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Using Smart Systems in Managing Sports Events

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Abstract

This study aimed to examine the extent of smart systems use in managing sports events in Jordanian sports clubs and to identify their impact on sports event management. The study adopted a descriptive-analytical approach and targeted employees responsible for organizing and managing sports events in sports clubs across the Hashemite Kingdom of Jordan. A convenience sample of 136 administrators and event organizers participated in the study. Data were collected using a questionnaire consisting of 21 items distributed across four dimensions of smart systems use: planning, organizing, implementation, and evaluation. The validity of the instrument was established through expert review, while reliability was confirmed using Cronbach's alpha coefficients, which ranged from 0.800 to 0.946.

The findings revealed that the overall level of smart systems use in sports event management was moderate (M = 3.63, SD = 0.70). Among the dimensions, evaluation ranked first with a high level of use (M = 3.68), followed by organizing (M = 3.65), implementation (M = 3.63), and planning (M = 3.58), all at moderate levels. The results of the One-Sample t-test indicated a statistically significant impact of smart systems on sports event management across all dimensions ($p < 0.05$). The findings suggest that smart systems contribute positively to improving administrative efficiency, supporting decision-making processes, enhancing organizational performance, and improving the quality of services provided during sports events.

The study recommends expanding the adoption of smart systems throughout all stages of sports event management, developing technological infrastructure, providing specialized training programs for sports personnel, establishing integrated databases, and encouraging further research on artificial intelligence and smart technologies in the sports sector.

Keywords: Smart Systems, Artificial Intelligence, Sports Event Management, Sports Clubs, Digital Transformation, Jordan.
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Introduction

Managing sporting events is considered one of the modern & important fields in the sporting sector, which had witnessed great development in recent years; specially when sports had transferred to full integrated industry that went beyond the sports competition alone to include economic, social and media sectors. Therefore, sports events are no longer just traditional matches or tournaments, but have become major events that require careful planning, professional organization, and comprehensive management to ensure their success and the achievement of their desired goals at various levels.

Sports event management relies on a set of integrated processes that begin with the strategic planning phase. This phase involves defining the event's overall objectives, identifying the target audience, and developing appropriate timelines and budgets. The next phase is organization, which includes distributing tasks and coordinating efforts among various stakeholders, such as sports federations, government agencies, sponsors, and media outlets, in addition to effectively managing human and material resources. The implementation phase requires meticulous follow-up and the ability to handle challenges and emergencies during the event. Finally, the evaluation phase measures the event's success and identifies lessons learned to improve future events (Masterman, 2014).

The importance of sports event management lies in its contribution to fostering community engagement, promoting sports culture, and supporting young sporting talent. It also plays a vital role in stimulating the local economy by attracting audiences, sponsors, and investments. Furthermore, effective management helps enhance the public image of organizing institutions and countries, particularly when hosting major sporting events (Greenwell, Danzey-Bussell & Shonk, 2024).

Successful sporting event management relies on a set of essential skills, including meticulous planning, time management, effective communication, teamwork, problem-solving, and decision-making under pressure. With technological advancements, the use of modern technologies has become a fundamental element in the success of these events. Examples include online booking systems, digital marketing, data analytics, and live streaming, all of which have contributed to improved organization and enhanced the experience for participants and the public. Thus, effective sporting event management has become a cornerstone of success for any sporting event and a vital pillar in developing the sports sector and achieving its goals at both the local and international levels (Emery, 2010).

The use of smart systems in managing sporting events has become a key factor in transforming this field. Modern technologies have significantly contributed to the development of organizational and management methods, shifting them from traditional, manual processes to integrated digital systems based on data and precise analysis. These systems are used in all stages of a sporting event, from planning to evaluation, ensuring increased efficiency, reduced errors, and improved execution quality (Kubler et al., 2017).

In the planning phase, intelligent systems help analyze data related to the target audience, predict attendance numbers, and identify operational and logistical requirements such as capacity, services, and the infrastructure needed for the event. Digital analytics tools also enable the development of more accurate and realistic marketing and financial plans based on information gleaned from previous events and audience behavior. In the organizational phase, electronic systems are used to distribute tasks and monitor workflow among different teams, ensuring effective coordination between organizers, security, media, and service providers (Ulfik, 2025).

