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Enhancing Sports Event Management With PM²: Incorporating Risk And Sustainability Aspects

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Abstract

Purpose: We recommend employing project management to manage sports events. To this purpose, we recommend an adaptation of the PM² project management methodology, which was developed inside the European Commission, to manage sports projects.

Design/methodology/approach: We offer theoretical analyses arguing about what is a project in sport, the roles of event and sport management, and a theoretical adaptation of PM² methodology to sport management. While this study presents a tailored PM² approach designed for sports events, it also presents structured frameworks to incorporate two key dimensions (Risk Management and Sustainability Practices) to consider operational vulnerabilities and environmental accountabilities in sports events management.

Results: We demonstrate that event management could be improved by PM² methodology with several adjustments. The primary adjustment involves splitting the original project execution phase into two distinct phases - the deployment phase and the project execution phase (stricto sensu). The first narrowly encompasses all the activities carried out in preparation for the sports competition, while the latter addresses the complexity of the precise dates of the competition in question, which includes simultaneous presence, mass participation of participants, and mass presence of spectators for this event. We also suggest changes to the original PM² governance model, to allow for a market orientation in order to maximize economic return of the event and why it includes the idea of the "extended customer," which includes the event owner, the participants and the spectators, as well as a risk management system across all phases of the PM² lifecycle framework and sustainability practice suggestions, in particular the minimization of waste and energy usage, and environmental impact assessments (ensuring events are not just well-managed, but resilient and environmentally friendly).

Research limitations/implications: There needs to be more empirical research to examine how this adaptation of PM² gets implemented, especially the risk frameworks and sustainability impact indicators prescribed.

Practical implications: We provide an adaptation of PM² methodology for the event managers enabling them to use project management standards in their respective events. Our adapted version reflects the marketing mix and market orientation, often referred to by event managers along with new tools and techniques to mitigate and manage risks and sustainable choices during the lifecycle of the project.

Social implications: As an outcome, the rethinking of the role of sports events and managers to a project management perspective, will allow the use of cost-benefit analysis when developing a sport event which enables sports events to be not only successful but also profitable, sustainable or responsible and efficient. Moreover, the integration of sustainability principals and rigorous risk management, increases stakeholder trust in a future focused approach aligning with growing environmental and social governance (ESG) expectations globally.

Originality/value: PM² is being applied for the first time to events, specifically sport events. The specific unique aspects of PM² make it useful in any sector, such as sport events where the manager may not have the project management standards and methodologies transferable experience. This extension proposal takes a progressive step in aligning project governance with newer imperatives of resilience to risk and sustainable development.

Keywords:

project management, PM², sports management, event management, risk management, sustainability, deployment phase, execution phase, project governance, stakeholder management, sustainable events, ESG practices

1. Introduction

In this article, we present a project management viewpoint on the management of sports events, despite the sports industry's belief that these events should be handled differently from other event types (Fanjul-Suárez & Magaz-González, 2012: page 140). Furthermore, the methodology used to organize sports events has primarily been focused on marketing, treating them as processes arranged in a series of stages and sections. Project management does not play a significant role in the organization of sports events. One reason for marketing being the primary focus in this area is the training provided to event managers in Sport Business Schools (SBS). Thus, contemporary sport marketing, as an evolution of traditional marketing concepts, alongside a process-driven approach – instead of a project-driven one – encompasses all stages of sport event organization.

Given this context, the purpose of this paper is to apply a project management approach to the management of sports events. To reach this goal, we will outline how this approach can be implemented – and potentially adapted to any event – and we begin by questioning whether a sports event qualifies as a project, and what criteria must be met for it to qualify. Next, we propose that managers utilize established project management standards and methodologies. In particular, we support the use of PM², the project management methodology created by the European Commission (European Commission, 2021). PM² has some special characteristics that make it appealing in domains where managers don't usually have the experience to apply a project management standard and/or methodology, e.g. sports events. PM² specifies, in a simple way, what has to be done on a project, who has to do it and when. The PM² Guide provides information on how to tailor and adapt the methodology to the complexity of a particular project.

PM² introduces a governance framework with clearly defined roles concerning the responsibilities of each project participant. It outlines a project lifecycle and a swim lane diagram that details all necessary activities for the project's success. PM² includes a collection of "artifacts," meaning a set of predefined templates for nearly all documents that a project team may require.

Other predictive methodologies like PMI or ISO 21500 may also be suitable for managing sports event projects, but in practice, they often require more effort from inexperienced project managers. Similarly, competence-based methodologies, such as those developed by IPMA, can be used in conjunction with PM². PM² has been created as a general-purpose methodology to be applicable to any type of project. However, it remains adaptable to address the unique characteristics of specific project types. This applies to event exports, which we discuss in this paper.

Nevertheless, treating sports events as projects presents unique characteristics, such as the roles of certain stakeholders and the phases through which sports events can be organized. Therefore, in this paper, we propose modifications to the original PM² Guide that affect the governance framework and the phases of the project lifecycle. The most significant change is the introduction of an additional phase by splitting the original execution phase into two distinct phases: deployment and execution (in the strictest sense).

Following this structure, the present study provides two new essential features to further connect the PM² methodology to the challenges faced by modern professional sports event managers: Risk Management and Sustainability Practices. Sports events are under increasing burden not just for executing operational success, but also for successfully navigating the dual demands of resilience and environmental accountability. Hence, in this paper we seek to add to the foundational framework by including good management decisions, management tools, and stakeholder expectations related to risk assessments to identify, assess, and mitigate risks across the project lifecycle; and develop sustainability practices that include waste reduction, conserving energy, and engaging stakeholders based on ESG criteria. These responses activate an endeavor to position the PM² methodology closer to global challenges and stakeholder accountability.

The structure of this paper is organized as follows. In Section 2, we provide a summary of the prevailing approach to sports event management, which is typically centered around processes and marketing. In Section 3, we present our argument that sports events should be viewed as projects that can gain from the project management methodologies discussed in Section 4. We also highlight the significance and benefits of employing PM² in managing sports events. In Section 5, we outline our proposal for adapting the original methodology for sports events, and we conclude with the key takeaways from our research.

