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Navigating the Implementation Challenges of an Event Sustainability Management System: The Case of the University of Padova

Relatore: Prof. Antonio Cavallin Toscani

Correlatore: Dott.ssa Laura Organte (Public engagement of the University of Padova)

Controrelatore: Prof.ssa Silvia Gross

Laureando: Seyedeh Marzieh Sadat Choobeh

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With heartfelt gratitude and deep humility, I dedicate this thesis to my husband, whose unwavering support has accompanied me on this journey, helping me grow and progress every step of the way.

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Abstract

This thesis examines the implementation of sustainable event management practices at the University of Padova, centring on engaging suppliers and making them compliant with ISO 20121 and CAM standards. Through a multiple-case study technique, this investigation analyses the challenges encountered and strategies implemented by four different suppliers (Logistics, Audio and Video Services, Catering, and Cleaning). Research findings indicate that supply chain complexity, client alignment issues, funding constraints, and varied incentive systems for training among event suppliers hinder sustainable event management.

Analysis from case to case shows the uniform need for operating support systems that can address these problems while respecting the unique company structure of every supplier. Financial incentives, cooperative client engagement tactics, streamlined compliance evaluation, and more long-lasting evidence-based training that enhances supplier capabilities are among the suggestions to tackle these problems. This thesis examines the dynamics of supplier relationships within an academic institution to highlight the critical role they play in achieving sustainable event goals. Finally, the study expands our knowledge of how sustainable practices can be effectively integrated into event management by offering helpful pathways for organizations looking to enhance environmental stewardship, social responsibility, and economic viability in event planning.

Key words: Sustainable Event Management, ISO 20121, CAM (Minimum Environmental Criteria), University of Padova, Sustainable Event Challenges

Introduction

Sustainable development (SD) has become a leading framework that shapes global development policies across economic, environmental, and social spheres [1]. This framework requires that decision-makers prioritize interconnected goals, such as the goals to manage resources effectively and ensure a balance to uphold the planet's ecological capacity [2]. This approach of sustainable development naturally extends to event management by emphasizing the need for practices of protection and preserving of resources across all types of events. Sustainable event management has become crucial, particularly within universities as they are the host of numerous events from community gatherings to international conferences. Events undoubtedly contribute to waste production and resource depletion, underscoring the necessity of efficient sustainable practices [3]. Every event has distinct effects on the economy, society, and environment. But in addition to optimizing these effects, sustainable event management takes advantage of chances to highlight environmentally friendly solutions that encourage a responsible and creative culture in local communities [4].

Frameworks like ISO 20121 Event Sustainability Management System and CAM (Minimum Environmental Criteria)[1] highlight the significance of incorporating sustainability into event planning processes, emphasizing the importance of sustainable event management [5,6].

ISO 20121 offers a systematic method for enhancing sustainability. ISO 20121 focuses on openness, involving everyone, and striving for ongoing enhancements from the beginning of planning to after-event evaluation, across the event's lifecycle [7]. In alignment with these principles, the CAM guideline promotes environmentally friendly standards in public contracts for events, including energy efficiency, waste

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[1] CAM in Italian stands for Criteri Ambientali Minimi. It refers to the Minimum Environmental Criteria, which are environmental standards set by the Italian government to promote sustainability in public procurement processes.

reduction, and social inclusion [6]. The collaborative approach emphasizes how ISO 20121 and CAM complement each other. By merging these frameworks, a stronger and more effective sustainability model can be developed for events, especially in public and academic institutions such as the University of Padova [8].

The increasing recognition of the importance of sustainable practices and certifications in event management on a global scale demonstrates a growing understanding of their significance in reducing environmental impacts and promoting social advancement [9]. This study will navigate the particular sustainability implementation obstacles in organizing events, with a focus on the University of Padova. It emphasizes the challenges faced by its suppliers, adopting a perspective that is often underrepresented in the literature. The study explores techniques for incorporating ISO 20121 standards alongside CAM requirements to support events that are environmentally sustainable, socially equitable, and financially feasible. In an era of increasingly limited resources, sustainable event management extends beyond merely reducing negative impacts; it actively contributes to sustainable development goals by promoting education, responsible consumption, and innovative solutions [10].

The following chapters of this thesis are structured as outlined: Chapter 1 conducts a review of the literature on sustainable development and sustainable events. Then, it explores the essential principles, frameworks, and challenges while also focusing on the University of Padova. In Chapter 2, the methodology is outlined, highlighting the research gaps, the guiding questions for this study, the theoretical framework, and the use of a multiple case study approach to examine challenges in sustainable event management. In Chapter 3, the results from various supplier categories such as catering, cleaning, technical services, and logistics are discussed and analysed. The analysis was carried out according to both a within case and cross-case framework. Finally, some recommendations are proposed for both the suppliers and event organizers, with specific guidance for the University of Padova.

Chapter 1: Sustainable Events

The purpose of this chapter is to conduct a literature review on sustainable events. Beginning with an overview of events impacts, through an in-depth analysis of Sustainability and Sustainable Development, along with the legal framework governing its application in the world and more in detail in Italy. The chapter will then address the general challenges of implementing sustainable event practices, with a focus on applying these practices within universities, using the University of Padova as a reference point.

1.1 Events Impacts and Opportunities

Events come in a variety of sizes and shapes all around the world. They range from community gatherings and exhibitions to conferences and sporting events [3]. Since every event has an impact on the environment, some people believe that the most sustainable event is none at all. However, given its vital role in promoting culture, innovation, and social connections, it is neither desirable nor feasible to completely avoid events [11]. For this reason, reducing the negative effects of events on the environment continues to be the primary challenge.

Events have an impact on the environment due to consumption of resources and generation of waste and may have an impact whether the venue is indoors or outdoors. However, the opportunity to actively demonstrate sustainable practices in events should not be overlooked [12]. Events can inspire others through the shared learning of what worked well and how impacts on the environment were minimized, resources were used efficiently, waste minimized, and social and economic factors addressed.

By applying sustainable practices, events can set a standard for future initiatives, encouraging responsible approaches and promoting the wider adoption of sustainable practices in the industry in the future [11].

1.2 Events and Sustainable Future

In order to imagine a sustainable future, responsible resource use, protection of natural environments, building resilient communities, and contributing to an equitable distribution of the earth's resources must be promoted. Since millions of people attend events annually, the global event industry places a significant role of responsibility on sustainability [13]. Therefore, it is essential to address the pressing environmental impacts of events because ignoring them can exacerbate resource distribution and well-being disparities and worsen the deterioration of natural ecosystems.

By addressing the issues and thanks to creative and enthusiastic event planners, suppliers, and solution providers, incredible instances of sustainability have been seen in action in recent years. There are many innovative solutions, like solar-powered sound systems, reusable pint mugs with washing stations instead of single-use cups, eco-bonds that promote recycling, free beer for waste collected, scouts repurposing abandoned tents, and craftspeople turning waste materials into new goods. Composting toilets, using renewable energy sources like solar, wind, hydro power, and sourcing locally are additional effective strategies [11]. These illustrate that effective and realistic sustainability initiatives are not only feasible but have already had a substantial impact on event operations.

1.3 Defining Sustainability and Sustainable Development

It is crucial to define sustainability and sustainable development before diving into sustainable event management. While "Sustainable Development" is frequently seen as the means to attain sustainability [11], "Sustainability" means to endure indefinitely without exhausting the resources essential for continued existence into the future [14]. In the context of human existence, the environment, societies, cities, trade, agriculture, coral reefs, etc., it refers to the management of these, therefore, that they can actually coexist.

On a larger scale, this means that in order to support life, we must use the earth's resources within their carrying capacity, taking into account the natural environment and the abundance it offers. That must also include keeping an eye on humanity's never-ending journey towards a more prosperous and comfortable world where everyone lives in equity, dignity, and happiness [15].

Due to the need for improving the well-being, health, and comfort of billions of people in developing countries as well as the desire for higher living standards in developed countries, the demand for resources is increasing. This demand escalates as the world's population grows [16]. Its result will be risks of over-extraction [17], the depletion of the planet's natural resources [18], and finally the threat to our long-term sustainability. As a result, it is necessary to strike a balance between the expanding population and the scarce resources [19].

Despite global commitments to achieve sustainable development and responsible resource use, environmental impacts are continuing to rise. For instance, more materials have been extracted, forests have been cut down, and greenhouse gas emissions have increased [20]. This challenge lies not only in meeting growing demands but also in reducing our collective impact on the planet. This imposes a transition away from harmful materials and processes in favour of sustainable alternatives in combination with efficient consumption [21].

Efficiency by itself, however, can be deceptive; although greater efficiency frequently results in lower costs, it can also raise overall consumption, negating any gains. In order to counter this, it is needed to ask when enough is enough and combine efficiency with "sufficiency" [22]. This combination results in reducing global consumption levels, both overall and per capita.

This need for consumption reduction aligns directly with the principles of sustainable development, as outlined in the Brundtland Report [23]. "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability is the ultimate goal, and sustainable development is the process of getting there. This distinction is echoed in ISO 26000, which states that "The goal of sustainable development is to achieve sustainability for the planet and society as a whole," [24], rather than focusing solely on the sustainability or longevity of individual organizations. This emphasis on collective, long-term sustainability is

reflected in the evolution of international standards, which have developed over time to address the growing need for unified approaches to social and environmental challenges.

1.3.1 Sustainable Development History

Sustainable development aims for long-term viability and global equity across national boundaries and generations. The Brundtland Report [23] highlights that social and environmental crises are inevitable in a world where poverty and inequality are pervasive. Thus, addressing everyone's basic needs while creating opportunities for a better life must be the primary goal of sustainable development. This strategy, however, has a big problem because sustainable "growth" is difficult to grasp due to Earth's limited resources [11]. Continuous growth, which suggests limitless expansion, cannot be accommodated by this restriction. Therefore, the distribution of resources worldwide needs to be reevaluated, even with the best of intentions to reduce poverty and raise living standards [18]. In particular, if technological advancements and production efficiencies cannot keep up with demand, those with more resources may need to share their wealth to promote global equity.

In 1991, the Caring for the Earth report by the International Union for Conservation of Nature (IUCN)[2], the United Nations Environment Programme (UNEP)[3], and the World-Wide Fund for Nature (WWF)[4] offered another definition of sustainable development: "Improving the quality of human life while living within the carrying

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[2] The International Union for Conservation of Nature (IUCN) is a global authority on nature conservation and sustainable resource use. Established in 1948, it brings together governments and civil society organizations to promote sustainable development and the conservation of nature; https://www.iucn.org/about.

[3] UNEP was established in 1972 and is responsible for coordinating the United Nations' environmental activities, assisting countries in implementing environmentally sound policies, and promoting sustainable development; https://www.unep.org/about-un-environment.

[4] Founded in 1961, WWF is one of the world's leading conservation organizations, working to preserve biodiversity and reduce the environmental impact of human activity; https://www.worldwildlife.org/about.

capacity of supporting ecosystems" [25]. The report outlined nine guiding principles for a sustainable society:

1. Building a sustainable society
2. Respecting and acting for the community of life
3. Improving the quality of human life
4. Conserving the earth's vitality and diversity
5. Staying within the earth's carrying capacity
6. Changing personal attitudes and practices
7. Empowering communities to care for their environments
8. Integrating development and conservation at national levels
9. Creating a global alliance for sustainability

Despite being articulated over 30 years ago, surprisingly, these ideas are still highly relevant today. The urgency of addressing sustainability remains, as the global community continues to discuss sustainable development more than fully achieving sustainability. At the United Nations Conference on the Human Environment in 1972, the groundwork for this conversation, sustainable development was initially established [26]. The Rio Declaration on Environment and Development, which established 27 guiding principles for sustainable development, was the result of the 1992 United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. This conference marked the culmination of rising environmental concerns from the 1960s and 1970s [27].

Agenda 21, a voluntary but unenforceable action plan for sustainable development, was another significant result of the 1992 UN Conference. Various countries and local municipalities became signatories to Agenda 21, and its implementation is supported by ICLEI[5]. In 2000, by Ten Principles, the UN Global Compact encouraged businesses to adopt sustainable and socially responsible business practices [28]. The Universal Declaration of Human Rights [29], the Rio Declaration on Environment and Development [30], the United Nations Convention against Corruption [31], and the

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[5] Local Governments for Sustainability; www.iclei.org

International Labour Organization's Declaration on Fundamental Principles and Rights at Work [32] are just a few of the important international agreements that serve as the foundation for the Ten Principles.

Moving forward to 2012, the Rio+20 summit[6] took place [16]. The 2030 UN Sustainable Development Goals (SDGs) [33], comprising 17 goals and 169 targets, form a comprehensive global action plan for sustainable development. Established as a key outcome of the Rio+20 Conference, the SDGs provide a framework for addressing critical global challenges by promoting environmental, social, and economic sustainability. The SDGs provided a fresh focus for the new millennium, even though they emphasized previous frameworks such as the 1991 Caring for the Earth report [25].

 The SDGs cover a broad spectrum of related topics, including [33]:

1.   No Poverty

2.   Zero Hunger

3.   Good Health and Well-being

4.   Quality Education

5.   Gender Equality

6.   Clean Water and Sanitation

7.   Affordable and Clean Energy

8.   Decent Work and Economic Growth

9.   Industry, Innovation, and Infrastructure

10.   Reduced Inequality

11.   Sustainable Cities and Communities

12.   Responsible Consumption and Production

13.   Climate Action

14.   Life Below Water

15.   Life on Land

16.   Peace, Justice, and Strong Institutions

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[6] Also referred to as Earth Summit 2012

17.   Partnerships for the Goals

In 2012, parallel to these efforts, the ISO 20121 Event Sustainability Management System was introduced [34]. ISO 20121 offers a designed framework for sustainable event management. ISO 20121 requires event organizers to articulate a sustainability policy, which includes a declaration of intent and principles that emphasize core values such as stewardship, transparency, integrity, and inclusivity. This policy underscores the organizer's commitment to sustainable development throughout the event management process. In order to produce sustainable events, all actions should be guided by these principles.