During the implementation phase, smart systems play a pivotal role in streamlining entry and exit procedures using e-tickets and rapid scanning technologies, thus reducing congestion and enhancing the attendee experience. Smart monitoring systems are also employed to ensure security and safety within event venues, in addition to the use of smartphone applications that provide the public with real-time information on schedules, results, and facilities. Furthermore, live streaming and real-time analysis of sporting performances are utilized to enhance audience engagement with the event (Hu et al., 2024).

In the post-event phase, intelligent systems contribute to data collection and analysis, such as attendance rates, participant satisfaction levels, and organizational efficiency, which helps in accurately evaluating performance and identifying strengths and weaknesses. Artificial intelligence technologies also support decision-making by providing analytical reports that contribute to improving the quality of future events. Thus, smart systems have become an essential element in the success of managing sports events, due to the accuracy they provide in organization, raising the level of efficiency, improving the audience experience, enhancing security and safety, in addition to supporting continuous development in this vital field (Dong, 2024).

Study Problem

The problem addressed by this study is the increasing reliance on smart systems across various sectors, including the sports sector, and the accompanying rapid digital transformation in the organization and management of sporting events. Despite significant technological advancements and the proliferation of smart applications such as electronic booking systems, crowd management, and data analytics, there is a disparity in the extent to which these systems are utilized within sports event management, and their effectiveness in improving organizational quality and enhancing administrative performance remains unclear . (Ulfik, 2025).

The problem is further highlighted by the fact that many sporting events still face organizational and administrative challenges such as overcrowding, poor coordination among stakeholders, and difficulty in managing time and resources. This raises questions about the extent to which smart systems can mitigate these problems. Additionally, there is still a lack of field studies that accurately demonstrate the impact of using these systems on improving the quality of sporting event management in local settings.

Therefore, the study's problem revolves around the following questions:

- To what extent are intelligent systems used in managing sporting events?
- Does employing intelligent systems have an impact on managing sporting events?

The Importance of the Study

The importance of the study stems from two aspects:

Scientific Importance:

The scientific significance of this study lies in its contribution to enriching the theoretical literature related to sports management and smart technologies. It clarifies the relationship between the use of smart systems and the quality of sports event management, thus providing a knowledge framework that can be utilized in future studies. Furthermore, it helps fill a research gap concerning the applicability of these systems within the local sports context, particularly in environments still at varying stages of digital transformation.

Practical Significance:

The practical significance lies in the potential for organizers of sporting events to utilize the study's findings to improve work methods and develop management mechanisms using smart systems, such as crowd management systems, online booking, and digital data analysis. It also helps support decision-makers in sports institutions in adopting more effective strategies based on modern technology, thereby contributing to increased organizational efficiency and improved service quality.

Study Objectives:
This study aims to:

- Identify the extent of smart systems use in managing sporting events.
- Identify the impact of employing smart systems in managing sporting events.

Study terms:
Intelligent Systems:

Intelligent systems are advanced technologies and software that rely on the automated collection, analysis, and processing of data to support decision-making and improve performance efficiency. These systems are based on modern technologies such as artificial intelligence, data analytics, the Internet of Things, and cloud computing, enabling them to operate with high precision to achieve a high level of information delivery, prediction, solution proposals, and adaptation to changes to minimize errors (Ulfik, 2025).

Operationally, they are defined as the score obtained by respondents on an intelligent systems scale.

Sporting Events:

Sporting events are organized events held in the field of sports at a specific time and place, aiming to achieve sporting, recreational, or social objectives, such as competitions, tournaments, and various athletic activities. These events require meticulous planning and organization to manage resources and efforts and ensure the event's success through coordination among stakeholders, audience management, and infrastructure (Greenwell et al., 2024).
Operationally, this is defined as the score obtained by respondents on the Intelligent Systems

Study Limitations
The study's limitations are as follows:
- **Subject Matter Limitations:** The study falls within the topic of intelligent systems and sports events.
- **Time Limitations:** The current study was conducted in the second quarter of 2026.
- **Human Limitations:** Individuals responsible for organizing sports events.
- **Geographical Limitations:** Sports clubs in Jordan.

