

AI-Driven Sports Governance: Transforming Public Administration, Decision-Making, Accountability, and Public Service Delivery in National Sport Systems

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ABSTRACT

Artificial intelligence (AI) is increasingly reshaping the institutional architecture of contemporary public administration by transforming how governments collect and analyse information, make decisions, allocate resources, monitor performance, and deliver public services. Within the sports sector, these technological developments are creating new possibilities for evidence-based governance, athlete development, infrastructure management, funding allocation, event administration, and citizen engagement. However, the integration of AI into national sport systems also raises fundamental questions concerning administrative accountability, transparency, fairness, data governance, institutional capacity, and public trust. This study examines the emerging role of AI-driven sports governance in transforming public administration, decision-making, accountability, and public service delivery within national sport systems. It conceptualises AI not merely as a technological instrument but as an emerging governance mechanism capable of influencing administrative practices, institutional relationships, and the distribution of decision-making authority across public sports organizations.

Drawing upon principles of Digital Governance Theory, Good Governance Theory, and Public Value Theory, the study develops an integrated framework for understanding how AI adoption can influence the effectiveness and legitimacy of public sports administration. Particular attention is given to the capacity of AI-enabled systems to support data-informed policy formulation, predictive decision-

making, performance monitoring, resource optimization, fraud and corruption detection, and more responsive sports services. At the same time, the study recognizes that technological efficiency does not automatically guarantee good governance. Algorithmic bias, limited explainability, unequal access to digital technologies, privacy concerns, cybersecurity vulnerabilities, and excessive reliance on automated decisions may create new forms of administrative risk and institutional inequality. The study proposes that the governance value of AI depends substantially on organizational readiness, institutional capacity, ethical safeguards, human oversight, and transparent accountability mechanisms. An effective AI-driven sports governance model should therefore maintain a balance between technological innovation and democratic administrative principles. Rather than replacing public officials and institutional judgment, AI should complement human decision-making through transparent, explainable, and accountable systems. The study further argues that successful AI adoption can strengthen public value when it improves the accessibility, efficiency, responsiveness, and quality of government-supported sports services while maintaining stakeholder participation and public confidence. The research contributes to the emerging literature by connecting artificial intelligence, public administration, and sports governance, an intersection that remains comparatively underexplored. It provides a conceptual foundation for examining how national sport authorities, ministries, public sports organizations, and government-funded sporting institutions can strategically adopt AI while preserving accountability and public legitimacy. The findings are expected to offer implications for policymakers and sports administrators seeking to develop responsible AI governance frameworks that enhance institutional performance without compromising transparency, equity, ethical responsibility, or human oversight. Ultimately, the study positions AI-driven sports governance as a significant emerging dimension of modern public administration and argues that its long-term success will depend not simply on technological sophistication, but on the ability of public institutions to govern AI responsibly, inclusively, and in the public interest.

Keywords: Artificial Intelligence; Sports Governance; Public Administration; Administrative Accountability; Public Service Delivery.

INTRODUCTION

Artificial intelligence (AI) has emerged as one of the most consequential technological developments influencing contemporary public administration. Governments increasingly employ AI-enabled systems to process large volumes of information, identify patterns, support policy analysis, automate administrative tasks, improve resource allocation, and enhance the responsiveness of public services. This transformation represents more than a technological upgrade because AI can alter established relationships between public officials, institutions, citizens, and information. Consequently, questions concerning transparency, accountability, fairness, institutional capacity, and public trust have become central to discussions of AI-enabled governance (Margetts & Dorobantu, 2019; Wirtz et al., 2019). The growing integration of AI into public institutions therefore requires public administration scholars to examine not only whether these technologies improve efficiency but also how they affect the principles and values underlying legitimate governance. The implications of AI are particularly significant within national sports systems, where governments and public institutions increasingly perform diverse administrative responsibilities. Contemporary sports administration extends beyond organizing competitions and supporting athletes; it encompasses public funding, infrastructure development, talent identification, community participation, safeguarding, health and safety, inclusion, event management, and the implementation of national sports policies. AI can potentially strengthen these functions by enabling evidence-based decision-making, predictive analytics, automated performance monitoring, intelligent facility management, and more targeted allocation of public resources. From a public administration perspective, these applications create opportunities to make sports policies more responsive and data-driven while improving the efficiency and accessibility of publicly supported sporting services. The emergence of AI-driven sports governance must nevertheless be considered within the broader evolution of digital government. Digital transformation has encouraged public organizations to move from traditional bureaucratic processes toward more integrated, data-intensive, and citizen-oriented administrative systems (Dunleavy et al., 2006; Janowski, 2015). AI represents a

further stage in this transformation because it can support forms of prediction and decision assistance that conventional digital technologies cannot easily provide. However, technological capacity alone does not constitute effective governance. Public institutions must establish appropriate organizational structures, regulatory safeguards, professional competencies, and mechanisms for human oversight if AI is to contribute positively to administrative outcomes (OECD, 2019; Zuiderwijk et al., 2021).