1.4 ISO 20121: the international certification for sustainable events

The ISO 20121 standard is an international standard, published by the International Standard Organization (ISO), which specifies the requirements for an event sustainability management system, for any type of event or activity related to it [34]. ISO 20121 provides indications on compliance with these requirements, to be applied throughout the entire event management cycle. It was first used as a sustainable event management framework during the London 2012 Olympics [35]. Following this, the standard was adopted in Italy in 2013 by UNI, the Italian National Unification Body (Ente Nazionale Italiano di Unificazione)[7].

Today, ISO 20121 is a standard that is used in more than 30 countries worldwide. These standard states that the first step in planning a sustainable event is to analyse the context. The context includes defining the organization's internal and external elements (issues), identifying interested stakeholders, determining the system's field of application, and determining the organization's own principles and values. Internal issues, like the organization's policies (such as those pertaining to purchasing, waste management, gender equality, accessibility, etc.), or external issues, like the regulatory environment or national or supranational goals, like those pertaining to the United

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[7] UNI, the Italian National Unification Body (Ente Nazionale Italiano di Unificazione), is responsible for developing and publishing technical standards in Italy to promote harmonization and quality assurance across various industries; https://www.uni.com.

Nations' sustainable development (Agenda 2030) [11], can have an impact on the pursuit of the organization's goals. The definition and identification of the interested parties associated with the event's sustainability management system, whose requirements and expectations the organization examines, are closely related to the issues. As an illustration, table 1.1 provides a few examples of stakeholders along with their potential expectations.

Table 1.1 Stakeholders along with their potential expectations [8]

STAKEHOLDERS	EXPECTATIONS
Event organizer	Creation of efficient and inclusive events by actively involving all stakeholders and ensuring regulatory compliance, with a focus on continuous improvement
Workforce	Safe and healthy working environment, fair work policies, training opportunities, clarity in responsibilities and decision-making processes
Supply chain	Sustainable purchasing practices, promotion of sustainable products and services, efficient waste and resource management, and collaboration to improve the overall sustainability of the event
Participants	Safety, accessibility, clear event information, evident sustainable practices (waste management, catering)
Local authorities	Compliance with local laws and regulations, contribution to public policy and sustainability objectives, efficient management of traffic and public safety
Community	Minimization of environmental impact (such as noise and pollution), local economic benefits, job opportunities

The needs and expectations of stakeholders who can affect or be affected by the event management system, and more especially by the events that follow its implementation, can therefore be taken into account through the analysis [1]. Additionally, it is good to state that the field of application can include one event, one type of event, or even all of the events you plan to organize, depending on the goals of the organization. Therefore, the definition of the organization's own principles, values, and intentions with regard to the event management system serves as a foundation for establishing the ISO 20121 context, within which objectives can be defined and measured to confirm their appropriateness.

1.4.1 Integration of ISO 20121 in Event Planning

ISO 20121, like all management systems, reflects the PDCA "Plan-Do-Check-Act" model, the verification system at the basis of the modern concept of quality control [28]. The PDCA model is based on a structured approach to implement continuous changes and improvements in the processes to which it is applied [36]. To ensure that the sustainability policy is implemented, the organization's management (leadership) plays a crucial role. Management must demonstrate their commitment to the system's implementation by taking steps. Such as creating goals and policies that align with the organization's strategy, incorporating sustainability requirements into business operations, allocating the required resources (such as financial, human, and skill-related ones), communicating the significance of sustainability, ensuring that goals are met, encouraging staff participation, and fostering continuous improvement [1].

The management system under ISO 20121 provides a structured framework for reducing the environmental, economic, and social impacts of events by a focus on improvement progress [1]. ISO 20121 is guided by four key principles: Inclusivity (fair treatment and stakeholder involvement), Integrity (ethical adherence), Transparency (clear communication on social, economic, and environmental decisions), and Management (shared responsibility for sustainable development) [34]. A sustainability management system must be in place at every stage of an event, from planning to post-event activities [34]. In this process, event planners prioritize important elements by first identifying and quantifying the risks and opportunities associated with the event lifecycle. These are dealt with through targeted goals and actions, which lead to an intervention plan that includes resources, timetables, targets, and control strategies.

Monitoring and evaluation are crucial, with procedures established to track the performance of sustainability measures [34]. This entails controlling elements like stakeholder engagement, waste management, energy use, supplier selection, and communication. In order to guarantee adherence to internal sustainability policies and legal requirements, document retention and internal checks are also crucial. To increase the efficacy of the system, ongoing feedback is obtained via social media, meetings, and surveys. The system's final phase is centred on ongoing improvement,

guided by management reviews and input, making sure that adverse effects are minimized, and favourable results are reinforced for upcoming occasions [34].

ISO 20121 offers a globally acknowledged commitment to sustainability and can be used for any kind of event. From intimate local get-togethers to major international events. Instead of certifying the event itself, certification guarantees that the management system for the event complies with sustainability standards. This promotes adaptability and shifts the emphasis from minimum sustainability goals to ongoing improvement.

1.4.2 ISO 20121:2024

The 2024 update to ISO 20121 brings helpful improvements to make the standard more accessible for organizations focused on sustainable event management. Now, aligned with ISO's general structure for management systems, it is easier for organizations already following other ISO standards to bring ISO 20121 into their existing processes, making sustainability efforts smoother and more consistent.

The latest version also strengthens its focus on Environmental, Social, and Governance (ESG) principles[8], aiming to reduce negative impacts while maximizing positive outcomes. This change makes ISO 20121 more adaptable for businesses of all sizes, with new sections addressing topics like human and child rights. These updates highlight the importance of social responsibility, fostering practices that include and protect all stakeholders.

Operationally, ISO 20121:2024 offers clearer guidance on managing supply chains sustainably. There is an added emphasis on sustainable purchasing practices and accountability, along with suggestions for tracking progress toward sustainability goals and ESG targets. The updates encourage organizations to use feedback loops for continuous improvement, helping them work toward sustainability goals throughout the event cycle.

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[8] ESG stands for Environmental, Social, and Governance. These three central factors are used to measure the sustainability and ethical impact of an investment in a company or business; https://www.unpri.org/pri/what-is-responsible-investment/what-is-esg.

Organizations can choose to apply ISO 20121 to all events or specific ones, with compliance checked by accredited third parties. Notably, ISO 20121 is compatible with Italy's Minimum Environmental Criteria (CAM), making it especially supportive of sustainable practices in public events. For event organizers pursuing public tenders, ISO 20121 certification can provide an advantage by demonstrating commitment to CAM-aligned sustainability. Together, ISO 20121 and CAM offer a practical, structured approach for planning events that prioritize environmental, social, and economic sustainability.

1.5 Communicating the Sustainability of an Event: The Role of CAM

The Minimum Environmental Criteria (CAM)[9] are designed to ensure that public contracts incorporate environmental considerations, promoting the use of eco-friendly products and services across sectors such as construction, services, and events. According to the decree of October 19, 2022, CAM for events sets standards to reduce the environmental and societal impacts of events while fostering sustainability. A key aspect of CAM is the communication of these sustainability practices, which involves informing participants about the event's guiding principles, actions taken by organizers, and ways attendees can contribute to minimizing the environmental footprint.

CAM for events has three main objectives: (1) to promote sustainable practices like waste reduction, energy efficiency, and the circular economy; (2) to ensure social responsibility by promoting inclusion, fair working conditions, and adherence to health and safety regulations; (3) to mitigate environmental impacts throughout every stage of the event lifecycle, from planning through to post-event activities [6].

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[9] CAM in Italian stands for Criteri Ambientali Minimi. It refers to the Minimum Environmental Criteria, which are environmental standards set by the Italian government to promote sustainability in public procurement processes.

1.5.1 Key Areas of Focus in CAM for Events

Sustainable Mobility, Waste Reduction and Circular Economy, Energy Efficiency, Sustainable Catering, Inclusion and Accessibility, and Post-Event Transparency are the six primary areas that CAM mainly focus on with regards to events [6].

In terms of sustainable mobility, event organizers must actively encourage eco-friendly transportation choices for attendees. This requires giving thorough information and providing rewards. The rewards are to encourage the use of bicycles, carpooling, and public transportation in order to improve accessibility and strengthen the event's commitment to minimizing its environmental impact. To effectively reduce environmental impacts through sustainable travel options, event organizers are encouraged to collaborate with public transportation providers.

In parallel, for waste reduction and the circular economy, CAM emphasizes preventing waste by promoting reusable items and minimal packaging. Event organizers are encouraged to choose products made from recycled or recyclable materials whenever possible and to support effective waste separation systems on-site to promote recycling and responsible waste management.

Regarding energy efficiency, event venues are expected to use energy-saving systems, such as LED lighting and renewable energy sources to reduce their carbon footprint. Systems such as air conditioning, lighting and audiovisual equipment should adhere to high energy efficiency standards to support sustainable event practices.

For sustainable catering, services should prioritize organic, local, and sustainably sourced food products. Food waste must be avoided at all costs. Any food scraps should be composted or given to nonprofit organizations.

To support inclusion and accessibility, events must be fully accessible. Attending to the requirements of people with disabilities. This entails offering services and making sure locations are physically accessible. For instance, subtitles and sign language interpretation to serve a diverse audience.

Finally, post-event transparency requires that organizers communicate clearly about the economic, social, and environmental impacts of events. This reporting promotes accountability and transparency. In addition, it lays the groundwork for continuous improvement in subsequent events.

Together, these focus areas enable CAM to promote comprehensive sustainability practices across all stages of event planning and execution, helping to create events that are both environmentally and socially responsible.

1.5.2 Operational Aspects of CAM:

The operational aspects of CAM emphasize strategies that help events convey sustainability practices effectively, making them accessible and engaging for attendees. CAM recommends using digital and eco-friendly formats to reduce waste from printed materials. For example, digital formats for event tickets and programs are advised whenever feasible. If physical materials are necessary, they should be sourced from environmentally friendly or recycled materials. CAM also suggests using QR codes to provide attendees with quick, paperless access to event information on their devices, further supporting a waste-free experience.

Another essential component is sustainable promotional materials and merchandise. CAM encourages that promotional items, awards, and event-related merchandise align with the event's sustainability objectives by utilizing materials that are recyclable, recycled, or sustainably sourced. These items should be distributed in ways that minimize waste, ensuring that every aspect of the event reflects a commitment to sustainability and eco-conscious practices.

1.6 CAM and ISO 20121: A Combined Approach to Sustainability

Since both ISO 20121 and CAM stress ongoing improvement and the necessity of a thorough approach to sustainability throughout an event's entire lifecycle, they work well together. While CAM offers particular environmental criteria that guarantee adherence to national and international sustainability objectives, ISO 20121 provides an organized framework for sustainability from planning to post-event evaluation. In order to ensure that events are inclusive, equitable, and transparent in their sustainability efforts, ISO 20121 and CAM work together to create a comprehensive system that supports both the technical (such as waste management and energy efficiency) and social and ethical aspects of event sustainability. Event planners like

the University of Padova can make sure their events leave a positive legacy by following these guidelines, which will help.

1.7 Challenges to Implementing Sustainable Events

Building on the relevance of sustainable practices in event management, it is critical to understand the unique challenges associated with applying these principles across a variety of event kinds. While standards such as ISO 20121 and CAM provide general recommendations, real-world applications require overcoming a variety of difficulties and potential roadblocks.

One major problem is reaching a larger audience for sustainability activities. Events aimed at promoting sustainability frequently draw people who already support eco-friendly habits, reducing their effectiveness in creating new, sustainable behaviours among the broader population [37]. Effective sustainable events necessitate creative outreach to involve participants who may not prioritize sustainability, resulting in a more inclusive approach.

Maintaining authenticity in sustainability initiatives is also crucial. When sustainability is employed only for marketing purposes without a true commitment, it risks being viewed as shallow, a practice known as "greenwashing[10]". This view can impair the organizing entity's reputation and reduce the intended impact. To be regarded seriously, sustainable events' procedures must be open and consistent with their stated purpose [14].

Additionally, sustainable events are more effective when they are part of larger public policy initiatives or connected with other sustainable programs, rather than existing in isolation. Integrating sustainable events into a larger framework addresses the constraints of stand-alone interventions and strengthens the effect of sustainable practices [14].

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[10] By misleading the public to believe that a company is doing more to protect the environment than it actually is, greenwashing diverts attention from real climate action, creating confusion and mistrust; https://www.un.org/en/climatechange/science/climate-issues/greenwashing.

Stakeholder management introduces an additional layer of complexity, especially when events involve a range of organizations, each with distinct objectives. Key stakeholders—such as sponsors, community groups, government agencies, and site managers—bring unique goals and interests to the event. Coordinating these diverse groups and securing their commitment to sustainability goals is both critical and challenging. Achieving a coherent, aligned approach requires clear communication and shared objectives [6, 38].

Practical knowledge gaps can also hinder consistent implementation across all event aspects. Event organizers and suppliers may lack experience or understanding of sustainable practices, which can lead to inconsistent applications that reduce the event's overall impact. Providing training or workshops can help bridge this knowledge gap, promoting a unified and informed approach to sustainable event management [39,40,41].

These challenges highlight the complexities of arranging truly sustainable events. They show that achieving sustainability necessitates not only conformity to norms, but also flexibility, innovation, and cooperation among all stakeholders.

With this grasp of the larger issues, the University of Padova provides an important case study in sustainable event management inside academia. Padova's efforts are particularly impacted by the sustainability practices of its suppliers, whose gaps in implementation present significant challenges. By examining Padova's strategies and initiatives, this thesis explores how the university can address these supplier-related barriers, fostering a more consistent and impactful approach to sustainable event practices.