Theoretical Framework:

The use of smart systems in sports event management is one of the most prominent recent developments in the field of sports management. Technology has become a pivotal element in improving organizational quality and enhancing performance efficiency at all stages of event execution. The theoretical framework of this topic is based on understanding the relationship between smart technologies and sports event management, by illustrating how tools such as artificial intelligence, big data analytics, the Internet of Things, and cloud computing can be employed to support administrative and organizational processes more accurately and effectively (Umek & Kos, 2018).

Intelligent systems are defined as advanced technological systems that rely on the automated collection, processing, and analysis of data to support decision-making and improve performance quality. These systems are characterized by their ability to learn from data and adapt to changes, making them more efficient and flexible compared to traditional methods. In the sports field, these systems are employed in all stages of event management, from planning and organization to execution, and finally to evaluation and continuous improvement (Vales-Alonso et al., 2010).

Sports event management is a comprehensive administrative process aimed at organizing and coordinating sporting activities within a specific timeframe and location, in order to achieve sporting, social, and economic objectives. This process includes several key stages: planning, organizing, implementing, and evaluating. Each stage requires a high level of precision and coordination among the various stakeholders to ensure the event's success and the achievement of its goals (Emery, 2010).

The role of intelligent systems is clearly evident in the planning phase, where they contribute to analyzing data related to the target audience, predicting attendance numbers, and accurately identifying logistical and financial needs. They also assist in designing marketing plans based on analyzing audience behavior and needs. In the organizing phase, these systems improve coordination between different teams through resource management and electronic scheduling systems, thus reducing errors and enhancing operational efficiency (Bianco, 2024).

During the implementation phase, smart systems play a crucial role in streamlining entry and exit procedures using e-tickets and rapid identification technologies, as well as employing intelligent monitoring systems to ensure security and safety within the event. Smartphone applications also provide the public with

real-time information on schedules, results, and facilities, contributing to an enhanced attendance experience and increased participant satisfaction. In the evaluation phase, these systems assist in collecting and analyzing data related to the overall performance of the event, such as attendance rates and satisfaction indicators, enabling more precise and effective improvements to future events (Nicoliello, 2025).

The study is based on a set of modern concepts and theories, such as systems theory, which emphasizes the integration of management elements, and data-driven decision-making theory, which focuses on the importance of accurate information in improving the quality of administrative decisions, in addition to the concept of digital transformation, which reflects the transition of institutions from traditional methods to smart methods based on modern technology (Bowdin et al., 2023).

Accordingly, the use of smart systems in managing sports events is not limited to improving organizational aspects, but extends to enhancing the audience experience, raising the level of security, and increasing operational efficiency, making it an essential element in the development and success of sports events in the modern era.

Prior Studies:

In recent years, the use of smart systems in managing sporting events has garnered increasing attention in both Arab and international scientific studies. This is due to the significant advancements in artificial intelligence, the Internet of Things, and data analytics, and their role in enhancing organizational quality and improving administrative efficiency. Numerous studies have concluded that the shift towards smart systems has become essential for ensuring the success of sporting events, rather than simply an additional technological option.

Given the rapid advancements in the Internet of Things (IoT) and edge computing, the modernization of the sports industry has become intrinsically linked to information technology, necessitating a strategic approach to resource integration and optimization. This paper explores the critical synergy between IoT and edge computing in the context of sports event management, specifically focusing on how these technologies streamline data collection to achieve full digital transformation. By critically analyzing the limitations of traditional centralized optimization methods, we introduce a robust framework of performance indicators and utility functions that demonstrate the superior efficiency of an edge-based approach. Our research reveals that the proliferation of these technologies has served as a primary catalyst for industry growth, with the sports sector expanding from 290 billion yuan in 2013 to 1,271 billion yuan by 2019. Ultimately, this study demonstrates that integrating IoT and edge computing not only enhances operational efficacy but also empowers host cities to leverage sporting events as a strategic tool to showcase their comprehensive strength and elevate their global reputation, providing a valuable reference for urban development and international positioning (Du et al., 2023).