2. Management of Sports Events

Sports events can either be organized by public organizations, private entities, or through a mix of both. The objectives of these sectors differ, which influences their level of involvement in sports events (Gómez, Opazo & Martí, 2007). Since profitability is a crucial factor for sports events, the private sector plays a significant role due to its ability to create an increasing number of profitable events. Many companies that specialize in organizing sports events also manage various event types, challenging the notion that sports events are unique.

Over time, the role of the event manager or director has evolved, and further specialization has led to the emergence of the sports events director/manager role. However, not all individuals in these specific roles exclusively focus on sports events, nor do all who manage different types of events fit this generalist profile.

2.1. The Project Management View in Sports Events University Programs

The professionalization of sports has led economists to develop fields such as sports economics or sports management. Business schools in Spain and elsewhere, with a broad vision, have packaged and marketed MBAs that integrate both sports and business. The high demand and potential for increased earnings in this niche led to the establishment of SBS (Sport Business Schools). Consequently, this professionalization has replaced experienced volunteers and amateurs who had previously undertaken many activities in the industry with paid, qualified professionals.

Caminero-Granja (2019) reviews the curricula of sports management programs at Spanish universities, noting the undergraduate programs in "Physical Activity and Sport Sciences" and master's programs in Sport Management. The key finding is that the curriculums offered by SBS primarily cover economics, marketing, and management. This focus stems from the origins of such studies, while project management is typically linked to engineering and architecture. Project management either is not taught or is presented as a general topic that may be useful to those with a project management background, but it is rarely tailored to sports

events. The only institution that particularly emphasizes project management is Ramón Llull University (Spain), which offers a master's program titled Master in Management of Sports Organizations and Projects. This program includes courses such as Advanced Project Management using predictive methodologies like ISO21500, PMI, IPMA, Prince2, and agile methodologies like Scrum, Lean, Kanban, or Extreme Programming (Mirabed-Agulled, Gambau-Pinasa, Ambit-Fernandez & Esteve-Roca, 2021).

2.2. Sports Events Management from Marketing and Processes Approaches

The management of sports events has received significant attention in research; however, it has rarely been examined through the lens of project management methodologies like IPMA, PMI, or Prince2, focusing instead on marketing strategies, particularly for large events (Fanjul-Suárez & Magaz-González, 2012). This is also a common theme in the management of various types of events, not just in sports (Bladen, Kennell, Abson & Wilde, 2017). Most literature addressing sports event management tends to emphasize marketing, processes, and financial considerations (see, for example, Watt, 2004; Parent & Ruetsch, 2020; etc.).

Since marketing is the dominant approach in managing major events, protocols play a significant role (Fernández-Vázquez, 2005, 2018). Very few handbooks integrate project management principles into event organization (Williams, 2012; Pielichaty, Els, Reed, & Mawer, 2016), and typically, event organization is treated as a series of interconnected stages and components. Below, we elaborate on both the marketing and processes approaches.

2.2.1. Sports Marketing Approach

When applied to sports events, operational marketing expands the range of elements involved: the traditional 4Ps (product -and brand-, price, place, and promotion), along with sponsorship and services (Smith & Stewart, 2014). The "9 Ps of Sports Marketing" include the tangible product elements (product, price, place, promotion) and the intangible elements related to services, meetings, or events (people, process, physical, performance, and programs) (Coutinho da Silva & Luzzi Las Casas, 2017). All these components are blended within a sponsorship framework (which involves investors assuming some risk) based on either the rights to exploit the event's name or licenses or on the association of a brand with an athlete or team (Fullerton & Merz, 2008). Additionally, the sports event marketing strategy outlines the activities—following the value chain in the sports industry—that detail the necessary actions for maximizing spectator attendance at the event.

2.2.2. Processes Approach

Apart from the marketing perspective, the management of sports events can also be structured using a processes approach, where processes are typically categorized into specific domain areas. Thomas and Adams (2005) analyze six event management books to identify the most frequently covered process domains. Silvers, Bowdin, O'Toole, and Nelson (2005) propose an "event body of knowledge (EBOK)" that is organized according to domains, phases, and processes. The event organization is viewed as a collection of actions derived from a manual that outlines all potential tasks relevant to a sports event. As such, there exists a standardized list of activities recommended for sports event management, which tends to remain consistent and repetitive. Consequently, even though each event may differ in terms of specifics—such as what, when, and where—the companies that provide organizational services for sports events generally offer a similar array of services (processes) that can be tailored, including registration management, multimedia services, website management, timing, stage setup, classifications, catering, etc., and these processes introduce little novelty across various sports events—they are systematic. Risks are typically not accounted for in the plan, aside from situations where an action may be unfeasible, leading to a lack of contingency plans for risks (Fanjul-Suárez & Magaz-González, 2012).

In conclusion, organizing sports events through a processes approach shows considerable similarities to a marketing-based approach. In fact, each component of operational marketing and its corresponding strategies can be likened to various areas, or aspects of areas, that encompass the processes involved.

3. Sports Events as Projects

In this paper, we propose that managing sports events can gain advantages from a project management approach. The idea of utilizing project management tools in the organization of sports events is not a recent concept. Muir (1986) recommended employing specific project management techniques for coordinating a car rally. More recently, Schnitzer, Kronberger, Bazzanella, and Wenger (2020) examined the subject. Existing literature indicates that sports event managers are increasingly recognizing the importance of project management, yet, in practice, its application remains infrequent. When project management is acknowledged, managers typically adopt only some widely-used tools such as Gantt Charts, task lists, budget plans, and work breakdown structures.

Thus, they tend to overlook the standards and methodologies established by international professional organizations, which are frameworks commonly utilized in sectors such as engineering, construction, or information technology. In this paper, we advocate for sports event managers to elevate their practices by integrating these standards.

The Project Management Institute, a leading international association for project managers, defines a project as "a temporary endeavor undertaken to create a unique product, service, or result" (PMI, 2017). Likewise, The Project Management Guide (PM2) describes a project as "a temporary organizational structure set up to create a unique product or service (output) within certain constraints such as time, cost, and quality" (European Commission, 2021). Both definitions emphasize the concepts of "temporary" and "unique." This implies that every project has a defined start and end, and the notion of something being "unique" means that a project produces an output (product, service, deliverable) that is one-of-a-kind, rather than repetitive. Beyond the parallels between the two definitions, the PM2 framework views a project as an organizational setup and highlights the importance of constraints.

