, A., Massei, G., Paolotti, L., Rocchi, L., & Schiavi, F. (2018). A model for measuring the environmental sustainability of events. *Journal of Environmental Management*, 206, 836–845. <https://doi.org/10.1016/j.jenvman.2017.11.018>
- Bramwell, B., & Lane, B. (2011). Critical research on the co-benefits of tourism for destinations, communities and environments. *Journal of Sustainable Tourism*, 19(4–5), 575–597.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2021). *Thematic analysis: A practical guide*. Sage.
- Cavallin Toscani, A., Vendraminelli, L., & Vinelli, A. (2024). Environmental sustainability in the event industry: a systematic review and a research agenda. *Journal of Sustainable Tourism*, 32(12), 2664–2685 <https://doi.org/10.1080/09669582.2024.2309544>
- Creswell, J. W. (1994). *Research design: Qualitative, quantitative, and mixed methods approaches*. SAGE.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Sage.
- Darcy, S., Dickson, T. J., & Benson, A. M. (2014). Volunteers at the London 2012 Olympic and Paralympic Games: Including volunteers with disabilities. *Event Management*, 18(4), 457–472. <https://doi.org/10.3727/152599514X14143427352157>
- De La Croix, A., Barrett, A., & Stenfors, T. (2018). How to... do research interviews in different ways. *The Clinical Teacher*, 15(6), 451–456. <https://doi.org/10.1111/tct.12953>
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532–550. <https://doi.org/10.5465/amr.1989.4308385>
- Elkington, J. (1998). Accounting for the triple bottom line. *Measuring Business Excellence*, 2(3), 18–22. <https://doi.org/10.1108/eb025768>
- Events Industry Council. (2018). *Global economic significance of business events*. <https://www.the-iceberg.org/research/2018-global-economic-significance-of-business-events/>
- Fernandes, A. M. V., Raj, R., & Griffin, K. (2024). Social sustainability of events. In R. Raj & K. Griffin (Eds.), *Sustainable events management* (pp. 107–123). CABI International. <https://www.cabidigitallibrary.org/doi/book/10.1079/9781800621381.0000>
- Franco, N. G., Almeida, M. F. L., & Calili, R. F. (2021). A strategic measurement framework to monitor and evaluate circularity performance in organizations from a transition perspective.

Sustainable Production and Consumption, 27, 1185–1202.

<https://doi.org/10.1016/j.spc.2021.07.020>

Getz, D., & Andersson, T. (2010). Sustainable festivals: On becoming an institution. *Event Management*, 14(1), 21–31.

Getz, D., & Page, S. J. (2016). Progress and prospects for event sustainability research. *International Journal of Hospitality Management*, 57, 97–107.

Griffin, K., Raj, R., & Morpeth, N. (2017). *Sustainable event management: A practical guide*. Routledge. <https://www.cabidigitallibrary.org/doi/book/10.1079/9781800621381.0000>

Hall, C. M. (2014). Event sustainability: A review and critical assessment. *Tourism Geographies*, 16(1), 31–47.

Haupt, M., & Hellweg, S. (2019). Measuring the environmental sustainability of a circular economy. *Environmental and Sustainability Indicators*, 1–2, 100005.

<https://doi.org/10.1016/j.indic.2019.100005>

Hottle, T. A., Bilec, M. M., Brown, N. R., & Landis, A. E. (2015). Toward zero waste: Composting and recycling for sustainable venue-based events. *Waste Management*, 38, 86–94.

<https://doi.org/10.1016/j.wasman.2015.01.026>

Jones, M. (2014). *Sustainable event management: A practical guide*. Routledge.

Ketokivi, M., & Choi, T. (2014). Renaissance of case research as a scientific method. *Journal of Operations Management*, 32(5), 232–240. <https://doi.org/10.1016/j.jom.2014.03.004>

Laing, J., & Frost, W. (2010). How green was my festival: Exploring challenges and opportunities associated with staging green events. *International Journal of Hospitality Management*, 29(2), 261–267. <https://doi.org/10.1016/j.ijhm.2009.07.008>

Lewins, A., & Silver, C. (2014). *Using software in qualitative research: A step-by-step guide* (2nd ed.). Sage.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Sage.