Accountability represents one of the most important challenges associated with AI adoption in public sports administration. When an algorithm contributes to decisions concerning funding, athlete selection, facility investment, eligibility, or service prioritization, determining responsibility for the resulting decision can become complex. Concerns may also arise when algorithmic systems rely on incomplete or biased datasets, produce outcomes that are difficult for citizens or stakeholders to understand, or reproduce existing institutional inequalities. Such challenges demonstrate why responsible AI governance requires transparency, explainability, fairness, and meaningful human involvement rather than unrestricted technological automation (Floridi et al., 2018; Jobin et al., 2019). For national sports institutions, these principles are particularly important because administrative decisions can affect athletes' careers, public investment, participation opportunities, and access to sporting resources.

The concept of public value provides an additional perspective for understanding AI-driven sports governance. Public administration should ultimately be concerned not simply with organizational efficiency but with creating outcomes that generate value for society through legitimate, equitable, and responsive public institutions (Moore, 1995). AI may contribute to public value when it enables governments to deliver sports facilities and programs more efficiently, identify underserved communities, improve participation opportunities, strengthen integrity mechanisms, and make better use of limited public resources. Conversely, poorly governed AI could undermine public value by increasing exclusion, reducing administrative transparency, or weakening confidence in public institutions. Against this background, this study examines AI-driven sports governance as an emerging dimension of public administration, focusing specifically on its implications for decision-making, administrative accountability, and public service delivery in national sport systems. Drawing on Digital Governance Theory, Good Governance Theory, and Public Value Theory, the study seeks to connect technological innovation with established principles of effective and legitimate public administration. By bringing together AI and sports governance, the study addresses an emerging interdisciplinary research area and highlights the importance of developing AI systems that are not only efficient and innovative but also transparent, accountable, inclusive, and oriented toward the public interest.

LITERATURE REVIEW

Artificial Intelligence and Public Administration

The increasing application of artificial intelligence (AI) has generated substantial interest within public administration because AI technologies can alter how public organizations process information, formulate policies, allocate resources, and interact with citizens. Unlike conventional information technologies, AI can identify patterns within large datasets, generate predictions, automate routine processes, and provide decision-support capabilities. Margetts and Dorobantu (2019) argue that AI has the potential to reshape government operations by strengthening analytical capacity while simultaneously creating new governance challenges. Similarly, Wirtz et al. (2019) identify decision-making, service delivery, administrative efficiency, and public-sector innovation as important areas in which AI can influence government institutions. However, the literature emphasizes that AI adoption should not be understood exclusively as a technical modernization process. Public-sector organizations operate within legal, ethical, and democratic environments in which decisions must be explainable and accountable. Zuiderwijk et al. (2021) highlight the importance of institutional arrangements, organizational capabilities, data quality, and governance mechanisms in determining whether AI can generate positive public outcomes. Consequently, the successful integration of AI requires alignment between technological innovation and established principles of public administration.

AI-Enabled Decision-Making and Administrative Accountability

AI-supported decision-making represents one of the most significant areas of transformation in contemporary government. Algorithmic systems can assist administrators by processing complex information and generating predictions that may improve the consistency and speed of administrative decisions. Nevertheless, increased reliance on algorithms raises concerns regarding transparency, explainability, bias, and responsibility. When stakeholders cannot understand how an automated system produces a particular recommendation or decision, conventional mechanisms of administrative accountability may become difficult to apply.

Research on responsible AI therefore emphasizes principles such as transparency, fairness, accountability, human oversight, and explainability. Floridi et al. (2018) identify these principles as essential components of ethically responsible AI, while Jobin et al. (2019) demonstrate broad convergence around similar principles across international AI ethics frameworks. OECD (2019) similarly emphasizes inclusive growth, human-centred values, transparency, robustness, and accountability as important principles for trustworthy AI. These arguments are particularly relevant to public administration because algorithmic decisions may directly affect citizens' opportunities, access to services, and relationships with government institutions.