Although there are numerous definitions of a project, many of them focus on the temporality and the uniqueness of the output. Consequently, projects are distinctly separated from "processes." For example, the continuous assembly of identical cars in an automobile plant is conducted through processes (it is not a project), while the design and testing of a new car engine can be classified as a project.

Most sports events are distinctive and exceptional. The specific dates of the events, the locations where they occur, the participants, and the audience as spectators, among other factors, often vary. Even for events that occur regularly, variations exist due to differing conditions such as participant types, course layouts in races, or athlete attributes. Additionally, the context and constraints (duration, budget, sponsors' interests and needs, etc.) typically vary and are unique to each sports event.

Most sporting events have a clear start and finish. Some commence when the organizers initiate the planning stage, or even earlier when an organization bids to host the event (e.g., Olympic Games, World Football Championship). Typically, they conclude once all administrative tasks are finalized following the completion of the sporting competition.

For these reasons, it can be proposed that many sporting events can be viewed as projects. The distinction between what qualifies as a project and what does not isn't always clear-cut. Certain activities are undeniably projects (like constructing a bridge or developing new software), while others are not (such as ongoing production on an assembly line). However, some tasks and businesses may be managed as projects or as a series of processes depending on the management context.

Consider a public administration that provides support to families experiencing financial hardship. This public service could be organized as a series of processes, with each department handling a specific part (such as offering information about requirements, receiving applications, requesting reports from the Tax Office and Health Service, investigating unique situations, making decisions on applications, reporting, and so on). Alternatively, each applicant family could be "treated as a project," with a project manager overseeing the entire process, integrating time, budget, and effectiveness to achieve objectives while coordinating all departments involved.

For example, Fred (2020) discusses the use of "project logic" in managing routine operations within local government administrations, specifically in the Department for Children and Youth or in land development

for new constructions. Crawford, Simpson, and Koll (1999) provide additional accounts regarding public administrations, while Lerouge and Davis (1999) propose adopting a project-based methodology to tailor solutions for internal clients within a company.

This concept applies to sporting events as well. Some events can undoubtedly be regarded as projects, while others may not. The entire series of Football Matches in the Premier League could be managed repeatedly since the conditions are consistent for all matches throughout the season. However, the Olympic Games, any World Championship, a local tennis tournament, or the 163 km bicycle race around the "Canal de Castilla" (Spain) can be handled as projects; "if it is a project, you should manage it as a project."

The more distinct a sports event is, and the more clearly defined its beginning and end are, the more it resembles a project. Additionally, greater significance placed on time and budget constraints, along with the involvement of numerous sponsors and stakeholders (such as municipalities, governments, security personnel, suppliers, etc.), makes a project management approach more suitable.

The primary benefits of the "project approach" lie in its emphasis on objectives, scope of work, and the clarity of deliverables. It prioritizes budget and time limitations, conducts risk assessments, and involves stakeholder management as a central component throughout the entire project lifecycle.

Employing a project management strategy for event management does not imply that we suggest managers abandon prevalent methods like marketing or process-oriented approaches.

In contrast, we propose that all methodologies can work in harmony and should be utilized together. Event managers are rooted in marketing, whereas project managers come from an engineering background. The former emphasizes boosting the demand for the events they manage, while the latter concentrates on executing the sporting event within specific constraints, taking all potential risks into account. Thus, we argue that the event manager may lack the caution inherent in a project manager, and the project manager tasked with organizing events may miss the motivation, not the capability, to maximize the value of the sporting event.

4. Benefiting from Project Management Methodologies

We propose that the management of sports events can gain advantages from employing project management methodologies and established best practices. To support this, we first provide a summary of some of the most prevalent project management standards and methodologies, followed by our rationale for selecting PM2 to oversee sports events projects.

4.1. Project Management Standards and Methodologies

Projects have been executed (and thus managed) since ancient times. Nonetheless, there is general agreement that the foundation of modern project management can be traced back to the Gantt chart method created by Henry Gantt in 1910 (Clark & Gantt, 1922), which was subsequently followed by the introduction of PERT (Program Evaluation Review Technique) during the 1950s for the Polaris Project and CPM (Critical Path Method) for Dupont and Remington Rand (refer to Seymour & Hussein, 2014 for an in-depth overview of the history of project management).

Project management is an interdisciplinary field that incorporates theories and methodologies from various disciplines such as engineering, operations research, psychology, accounting, and strategic management (Ahlemann, El Arbi, Kaiser & Heck, 2013; Kwak & Anbari, 2009). However, the key standards, practical guidelines, and knowledge bases have primarily been developed by professional organizations and public entities, based on best practices shared by practitioners. Below, we outline some of the most commonly used ones.

The Project Management Institute (PMI) is a global professional association established in 1969 in the United States. It publishes the Guide to the Project Management Body of Knowledge, often referred to as PMBOK (PMI, 2017). PMBOK advocates for a process-oriented approach to project management, specifying the collection of processes necessary for project success. In its 6th edition, it identifies 49

processes categorized into five phases of the project lifecycle (initiating, planning, executing, monitoring and control, and closing) and ten management knowledge areas (integration, scheduling, cost, quality, resources, communications, risk management, procurement, and stakeholder management).

These five phases and ten knowledge areas create a matrix table that organizes the various processes. For each process, PMBOK details a range of inputs and outputs (such as documents, information, organizational constraints, etc.) alongside the relevant tools and techniques needed to achieve the outputs.

In 2021, PMI released the 7th edition of the PMBOK (PMI, 2021), introducing significant updates from earlier versions that project management practitioners will need to integrate into their methodological frameworks in the near future. Specifically, it shifts from a process-driven framework to one based on principles, with project performance domains replacing the previous knowledge areas.

The International Project Management Association (IPMA) was established in 1965 and is headquartered in Switzerland. IPMA serves as a global federation comprising over 70 national member organizations. The Individual Competence Baseline (ICB 4.0) (IPMA, 2015) introduces a competence-focused perspective on project, program, and portfolio management, outlining the necessary skills that project managers and team members should possess for a project's success. Specifically, IPMA identifies 29 competencies categorized into three domains: People (transversal competencies), Practice (technical skills and methodologies), and Perspective (the broader context of the project, program, or portfolio).