The integration of Internet of Things (IoT) technology into sports has revolutionized athletic performance analysis by enabling the seamless, real-time collection and processing of critical data. Despite this progress, the field faces significant challenges regarding data security, user privacy, and the demand for robust processing capabilities, particularly concerning data transfer latency in real-time applications. The convergence of 5G, edge computing, machine learning, and artificial intelligence, however, offers a transformative opportunity to address these limitations, paving the way for more precise performance insights, personalized training regimens, and enhanced injury prevention. While these advancements are promising, they are accompanied by implementation hurdles and the rising threat of cyber-physical attacks, which necessitate a rigorous focus on secure device architecture. This article provides an in-depth analysis of these dynamics, offering researchers and practitioners a comprehensive understanding of the essential roles of data processing, smart systems, and cybersecurity, while outlining the future trajectory of IoT applications in the realm of sports performance (Albahri et al., 2024).

The motivation for this research stems from the growing influence of digitalization on sporting activities and the rise of physical-digital hybrid sports. As traditional physical sports increasingly integrate digital elements, and "born-digital" eSports incorporate more physical components—such as offline tournaments—the boundaries between these worlds are blurring. Adopting an inductive approach informed by existing literature on physical-digital hybridity, this paper investigates various hybrid configurations and their implications for the fusion of digital and physical environments. We conceptualize four distinct sport clusters—digitally supported, digitally augmented, digitally replicated, and digitally translated sports—analyzed across three core dimensions: the nature of the sporting activity (specifically the interplay between its digital and physical components), the sporting arena, and the influence exerted by various actors. Finally, we discuss the implications of these conceptualizations for both the information systems and sport management domains (Goebeler et al., 2021).

Judging in competitive sports is frequently compromised by human cognitive and sensorial limitations, alongside various forms of inherent bias. Artistic gymnastics serves as a prime example where the increasing complexity and velocity of athletic performance challenge the efficacy of traditional judging. To address these issues, artificial intelligence (AI) systems are being introduced to enhance scoring accuracy and fairness.

Through an in-depth exploratory case study involving diverse stakeholders—including judges, gymnasts, coaches, federations, technology providers, and fans—this research characterizes the human judging process and contrasts it with emerging AI-powered alternatives. The analysis unearths several paradoxical tensions surrounding AI integration, specifically regarding accuracy, objectivity, explainability, the subjective nature of artistry, human-AI interaction, and overall consistency (Mazurova et al., 2022).

Stadiums serve as vital centers for social engagement and entertainment, offering immersive environments that accommodate vast audiences while increasingly evolving into "smart" or "connected" arenas. Driven by the rapid advancement of 5G, edge computing (EC), and the Internet of Things (IoT), the future of sports entertainment relies on these technologies to provide real-time data, optimized navigation, and enhanced athlete safety through predictive maintenance and health monitoring. To address the technical challenges of this ecosystem, we utilize Mobile Edge Computing (MEC) to bring computational resources closer to the network edge, thereby reducing transmission latency. In this study, we propose an optimization model that balances power consumption, bandwidth, and resource allocation, subsequently utilizing Markov inequality to address probability constraints. Furthermore, we introduce a task offloading and resource allocation algorithm based on Lyapunov optimization, leveraged through 5G network slicing. Simulation results demonstrate that our proposed framework significantly outperforms four existing benchmarks, showing marked improvements in time-power average return, as well as both end-to-end and task-processing latencies (Fang, 2024).

This research aims to explore the role of artificial intelligence (AI) in enhancing the capacity to host and organize major sporting events. Employing a descriptive survey methodology, the researchers utilized a questionnaire as the primary data collection tool. The research population consisted of 450 individuals, including personnel from the Egyptian Olympic Committee, members of the boards of directors of Egyptian sports federations, and employees of the Ministry of Youth and Sports and its affiliated directorates across the Arab Republic of Egypt. The key findings indicate that administrative requirements serve as a cornerstone for the successful organization of major sporting events; specifically, the availability of experienced administrative staff and proactive planning are critical success factors. Conversely, high implementation costs and the lack of unified cross-border legislative frameworks were identified as significant barriers to the global adoption of these technologies, while challenges related to cyber threats and technical reliability were ranked as secondary concerns. Based on these findings, the study recommends fostering a culture of institutional collaboration between governmental bodies and the private sector to ensure seamless coordination throughout the event lifecycle. Furthermore, the research emphasizes the necessity of developing smart digital platforms for registration, crowd management, and interactive services. Finally, it highlights the importance of leveraging AI technologies during the pre-planning phases of sporting events, particularly for forecasting attendance, infrastructure requirements, and efficient resource allocation (Al-Qamhawi & Al Shafi'I, 2025).