1.8 The University of Padova: Leading Sustainability in Academia

The University of Padova has earned a strong reputation as a sustainability leader in academia. It's not just about rankings; it's about a deep commitment to integrating environmental, social, and governance (ESG) goals across every facet of the university's work; from day-to-day operations to educational programs and research. This commitment has placed Padova at the top of sustainability assessments, ranking

second in Italy and 110th globally in the 2023 QS Sustainability Rankings[11]. The university is also a regular contender among the top 200 institutions in the Times Higher Education (THE) Impact Rankings[12] for progress on the United Nations' Sustainable Development Goals (SDGs).

The university's strategic plan for 2023-2027 underscores the long-term commitment to sustainability. The commitment is aimed at enhancing both environmental and social responsibility. This plan aligns with the Global Reporting Initiative (GRI) standards[13], which help the university maintain transparency and accountability in its sustainability reporting. Such a strategic framework ensures that the university's goals stay aligned with sustainability best practices while fostering a culture of continuous improvement [8].

1.8.1 Key Strategies and Achievements

The University of Padova's dedication to sustainability is evident through its key achievements and strategies, each reflecting a thoughtful commitment to building a sustainable future. A core part of this mission is the University of Padova's investment in research and innovation focused on sustainability. The university prioritizes research projects that address sustainable development. These projects help to attract competitive funding and drive innovative solutions. By centring sustainability in its research, the University of Padova not only advances academic knowledge but also actively contributes to global efforts. These include mitigating climate change,

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[11] QS Top Universities. "QS World University Rankings: Sustainability 2024." QS Top Universities, 2024; https://www.topuniversities.com/qs-sustainability-rankings.

[12] Times Higher Education. (2023). THE Impact Rankings 2023; https://www.timeshighereducation.com/impactrankings.

[13] The Global Reporting Initiative (GRI) Standards are a set of international standards that provide organizations with a framework to report on their environmental, social, and governance (ESG) impacts. These standards help organizations communicate their sustainability performance transparently and consistently, enabling stakeholders to compare and assess the impact of various entities on critical issues like climate change, human rights, and anti-corruption efforts; https://www.globalreporting.org/standards.

promoting biodiversity, and supporting the development of sustainable technologies. This dedication has established the University of Padova as a hub for impactful, forward-thinking research in sustainable development [8].

The university has also made great progress in the areas of resource efficiency and digital transformation. In order to minimize paper use and streamline administrative procedures, the University of Padova has implemented a number of digital initiatives in recognition of the negative environmental effects of traditional practices. The digital solution has streamlined operations and reduced resource consumption, demonstrating the University of Padova's commitment to waste reduction and eco-friendly practices across its activities. Every digital innovation brings the university closer to its goal of minimizing its environmental footprint [8].

The University of Padova's vision for sustainability goes beyond the environment; it also encompasses inclusivity and accessibility. The university places a strong emphasis on social responsibility, ensuring that its facilities, programs, and resources are accessible and inclusive. By fostering a diverse community, Padova promotes equity and inclusivity, aligning with broader sustainability objectives that address environmental, social and economic aspects of sustainable development. This commitment underscores the belief that a truly sustainable institution is one that values and supports every individual [8].

Another essential component of the University of Padova's strategy is community involvement. Through initiatives like "UniPadova Sostenibile," the university actively involves students, faculty, and the local community in sustainability efforts. These projects raise awareness, share best practices, and encourage responsible actions. Educational outreach is woven into the University of Padova's curriculum, giving students opportunities to participate in sustainability-focused projects, gain practical experience, and develop the skills needed to become future leaders in sustainable practices. By engaging and educating its community, the University of Padova is cultivating a knowledgeable and committed base that will carry forward its sustainability mission [8].

In every initiative, the University of Padova exemplifies what it means to lead in sustainability, combining research, resource efficiency, inclusivity, and community involvement to create a lasting impact both locally and globally.

1.8.2 Recognition and Future Goals

The University of Padova's dedication to sustainability has gained significant recognition, both nationally and internationally. For the future, the University of Padova has set ambitious goals: reducing its carbon footprint, enhancing energy efficiency, and managing resources with even greater responsibility. These efforts reflect the university's ongoing commitment to making a lasting, positive impact on the environment and the community it serves. With goals that align with Italy's Minimum Environmental Criteria (CAM) and ISO 20121 standards for sustainable events, the University of Padova is making sure its commitment to sustainability is felt across the board [8].

Through these actions, the University of Padova shows how educational institutions can be powerful forces for sustainability. Its approach balances environmental responsibility with social and economic progress, setting an example for what a sustainable future in academia and beyond can look like.

Chapter 2: Methodology

This chapter delineates the methodology adopted to investigate the sustainability challenges experienced by the suppliers of the University of Padova while adopting event sustainability practices. The chapter begins with a discussion of the process of formulating the research question (RQ). A qualitative approach through multiple case studies was adopted to address that question; this involved semi-structured interviews with four main suppliers in the event sector. The chapter then elaborates on the criteria for the sample selection, data collection, and the analytic approach for analysing the gathered data.

2.1 Research Objectives

Although sustainable event practices are increasingly recognized [42], limited research addresses the specific challenges suppliers face when adopting these practices, especially within a university context. To address this gap, the purpose of this master's thesis is to investigate the experiences of suppliers involved in university events, with a focus on understanding the obstacles they encounter. The central research question is therefore defined as follows:

RQ: What challenges do suppliers face when implementing sustainability practices in event management within a university context, and what strategies can help overcome these obstacles?

The literature review revealed that several key factors influence suppliers' ability to implement sustainable practices. Among the primary factors are client expectations, industry-specific constraints, and financial challenges [43]. From this analysis, an integrative framework was developed, focusing on two key governance mechanisms: assessing suppliers and elevating collaboration with them. Previous research has explored how these approaches impact environmental and social performance, though there is limited insight into their effects on economic performance and overall sustainability performance.

Figure 2.1 illustrates the factors affecting suppliers' sustainability efforts, highlighting the interconnected influence of these factors on sustainability adoption. It also presents the possible relationships between governance mechanisms and the environmental, social, and economic dimensions of sustainability [43].
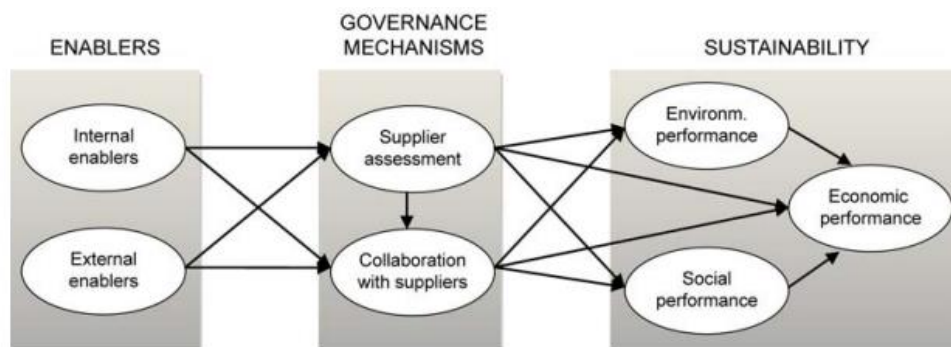
Figure 2.1 The factors affecting suppliers sustainability efforts [43]

Additionally, the framework includes a number of enablers—both external (like trust) and internal (like environmental commitment)—that help businesses extend sustainability to their suppliers [44,45,46].

By investigating the challenges within the context of an academic institution, this study aims to offer insights as to how improve sustainable event practices and ultimately contribute to a more sustainable future in event management.

This research aligns with the University of Padova's sustainability initiatives, as outlined in its annual sustainability reports. This connection provides a practical background, enhancing the study's relevance and offering real-world examples to enrich the data analysis.

2.2 Research Methodology

To answer the research question, this study employs a descriptive and explanatory approach, underpinned by a multiple-case study methodology [47, 48]. Given the limited research on sustainability challenges from a supplier's perspective in event management, this approach enables a deeper exploration of complex issues, enhancing the validity of the findings [47]. By examining multiple cases, this study seeks to identify patterns and gain insights into the common challenges faced by suppliers. Additionally, by employing more cases, the study aims to lessen potential biases and improve the results' generalizability. Supplier organizations were selected as the unit of analysis in accordance with the research goal, and the study drew a convenience sample of suppliers who work closely with the University of Padova to organize events.

Particularly, the sample selection aimed to include suppliers that provide different event services such as catering, cleaning, logistics, and audio/visual (technical) services. This choice enables a thorough analysis of each supplier's experiences and is consistent with the research goal of comprehending sector-specific sustainability challenges.

Figure 2.2 presents an overview of this research method, which will be detailed in the subsequent paragraphs of the methodology section.
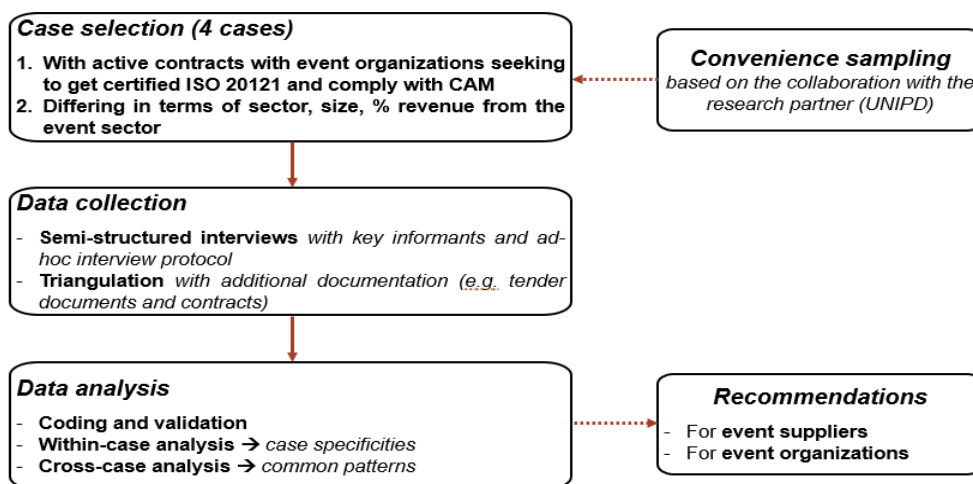
Figure 2.2 The overview of the research method

As part of its analytical approach, this study takes inspiration from the Gioia Method [49] in addition to the multiple-case study methodology, specifically for data analysis. As a rigorous approach to inductive research, the Gioia Method provides a methodical way to analyse qualitative data. By giving semi-structured interview analysis more structure and transparency, the Gioia Method improves research validity and makes it easier to synthesize rich and complex qualitative data into a coherent narrative that is aligned with the research questions [49]. The application of some guidelines prescribed by this method in the current study enables a more nuanced and grounded understanding of the organizational challenges of sustainable events, as experienced and perceived by supplier organizations.

2.3 Sample Selection and Description

The sample was carefully chosen to represent suppliers from a variety of industries working for the event sector within a university context, each with different levels of revenue from event contracts and varying degrees of experience with sustainability certifications. This diversity aimed to capture a range of possible responses to sustainable event management goals, providing a comprehensive perspective on the practical challenges of implementing sustainable event practices in universities.

As described in the literature, the case selection process adopted inclusion criteria designed to select cases that share common characteristics to ensure alignment with the research aim and to make the study feasible [47]. In addition, cases that vary in certain features were chosen to identify possible patterns and enhance the generalizability of the findings, following established guidance on case study research [50].

The specific criteria for inclusion were as follows. The main criterion was to target suppliers that work with event organizations within a university context that are certified (or seeking to be certified) ISO 20121 and comply with CAM. To this end, suppliers who have recently won public tenders including event services prevision with the University of Padova were conveniently targeted.

Secondly, recognizing the different factors that can influence the effects of ISO standards and CAM in supply chains, variability in cases was sought according to

sectors, organizational scale, public sector revenue size, and commitment to environmental practices. A collaborative approach with the partner university directed the selection, providing initial leads on suppliers fulfilling the inclusion criteria.

From this basic selection, a sample of four cases was distilled, ensuring a breadth of perspectives reflecting the factors of the second criterion. As suggested by established research [51], four cases are a robust and feasible set to extract accurate results within a practical timeframe for data collection. This multiplicity of cases increases the validity of the study beyond the confines of a single case and strengthens it against bias, ensuring that the nuances of different product/service categories and the regulatory environment regarding ISO standards and CAM are appropriately represented and comprehensively analysed.

Table 2.1 contains a summary of the main selected supplier characteristics, while a detailed description is provided in the next chapter.

Table 2.1 Characteristics of Selected Suppliers

ID	Supplier	Service Type	Turnover	Number of Employees	Event Sector Strategic Weight
S1	Logistics	Transportation, logistics	€16 million	163	1.2% of revenue
S2	Tech Service	Audio/Video services	€1.5 million	5-10 collaborators	90% of turnover
S3	Catering	Catering services	€2.2 million	20-30 (seasonal)	60% of turnover
S4	Cleaning	Multiservice (cleaning, maintenance)	€626 million	13,255	Not part of operational scope

2.4 Data Collection

Data collection was carefully orchestrated and conducted in a manner consistent with the research question of this study. A series of semi-structured interviews were conducted with key informants from the four suppliers (Logistics, Catering, Tech

Service, and Cleaning) to affirm the authenticity and reliability of the data collected [54]. After being contacted by email to facilitate their participation, all of these suppliers consented to take part in the study. An interview protocol was developed that included open-ended questions designed to find out how they felt about the impact of CAM (Minimum Environmental Criteria) and ISO standards on their operational processes. The questions were thoughtfully constructed in compliance with the guidelines of previous studies [47], making sure they were both specific enough to promote in-depth discussion and narrow enough to concentrate on the main areas of study.