PRINCE2 (Projects in Controlled Environments) (AXELOS, 2017) is a formal project management methodology that originated as a UK Government Standard for information technology projects, but is now applicable to all types of projects. The ISO 21.500 standard (International Standards Office, 2012) offers guidance for achieving project success within a process-oriented framework. It shares certain fundamental principles with PMBOK, yet it focuses solely on process inputs and outputs without providing an overview of the tools and techniques necessary for process management.

While there are many other methodologies and standards available, we will now concentrate on PM2, the methodology we recommend for managing sports event projects. PM2 (Project Management Methodology, pronounced P-M-square) is a framework created by the Center of Excellence in Project Management of the European Commission. Initially developed in 2007, an Open version of PM2 was introduced by the CoEPM in 2016 and was unveiled to the public at a conference in Brussels in February 2018. The primary document that elaborates on this methodology, the Project Management Methodology Guide (European Commission, 2021), is accessible through the Publications Office of the European Union and has been translated into several languages across Europe.

PM2 is defined as a strict methodology (rather than a standard or a body of knowledge). It utilizes a process-oriented approach, outlining specific processes to be followed throughout all project lifecycle stages (initiating, planning, executing, closing, and monitoring and control). PM2 incorporates elements of best practices from other standards and methodologies such as PMBOK, IPMA-ICB, and PRINCE2 while also introducing unique features, including:

- A Governance Model that delineates all project roles and responsibilities, clarifying who makes decisions and how they are made.
- PM2 Artefacts, which are a collection of templates for essential documents required for project management. Examples include templates for the business case, project charter, project handbook, project work plan, various management plans, checklists, and more. These artefacts can be customized to suit the complexity and characteristics of the project.
- The PM2 Mindsets, which encompass recommended behaviors, thought processes, philosophies, and "infrequently asked questions" that guide project teams in maintaining focus on what is essential for

achieving project goals.

- A comprehensive description of all processes, outlining not only inputs and outputs but also responsibilities (via the governance model and RASCI matrix), timelines (lifecycle), and required documents (artefacts) for effective management.

4.2. The Selection of PM2 for Managing Sports Events

In this part, we present our rationale for recommending PM2 as the framework for managing sports events. Once we recognize that a significant number of sports events can be treated as projects, we advise managers to adopt any of the various methodologies, standards, or guidelines available. According to practitioners and scholars, the likelihood of project success improves when project management practices are utilized (Mir & Pinnington, 2014; Thomas & Mullaly, 2007; Besner & Hobbs, 2006; and others).

Nonetheless, we believe PM2 is a suitable method for overseeing sports events for several reasons.

To begin with, as previously mentioned, sports event managers have typically relied on marketing and process-oriented strategies, leaving them unfamiliar with project management frameworks. Based on our understanding, PM2 is straightforward, easily comprehensible, and can be progressively implemented in accordance with an organization's level of maturity.

The PM2 guide consists of 86 pages (excluding appendices). The European Commission has also released a synthesis of the guide (European Commission, 2016) that is only 28 pages long (plus appendices). In comparison, the IPMA ICB 4.0 (IPMA, 2015) is 431 pages, and PMI's Body of Knowledge (PMI, 2017) exceeds 500 pages.

This synthesis enables individuals who lack familiarity with project management to grasp which activities must be undertaken and by whom. The guide allows managers who are already proficient in the basic concepts to explore the processes further and learn more details. For those who have not previously engaged with project management methodologies, this overview provides a significant transition from being "outside to the inside" of the project management field. Additionally, the European Commission has issued a "quick start leaflet" and other resources to make the methodology more accessible to any professional.

Simplicity and incremental application are key features of this European methodology, allowing various institutions to use it—such as the Council of the European Union, the European Central Bank, the European Investment Bank, the Committee of the Regions, the European External Action Service, the European Court of Justice, the European Parliament, along with numerous EC Services and EU Agencies.

Moreover, the methodology aims to reach new practitioners across diverse areas, including R&D, International Cooperation and Development Projects, and new software development, among others. This methodology is available to the entire community.

The methodology's features of simplicity and incremental application arise from its clear detailing of project activities and their timing. The governance model outlines who is responsible for specific activities, who must authorize them, and who should be informed (RASCI Matrix). The Artefacts comprise templates for documents that serve as guidance on how to accomplish various tasks. They play a vital role in the acceptance of the methodology as they offer templates for nearly every document, such as project charters, project plans, deliverable acceptance documents, risk management plans, quality assurance, and more. The guide also provides instructions on what to include in each subsection, specifying what needs to be done during project execution.

Lastly, PM2 can be easily adjusted and customized to fit the unique characteristics of a project, with suggestions on how to achieve this included in the methodology.

5. Proposal Utilizing PM2 for Managing Sports Events

PM2 was created for managing all types of projects. However, the guideline encourages users to modify and adapt the methodology to suit the specific requirements of their organization and project. Tailoring involves making adjustments to certain aspects of the methodology, such as processes, artifacts, or role definitions. Customization refers to alterations at the project level, like risk tolerances. The methodology advises documenting these modifications in the Project Handbook.

Many sports events have attributes that suggest the need for slight adjustments in some methodology elements. In the following subsection, we will discuss these adjustments.

5.1. Unique Characteristics of Sports Event Projects

First, it's important to note that the traditional marketing method for managing sports events is effective. In this paper, we propose that sports events can also gain from a project management perspective, and that both marketing and project management frameworks can coexist; optimal benefits arise from their collaboration. Thus, we recommend explicitly incorporating the marketing approach into several PM2 components, such as the "House of PM2" or the governance model. For example, regarding risks, traditional sports event management emphasizes financial risk, while the project management perspective also considers operational and external risks along with strategies to address those risks.

Second, stakeholder analysis and management are crucial for project management professionals, who categorize stakeholders based on their power and interest in the project. However, in many sports events, the project owner, participants (the 'athletes'), and the audience have a significant and equally essential role. In our proposal, we aim to underscore this point and adjust various elements of the methodology in response.

In certain events, public authorities play a vital part as they provide health and safety services and, in the case of municipalities, permit sports events to occur in public areas. Additionally, those involved in delivering these services are also significant stakeholders.