This study investigates the current state of cybersecurity practices and their role in securing major sporting events within the Kingdom of Bahrain. Utilizing a descriptive survey methodology, data were collected via a structured questionnaire from a sample of 185 participants, comprising administrators from sports organizations and event management firms in Bahrain (30 for the pilot study and 155 for the main sample). Statistical analysis, conducted using SPSS, reveals that cybersecurity systems are implemented at a high level within these organizations, supported by robust human, administrative, and technical capabilities. The findings demonstrate that these cybersecurity measures play a positive and effective role in safeguarding major sporting events in the Kingdom. Based on these results, the study recommends the periodic updating of software and computer systems to mitigate vulnerabilities to malicious software and cyber-attacks during event execution. Furthermore, it emphasizes the imperative of implementing enhanced protection protocols for the confidential data of users within the management information systems of organizations overseeing and supervising major sporting events in Bahrain (Manar, 2023).

This study aimed to evaluate the role of intelligent sports analysis in managing fan emotions, specifically assessing the impact of AI-enhanced television broadcasts on mitigating aggressive behavior and stadium riots in Iraq. Utilizing a descriptive survey and correlational research design, the researchers surveyed 355 fans randomly selected from the major fan associations of Al-Zawraa, Al-Quwa Al-Jawiya, Al-Shorta, and Al-Talaba clubs in Baghdad. The findings demonstrate that data-driven insights—such as digital statistics, heat maps, and systematic player tracking—contribute positively to regulating fan emotional responses. Based on these results, the study recommends that satellite sports channels prioritize objective, balanced, and responsible media discourse when presenting sports analysis to ensure a safer and more constructive spectator experience (Abbas & Sadoon, 2026).

Study Methodology:

This study employs a descriptive-analytical approach, deemed most suitable for the nature of its subject matter. The study aims to identify the current state of smart system use in managing sporting events at Jordanian sports clubs, assess the extent of their implementation, and determine their impact on improving management

efficiency and event organization quality. This approach is appropriate because it allows for a realistic description of the phenomenon and a scientific analysis of the relationships between its variables, based on field data.

Study Population and Sample:

The study population consists of all individuals working in sports clubs in the Hashemite Kingdom of Jordan, including administrators, organizers, and those involved in managing sports events within these clubs. The study sample was selected using convenience sampling, resulting in (136) employees of sports clubs who were responsible for organizing sports events in Jordan. Table (1) shows the demographic distribution of the study sample.

Table (1): shows the demographic distribution of the study sample.

Variable	Frequency	Percentage (%)
Gender		
Male	112	82.3
female	24	17.7
Age (years)		
20 – 30	25	18.4
31 - 40	70	51.5
More than 40	41	30.1
Practical experience in the sports field		
less than 5 years	35	25.7
5-10 years	66	48.6
More than 10 years	35	25.7
Total	136	100.0

Study Instrument:

The study instrument was a questionnaire specifically designed for this purpose. It included a set of items measuring the extent of use of smart systems by using (AI) in managing sports events across several areas, such as planning, organization, implementation, and evaluation. The questionnaire also included items measuring the impact of these systems on sports event management.

The validity of the instrument was confirmed by presenting it to a panel of experts in sports management and information technology from sports faculties at Jordanian universities. Its reliability was also verified using Cronbach's alpha coefficient to ensure the dependability of the results, as illustrated in Table (2).

Table (2) Reliability coefficients using Cronbach's alpha test

Dimension	Paragraphs	Cronbach's Alpha
Planning	6	0.800
Organizing	5	0.946
Implementation	5	0.888
Evaluation	5	0.865
Tool in general	21	0.905

As for the methods of statistical analysis, the Statistical Package for the Social Sciences (SPSS) was used to analyze the data, where Means and Standard Deviations (SDs) were used to answer the study questions, in addition to T-test, with the aim of determining the extent to which there are statistically significant differences or relationships between the study variables.