Lindgreen, A., Di Benedetto, C. A., & Beverland, M. B. (2020). How to write up case-study methodology sections. *Industrial Marketing Management*, 96, A7–A10.

<https://doi.org/10.1016/j.indmarman.2020.04.012>

Mair, J. (2021). Why making events more sustainable is not enough. *Journal of Sustainable Tourism*, 29(11), 1739–1757. <https://doi.org/10.1080/09669582.2021.1942480>

Mair, J., & Jago, L. (2010). The development of a conceptual model of greening in the business events tourism sector. *Journal of Sustainable Tourism*, 18(1), 77–94.

<https://doi.org/10.1080/09669580903291007>

Mair, J., & Jago, L. (2010). The development of sustainable event management theory and practice. *Journal of Sustainable Tourism*, 18(1), 1–13.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Sage.

Moraga, G., Huysveld, S., De Meester, S., et al. (2019). Circular economy indicators: What do they measure? *Resources, Conservation and Recycling*, 146, 452–461.

<https://doi.org/10.1016/j.resconrec.2019.03.045>

Nikolaou, I. E., Jones, N., & Stefanakis, A. (2021). Circular Economy and Sustainability: The Past, the Present and the Future Directions. *Circular Economy and Sustainability*, 1(1), pp. 1–20.

Piccerillo, L., Misiti, F., & Digennaro, S. (2023). Assessing the environmental impact of a university sport event: The case of the 75th Italian National University Championships. *Sustainability*, 15(3), 1–18. <https://doi.org/10.3390/su15032267>

Raj, R., Walters, P., & Rashid, T. (2013). *Events management: Principles and practice*. SAGE.

Santos, J. A. C., Fernández-Gámez, M. A., Guevara-Plaza, A., Santos, M. C., & Pestana, M. H. (2023). The sustainable transformation of business events: Sociodemographic variables. *International Journal of Event and Festival Management*, 14(1), 1–20.

<https://doi.org/10.1108/IJEFM-05-2022-0036>

Santos, J. A. C., Fernández-Gámez, M. Á., Puig Cabrera, M., & Santos, M. C. (2024). Sustainability in business events: How hybrid formats shape attendee decision-making. *Journal of Tourism and Services*, 15(29), 320–348. <https://doi.org/10.29036/jots.v15i29.1006>

Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of Cleaner Production*, 16(15), 1699–1710.

Shaikh, M., et al. (2024). Metrics for sustainability and circular economy practices in modern manufacturing environments. *Circular Economy and Sustainability*.

<https://doi.org/10.1007/s43615-024-00395-1>

Simons, H (2009). *Case study research in practice*. SAGE.

<https://doi.org/10.4135/9781446268322>

Small, K. (2007). Social dimensions of community festivals: An application of factor analysis in the development of the Social Impact Perception (SIP) scale. *Event Management*, 11(1–2), 45–55. <https://doi.org/10.3727/152599507784695638>

Thomson, A., Kennelly, M., & Toohey, K. (2019). A systematic quantitative literature review of empirical research on large-scale sport events' social legacies. *Event Management*, 23(6), 799–814. <https://doi.org/10.3727/152599519X15633814898370>

Voss, C., Tsikriktsis, N., & Frohlich, M. (2002). Case research in operations management. *International Journal of Operations & Production Management*, 22(2), 195–219.

<https://doi.org/10.1108/01443570210414329>

Wiedmann, T., & Barrett, J. (2010). A review of the ecological footprint indicator—Perceptions and methods. *Sustainability*, 2(6), 1645–1693. <https://doi.org/10.3390/su2061645>

Yardley, L. (2000). Dilemmas in qualitative health research. *Psychology & Health*, 15(2), 215–228. <https://doi.org/10.1080/08870440008400302>

Ye, Y., Su, C. H., Tsai, C. H., & Hung, J. L. (2020). Motivators of attendance at eco-friendly events. *Journal of Convention & Event Tourism*, 21(5), 417–437. <https://doi.org/10.1080/15470148.2020.1776656>

Yawar, S. A., & Seuring, S. (2017). Management of social issues in supply chains: A literature review exploring social issues, actions and performance outcomes. *Journal of Business Ethics*, 141(3), 621–643. <https://doi.org/10.1007/s10551-015-2719-9>

Yin, R. K. (1984). *Case study research: Design and methods*. <https://cds.cern.ch/record/1171670>

APPENDICES

Appendix A1 – General Interview guide

O meu nome é Tiago, sou aluno do mestrado de Management (MiM) do Instituto Superior de Economia e Gestão (ISEG). Neste momento, estou a elaborar o meu trabalho final de mestrado que tem como objetivo explorar como a sustentabilidade é entendida, implementada e experienciada no contexto do planeamento e gestão de eventos. Agradeço, desde já, a sua disponibilidade para participar nesta entrevista. O objetivo desta conversa é compreender a sua perspetiva e experiência em relação à sustentabilidade nos eventos.