Consequently, we suggest the term 'extended customer' to refer to these unique stakeholders, proposing a separate stakeholder artifact. Another noteworthy aspect of sports events is the phases that structure the event. From a marketing or processes standpoint, scholars suggest three or four phases (initiation, planning, organization, and control). However, when mapping out the event life cycle –

As a result, one of the significant modifications we suggest for applying PM2 to sporting events involves dividing the PM2 execution phase into two separate stages: deployment and execution (in the strict sense).

• Deployment Phase: Many sporting events necessitate extensive preparation for a considerable duration prior to the start of the competition. There is room to adjust planned details during this time. During this phase, neither the audience nor the participants are present.

• Execution Phase (in the strict sense): This stage commences when the "start of the race is indicated," marking the time when the event takes place and the athletes perform. This phase entails the highest level of effort and stress, lasting for a brief period in comparison to the preceding phase, and involves not only the organizing team but also the athletes and spectators. A significant amount of work is accomplished in a short duration, with little time available to respond to any unexpected occurrences.

As we will discuss in the following section, this new phase must be integrated into most elements of PM2.

In Figure 1, we compare the effort diagrams of the lifecycles of a project managed with the original PM² approach (upper side of the figure) and the sports events approach (lower side of the figure).

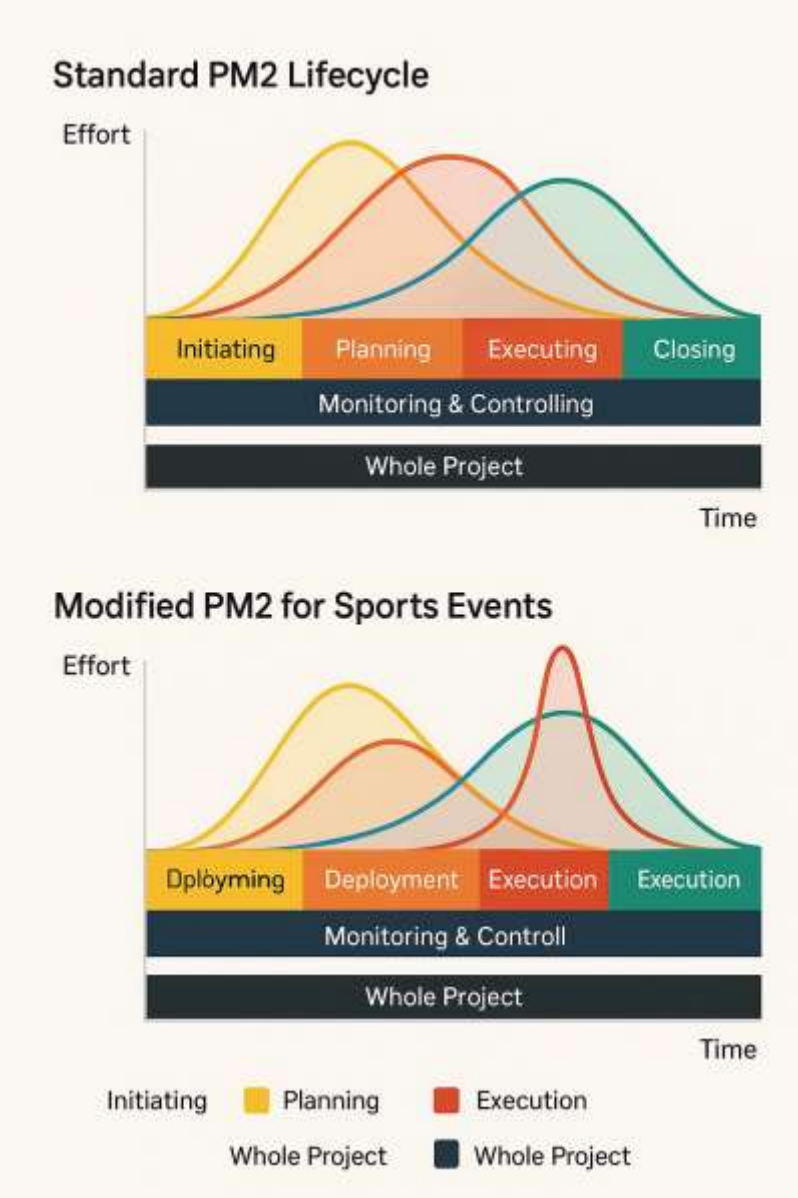

Figure 1. Comparison of the original PM² lifecycle and the sports events lifecycle

5.2. The Proposal for the PM2 House

The "House of PM2" visually represents the core components of the methodology (governance, lifecycle, processes, and artifacts), its foundational bases (mindsets and foundations), and its ultimate goals (roof). In Figure 2, we present the "revised House of PM2" that we suggest for the management of sports events. It closely resembles the original PM2 model, but there are a few modifications:

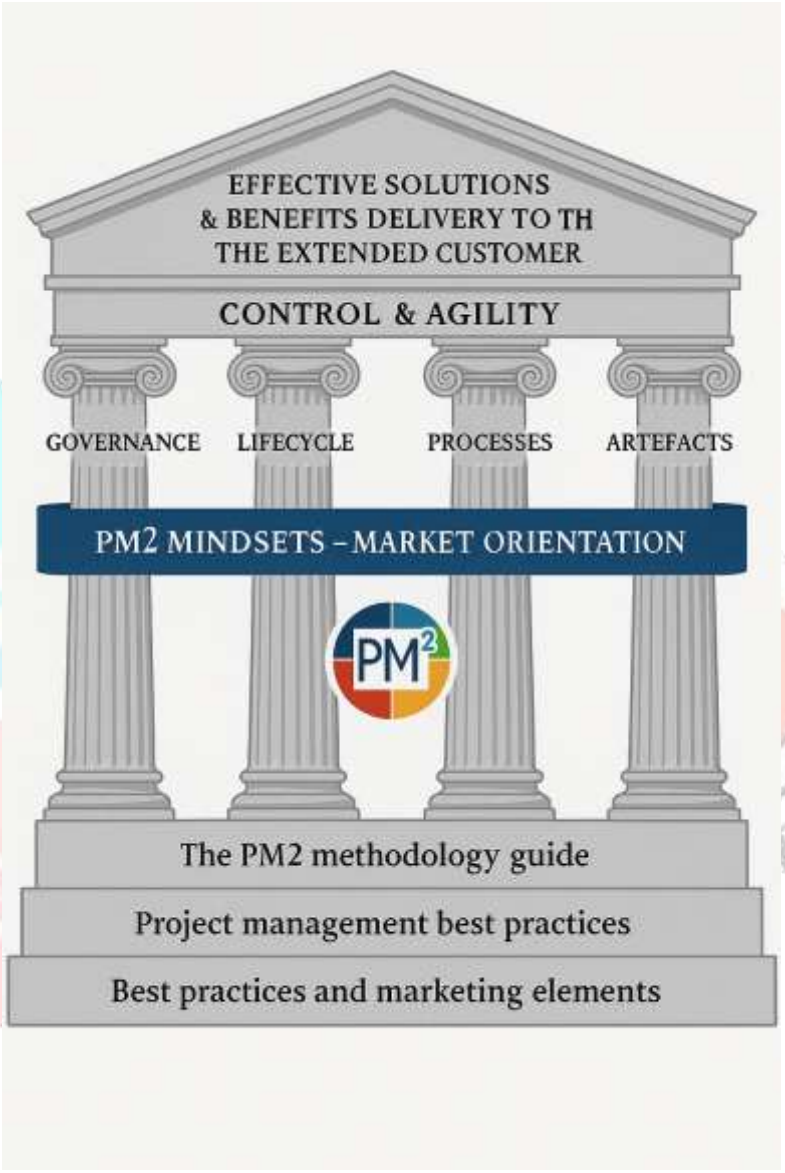

Figure 2. The PM² House for sports events. Extended from (European Commission, 2021)

- The roof: It emphasizes the necessity of delivering solutions and benefits to what we refer to as the extended customer (owners, participants – players – and spectators of the event). One might argue that these entities can be regarded as stakeholders. Nevertheless, we aim to highlight that they share the same "status" as customers of the sports event.
- The “mindsets”: While all original methodology mindsets are acknowledged, we propose introducing additional ones that enhance market orientation within projects at various levels, with a preference for higher levels (such as production, product, sales, marketing, and holistic marketing). As previously mentioned in this paper, we recommend that the traditional marketing approach collaborates with the project-based methodology.
- The foundations: This section integrates marketing best practices and components into projects, introducing the idea of relative efficiency as a key indicator to attain objectives with the most favorable revenue/cost ratio

for their realization, thereby maximizing the overall revenue of the project.

As discussed in the earlier section, these modifications impact the pillars of the House of PM2, notably concerning the life cycle (refer to Figure 1) and the governance model (refer to Figure

5.3. Regarding the governance model, we outline five significant modifications.

First, there are layers that encompass other layers, leading to potential overlaps. This is due to the fact that tasks within each layer might be performed by the same individual or group, making it challenging to distinguish between them, especially when the significance of an event diminishes, resulting in easier overlaps among layers.

Second, we propose featuring representatives from participants, spectators, and administrations in the Business Implementation Group, serving as the primary stakeholders to identify business requirements, approve testing of deliverables, and execute necessary organizational changes.

Third, we propose dividing the Project Execution Team into the Execution phase and the Deployment phase, giving rise to the Project Deployment Team. This differentiation is made because the Deployment phase and the Execution phase are markedly different: the former occurs prior to the event, while the latter takes place during the event.

Fourth, we suggest replacing the term ‘Business’ with ‘Event’. Given that an event can always be treated as a project, it might seem more appropriate to replace ‘Project’ with ‘Event’, but we assert that it is essential to relate the Event to the Performing layer.

Fifth, the Project Deployment Team is added, tasked with responsibilities at the operational layer concerning the newly established Deployment phase of the project lifecycle.

Here are some potential modifications: The term "Demand" might be more appropriately replaced with "Requestor," and "Provider" could be changed to "Supplier," allowing for a quicker comparison with supply and demand curves, which would ultimately validate the occurrence or cessation of an event. This is crucial because it influences the event's pricing—when both curves meet—and demonstrates how one event manager or project manager outperforms another in responding to demand.

Without a "Requestor," no event would be initiated; however, the interested party, as the project owner, would move forward with it. Clearly, the same individual would fulfill two distinct roles, but the interests would vary significantly when two separate individuals or organizations are engaged, as in the scenario where roles are held by different parties, the one possessing superior negotiation skills will have an advantage.

Lastly, it may be beneficial for the "Participants" and "Spectators" of the event to also be included in the Steering layer, not solely in the Performing layer. Since the event is designed for them, the focus should be directed towards their needs.