In order to minimize bias resulting from limited English proficiency, which could result in shorter or less trustworthy responses, interviews were conducted in Italian. Throughout the interviews, support was given to guarantee understanding and clarity. Interviews were conducted between September and October 2024, leveraging the convenience of Zoom for these dialogues, which lasted an average of half an hour. Each session was carefully recorded and transcribed verbatim. This in-depth approach ensured that all valuable insights were captured and enabling a comprehensive understanding of the suppliers' perspectives on the impact of ISO and CAM standards implementation [47].

The information gathered during the interviews was subsequently triangulated with other documents to increase the qualitative rigor of the research [48]. For this purpose, technical documents provided by the university's purchasing department (such as sustainable report and event management system), were utilized. These additional sources validated the perspectives shared during the interviews, increasing the reliability of the collected data [48].

According to established guidelines, the collected data were systematically consolidated into detailed case reports aligned with the structure of the developed interview protocol [49].

To strengthen the credibility of the study's results, high-level informants with strategic oversight from each supplier were specifically involved: the head of management systems at the logistics supplier, the chief innovation officer and head of sustainability at the catering supplier, the sales department at the tech service supplier, and the head of cleaning operations at the cleaning supplier.

Data collection was deliberately paced to end once thematic and significance saturation had been achieved [52]. This approach is consistent with effective research practices, preventing the gathering of redundant data that lacks meaningful added value [52].

The interview protocol was designed to assess the compliance of the selected suppliers with the established ISO standards and CAM while assessing their influence on the organizational processes of the selected suppliers and supply chain management. The interview questions dealt with adherence to the key sustainability standards, the involvement of suppliers in implementing sustainable standards, owned sustainability certifications, configuration of supplier networks, and challenges experienced regarding CAM and ISO implementation.

By investigating these aspects, the research aimed to provide a comprehensive understanding of the dynamics of supplier relationships and the strategies employed to enhance sustainability in event practices.

The complete list of questions used in the interview protocol is available in the Appendix A.

2.5 Data Analysis

The data analysis was conducted through a rigorous inductive reasoning approach, by taking inspiration from the Gioia Methodology to systematically codify and interpret the insights gathered from the interviews [49].

The first analysis involved sorting out the material from the recorded interviews in accordance with the specific areas laid out in the interview protocol. A complete content analysis followed that involved an examination of the interview transcripts line by line to pull through some of the pertinent concepts, themes, and phrases that would best represent the views of the participants on sustainable event practices, ISO standards, and CAM. In order to increase the validation of the findings, triangulation was carried out by comparing the views of the key informants with relevant technical documentation, including sustainability reports and active contracts [50].

Then, both within-case and cross-case analyses were conducted to identify the unique characteristics of each case while synthesizing patterns across the different suppliers.

Within-case study analysis was performed to ascertain how each supplier adapted to operational changes in relation to the implementation of CAM standards and ISO standards. At the same time, cross-case analysis was crucial in identifying similarities and dissimilarities among the suppliers, providing input on the multiple barriers to implement sustainability practices. This comparison provided a very strong foundation for drawing out thematic patterns that are prevalent across various organizational contexts while enhancing the understanding of ISO standards and CAM influences upon practices in the events industry. Apart from providing a means of drawing out the similarities and differences in their experiences with ISO and CAM, the cross-sectional analyses contributed to the generalizability of the study's findings, lending credence to the supposition that these insights are a broader reflection of prevailing trends in the successful implementation of sustainability practices within the event management realm. [47].

Throughout this analytic procedural discussion, there was an iterative acceptance process for validating the developing codes and thus providing enhancements over the entire analysis. This remotely connected iterative process further ensured the consistency and consolidation of the credibility of the outcomes of the study [50].

Moreover, the existing literature on sustainable events, ISO standards, and CAM was continuously referenced to provide context and deepen the understanding of the findings, thereby situating the study within the broader academic discourse on sustainability in event management.

Chapter 3: Results and Discussion

This chapter provides a comprehensive analysis of interviews conducted with the various suppliers with the aim of identifying the main challenges and recurring patterns they encounter in implementing ISO standards and CAM within their operational processes.

The chapter begins by presenting a case description for each supplier, setting the context for the subsequent analysis. In the subsequent section, a within-case analysis explores the specific challenges posed by ISO standards and CAM requirements on each supplier's operations, highlighting changes to their operational and service processes as well as broader impacts on supply chain dynamics, which may also affect the University of Padova's sustainability outcomes.

Building on the insights from the within-case analysis, the results of the cross-case analysis are then presented to uncover overarching patterns in how ISO standards and CAM requirements introduce common obstacles across different suppliers' supply chain structures.

The chapter concludes by situating these findings within established theoretical frameworks, examining how these perspectives shape the adoption of ISO standards and CAM and their implications for promoting sustainability in events. Finally, recommendations are provided for event suppliers and the University of Padova as the event organizer, aimed at enhancing the implementation of sustainable practices and fostering improved collaboration for future events.

3.1 Case Description

Companies that were interviewed will be presented anonymously in order to protect their commercial interests and keep the study focused on the challenges of implementing ISO standards and CAM from the perspective of the suppliers of event organizations. The methodology used meets the basic principles of anonymity and confidentiality lined out in the qualitative research settings that are discussed in Case Study Research: Design and Methods [51] and Seeking Qualitative Rigor in Inductive Research [49]. This approach respects the privacy of the individuals involved and thus meets ethical considerations in research while at the same time creating an environment that allows for honest and open feedback.

3.1.1 Supplier S1 - Logistics Services Provider

Supplier S1 is distinguished as a logistics provider in Italy, leveraging nearly three decades of experience. Particularly, S1 specializes in integrated logistics tailored to the healthcare sector. With a skilled workforce of 163 employees, mainly drivers, operators and administrative staff, the company anticipates revenues of around 22 million euros in 2025. S1's reputation as a dependable logistics partner has been strengthened by its established alliances with prestigious Italian businesses and public sector customers, like the University of Padova.

Initially concentrating on healthcare logistics, S1 has progressively broadened its scope to include event logistics, customizing its offerings for significant occasions such as the G7[14] meeting. This change reflects the company's increased focus on sustainability and strategic growth in the industry.

Even though S1 is aware of the ISO 20121 requirements for sustainable events, it has chosen not to get formally certified, citing the low revenue from event logistics in comparison to its overall business activities. However, the business is very dedicated

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[14] The G7 (Group of Seven) is an intergovernmental organization composed of Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States. It convenes annually to address global economic governance, international security, and energy policy, aiming to coordinate policies in response to major global challenges [52].

to sustainable operations and complies with the CAM requirements set out by the Italian Ministry of Ecological Transition.

In addition to meeting CAM compliance, S1 has taken proactive measures to lessen its environmental impacts by adding electric and natural gas cars to its fleet, which increase its appeal to clients who care about the environment. In order to prepare logistics for future events, the organization organizes monthly planning meetings. During these meetings, it highlights sustainable methods that match the requirements of the public sector.

However, S1 has a number of obstacles to overcome before successfully putting these sustainability measures into practice. Transporting valuable products demands extra caution to reduce environmental impact, which is why S1 regularly trains its drivers on eco-driving techniques. In order to develop an ecologically conscious workforce capable of fulfilling CAM criteria, this training is crucial. Managing compliance documents is another major challenge for S1, particularly when dealing with bigger suppliers in its network. Relationships with smaller, local suppliers are often cordial and compliant, but certification verification is frequently made more difficult by the unequal power dynamics with bigger businesses. These difficulties highlight how difficult it is to keep a sustainable supply chain going when dealing with a variety of partner dynamics.

S1's sustainability initiatives have benefited greatly from the assistance of the University of Padova, which has provided useful advice on how to match its operations with environmentally friendly event logistics techniques. To guarantee compliance with CAM and ISO standards, S1 also regularly audits and verifies compliance across its supply network. This methodical approach highlights the company's commitment to accountability and ongoing development in sustainable operations, strengthening its standing as a proactive logistics partner that satisfies the changing needs of public procurement with a sustainability focus.

3.1.2 Supplier S2 - Audio/Video Services Provider

Supplier S2 is a provider of audio and video (tech) services for events in the industrial sector with a focus on delivering top-notch audiovisual solutions and event design tailored for a wide range of public and private gatherings. Despite having a small team

of 5–10 partners or colleagues working collaboratively at Supplier S2's end, the company has achieved an annual revenue exceeding 1.55 million euros, with approximately 90 percent of its earnings directly attributed to event-related activities. The heavy dependence, on event-related services underscores the importance of sustainability in their operations as the requirements of the sector for complying with CAM standards are on the rise.

While Supplier S2 is well-versed in sustainability concepts, particularly ISO 20121, it has not pursued certification. The company's management notes that implementing sustainable practices is challenging due to the difficulty in aligning client demands with eco-friendly solutions as clients frequently prioritize traditional setups that can be less environmentally friendly. For instance, there is resistance among clients to reduce high-energy-consuming practices. Excessive streaming or the preference for single-use audiovisual setups, which add to environmental impact, are some of the examples.

To demonstrate a commitment to sustainability, Supplier S2 has adopted several practices in alignment with CAM standards. Electronic waste is responsibly managed through local RAEE[15] facilities and this process ensures the safe disposal and recovery of materials. For other electronic equipment, the company works with vendors who retrieve and recycle old or broken items, streamlining the disposal process and reducing waste. Additionally, the company has invested in energy-efficient audiovisual equipment. Minimizing power consumption during events is contributing to its overall sustainability goals.

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[15] RAEE (Rifiuti di Apparecchiature Elettriche ed Elettroniche) refers to the management and disposal of waste electrical and electronic equipment in compliance with European Union regulations, specifically Directive 2012/19/EU. This directive, commonly known as the WEEE Directive (Waste Electrical and Electronic Equipment), aims to prevent waste generation from electronic devices and promote the reuse, recycling, and recovery of materials to mitigate environmental impact. By adhering to RAEE standards, companies ensure the environmentally responsible handling and recycling of electronic waste, contributing to a circular economy and reducing landfill waste [53].

The company's vehicle fleet remains largely diesel-powered. Even though the management recognizes the environmental benefits of eco-friendly vehicles, the costs and logistics associated with upgrading to an electric fleet have been prohibitive thus far.

Regarding the sustainability training for employees, it is basically informal. The trainings are largely limited to discussions on topics such as waste separation practices and energy efficiency. The absence of formal sustainability programs or certifications for staff reflects an area of potential improvement. As structured training could foster greater awareness and encourage environmentally responsible practices across all operations, this potential is concrete. While the company has not received specific guidance from the University of Padova on implementing sustainable event practices, S2 remains open to collaborations that could enhance its understanding and execution of sustainability standards, particularly within public sector events.

3.1.3 Supplier S3 - Catering Services Provider

Supplier S3 has established its company as a major force in the local event catering market by operating both in a dedicated event space in Padova and through outside event services. The company employs around 20 to 30 seasonal employees with an average annual turnover of about 2.2 million euros. Event services represent about 60% of the supplier's revenue. This is why Supplier S3 attaches great strategic importance to event services and often assigns full-time teams to put in place logistical services and control the quality of its offerings. This business model excels at reinforcing sustainability in response to public sector clients' needs and often asks to work according to CAM.

Despite no formal certifications, Supplier S3, with respect to ISO 20121, has fairly deep knowledge concerning various ways to articulate sustainability. A dedication to environmentally friendly practices is demonstrated by its adherence to CAM, which is required by the Italian Ministry of Ecological Transition. However, implementing these measures poses significant financial challenges. The expenses of sustainable equipment and environmentally friendly products increase the pressure to continue being profitable. It is uncommon for the premium cost of sustainable resources to be covered, particularly under fixed public sector budgets.

As part of its commitment to reduce waste, Supplier S3 collaborates with local charity organizations to redistribute leftover food, striving for nearly zero food waste. However, accurate event attendance projections by public sector clients remain a challenge. Occasionally, the challenge leads to surplus food that must be discarded, thus undermining their waste-reduction goals.

In this instance, Supplier S3 prioritizes the sourcing and packaging of regional and seasonal ingredients in accordance with CAM standards established by relevant authorities. Despite this commitment to responsible sourcing of organic products, its other objectives remain. For instance, the excessive cost of organic ultimately limits them concerning setting them into catering operations. The other aimed focus area is sustainable packaging, demonstrated by the fact that nearly 70% of materials are recyclable or biodegradable which directly means to reduce the impact on the environment. However, balancing sustainable material with cost was an arduous task. Most of the vehicles in the fleet of suppliers run on diesel; however, for long-term sustainability goals, they have begun adding more eco-friendly vehicles. Presently, about half of the fleet consists of newer models with lower emissions: a first step towards decreasing its carbon footprint. Because of budgetary concerns, though, the transition to low-emission or electric vehicles is limited.

Since structured training programs have not yet been established, team meetings serve as an informal venue for training on sustainability practices. Even if most employees are aware of sustainability procedures, a deeper incorporation of sustainable practices into day-to-day operations may be hindered by the absence of formalized training. Although the University of Padova has given the business general guidelines about sustainability expectations, more useful, hands-on assistance would be helpful. The supplier points out that specific instructions, like materials or instruments for more successfully putting sustainable practices into practice, could help its compliance efforts, especially given the budgetary restrictions of the public sector contracts.

3.1.4 Supplier S4 - Cleaning Services Provider

Supplier S4 is a major player in the Italian cleaning services and facility management sector, with a specialization that spans a wide range of sanitation, maintenance, and operational support services for various industries. The company manages a vast

workforce of approximately 13,255 employees and achieved a remarkable production value of 626 euros million in 2023. Though S4's focus remains primarily on cleaning and sanitation rather than direct involvement in event-specific services, it has established a significant operational presence that allows it to serve both public and private clients on a large scale, including some of Italy's most prominent public institutions.

Since the company sees sustainability as essential to long-term success and competitive advantage, it has incorporated it into its operational and strategic vision. S4 has actively sought and obtained a number of sustainability certifications, such as Ecolabel certification for its indoor cleaning services and ISO 14064 for CO_2e emissions reporting. This commitment is further underscored by S4's investment in a photovoltaic system at its headquarters, which contributes to its carbon reduction efforts by generating renewable energy on-site. Additionally, S4 collaborates with environmental bodies, such as the Tuscan-Emilian Apennines Park, to purchase carbon credits, compensating for the environmental impact of its operations.