A entrevista é semiestruturada, consistindo apenas em perguntas de resposta aberta. Não existem respostas certas ou erradas; o que me interessa são as suas perspetivas e experiências em relação à sustentabilidade em eventos, pelo que a sua opinião, baseada na sua experiência, é muito importante. A entrevista terá a duração aproximada de 40 minutos.

Se concordar, gostaria de gravar a entrevista para garantir a precisão das informações nela contidas. Todas as informações serão tratadas de forma confidencial e utilizadas exclusivamente para a minha investigação.

Antes de iniciarmos a entrevista, gostaria de saber se tem alguma questão a colocar.

Appendix A2 – Semi-structured interviews: interviewees characterization

Interview	Department	Interview Data	Interview Mode	Interview Duration
Interviewee 1	Sustainability	January 9, 2026	Presential	55 minutes
Interviewee 2	Marketing	January 13, 2026	Microsoft Teams	45 minutes
Interviewee 3	Division of Logistics and Technical Support (DLAT)	January 14, 2026	Microsoft Teams	22 minutes

Appendix A3 – Interview guide to Sustainability Department (Interviewee 1)

	Questions
Perfil do entrevistado e Contexto institucional	Poderia descrever, de forma resumida, a sua função e responsabilidades relativamente aos eventos que o ISEG organiza? Há quanto tempo está envolvido na organização de eventos? Com que tipo de partes interessadas costuma trabalhar, por exemplo, empresas de organização de eventos, fornecedores do material utilizado nos eventos, patrocinadores, entre outras?
Frameworks e Definições	A organização dos eventos é guiada por regras, orientações ou princípios definidos? O que significa "sustentabilidade" para si no contexto dos eventos? Qual é a importância da sustentabilidade nos eventos que o ISEG organiza? Na sua opinião, a importância dada à sustentabilidade nos eventos mudou ao longo do tempo? Se sim, como e porquê? Existem normas, certificações ou diretrizes de sustentabilidade que segue na organização dos eventos? Na sua opinião, que papel devem as instituições de ensino superior ter na promoção de eventos mais sustentáveis?
Práticas e Implementação	Que medidas ou práticas sustentáveis são adotadas nos eventos do ISEG? Como é que o processo de escolha dos fornecedores funciona? Como trabalha com eles para atingir os objetivos de sustentabilidade? Que papel desempenham os clientes, o público ou os patrocinadores na influência dos esforços de sustentabilidade nos eventos? A sustentabilidade é vista como uma prioridade estratégica na organização dos eventos do ISEG? Porquê? Como são equilibrados os objetivos de sustentabilidade com outras prioridades, como o orçamento, o tempo e a experiência dos participantes? Quais são as principais barreiras e desafios da adoção de práticas sustentáveis nos eventos que organiza? Na sua opinião, como é que estas barreiras poderiam ser ultrapassadas? Quais são os fatores que facilitam a implementação de práticas sustentáveis nos eventos?

	Os eventos de pequena e média dimensão facilitam ou dificultam a sustentabilidade? Porquê?
Medição e Avaliação	Como é que mede ou avalia o desempenho de sustentabilidade ambiental dos eventos que organiza é medido ou avaliado? Que indicadores considera mais relevantes na sustentabilidade dos eventos? Quais são as principais dificuldades em medir a pegada ecológica dos eventos? Considera que modelos de avaliação mais simples poderiam ser aplicáveis a eventos de pequena e média dimensão? Quais são os principais benefícios resultantes da adoção de práticas sustentáveis nos eventos? Na sua opinião, os eventos podem influenciar a atitude dos participantes ou de outras partes interessadas, como os fornecedores, em relação à sustentabilidade? Porquê?
Perspetivas estratégicas	Tendo em conta a sua experiência, que mudanças são necessárias para melhorar a sustentabilidade dos eventos? Como prevê a evolução do papel da sustentabilidade nos eventos no futuro? Que conselho daria às organizações que estão a dar os primeiros passos no que diz respeito à sustentabilidade nos eventos?