A five-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree) was used, and the response options were given scores of (1-5) respectively. The level of response can be classified on the Mean scale as (1.00-2.33 low level, 2.34-3.67 medium level, 3.68-5.00 high level).

Study Variables:

The study included the independent variables: the use of smart systems, which are (planning, organizing, implementing, and evaluating). As for the dependent variable, it was represented in the management of sports events, in order to cover the objective of the study in identifying the use of smart systems in the management of sports events.

Study Results:

The study aimed to answer the research questions and test the hypotheses to achieve its objective, which is to demonstrate the impact of using smart systems in managing sports events in Jordan. The results are as follows:

Results of the first research question: To what extent are smart systems used in managing sports events in Jordan?

To answer the research question, the Means and Standard Deviations (SDs) were calculated to determine the extent of smart systems use in managing sports events in Jordan. Table (3) illustrates this.

Table (3)
Estimating the responses of the sample members regarding the extent of use of smart systems in managing sports events in Jordan through Means arranged in descending order

No.	Using smart systems in managing sports events	Mean	SD	Order	Level
4	evaluation	3.68	0.74	1	High
1	Organizing	3.65	0.76	2	Mid.
3	Implementation	3.63	0.72	3	Mid.
2	Planning	3.58	0.74	4	Mid.
total		3.63	0.70		Mid.

Table (3) shows that the use of smart systems in managing sports events in Jordan was moderate from the point of view of the study sample, as the values of the Means ranged between (3.68 - 3.58) and a total value of (3.63). The evaluation dimension came in first place with Mean of (3.68), and a Standard Deviation (SD) of (0.74) and at a high level. In second place came the organization with Mean (3.65) and a Standard Deviation (SD)of (0.76), and at a moderate level. In third place came the implementation with Mean of (3.63) and a Standard Deviation (SD) of (0.72), and at a moderate level. In fourth and last place came the planning with Mean of (3.58) and a Standard Deviation (SD) of (0.74), and at a moderate level.

The following are the results of the sub-dimensions for using smart systems:

First: Organization through smart systems in managing sports events.

Means and Standard Deviations were calculated to indicate the level of organization through smart systems in managing sports events, as shown in Table (4).

Table (4) Level of organization through intelligent systems, as measured by Means, sorted in descending order

No.	Paragraph	Mean	SD	Order	Level
1	Smart systems contribute to organizing the entry and exit of participants and spectators efficiently during sporting events	4.39	0.91	1	**High**
2	Smart systems help to distribute tasks and responsibilities among those working at the sporting event in an organized and clear manner	4.26	0.93	2	**High**
3	Smart systems provide real-time information that contributes to improving the coordination process between the various parties involved in organizing the sporting event.	3.23	0.94	3	Mid.
4	Smart systems help manage time and schedule sporting events with high efficiency.	3.22	0.90	4	Mid.
5	Intelligent systems contribute to reducing organizational problems and taking appropriate action to address them quickly during the sporting event.	3.16	0.92	5	Mid.
	Total Organizing by smart systems	3.65	0.76		Mid.

It is clear from Table (4) that the averages for the level of organization through smart systems in managing sporting events ranged between (4.39 - 3.16), with an overall average of (3.65), which is at the average

level. Paragraph No. (1) came in first place and had the highest average of (4.39), with a SD of (0.91), and at a high level, as the paragraph stipulated (smart systems contribute to organizing the entry and exit of participants and audiences). efficiently during sporting events). On the other hand; Paragraph No. (5) ranked last, with a mean (3.16) and a (SD) (0.92), at an average level, and it stated (Intelligent systems contribute to reducing organizational problems and taking appropriate measures to address them quickly during a sporting event).

Second: Planning through smart systems in managing sports events.

The Means and (SDs) were calculated to show the level of planning through intelligent systems in managing sports events, and Table (5) shows this.