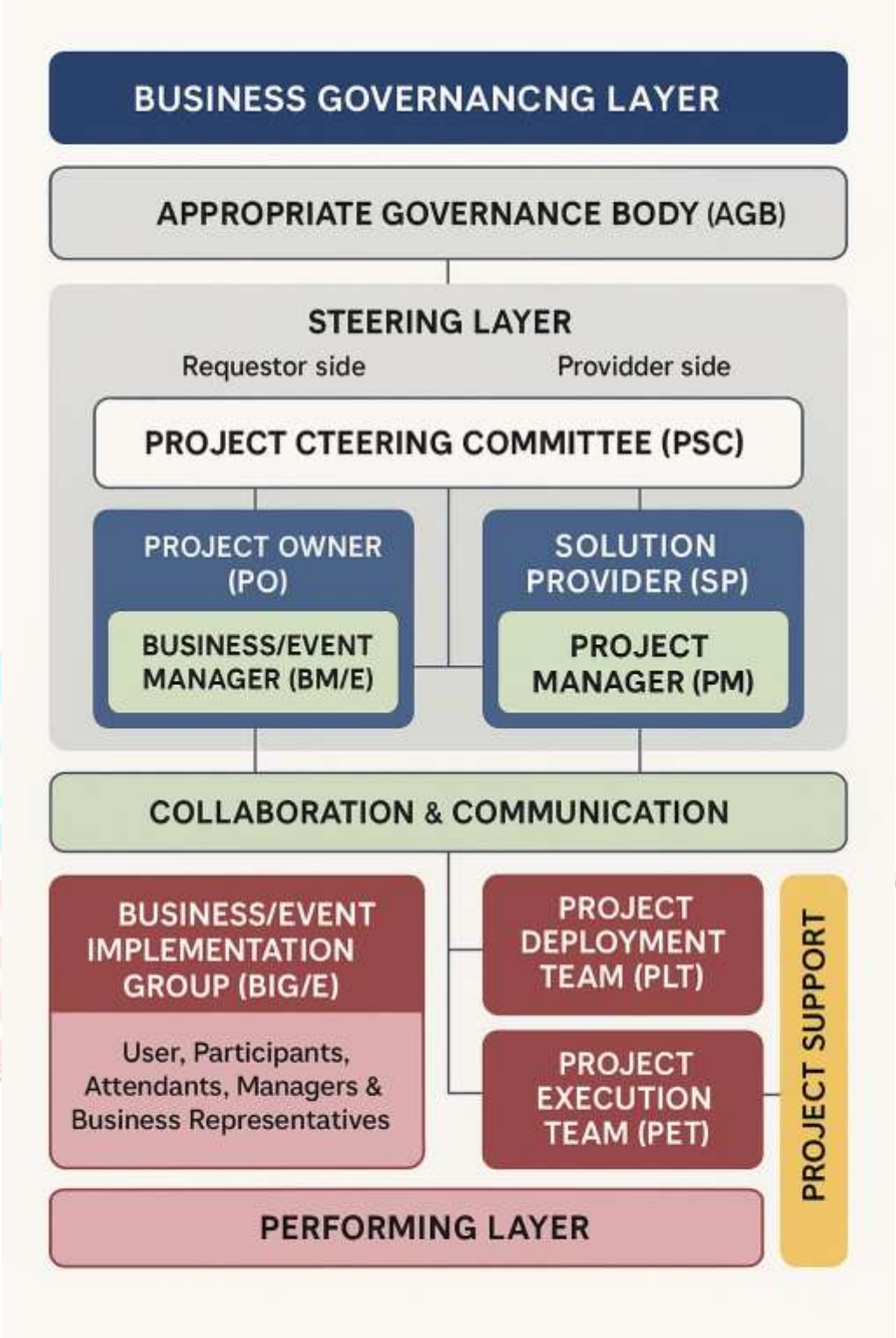

Figure 3. PM^2 governance model for sports events

Related to the lifecycle, other than the changes that we have already mentioned, we propose a new swim lane diagram (Figure 4). We include the new phase, to accommodate the distinction between deployment and execution

The Deployment phase is led by the project deployment team, while the execution phase is led by the project core team (execution team). The Project Work Plan incorporates the Deployment work plan. We also distinguish between Project Deployment Deliverables and Project Execution Deliverables, with the former serving as an input for the Execution Phase and both acting as inputs for the closing phase. To illustrate this with the beginning of a 100m sprint race (ready, set... bang!), for the athletes, when the race official says "ready," this represents the ‘Deployment phase’, where the runners are positioned at the starting blocks with

their hands just before the line. The phrase "ready" corresponds to the review and approval point where race judges ensure that no participant has an unfair advantage regarding the starting line (if one is found, the start is deemed invalid, and the race is restarted). The firing of the gun signifies the 'Execution phase', at which point the runners commence a race lasting only a few seconds.

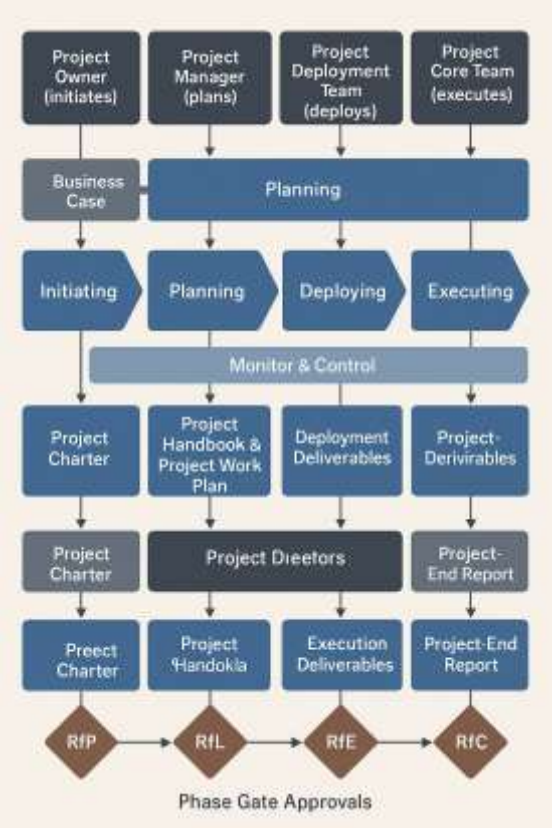

Figure 4. Swim lane diagram for sports events management

TEXT:

To conclude, in relation to the other pillars of the House of PM2, there are aspects concerning processes and artefacts. Firstly, the processes can also be applied to the new Deployment and Execution phases. Nonetheless, it's important to note that the aim of these processes differs, as illustrated in Figure 4. In the Deployment phase, the project scope is being prepared, while the Execution phase focuses on managing that scope. Therefore, all processes within the Deployment phase must consider the tasks required for organizing the event before the Execution phase begins. Secondly, the artefacts must reflect the new Deployment phase and the modified Execution phase, necessitating the introduction of new key artefacts (see Figure 4). In the Deployment phase, we introduce the Project deployment work plan and Project deployment deliverables. During the Execution Phase, we incorporate both the Project deployment deliverables and Project execution deliverables.

We have established a new key artefact, specifically the project deployment deliverables, situated between the Deployment and Execution phases; however, we have also clarified the need to divide the project work plan generated in the Planning phase into two clearly distinct components: The Project deployment work plan and the Project execution work plan.

Additionally, in accordance with the sequence presented in the swim lane diagram and the PM2 logic, all documentation collected at the onset of the Deployment phase and created during this phase is handed over to those in charge of the Execution phase, ensuring they have access to it should they need to reference it.

At the commencement of the Execution phase, there will be two categories of deliverables: Executive deliverables, which are utilized during the Execution phase (including quick guides, task checklists from the Deployment phase with assigned responsibilities, contact lists for responsible parties, schedules, and locations...), since the fast pace of this phase leaves little time for managing additional deliverables. The remaining deliverables consist of those produced in PM2 at the conclusion of the Planning phase.