Appendix A4 – Interview guide to Marketing Department (Interviewee 2)

	Questions
Perfil do entrevistado e Contexto institucional	Poderia descrever, de forma resumida, a sua função e responsabilidades relativamente aos eventos que o ISEG organiza? Há quanto tempo está envolvido na organização de eventos? Com que tipo de partes interessadas costuma trabalhar, por exemplo, empresas de organização de eventos, fornecedores do material utilizado nos eventos, patrocinadores, entre outras?
Conceitos e Prioridades	A organização dos eventos é guiada por regras, orientações ou princípios definidos? O que significa "sustentabilidade" para si no contexto dos eventos? Qual é a importância da sustentabilidade nos eventos que o ISEG organiza? Na sua opinião, a importância dada à sustentabilidade nos eventos mudou ao longo do tempo? Se sim, como e porquê?

	Existe alguma norma, certificações de sustentabilidade, ou alguma diretriz que sigam na organização dos vossos eventos? A sustentabilidade é vista como uma prioridade estratégica para vocês na organização dos eventos? Se sim, porquê?
Práticas e Processos	Que medidas ou práticas sustentáveis são adotadas nos eventos do ISEG? Em que fase do evento é que acha que são abordadas ou mais abordadas as questões referentes à sustentabilidade? Qual é o papel que clientes, público ou patrocinadores desempenham neste esforço de sustentabilidade nos eventos? Os eventos de pequena e média dimensão, na sua opinião, facilitam ou dificultam esta a questão da sustentabilidade e porquê?
Desafios e Benefícios	Quais são as principais barreiras e desafios da adoção das práticas sustentáveis? Quais são os fatores que facilitam a implementação destas práticas? Quais é que são os principais benefícios resultantes da adoção destas práticas? Que mudanças é que são necessárias para melhorar a sustentabilidade dos eventos?
Avaliação e Perspetivas	Como é que avaliam ou medem o desempenho da sustentabilidade ambiental dos eventos? Em termos do papel da sustentabilidade nos eventos daqui para a frente, como é que prevê que vai ser esta evolução?

*Appendix A5 – Interview guide to Division of Logistics and Technical Support**(Interviewee 3)*

	Questions
Papel e Processo de compras	Pode descrever, de forma geral, qual é o seu papel no processo de preparação e realização de eventos no ISEG? Em que tipo de eventos é responsável pelas compras? Como está organizado o processo de compras para eventos (quem pede, quem aprova, quais as normas seguidas)? Na prática, qual é o critério mais importante quando tem de decidir uma compra para um evento?
Orientações e Decisões	Existem orientações formais do ISEG sobre compras sustentáveis para eventos? Como chegam até si? Pode dar um exemplo de uma decisão de compra em que critérios ambientais ou sociais tenham pesado na escolha final de fornecedor ou produto? Como são decididos os brindes e os objetos promocionais? Há alguma orientação para evitar objetos descartáveis ou de uso pouco frequente? Alguma vez lhe foi solicitada informação sobre compras sustentáveis para eventos, para incluir nos relatórios de sustentabilidade? Se sim, como decorreu o processo de registo das compras efetuadas? Sente algum tipo de incentivo e/pressão da instituição para tornar as compras mais sustentáveis?
Materiais e Catering	No que diz respeito a materiais físicos dos eventos, em que medida se privilegia a reutilização, o aluguer ou a reparação em vez da compra de artigos novos? Na prática, o que pesa mais na escolha de fornecedores e menus de catering? Quando os eventos estão a ser organizados, recebe mais pedidos focados em preço/rapidez ou já há preocupação explícita com a sustentabilidade?
Desafios e Facilitadores	Na sua opinião, qual é o principal obstáculo à integração da sustentabilidade nas compras para eventos? Na sua opinião, quais foram os fatores que mais facilitaram as compras sustentáveis?

Melhorias e Perspetivas	Na sua opinião, o que poderia ser alterado no processo de compras para tornar os eventos mais sustentáveis?
--------------------------------	---