Table (5): Level of planning through intelligent systems through Means, sorted in descending order

No.	Paragraph	Mean	SD	Order	Level
1	Intelligent systems contribute to the accurate and organized preparation of operational plans for sporting events.	4.35	0.84	1	High
3	Smart systems help identify the human and material resources needed to organize sporting events before they take place.	4.26	0.93	2	Hugh
2	Intelligent systems provide accurate information and data that support the planning process and informed decision-making.	3.23	0.85	3	Mid.
4	Smart systems contribute to the preparation of schedules for sporting events and ensure adherence to them.	3.23	0.86	3	Mid.
5	Intelligent systems help predict potential problems and challenges and develop contingency plans to address them.	3.22	0.89	5	Mid.
6	Smart systems contribute to improving the efficiency of resource allocation and available capabilities, thereby achieving the objectives of the sporting event.	3.20	0.97	6	Mid.
	Planning through smart systems as a whole.	3.58	0.74		Mid.

Table (5) shows that the Means for the level of planning through smart systems in sports event management ranged between (4.35 – 3.20), with an overall Mean of (3.58), which is at the medium level. Item (1) ranked first and obtained the highest Mean of (4.35), with a (SD) of (0.84), indicating a high level. This item stated that "Smart systems contribute to preparing operational plans for sports events in an accurate and organized manner." On the other hand, item (6) ranked last, obtaining Mean of (3.20) and a (SD) of (0.97), indicating a medium level. This item stated that "Smart systems contribute to improving the efficiency of distributing available resources and capabilities in a way that achieves the objectives of the sports event."

Third: Implementation through smart systems in sports event management.

Means and (SDs) were calculated to demonstrate the level of implementation through smart systems in sports event management, as shown in Table (6).

Table (6) Level of implementation through intelligent systems, as measured by Means, sorted in descending order

No.	Paragraph	Mean	SD	Order	Level
3	Smart systems contribute to the efficient and effective implementation of operational plans for sporting events.	4.27	0.81	1	high
1	Smart systems help to monitor the progress of work during the sporting event and ensure that it is carried out according to the specified schedule.	4.25	0.89	2	high
5	Smart systems contribute to improving the speed of response to emergency situations that may occur during the execution of the sporting event.	3.25	0.91	3	Mid.
2	Smart systems help coordinate efforts between different work teams to ensure the smooth execution of the sporting event.	3.22	0.87	4	Mid.
4	Smart systems contribute to providing immediate information that supports taking appropriate actions during the execution of the sporting event.	3.18	0.94	5	Mid.
	Implementation through smart systems as a whole	3.63	0.72		Mid.

Table (6) shows that the Means for the level of implementation through smart systems in sports event management ranged between (4.27 – 3.18), with an overall Mean of (3.63), which is at the medium level. Item (3) ranked first and obtained the highest Mean of (4.27), with a (SD) of (0.81), indicating a high level. This item stated that "Smart systems contribute to the efficient and effective implementation of operational plans for sports events." On the other hand, item (4) ranked last, obtaining Mean of (3.18) and a (SD) of (0.94), indicating a medium level. This item stated that "Smart systems contribute to providing immediate information that supports taking appropriate actions during the implementation of the sports event."

Fourth: Evaluation through intelligent systems in sports event management.
Means and SDs were calculated to demonstrate the level of evaluation through intelligent systems in sports event management, as shown in Table (7).

Table (7): Level of evaluation through intelligent systems through Means, sorted in descending order

No.	Paragraph	Mean	SD	Order	Level
1	Smart systems contribute to the accurate and objective evaluation of how well sporting events achieve their planned objectives.	4.34	0.86	1	High
3	Smart systems facilitate the real-time collection and analysis of data related to the performance of sporting events.	4.31	0.88	2	High
2	Smart systems provide accurate indicators and reports that contribute to evaluating the efficiency of the organizational processes of sporting events.	3.26	0.92	3	Mid.
5	Smart systems help identify strengths and weaknesses in the management of sporting events and implement appropriate improvement measures.	3.26	0.80	3	Mid.
4	Smart systems contribute to measuring the level of satisfaction among participants and spectators with the services provided during sporting events.	3.23	0.90	5	Mid.
	Evaluation through Smart Systems as a Whole	3.68	0.74		High

It is clear from Table (7) that the averages for the level of evaluation through smart systems in managing sporting events ranged between (4.34 - 3.23), with an overall average of (3.68), which is of a high level. Paragraph No. (1) came in first place and received the highest average of (4.34), with a (SD) of (0.86), and at a high level, as the paragraph stipulated: (Smart systems contribute to evaluating the extent to which sporting events are achieved. for precisely and objectively planned objectives). On the other hand; Paragraph No. (4) ranked last, with a mean (3.23) and a (SD) (0.90), at an average level, and it stated (Smart systems contribute to measuring the level of satisfaction of participants and audiences with the services provided during the sporting event).