S4's approach to sustainability in waste management is robust and systematic. Waste generated from cleaning and maintenance operations is managed through a precise system of separate collection, where waste from various production sites is collected and delivered to designated accumulation points. A specialized team then carefully follows CAM regulations while transporting it to ecological islands or temporary deposits. S4 supplier also runs large-scale waste reduction initiatives aimed at both clients and staff in an effort to foster an environmentally conscious culture across its network.

In product procurement, S4 emphasizes the use of non-toxic, eco-friendly cleaning products, progressively increasing its reliance on Ecolabel-certified[16] supplies to meet CAM criteria. Their cleaning equipment is designed with high percentages of recyclable materials, and they employ energy-efficient machinery to minimize energy consumption during operations, supporting the company's commitment to reducing its

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[16] Ecolabel certification is an official EU designation awarded to products and services meeting high environmental standards throughout their life cycle, from production to disposal; https://ec.europa.eu/environment/ecolabel.

overall environmental footprint. The company is also upgrading its vehicle fleet to include low-impact, eco-friendly options powered by LPG, methane, and electricity, with the goal of significantly reducing CO_2 emissions associated with transportation.

3.2 Within-Case Analysis:

There will be a within-case analysis to take some insights from semi-structured interviews with the company representatives to provide an in-depth analysis of the different contexts and experiences of each supplier in relation to sustainable event management and CAM compliance. This methodology is quite standard in operations management research [47], and such consideration thus allows for an intensive exploration of companies' sustainability practices and their challenges. This framework is attempted to adhere to qualitative rigor as prescribed by "Case study research: Design and methods" [51]. The analysis thus attempts to disclose some useful insights into the different challenges, drivers, and outcomes in relation to CAM adoption.

A summary of the within-case analysis is provided in Table 3.1 below, after which the key findings from the interviews are examined in more detail.

Table 3.1 Key findings from the interviews (within-case analysis)

ID	Sustainability Importance	Main Challenges	Sustainable Practices	Training and Support	Sustainability Certifications Known/Pursued	Impact of Certifications on Practices
S1	Essential for long-term success	Vehicle transition costs	Uses recyclable materials, eco-friendly vehicle mix	Monthly sustainability meetings, quarterly courses	Aware of ISO 20121, holds RINA safety certifications[17], not pursued ISO due to cost	Certification awareness raises sustainability profile, but cost impedes ISO pursuit
S2	Acknowledged but challenging	Persuading clients against	E-waste management,	Provides informal guidance on	Lack of certification focus reflects in	Acknowledged but challenging

17 RINA, a global provider of testing, inspection, certification, and consulting services, offers a range of safety certifications across various industries. These certifications ensure compliance with international standards and enhance organizational safety performance; https://rina.org.

		unsustainable choices	energy-efficient equipment	waste separation	minimal formal sustainability practices	
S3	Very important for public sector	High cost of eco-friendly goods	Minimizes food waste, uses local and seasonal ingredients, biodegradable materials	Informal training during meetings	CAM compliance enhances commitment to sustainability, influencing operations and client trust	Very important for public sector
S4	Strategic lever, focuses on governance, environmental, social impact	Engaging employees in sustainability	Uses eco-friendly products, energy-efficient machinery	Comprehensive sustainability training, Ecolabel certification	Sustainability integrated; holds ESG certifications, not relevant: ISO 20121/CAM	High level of certifications promotes strong sustainability governance and operations

Table 3.1 Key findings from the interviews (within-case analysis, Continued)

3.2.1 Supplier S1- Logistics Service Provider

Supplier S1, a prominent participant in the transportation and logistics industry, has taken proactive measures to tackle the difficulties of integrating sustainability into its operations in reaction to the increasing impact of CAM and Green Public Procurement (GPP)[18]. Recognizing the growing significance of sustainability as a competitive advantage, S1 maintains close relationships with important public sector clients, such as the University of Padova. However, the decision not to achieve ISO 20121 certification highlights a strategic calculation due to the relatively minor financial impact of event logistics on its operations. So far, S1's broader sustainability approach aligns with public sector expectations, particularly as it continues to evolve its sustainable practices.

One of the most notable initiatives S1 has undertaken to meet CAM standards is transitioning to an eco-friendlier vehicle fleet. This transition includes integrating both

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[18] Green Public Procurement (GPP) is a process whereby public authorities seek to procure goods, services, and works with a reduced environmental impact throughout their life cycle; https://ec.europa.eu/environment/gpp.

natural gas and electric vehicles. Reducing carbon emissions while enhancing the company's appeal to environmentally conscious clients and partners. These changes reflect a commitment to minimizing the environmental impact of its core logistics services, aligning well with CAM requirements. Despite these advancements, S1's shift toward sustainability in transporting high-value goods presents operational challenges, particularly in ensuring a zero-impact approach. To address these challenges, the company provides eco-driving courses for drivers, equipping them with the skills needed to operate sustainably within the CAM framework.

Challenges extend beyond transportation practices to encompass supplier relationships and certification verification. S1's supply network includes a mix of smaller local suppliers and larger entities, each presenting distinct compliance dynamics. While smaller suppliers are generally cooperative in meeting CAM standards, S1 encounters challenges with larger partners where documentation verification and certification processes become complex. This highlights an imbalance in bargaining power that complicates S1's efforts to maintain a sustainable supply chain fully aligned with CAM.

S1's close collaboration with the University of Padova has provided additional support in implementing sustainable practices tailored to public procurement demands, specifically for events. The logistics provider has established a routine of regular audits and compliance checks across its supply network, reinforcing its commitment to accountability and continuous improvement in sustainable operations. This structured approach not only strengthens S1's competitive position but also prepares the company to meet the increasing sustainability expectations of public sector clients. Through these actions, S1 positions itself as a forward-thinking logistics provider, adapting its strategies to align with the evolving landscape of sustainability-focused public procurement.

3.2.2 Supplier S2- Audio/Video Services Provider

The experiences that Supplier S2 has had are indicative of the particular difficulties that small suppliers in the audiovisual industry face. Maintaining high service quality while upholding sustainability standards in a small business requires striking a balance between customer needs and operational realities. The supplier is well aware of the

significance of adjusting to CAM standards because events make up the majority of its revenue, even though complete compliance is still difficult to achieve.

The company follows environmental best practices in electronic waste disposal, which aligns with the principles of RAEE, ensuring that obsolete and broken equipment is processed to minimize environmental impact. This approach reflects the company's commitment to sustainability within a sector where short equipment lifespans can create significant waste. There is also an emphasis on energy efficiency within the selection of audiovisual equipment in the company, which represents the intent to reduce the carbon footprint services while still being constrained by the requirements of high-performance systems that can support client expectations.

Challenges persist in achieving sustainability within the transportation and client engagement aspects of the business. Though aware of the benefits of a green vehicle fleet, the supplier has found it difficult to transition from diesel to eco-friendly vehicles. Due to the initial costs and operational requirements of transporting heavy audiovisual equipment to various event sites, S2 has found it difficult to tackle. This reliance on diesel vehicles continues to impact the company's sustainability performance, presenting an opportunity for future investment as the company grows.

A notable challenge identified by S2 lies in aligning client expectations with sustainable practices. Clients often demand high-energy options, such as extensive streaming services and single-use event setups, which conflict with the company's environmental goals. The management faces difficulties in persuading clients to choose more sustainable options, indicating the need for broader industry awareness and client education on the long-term benefits of eco-friendly event practices.

Regarding staff training, S2's sustainability training is informal and would benefit from formalization. Current procedures only provide basic advice on energy and waste reduction and a structured program could help staff members better align with CAM standards and increase operational effectiveness. Furthermore, even though S2 and the University of Padova do not currently have a formal partnership, the business has indicated interest in looking for opportunities or shared resources that could help create a more all-encompassing sustainability plan.

3.2.3 Supplier S3 - Catering Service Provider

Supplier S3 as a significant provider within the event catering sector has faced various challenges and opportunities in aligning with CAM standards and sustainable practices. With event services constituting a substantial 60% of its revenue, the company's operational focus is heavily weighted toward this sector, where public sector clients increasingly prioritize sustainable practices. Despite its familiarity with ISO 20121, the company has not sought official certification. Instead, it conforms with CAM standards, demonstrating a well-rounded dedication to sustainability without the formal certifications that entail extra expenses and administrative duties.

Financial obstacles rank among the supplier's biggest challenges in its sustainability initiatives. Eco-friendly products and equipment come with a premium price, which strains the company's budget, particularly within the constraints of fixed-cost public sector contracts. As a solution to reduce food waste, the supplier collaborates with charitable organizations to redistribute leftover food. While this minimizes waste, the unpredictability of event attendance (particularly for public sector clients) often leads to surplus food that must be discarded. This reflects an ongoing challenge in accurately forecasting demand, which complicates efforts to achieve sustainable waste reduction goals.

Supplier S3's approach to sustainability extends to its sourcing and packaging strategies. The company emphasizes local and seasonal sourcing, aligning with CAM requirements and reducing the environmental impact of transportation. However, the high cost of organic ingredients limits the ability to fully integrate such products into their offerings. Approximately 70% of the supplier's packaging materials are biodegradable or recyclable, a step toward minimizing their environmental footprint. Balancing these sustainable choices with financial realities remains a complex issue, as premium packaging materials add costs that are challenging to absorb without affecting overall profitability.

The company's vehicle fleet is another area where incremental improvements are being made toward sustainability. Even though the majority of the vehicles are still diesel, about half of the fleet has been converted to lower-emission models. Budgetary constraints continue to impede a full shift to an environmentally friendly fleet,

including electric vehicles. Despite their long-term benefits, these investments can be difficult to prioritize when faced with short-term financial difficulties.

In regard to training on sustainability within the company, it is limited to informal discussions during routine meetings. While this approach keeps employees broadly informed, the absence of formalized training programs may hinder deeper and more effective integration of sustainability practices within the team's daily operations. Although the University of Padova offers high-level sustainability guidelines, the business observes a lack of useful assistance, like specific tools or actionable resources, that could improve its adherence to CAM standards without incurring extra expenses. Financial flexibility would assist the supplier in overcoming some of the obstacles to additional sustainable investment, whether through institutional support or government subsidies.

3.2.4 Supplier S4 -Cleaning Service Provider

Supplier S4 stands as a leading figure in the Italian cleaning industry. With sustainability as both a core value and a strategic differentiator, S4 actively integrates eco-friendly practices across its services to meet the challenges posed by Green Public Procurement (GPP) requirements and CAM (Minimum Environmental Criteria). The company's achievements include certifications such as ISO 14064, enabling rigorous monitoring and reporting of greenhouse gas emissions, and the Ecolabel certification for indoor cleaning services, reflecting their alignment with CAM's stringent environmental standards.

Notwithstanding its successes, S4 faces considerable obstacles in sustaining and growing its sustainability programs. Its enormous workforce creates logistical challenges, particularly when trying to establish a deeply ingrained sustainable culture at all operational levels. Engaging employees and stakeholders in sustainable practices is still a crucial but challenging undertaking. To address this, S4 prioritizes continuous training and awareness campaigns for its employees. Training programs are in line with sustainability objectives and Ecolabel standards, giving staff members the fundamental knowledge and abilities they need to comply with CAM regulations and conduct business in an environmentally responsible manner. These initiatives also

extend to client interactions, where S4 seeks to encourage environmental responsibility among its partners.

Additionally, the waste management protocols implemented by S4 underscore the company's commitment to environmental stewardship. Cleaning teams meticulously collect waste from production sites, delivering it to designated accumulation points before transferring it to ecological islands or temporary storage facilities, as required by CAM guidelines. This practice ensures that waste is handled with minimal environmental impact, bolstered by targeted campaigns to promote waste reduction both internally and externally. These efforts reflect S4's strategic approach to sustainability, wherein waste management is viewed not only as a regulatory obligation but also as a moral responsibility.

Moreover, S4's procurement of cleaning products demonstrates its dedication to sustainable operations. A significant proportion of the company's cleaning supplies are Ecolabel-certified, guaranteeing that they meet stringent environmental standards. In addition to using products with low environmental impact, S4's cleaning equipment is made from recyclable materials and designed for energy efficiency. This strategy complements CAM's emphasis on resource efficiency while also supporting S4's sustainability goals. Through the gradual replacement of its fleet with low-impact vehicles, the company has further committed to reducing its carbon footprint. To help achieve its objectives of lowering greenhouse gas emissions, S4 currently uses a range of vehicles that are powered by electricity, methane, and LPG.

In S4's journey toward sustainability, while the University of Padova has not directly provided S4 with resources or support for sustainability practices, it is still open to possible collaborations and outside advice to strengthen its environmental efforts. These kinds of partnerships might be a useful tool for S4 as it navigates the difficulties and expands its sustainable practices.

3.3 Cross-case analysis

The cross-case analysis finds recurrent themes across various organizational contexts to offer a nuanced understanding of the difficulties of implementing CAM and ISO standards. It is at the core of a multiple case study design to achieve greater external

validity of the results [51]. In analysing the experiences of the four suppliers in implementing ISO standards and CAM requirements, distinct patterns emerge, bringing attention to common issues across sectors. These trends show how difficult it is for suppliers to align sustainability standards with their business practices while dealing with industry-specific restrictions, customer requests, and budgetary constraints.