Thus, the deliverables for project execution will encompass all deliverables from the project deployment, along with the records created for the executive deliverables, in addition to all content generated during the event execution (for example, if there has been any broadcasting via a specific channel, this can be documented).

6. Integrating Risk Management into PM² for Sports Events

Risk is inherent in sports events primarily due to the uncertainty of many factors, the multitude of stakeholders and their complexity, and impending operational shut downs. While the original PM² methodology provides a good overview of risk, this adaptation provides more structure, and a more integrated approach across the whole project lifecycle.

6.1 Risk Management Throughout PM² Phases

- Initiation: Determine initial risks, for example, challenges associated with location or possible disputes among stakeholders, as well as resources uncertainties.
- Planning: Draw up a Risk Register and Risk Management Plan. Use qualitative and quantitative risk assessment techniques.
- Deployment: Consider scenario planning and undertake contingency simulations.

  Outline action in the mitigation plan.
- Execution: Developing a live Risk Monitoring System. Establish an Incident Management Plan, as well as an Escalation Matrix.
- Closing: Conduct a risk audit and assess whether mitigation was effective, collecting valuable lessons for the future projects.

6.2 Risk Categories

- Strategic (e.g., low ticket sales, damaging your reputation)
- Operational (e.g., logistics breaking down, volunteers not turning up)
- Financial (e.g., unanticipated cost overrun)
- Legal/Compliance (e.g., health and safety violations)

6.3 Risk Artefacts

- Risk Management Plan
- Risk Register and Heat Map
- Real-Time Risk Dashboard
- Templates for Escalation and Response

7. Incorporating Sustainability into PM² for Sports Events

Integrating sustainability into the organization of sporting events is no longer an option. Sustainability should be built into project delivery activities, from reducing carbon footprints to creating community goodwill.

7.1 Sustainability across PM² Phases

- Initiate: Define goals (e.g., achieve zero waste or carbon-neutral practices).
- Plan: Source sustainable suppliers, collect environmental metrics, and plan logistics based on sustainability.
- Deploy: Implement energy, waste, and water-saving systems.
- Execute: Continuously monitor resource use and participants in green efforts.
- Close: Provide insights using a Sustainability Impact Report with quantifiable data.

7.2 Sustainability Documents

- Sustainability Strategy and Metrics Document
- Green Procurement Guidelines
- Stakeholder Engagement Strategy with ESG elements
- Post-Event Sustainability Audit Checklist

8. Revised Governance and Lifecycle Structures

8.1 Enhancements to Governance Model

- Introduce a Chief Risk Officer (CRO) and a Sustainability Head to the Project Core Team.
- Broaden the Business Implementation Group to incorporate risk analysts and environmental advisors.
- Modify the RASCI matrix to designate accountability for sustainability and risk management efforts.

8.2 Adjustments to Lifecycle

The adapted PM² lifecycle for sports events now details the execution phase as follows:

- Deployment Phase: Focuses on planning for setup, involvement with stakeholders, and rehearsals. This involves risk readiness assessments and establishing sustainability processes and infrastructure.
- Execution Phase (strict interpretation): Encompasses the live event, necessitating responsive actions to risks and strict compliance with sustainability protocols.

9. Practical Consequences

This revised PM² framework offers sports event organizers:

- A detailed framework to manage various risks effectively.
- Templates and procedures to embed sustainability into processes.
- Increased stakeholder trust through transparent governance.
- Resources to align event execution with global ESG standards and regulatory requirements.

10. Conclusions and Further Research

This paper demonstrates how a project management perspective can enhance the management of sports events. We have taken the PM² methodology, established by the European Commission, and adapted it to suit sports event projects. Specifically, our proposal introduces the following key modifications:

We have adjusted the PM² framework to incorporate traditional marketing strategies related to sports management and the notion of relative efficiency. The project manager should maintain a strong focus on sales.

We have revised the governance structure to encompass the idea of an "extended customer," which includes the event owner, participants, spectators, and, if relevant, associated public authorities. The updated governance structure ensures that the representatives of participants, spectators, and authorities are considered within the business implementation group.

The most significant innovation is the division of the execution phase into two distinct segments: deployment and execution (in the strict sense); the former focuses on preparing the scope, while the latter emphasizes executing the event and maximizing effort. This change impacts various aspects, such as the swim lane diagram and other artefacts.

We clarified that the Deployment phase is dedicated to scope preparation, while the Execution phase is focused on scope management.

Moreover, this paper enhances the PM² framework by integrating structured processes for Risk Management and Sustainability Practices. These refinements reveal the enhanced complexity of sporting events that require an anticipatory approach to uncertainty, and a commitment to social and environmental stewardship. Every phase of the PM² lifecycle incorporates risk management components and includes additional artefacts such as risk rosters, escalation approaches, and COVID-19 incident response plans. Similarly, sustainability practices—including sustainable logistics and sustainability evaluations—have been included to ensure sporting events are effective, environmentally conscious, and aligned with ESG sustainability goals.

Overall, these refinements make the PM² methodology more robust, agile, and responsive to the evolving needs of sports events sector stakeholders.

Future Research

We suggest several pathways for future research:

- Apply the proposed adaptations, in combination with the risk and sustainability components, in empirical studies of real sport events to test feasibility and results.
- Conduct a quantitative analysis of the risk management tool's success in reducing uncertainty and increasing stakeholder readiness.
- Investigate the return on investment (ROI) of sustainability initiatives in events and how it affects brand awareness and audience engagement.
- Study event organization artefacts to describe and construct new artefacts for implementation, delivery, risk response, and sustainability commitment.
- Reassess current artefacts to better integrate risk registers, environmental checklists, and stakeholder ESG reporting.
- Establish best practices that integrate marketing tactics with project governance frameworks, and produce guidelines to facilitate the transition of a project manager into a well-rounded, marketing-oriented event manager.
- Explore monetization and profitability classifications of sports events across various regions and categories (local, national, international). Perform quantitative analyses on effort allocation throughout all five project phases, and investigate how fluctuations in participant and spectator numbers influence risk levels and

operational demands.

By further developing PM² in this fashion and validating it across diverse event scenarios, future research can significantly contribute to fostering a resilient, sustainable, and effectively managed global sports event landscape.

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