Results of the second question: Is there an impact of employing smart systems in managing sports events?

To answer the second study question, the One Sample T-test was used to identify the effect of employing smart systems in managing sports events in Jordan, and Table (8) illustrates this.

Table (8): One Sample T-test to identify the impact of employing smart systems in managing sports events

Source	Mean of the scale	SD	calculated t-value	tabulated t-value	(DF)	statistical significance
Organization → Sports Event Management	3.65	0.76	12.555	1.96	135	*0.000
Planning → Managing Sports Events	3.58	0.74	4.220	1.96	135	*0.000
Implementation → Sports Event Management	3.63	0.72	8.954	1.96	135	*0.000
Evaluation → Sports Event Management	3.68	0.74	14.215	1.96	135	*0.000
Employing intelligent systems (as a whole) → Sports event management	3.63	0.70	9.334	1.96	135	*0.000

: Statistically significant at a significance level of (0.05) or less, (default t-value = 3.00).

Table (8) showed that the values of the Means on the dimensions (organization, planning, implementation, and evaluation) and the total score for the impact of employing smart systems on the management of sports events were (3.65, 3.58, 3.63, 3.68), with a total value of (3.68), which are values higher than the default Mean (3.00). The calculated (t) values were (12.555, 4.220, 8.954, 14.215, 9.334), which are higher than their tabulated value (1.96). Since the values of the Means of the scale are higher than the default value, and since the calculated (t) values are higher than the tabulated (t) values, this proves the existence of an impact of employing smart systems in the management of sports events in Jordan.

Discussion

The study results showed that the overall level of use of smart systems in managing sports events in Jordan was moderate, with an overall Mean of 3.63. This indicates that sports institutions have begun adopting and employing smart systems in various management processes, but this adoption has not yet reached a high level across all administrative aspects. This can be explained by the growing trend towards digital transformation in the Jordanian sports sector, which is countered by several challenges related to technological infrastructure, the availability of specialized human resources, and the financial cost required for the comprehensive implementation of smart systems.

The results also showed that the evaluation dimension ranked first and at a high level, reflecting the ability of smart systems to provide accurate data and indicators that help sports administrations measure performance and assess the achievement of goals more objectively and quickly compared to traditional methods. This may be due to the ease of using digital tools for data collection, analysis, and the preparation of reports necessary for evaluation processes.

The organizational and implementation dimensions achieved an average level, indicating that smart systems contribute to improving operational management and the organization of sporting events. However, their utilization still requires further development and expansion. This may be due to the varying levels of adoption of modern technologies among sports institutions and the differences in their available resources.

Regarding the planning dimension, it ranked last despite achieving an average level, indicating that the use of smart systems in preparing future plans and managing resources remains relatively limited. This can be

explained by the fact that strategic planning requires integrated databases and advanced predictive systems, which may not be sufficiently available to all sports event organizers.

The results of the t-test also showed that all Means for the dimensions and the overall score were higher than the hypothetical mean, and that the calculated t-values were higher than their tabulated values. This confirms a statistically significant effect of employing smart systems in managing sports events in Jordan. This result indicates that the use of smart systems contributes to improving the efficiency of administrative and organizational processes, supports decision-making, and raises the quality of services provided to participants and spectators, which positively impacts the success of sports events and the achievement of their objectives.

Recommendations:

1. The need to expand the application of smart systems in all stages of sports event management, particularly in planning and execution, to enhance operational efficiency.
2. Providing specialized training programs for sports organization staff to strengthen their skills in using smart systems and effectively employing them in event management.
3. Developing the technological infrastructure of sports organizations and equipping them with modern smart tools and applications that support management and decision-making processes.
4. Establishing integrated databases for sports events and linking them to smart systems to improve planning, forecasting, and resource management.
5. Encouraging further studies and research on artificial intelligence applications and smart systems in the sports field, examining their impact on service quality, participant and audience satisfaction, and achieving a competitive advantage for sports organizations.

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