A primary pattern observed across all suppliers is the financial burden which is associated with adopting sustainable practices and materials. It is particularly challenging for suppliers with smaller budgets or those dependent on client-driven revenue models. The supplier S3, for example, encounters significant cost barriers when sourcing organic, eco-friendly ingredients, and biodegradable packaging. Although CAM encourages such materials, the supplier's limited financial capacity constrains its ability to fully transition to sustainable alternatives. Similarly, the S2 supplier, which is highly reliant on client demand for resource-intensive services, faces obstacles in balancing sustainability with profitability. High client expectations for top-tier, often single-use audiovisual setups limit the supplier's ability to choose sustainable options without compromising service quality. This emphasis on financial feasibility echoes the struggles of the S1 supplier, which, despite having a larger revenue base, must make selective investments in eco-friendly vehicles. The costs of transitioning to an entirely sustainable fleet are prohibitive, thus limiting its capacity to meet CAM standards comprehensively. Even the S4 supplier, despite its substantial production value and scale, faces cost-related challenges when scaling eco-friendly products and energy-efficient machinery across its extensive operations. This pervasive financial constraint suggests a need for financial incentives or subsidies, which could help suppliers transition more readily toward CAM and ISO compliance without compromising operational feasibility.

A second pattern that shows up is the challenge of engaging clients and getting them to align with sustainability objectives, particularly in industries where environmental priorities and client preferences diverge. The S2 supplier, for instance, struggles with customers who prefer high-end, energy-intensive setups over environmentally friendly alternatives, which results in a dependence on disposable equipment and frequent requests for streaming services that use a lot of energy. This supplier's difficulty

persuading customers of the long-term advantages of environmentally friendly substitutes is a prime example of the larger problem of customer-driven obstacles to sustainability, which is also evident in the experience of the S3 supplier. The S3 supplier is left with excess food when public sector clients overestimate attendance, wasting resources even though waste reduction measures are taken. This discrepancy between sustainability practices and client expectations for the S1 supplier is reflected in managing relationships with larger clients and partners who may not fully adhere to CAM or ISO standards, complicating the S1 supplier's ability to enforce compliance throughout its supply chain. Across all sectors, these challenges highlight the need for industry-wide awareness and educational initiatives that could help clients appreciate the value of sustainable practices and create a more supportive environment for suppliers striving to meet CAM and ISO standards.

A third pattern involves the limitations within each supplier's operational structure, particularly regarding supply chain management and the verification of compliance documentation, which adds complexity to sustainable practice implementation. The S1 supplier encounters substantial difficulties in maintaining certification verification with larger supply partners, whose bargaining power often hinders the S1 supplier's ability to enforce sustainability compliance. This problem highlights a larger challenge in maintaining a supply network that complies with CAM, particularly when suppliers rely significantly on long-standing partners who might not place a high priority on environmental certification. In the meantime, the S3 provider has trouble finding regional or certified organic suppliers who can reliably satisfy CAM requirements, which makes it more difficult to fully incorporate sustainable ingredients into its products. The S4 supplier has similar difficulties in maintaining compliance across a wide network of equipment and product suppliers, even with its formalized waste management and sustainable product use. Verifying supplier certifications and obtaining external alignment are difficult and resource-intensive procedures, even though the S4 supplier upholds strict internal standards. This is especially pertinent given the sector's reliance on numerous third-party providers for products and equipment, where consistent CAM and ISO compliance may not always be assured. These supply chain-related challenges reflect a need for enhanced supplier

collaboration and possibly third-party support to streamline certification verification processes and reinforce CAM and ISO compliance across diverse supply networks.

Lastly, a trend in training and employee engagement shows up as a persistent issue, with different suppliers using different methods and allocating different resources to sustainability training. The S1 and S4 suppliers, who have comparatively greater operational capabilities, have put in place official training initiatives to elevate staff awareness of sustainability. The S1 supplier provides its drivers with eco-driving training in an effort to lower emissions and comply with CAM regulations. The training programs offered by the cleaning supplier are also organized around its numerous sustainability certifications, giving staff members the skills they need to strictly follow environmental guidelines. In contrast, the S3 and S2 suppliers rely on informal training due to resource constraints, primarily discussing sustainability topics during routine meetings without formal sessions or certification-specific programs. This disparity in training practices limits the smaller suppliers' ability to foster a deeply embedded culture of sustainability within their operations, which could impact the effectiveness of their ISO and CAM compliance. This pattern suggests a need for adaptable training models that can be scaled according to supplier size and resource availability, ensuring that even smaller suppliers can provide comprehensive sustainability education to their employees.

Briefly, the cross-case analysis indicates that the four suppliers have a lot in common when it comes to implementing ISO standards and CAM requirements. These challenges are caused by a variety of factors, including supply chain complexity, client alignment problems, financial constraints, and different approaches to employee training. These trends highlight the need for focused support systems that can handle these common issues while taking into account the particular operational circumstances of every supplier, such as monetary rewards, cooperative client engagement tactics, expedited compliance verification, and expandable training initiatives.

3.4 Recommendations:

3.4.1 General Recommendations for All Suppliers

To help suppliers across sectors strengthen their sustainability practices, a series of practical steps can enhance operational efficiency and align with broader environmental goals. Here are several detailed recommendations that include concrete examples and implementation strategies.

At first, it is notable that improving client communication regarding sustainability can be crucial to matching eco-friendly products with customer expectations. By regularly producing easily readable content that showcases their environmentally friendly efforts, suppliers can proactively inform customers about the advantages of sustainability. For example, suppliers could create a quarterly newsletter called "Sustainability Insights" to highlight recent environmentally friendly changes made to their operations, like switching to biodegradable packaging or implementing energy-efficient machinery. Case studies of effective sustainable projects could be included in this newsletter to show clients the advantages of selecting sustainable solutions. Furthermore, suppliers could include resources such as "green" product catalogues, eco-friendly packaging options, and a summary of their carbon-saving strategies in an educational sustainability section of their websites.

Quarterly "Eco-Friendly Choices" workshops could be held by suppliers to further assist client education. These gatherings would give clients practical advice on how to make sustainable decisions, covering everything from waste minimization to energy-efficient event options. There would be flexibility in whether these workshops were conducted in person or virtually. To show customers how to cut waste without sacrificing quality, a catering supplier might, for instance, show how to use reusable serving utensils instead of single-use ones. In order to guarantee that customers are not only aware of sustainable options but are also inspired to select them, suppliers actively cultivate client knowledge.

Secondly, offering financial flexibility and exploring support opportunities can help suppliers manage the upfront costs associated with eco-friendly practices. Finding outside funding sources is essential because budgetary restrictions prevent many smaller suppliers from implementing sustainable changes. Suppliers should consider

exploring government-funded green programs, such as Italy's initiatives promoting circular economy practices, or EU grants specifically aimed at supporting sustainability efforts in small and medium enterprises. Examples include funding opportunities through EU programs like Horizon Europe and LIFE, which offer resources to advance sustainable practices across various sectors. For instance, a logistic supplier could apply for a green transportation subsidy to offset the cost of upgrading to electric or low-emission vehicles. These grants often cover a portion of the initial investment, making it easier to integrate eco-friendly upgrades without the immediate financial burden.

Suppliers can also think about other financing options like "pay-as-you-save" (PAYS) plans or green loans, which are intended to help with sustainable transitions. In order to promote environmentally friendly investments, banks and certain environmental financing programs often offer green loans with attractive interest rates. A supplier who intends to upgrade to energy-efficient equipment, for instance, might be able to obtain a green loan and use the energy savings from the upgrade to pay back the loan over time. Suppliers may choose to implement sustainable changes gradually if direct financing is not as practical. They might focus on the most significant areas, like moving to renewable energy sources or phasing out non-recyclable packaging materials, rather than doing a total overhaul. This methodical approach enables suppliers to gradually expand their sustainability initiatives, resulting in financial gains for environmentally friendly enhancements.

Another useful tactic for giving continuous insights into the accomplishment of sustainable projects and assisting suppliers in pinpointing areas for development is internal sustainability reporting. Suppliers can monitor metrics like waste reduction, energy consumption, and eco-friendly sourcing by setting up a basic, internal reporting system using pre-existing tools like Excel or by using specialized sustainability software. For instance, a catering supplier might keep tabs on monthly food waste statistics, recording the amount of food waste that is donated or composted instead of thrown away. Suppliers can improve their waste management procedures by using this data to examine seasonal patterns or client-specific requirements. Frequent reporting also puts suppliers in a position to openly communicate their progress to stakeholders and clients. Even without formal certification, suppliers can create sustainability

updates as part of their client engagement, showing measurable progress and a commitment to continuous improvement.

Cross-sector collaboration offers another powerful way for suppliers to pool resources, share knowledge, and develop industry best practices. Establishing a supplier consortium, perhaps in collaboration with the University of Padova, could enable suppliers to address common challenges like waste reduction, sustainable training programs, and client engagement strategies collectively. Such a consortium could develop a comprehensive "Sustainable Event Toolkit" that provides actionable steps for suppliers to minimize environmental impact. This toolkit might include strategies for reducing plastic usage at events, such as substituting compostable cutlery and service ware for single-use plastics, setting up recycling stations at event sites, or implementing a composting plan for organic waste.

Moreover, suppliers could organize joint training sessions or invite sustainability experts to share insights on eco-friendly practices. For example, logistic and audio and video service suppliers might co-host a workshop on reducing carbon emissions during event setup, covering topics like efficient transport routes and energy-efficient equipment use. By means of such collaborations, suppliers can not only reduce costs by sharing resources but also ensure that they adopt consistent, high-impact sustainable practices across the sector. Suppliers could also consider negotiating bulk purchase agreements for eco-friendly materials like biodegradable packaging or recycled paper products, which would reduce individual costs and ensure a steady supply of green materials for all participants in the consortium.

These suggestions give suppliers a variety of practical tactics for successfully integrating sustainability into their operations. Suppliers from various industries can build a more robust, environmentally responsible supply network that meets the changing demands of the event management sector by putting a higher priority on client communication, looking into financial assistance, putting internal reporting into place, and taking advantage of collaborative opportunities. This comprehensive strategy guarantees that suppliers not only fulfil environmental objectives but also establish enduring bonds with customers and stakeholders, establishing them as proactive, accountable partners with a common dedication to environmental stewardship. Suppliers can promote a more sustainable ecosystem that supports long-

term success and favourably impacts more general sustainability goals by implementing these focused efforts.

3.4.2 Suggestions for Event Management Organizations and the University

To promote a more sustainable supply and bolster alignment with ISO 20121 and CAM standards, the University and other event management organizations can implement a series of targeted strategies. This includes simplifying sustainability requirements and equipping suppliers with proper resources, making sustainability efforts more accessible and practical for businesses of all sizes. As a result, the event ecosystem becomes more sustainable, with suppliers and organizers collaborating to promote environmental stewardship and standardize sustainable practices.

One of the most effective starting points to encourage sustainability is to establish a clear alignment with suppliers by communicating specific goals and performance benchmarks that all parties can work toward together. As an example, the University or any event organizer could set measurable targets, such as reducing waste by a specified percentage or increasing the use of local suppliers by a certain margin within a designated time frame. This helps suppliers understand how their efforts fit into the event's or institution's broader sustainability goals in addition to setting clear goals. These targets can be reinforced through an incentive structure that recognizes suppliers who go above and beyond in their sustainability efforts. These would include financial rewards, recognition at the annual occasions, or preferential consideration during the issuing of future contracts. The approach of selecting suppliers in this way emphasizes the importance of good practices and encourages others to comply with sustainability standards in order to improve their perceived value in the industry.

Building suppliers' capacity to achieve sustainability goals should be supportive and educational in approach. Many suppliers, especially smaller ones, have trouble comprehending certain complex standards and cannot always deliver. A "Sustainability Toolkit," which sets out the requirements in clear and concise steps, along with pictures, maps, and other useful advice, can provide an answer. Different kinds of suppliers, from cleaning to logistics to catering, could be provided with sector-specific simple checklists to evaluate where they can implement specific sustainable practices. Concerning catering suppliers, one could guide them on using locally

sourced ingredients as a way to reduce the carbon footprint in food production and minimize the generation of packaging waste through bulk purchasing. Running workshops or training courses explaining ISO 20121 requirements and demonstrating best practices in compliance can also develop suppliers' knowledge and skills for a sustainable transition. A digital platform could also be a space providing resources, templates, best practices and a place for the suppliers to share insights or ask advice from their peers. A catering supplier might learn about innovative waste-reduction ideas from the logistic supplier and transport this knowledge-sharing dynamic on the collaborative platform that encourages continuous improvement.

Assessing and monitoring are vital for sustainability success over time. Through regular meetings with the suppliers, the university or event organizer can keep the conversation going to discuss progress, issues, and opportunities for support. Review meetings could include updates on a variety of topics: for example, switching to eco-friendly packaging or sourcing regionally. A structured report card system could allow these reviews to maintain focus on desired sustainability metrics, such as: reduction of waste, energy consumption, and environmentally friendly sourcing. It could include the acknowledgment and encouragement of suppliers that affirmatively state their efforts to reduce single-use plastic waste or demonstrate energy efficiencies in their operations, and guidance for those having trouble finding the resources to meet their goals. Such a system encourages accountability and transparency, hence keeping sustainability efforts open to scrutiny and adjustment as the need arises. The suppliers could receive very specific feedback to improve certain areas and, thereby, foster a culture of continuous improvement.

As integrating sustainability into procurement policies ensures that environmental responsibility becomes an inherent standard for suppliers' selection and evaluation, it helps reinforce the due weight that event organizers give to sustainable behaviour throughout the entire supply chain. For example, procurement policy could specify that all catering suppliers use a minimum of biodegradable packaging, or that logistics and transport suppliers must commit to a certain portion of their fleet being environmentally friendly vehicles. Moreover, long-term contracts could be extended to suppliers who promise particular sustainability improvements, such as replacing their fleet with electric vehicles or sourcing from certified sustainable vendors. The

approach rewards the event organizers for sustainability practices and gives suppliers the confidence to invest handsomely, knowing that support from the event organizers will always be forthcoming.

Open communication and engagement are vital to building a cohesive sustainability culture. Workshops, webinars, or roundtable discussions can provide valuable opportunities for university staff, event organizers, and suppliers to come together and discuss sustainability initiatives, share updates, and work on joint strategies for reducing the environmental impact of events. For example, a quarterly workshop might focus on methods for minimizing waste at events, allowing suppliers to share their own methods, learn from others, and receive feedback on their initiatives. Annual sustainability reports issued by the university or event organizer can further support this effort, documenting progress toward ISO 20121 compliance, recognizing suppliers' contributions, and identifying challenges and solutions encountered along the way. This transparency not only enhances the reputation of the university or organization as a sustainability leader but also inspires suppliers to strengthen their own green initiatives, knowing that their contributions are recognized and valued.

Another way to build compliance is by simplifying parts of the CAM standards and supporting suppliers in their implementation. Many suppliers, mostly the small ones, might find CAM requirements hard to adopt due to their intricate and ambiguous nature. Providing some CAM guidance for simplified reference, as outlined in the Appendix B, clearly supports a supplier in this bid to adopt sustainable practices. The summary emphasizes some important terminologies and breaks down compliance into simple manageable steps which makes it user-friendly for the supplying companies to understand and adopt CAM standards into their daily operations. By concentrating on the critical requirements, the lean approach enables practical adoption while creating alignment with sustainable objectives across the supply chain. For example, a supplier of cleaning services could benefit from a CAM checklist pointing out the imperative use of safe and non-toxic products, specifying types of certifications such as Ecolabel that comply with CAM. The logistics supplier might benefit from similar guidelines explaining how to work with eco-friendly packaging or route planning techniques aimed at cutting down emissions. Targeted guidance with information broken down

reduces the barriers for compliance for the suppliers by event organizers or universities.

Fulfilling these barriers presents an important mechanism for engaging suppliers in adopting changes that enhance both their market positioning and sustainability practices. Event organizers should actively provide support and propose various financing mechanisms, such as grants, government subsidies, or green loans, to help suppliers overcome financial hurdles and facilitate eco-friendly investments. For example, a small supplier can use EU Green Deal funding to buy new energy-efficient machines to replace old ones. In cases where suppliers, nonetheless, run into hefty first costs, options such as green loans and pay-as-you-go financing for building projects can put forward the foundation; by letting suppliers repay over time from savings realized through eco-friendly alterations, the demands of compliance would ease considerably. To further ease the financial strain, event organizers could establish a sustainability fund to provide small grants for suppliers making green investments, such as purchasing compostable utensils or installing energy-efficient lighting.

Fostering cross-sector collaboration can amplify sustainability efforts by encouraging suppliers to share resources, knowledge, and best practices. It would create a consortium or network where suppliers from different sectors could come together to discuss the challenges, share best practices, and put resources together to drive group sustainability initiatives. For example, those providing services may be working together to produce a waste reduction guide with workable tips on going light on packaging, recycling materials, and food surplus management at events. Indeed, group purchasing agreements could afford suppliers the opportunity to jointly purchase sustainable supplies, i.e., biodegradable packaging or energy-efficient equipment, at very reduced prices, making sustainable sourcing an easier choice for procurement officers. Annual or semi-annual workshops are suggested. Here, suppliers can be introduced to environmentally sustainable options such as the latest in zero-waste event management, so all participants remain informed of the latest technological developments in sustainability.

By implementing these practical strategies, universities and event organizers can establish a framework for sustainable collaboration, where suppliers and stakeholders work together to create environmentally responsible events. Through targeted goals,

simplified CAM guidelines, accessible resources, and incentives, suppliers across various sectors can enhance their sustainability practices and make meaningful contributions to the broader goals of environmental stewardship. This approach not only helps suppliers meet current standards but also develops a culture of continuous improvement, positioning the entire event ecosystem to address the growing demand for sustainable solutions and leave a positive impact on future generations.

Conclusion

In conclusion, sustainable event management is increasingly recognised as a critical tool for addressing the interconnected societal and environmental challenges of our time. By adopting a holistic approach, event planners can create initiatives that not only meet the needs of stakeholders but also positively impact the communities they serve [11]. Sustainable events can act as platforms to promote more sustainable ways of living and associated technologies, or by providing direct experiences of more sustainable lifestyles or communities [54]. Beyond merely reducing environmental impacts, they serve as transformative spaces that encourage sustainable behaviour aimed at inspiring sustainable transitions within society [37].

While sustainable events have notable potential, most existing research has concentrated on understanding their social impacts [55, 56, 57, 58] and economic benefits [59, 60, 61, 62]. However, there is a distinct lack of studies that explore the specific challenges suppliers face in implementing sustainability standards within the event industry. This gap highlights the need for deeper investigation into the operational, financial, and strategic obstacles that suppliers encounter as they work to align with sustainable event practices.

This master's thesis addressed this gap by focusing on the experiences of the first-tier suppliers, particularly examining how ISO 20121 and CAM standards adopted by an event organization, specifically the University of Padova, affected its suppliers' operations. By gathering and analysing empirical evidence from suppliers in the event sector, this research aimed to provide a detailed understanding of the challenges and adjustments required to meet sustainable event standards. Through examining these suppliers' experiences, the study shed light on the ways sustainability standards shape their operational approaches, supply chain relationships, and overall commitment to sustainability goals.

Through the methodology of multiple case studies [51] and by triangulating the data collected from the semi-structured interviews with additional documentation provided by the suppliers themselves (e.g. their sustainability reports) or by the public partner organisation working with them (e.g. tender and contract documents related to tenders awarded to the supplier), within and cross-case analyses were developed [47]. This study's findings reveal that the implementation of these sustainability standards has introduced diverse and significant challenges impacting the operations of suppliers within the event sector, particularly those collaborating with the University of Padova. This study sheds light on the impacts of ISO 20121 and CAM standards on how suppliers operate within the event sector. To address these challenges, the study recommends that suppliers invest in structured training programs, build partnerships with other suppliers to ensure compliance, and leverage financial mechanisms such as grants or green loans to support eco-friendly practices. For organizers, simplifying sustainability requirements, enhancing communication with suppliers, and providing technical and financial support are critical steps to fostering alignment with ISO 20121 and CAM.

Still, it is important to consider a few limitations. Since the study focuses on one institution within the Italian context, it may not fully capture variables that might play out differently across other regions or industries.

More research is needed to get a complete picture of how ISO 20121 affects suppliers and to pinpoint key factors like supplier traits, client demands, and specific procurement requirements that could influence how these standards are implemented within supply chains. Broadening this research can also help develop useful propositions to deepen the conversation on sustainable event management.

Future studies could widen the scope by involving a larger group of suppliers and exploring different regional settings and event organizations. This would offer insights into how various environmental and regulatory landscapes impact the effectiveness of sustainability standards.

Appendix

Appendix A: Interview Protocol

Common Questions for All Suppliers

1. What does your company do and what is its size in terms of turnover and/or number of employees?

2. How much does the events sector weigh on your business strategy in terms of turnover and/or associated costs (time, resources)?

3. Are you familiar with the concept of sustainability and its importance in the context of ISO 20121?

4. Does your company currently comply with CAM (Minimum Environmental Criteria) standards for the organization and management of sustainable events?

5. How do you evaluate the importance of sustainability in your sector for long-term business success?

6. What are the main challenges you face in implementing sustainability measures across your business operations?

7. Does your company provide sustainability training to staff?

8. Have you received any specific guidance or support from the University of Padova on how to implement previous sustainable practices for events? If yes, what type?

9. What additional support or resources would you require to better implement sustainable practices?

Logistics Supplier-Specific Questions

1. How do you manage waste in your logistics operations?

2. Do you prioritize local, eco-friendly suppliers or materials for your logistics services?

3. Do you integrate sustainable packaging options in your logistics processes?

4. Are your logistics vehicles optimized for reducing carbon emissions?

Catering Supplier-Specific Questions

1. How do you manage food waste in your catering services?

2. Do you source local, seasonal, and organic ingredients for your services?

3. Do you integrate sustainable food packaging options?

4. Are your catering vehicles optimized for reducing carbon emissions?

Tech Service Supplier-Specific Questions

1. How do you manage electronic waste in your technical support operations?

2. Do you source energy-efficient hardware or environmentally certified equipment for your services?

3. Do you integrate sustainable packaging or disposal options for tech-related materials?

4. Are your service vehicles optimized for reducing carbon emissions?

Cleaning Supplier-Specific Questions

1. How do you manage waste in your cleaning operations?

2. Do you source eco-friendly, non-toxic cleaning products for your services?

3. Do you integrate sustainable cleaning supplies and equipment (e.g., reusable or biodegradable materials)?

4. Are your cleaning vehicles optimized for reducing carbon emissions?

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Additional Questions for Assessing Carbon Footprint

If you have a bit more time, we have a few final quick questions that would greatly assist us in assessing the carbon footprint of our events. Thank you so much for your collaboration.

1. How do you and your colleagues usually commute to the venue where the University of Padova events are held?

2. On average, how many times do you need to visit the venue for your job?

3. What is the average distance of your commute to the venue?

Appendix B: Guideline Summary

Appointment of a Sustainability Manage:

- Appoint a Sustainability Manager to oversee all sustainability actions.
- Verify the appointment presentation signed by the legal representative.

Operational meetings:

- Conduct operational meetings using telematics tools like video conferencing to minimize costs and environmental impacts.

Accommodation and logistical support facilities:

- Ensure accommodations and logistical support facilities are accessible and located within 1 km of the event venue.
- If accommodations are not within the specified distance, LPT vehicles or slow mobility infrastructure should connect them.
- Provide a list of accommodations with distances from the event location for verification.

Tickets, information, and promotional material:

- Utilize digital entrance tickets accessible to all, with paper tickets available only upon request.
- Prefer digital communication and promotional materials accessible via web and social media.
- Implement technological systems like QR codes for continuous consultation materials.
- Use recycled and recyclable materials for posters and advertising.
- Produce information and promotional materials in quantities that minimize waste.
- Choose typography and printing processes with reduced environmental impact.
- Provide a detailed report signed by the legal representative outlining ticket sales, communication, and promotion strategies while minimizing material use.

- Include a distribution plan for promotional and information materials, specifying targets and evaluation criteria.

- Ensure graphic paper and printed materials have environmental certifications.

Accessible communication at events:

- Ensure subtitling is provided for all events involving public speaking, both in-person and remotely, to assist individuals with hearing disabilities and communication deficits.

- Subtitling methods can include stenotyping, real-time reformulation, or voice recognition software for automatic transcription.

- Consider providing translation into Italian Sign Language (LIS) for broader accessibility.

- Submit a report signed by the legal representative detailing how the accessibility criteria will be met.

Equipment and Furnishings:

- Plan event setup with innovative and circular solutions to prevent waste and optimize resources.

- Use arrangements and furnishings that are reusable and do not contain specific event details.

- Reuse elements from previous events or rental centres; ensure compliance with environmental criteria for rented furnishings.

- For new acquisitions, comply with technical specifications for interior furnishings or street furniture items.

- Floral arrangements should be sourced from local nurseries meeting environmental criteria.

- Verify compliance with technical specifications for interior furnishings and street furniture items.

- Ensure authenticity of invoices for reintroduced pallets and provide product technical data sheets for cardboard fittings with recycled content.

- Verify compliance with technical specifications for floral arrangements from local nurseries.

Packaging of Installations, Furnishings, and Works:

- Use packaging solutions that reduce the quantity of packaging for transporting set-up elements, furnishings, and works.
- Group works of art in compliance with conservation requirements to ensure correct handling and integrity.
- Ensure packaging complies with the "Packaging" technical specification in the Minimum Environmental Criteria for the purchase of interior furnishings.
- Reuse packaging for displays and works or send them for recycling.
- Verify compliance with the "Packaging" criterion from the Minimum Environmental Criteria for the purchase of interior furnishings.

Collection and Reuse of Displays:

- Elements of installations and furnishings should be intended for reuse in subsequent events or transferred to third parties for humanitarian purposes.
- Consider transferring goods to organizations like the Italian Red Cross or non-profit bodies if not reused.
- Disassemble installations into individual components for recycling if not suitable for reuse.
- Provide a feasibility plan for reuse of installations and any agreements with third parties involved in the reuse process.
- If reuse is not feasible, provide justification for recycling.

Gadgets and Prizes:

- Avoid distributing gadgets to reduce waste production; opt for non-material gadgets or those with minimal packaging.
- Only distribute gadgets and race packs that are relevant to the event, reusable, durable, and made from recycled, recyclable, or renewable materials.
- Use fabric or biodegradable materials for sports competition bibs and 100% recyclable material for capes.
- Select prizes that align with environmental and social sustainability principles.
- Ensure gadgets and prizes are usable and recognizable, especially benefiting individuals with disabilities.

- Provide technical data sheets for products offered, detailing brand, model, sustainability characteristics, and recovery material type to demonstrate compliance.

Location of the Event:

- Choose event locations with high-energy efficiency and renewable energy sources if not already installed.

- Prioritize venues accessible by public transport and accommodating individuals with disabilities and specific needs.

- Opt for natural lighting and renewable energy sources like electricity from renewable sources.

- Comply with noise regulations and conduct acoustic impact assessments, especially in sensitive areas.

- Evaluate outdoor event locations based on various factors like water supply, waste collection, electricity access, and accessible toilets.

- Prefer well-trodden areas for events in natural or semi-natural settings, considering environmental constraints and biodiversity.

- Use generators powered by renewable energy if connection to the electricity grid is not feasible.

- Provide a technical report for indoor events and a plan/cartography for outdoor events detailing compliance with location criteria.

- For events near protected areas, assess compatibility with environmental regulations and implement precautionary measures to protect ecosystems.

- Conduct impact studies for events near Natura 2000 network sites.

Transport of Materials:

- Prefer rail transport for moving event materials to reduce environmental impact.

- Group materials efficiently to minimize the number of transports and lower air pollution.

- Ensure light commercial vehicles (N1) meet specified CO_2 emission thresholds as per Table.

- Provide copies of vehicle registration documents and a report on measures to reduce vehicle circulation and air pollution, especially for transporting works of art.

- The contract execution director verifies compliance through inspections and acquisition of technical documentation during the event.

Vehicle categories	CO2 emission thresholds
Light commercial vehicles with mass up to 3.5 tonnes (N1, class II and III)	225 CO2g/km (NEDC) 315 CO2g/km (WLTP)
Light commercial vehicles (N1, class I)	150 CO2g/km (NEDC) 200 CO2g/km (WLTP)

Sustainable Mobility to reach the events and move within it:

- Evaluate the need for a specific mobility plan based on expected attendance.

- Promote sustainable mobility by providing information on public transport, cycling, and walking routes to the event.

- Collaborate with transport companies for discounts on tickets and shared mobility services.

- Offer discounts to attendees arriving by public transport.

- Utilize electric shuttles and vehicles within the event area for transportation.

- Facilitate carpooling through a virtual noticeboard.

- Provide free or discounted parking for sustainable transport users.

- Request additional public transport routes if local services are insufficient.

- For large events, develop a Sustainable Mobility Plan compliant with urban mobility tools.

Energy Consumption:

- Implement measures to reduce energy consumption during the event, focusing on ventilation, air conditioning, and temperature regulation in closed spaces.

- Prioritize natural lighting and use energy-efficient light sources like LED for event environments.

- Utilize automatic regulation systems for lighting systems compliant with relevant standards to ensure energy efficiency and safety.

- When purchasing new energy-related equipment, opt for the highest energy efficiency class available or the next lower one.

- Provide technical data sheets of equipment and lighting systems showing energy efficiency certifications and required technical characteristics.

Personal Hygiene Products:

- Ensure that tissue paper products (e.g., toilet paper, disposable wipes) provided possess the EU Ecolabel or equivalent environmental labels compliant with UNI EN ISO 14024.

- Use liquid soaps with the EU Ecolabel or equivalent environmental labels compliant with UNI EN ISO 14024.

- Provide dispensers for hand soaps that can transform the product into foam without using propellant gases, which can be mobile or fixed.

- Submit technical data sheets of the products used, demonstrating possession of required certifications and technical characteristics.

- The contract execution director verifies compliance during the event through inspections and acquisition of technical documentation and related purchase invoices.

Products for Cleaning Environments:

- Use detergents for ordinary cleaning that have the EU Ecolabel or equivalent environmental labels compliant with UNI EN ISO 14024, such as Nordic Ecolabel, Der Blauer Engel, or Österreichisches Umweltzeichen.

- Utilize dosing systems or equipment that prevent arbitrary dilution by service workers, such as water-soluble sachets, capsules, dosing bottles with fixed trays, or automatic dilution devices.

- Ensure service workers, following appropriate methods in terms of frequency, dosage, formulation, and exposure, use disinfectants responsibly. Concentrated formulations should be used with special dose measurement systems.

- Provide a complete list of detergents and disinfectants used, including manufacturer details, commercial names, and possession of environmental labels compliant with UNI EN ISO 14024.

Temporary Refreshment and Catering Service:

- Provide micro filtered water if preferred and consider making it freebased on costs incurred.

- Supply mains water free of charge if it meets consumption standards and can be micro filtered.

- Promote the use of mains water over bottled mineral water for environmental and economic benefits.

- Use recyclable bottles with at least 30% recycled material if mains or micro filtered water is inaccessible.

- Prefer mineral water from the nearest natural spring with an adjoining bottling plant.

- Offer at least one proposal for organic wines and one for DOC or DOCG wines if alcohol is distributed.

- Ensure at least 30% of fruit juices are organic and provide options without added sugars or synthetic sweeteners.

- Include tropical fruit juices and nectars from fair trade sources if not organic.

- Require the main ingredient of all preparations to be organic, or DOP, IGP, or certified "mountain products" if cured meats or cheeses.

- Offer vegetarian dishes with vegetable proteins, wholemeal flours, and multigrain, considering dietary restrictions.

- Use organic eggs, extra virgin olive oil for seasonings, and organic milk and yogurt.

- Verify compliance through sample documentation checks and on-site inspections, especially for bottled water supply.

- Ensure exotic products are organic or from fair trade sources with recognized certifications.

- Communicate the environmental benefits of these measures effectively to participants.

Tablecloths and Napkins:

- Use non-disposable tablecloths made of reusable plasticized fabric or oil and water repellent materials.

- Ensure disposable tissue paper napkins have the EU Ecolabel or equivalent environmental certifications compliant with ISO 14024, FSC, PEFC, or equivalent schemes.

Waste Prevention in Refreshment Points:

- Use reusable plates, cutlery, and glasses whenever feasible, as per the EU Directive 904/2019 to reduce the environmental impact of plastic products.

- For temporary catering services where reusable items are not practical, use disposable biodegradable, compostable, or recyclable plates and cutlery meeting specific standards.

- Serve drinks in washable and reusable glasses, returnable bottles, or biodegradable/compostable containers made of recycled material.

- Avoid single portions and single-dose packages unless required by law or for specific needs.

- Offer half portions at a reduced price to prevent food surpluses and provide recyclable family bags for users.

- Implement procedures to ensure food is displayed proportionately and consumed efficiently in buffet settings.

- Donate unserved or expiring food to non-profit organizations or composting systems to minimize waste.

- Use refillable, returnable, or recyclable packaging for meal preparation supplies.

Waste management:

- Ensure waste management aligns with local regulations and practices, emphasizing separate waste collection.

- Place dedicated waste containers at strategic points with clear labelling and information to facilitate proper disposal.

- Maintain an appropriate emptying frequency to prevent waste overflow and environmental contamination.

- Estimate waste generation per type to determine the required number and size of containers based on event size and attendance.

- Coordinate with local waste management services for efficient waste collection and disposal.

- Organizers are responsible for ensuring proper waste separation and collection, especially in areas without formal waste services.

Communications to the public:

The communication plan for events should focus on disseminating information to participants regarding sustainability principles and practices. Key elements to include in the communication plan are:

- Transportation: Provide details on sustainable transport options to reach the event, along with any incentives offered to promote eco-friendly mobility.

- Waste Reduction: Communicate best practices for waste reduction and prevention, such as using personal water bottles and crockery, and ensure clear signage for separate waste collection.

- Waste Management: Encourage participants to manage their waste responsibly, especially in areas without formal waste collection services, and provide guidance on proper disposal methods.

- Organic Products: Highlight refreshment points offering dishes made with organic products to promote sustainable food choices.

- Food Waste Prevention: Inform attendees about measures taken to prevent food waste and encourage them to request food quantities according to their needs.

- Accessibility: Ensure accommodation facilities near the event location are certified for accessibility standards and cater to individuals with disabilities and specific needs.

- Post-Event Impact: Share the social, environmental, and economic impact results achieved after the event to showcase the sustainability efforts undertaken.

Staff training:

Should encompass various sustainability measures to reduce environmental and social impacts.

- Energy Conservation: Training staff on managing energy consumption by optimizing ventilation, air conditioning, lighting, and technological devices.

- Water Conservation: Educating staff on strategies to minimize water usage.

- Waste Management: Providing guidance on proper waste management practices following legislative guidelines.

- Inclusive Customer Service: Training staff to provide inclusive services that cater to the diverse needs of event attendees, especially those with disabilities.

- Food Waste Reduction: Instructing catering staff on methods to minimize food waste during food and beverage provision.

- Environmental Cleaning Practices: Educating cleaning staff on reducing environmental impacts during cleaning activities.

Social Clauses and Worker Protection:

- Compliance Requirements:
  - Adhere to economic and regulatory standards in the sector.
  - Ensure contributions, allowances, and remuneration elements comply with regulations.
  - Follow health and safety legislation for all workers, including temporary and short-term employees.

- Employment Practices:
  - Hire and train disadvantaged workers as per Directive 2014/24/EU.

- o Comply with Directive 96/71/EC for posted workers' contractual conditions.
- Social Inclusion:
  - o Provide equal opportunities for small and medium enterprises, including ethnic or minority groups.
  - o Promote gender and generational equality in employment opportunities.

Events for Everyone:

- Consider the diverse needs of all participants, including families with children, elderly individuals, and those with various disabilities, allergies, or dietary requirements.
- Ensure full usability and accessibility of the event for all attendees.

REWARDING CRITERIA

Adoption of Environmental Management Systems or for the Sustainability of Events:

- Certification Requirements:
  - o Rewarding score 1221/2009 or certification according to UNI EN ISO 14001:2015 for organizations involved in conferences, fairs, creative, artistic, and entertainment activities.
  - o Higher rewarding score for demonstrating sustainable event management through UNI ISO 20121:2013 certification.
- Verification Process:
  - o For point a): Provide relevant certifications in the Single European Procurement Document (DGUE).
  - o Submit UNI EN ISO 14001:2015 certification or EMAS registration number as proof.
  - o For point b): Present UNI ISO 20121:2013 certification from an Accredia-accredited third-party for the specific scheme.

Plastic fittings and furnishings:

- Applicability: For newly acquired plastic furnishings only.

- Rewarding Score: Given for using at least 30% post-consumer recycled plastic from urban waste.
- Verification: Submit list of furnishings and product sheets. Provide certification of recycled content from a recognized body (e.g., "Second Life Plastic," ReMade in Italy).

Heavy Vehicles for Material Transport:

- Eligibility: Use N2 and N3 heavy vehicles with alternative fuels/energy.
- Fuels/Energy Sources: Electricity, hydrogen, biofuels, synthetic fuels, natural gas (CNG, LNG), biogas, LPG.
- Verification: Provide registration certificates of the vehicles used.

Accommodation for Staff, Guests and Speakers:

- Rewarding Score: For using accommodations certified by EMAS, ISO 14001, or EU Ecolabel.
- Verification: Provide a list of accommodations with certification proof. Contract execution director verifies actual use.

Promotion of sustainable mobility:

- Rewarding Score: Offer an enhanced sustainable mobility plan based on contractual clause 4.1.12. Includes features like bicycle parking, illuminated walking paths, changing rooms/storage, mobility centres, shuttle services, and revenue allocation for sustainable mobility.
- Verification: Submit an improved plan signed by the legal representative detailing proposed methods.

Sponsorships of Cultural Initiatives:

- Rewarding Score: Collaborate with sponsors endorsing environmental and social sustainability, circular economy, and supply chain environmental criteria.
- Verification:
    - Submit pre-agreements with selected sponsors.
    - Provide forms highlighting sponsor's adherence to:
    - Certifications (EMAS, ISO 14001, etc.).

- o Social impact assessments, ecological product labels.
- o Awareness campaigns and best practices.

Choice of suppliers with certain environmental and social standards:

- Rewarding Score: Choose suppliers committed to environmental and social improvement.
- Criteria:
    - o Environmental: Suppliers with certifications like ISO 14001, ISO 50001, EMAS, or offering EU Ecolabel services.
    - o Social: Preference for type B cooperative social enterprises as per relevant laws.
- Verification:
    - o Provide supplier list with:
    - o Environmental certifications.
    - o Documentation of social compliance.

Enhancement of the Territory:

- Rewarding Score:
    - o Offer plans to enhance the event location by:
    - o Employing local professionals and involving local businesses.
    - o Showcasing territory peculiarities.
    - o Collaborating with local bodies for sustainability initiatives.
- Verification:
    - o Submit a report detailing planned activities.
    - o Contract execution director verifies implementation.

Tablecloths and Napkins:

- Rewarding Score: Awarded for using environmentally friendly tablecloths and napkins in the refreshment area.
- Tablecloths: Fabric with EU Ecolabel or equivalent, compliant with UNI EN ISO 14024, Oeko-tex standard 100, or Global Organic Textile Standard.
- Napkins: Washable or tissue paper products free of dyes or prints, made of unbleached cellulose, TCF paper, or PCF paper.

- Verification:
  - Submit product data sheets showing compliance with certifications and environmental labels.
  - Provide related invoices as proof of purchase.

Monitoring the Environmental Performance of the Event:

- Applicability: Applies to large events and/or recurring events.
- Rewarding Score: Awarded for presenting a monitoring plan for environmental aspects and improvement actions, including:

  - Calculation of greenhouse gas emissions (GHG) and energy consumption from transportation.
  - Monitoring energy, water consumption, and CO_2 emissions (excluding transport).
  - Measurement of waste production by type (plastic/aluminium, paper, glass, undifferentiated, organic).
  - Implementation of improvement actions to reduce consumption and CO_2 emissions.
- Verification:
  - Submit a report signed by the legal representative with a matrix detailing aspect monitored, key indicators, measurement methods, results calculation, and improvement actions for each year.
  - Possession of ISO 20121 certification or equivalent evidence demonstrating environmental management measures.
- Penalties: Failure to submit the report within the specified deadline results in penalties determined by the contracting authority

Choice of event location:

- Rewarding Score:
  - Choose a location with: Natural lighting (for daytime events). Electricity from renewable sources or a contract for renewable energy supply.

- o Additional score for selecting a location in marginal or redevelopment areas.
- Verification:
  - o Present the contract with the chosen location.
  - o Provide a signed report explaining the choice and supporting evidence, such as:
  - o Green energy supply contract.
  - o Presence of photovoltaic panels.
  - o Certification of abandoned area status.

"Baby Friendly" Areas:

- Rewarding Score: Awarded for providing specialized areas within the event venue:
  - o Children's play and entertainment zones.
  - o Areas for breastfeeding and diaper changing.
  - o Soundproofed relaxation areas.
- Verification:
  - o Submit a description of the prepared area meeting the criterion.
  - o Director of contract execution verifies during construction.

Team of eco-volunteers:

- Rewarding Score: Awarded for involving a team of eco-volunteers to oversee sustainability actions during the event.
- Verification:
  - o Submit a report signed by the legal representative detailing how the criterion will be met.
  - o Provide a list of volunteers.
  - o Director of contract execution verifies ongoing implementation.

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