Digital Transformation and Public Service Delivery

AI-driven governance is closely connected with the broader transformation of public service delivery. Digital government research suggests that technology can enable governments to move toward more integrated, responsive, and citizen-centred forms of administration (Janowski, 2015). Earlier approaches to digital government largely focused on digitizing existing administrative procedures, whereas contemporary approaches increasingly seek to redesign organizational processes and improve the quality of public services.

AI can extend these developments by supporting predictive service planning, automated communication, intelligent resource allocation, and personalized public services. Nevertheless, digital transformation can also reproduce inequalities when citizens have unequal access to technology or lack the skills necessary to engage with digital services. Therefore, efficiency gains must be evaluated alongside accessibility, equity, privacy, and citizen trust. This perspective is consistent with the public value approach, which considers the broader social outcomes produced by public institutions rather than efficiency alone (Moore, 1995).

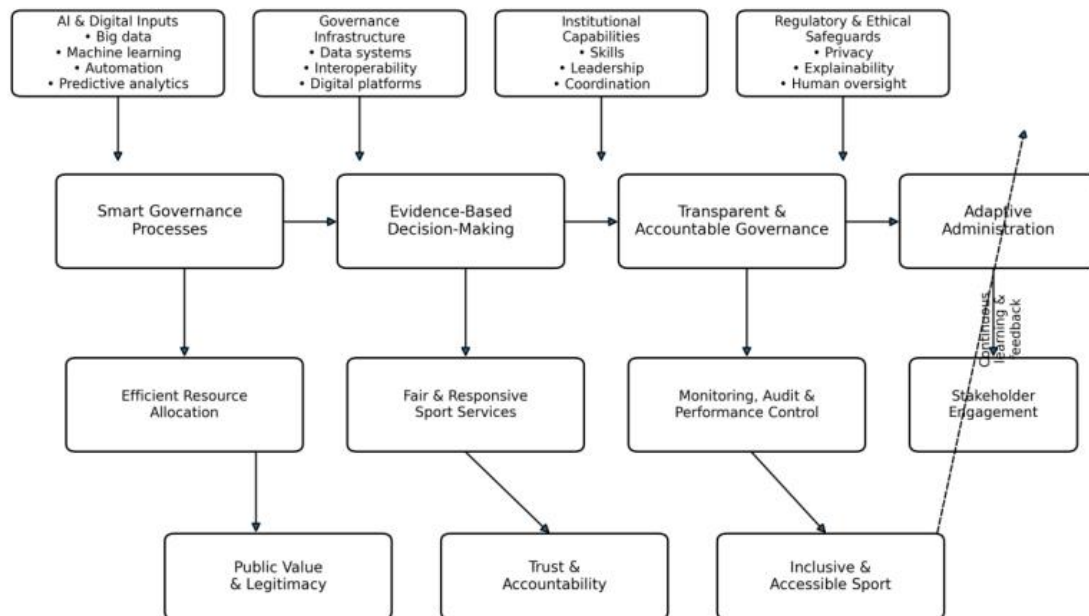
AI and Sports Governance

Despite growing research on AI in public administration, comparatively less scholarly attention has been devoted to its implications for **public sports governance**. AI is increasingly relevant to national sport systems because governments and public sports organizations manage extensive information concerning athletes, facilities, participation, funding, competitions, and performance. AI-enabled analytics can potentially support athlete development, talent identification, facility utilization, event management, integrity monitoring, and evidence-based policy formulation.

The broader sports literature has traditionally concentrated on the technological applications of AI for athletic performance, including prediction, performance analysis, injury prevention, and training optimization. However, the administrative and governance implications of these technologies remain less developed. This creates an important opportunity to shift the analytical focus from AI as a performance technology toward AI as a governance and administrative instrument.

Alternative Publication-Ready Conceptual Model

Figure 2. AI-Enabled Sports Governance Ecosystem



Note. Solid arrows indicate the proposed governance pathway; dashed arrow indicates feedback and continuous learning.

Figure 2 AI-enabled sports governance ecosystem linking digital inputs, institutional capacity, governance transformation, public-service outputs, and public-value outcomes.

Research Gap

The literature therefore reveals three important gaps. First, although AI and public administration have received increasing scholarly attention, much of the research focuses on general government applications rather than national sports institutions. Second, sports technology research has concentrated heavily on athlete performance and competitive outcomes, with comparatively limited attention to public-sector governance, accountability, and service delivery. Third, there remains insufficient integration of AI governance principles with theories of good governance and public value within sports administration. Addressing these gaps, the present study conceptualizes AI-driven sports governance as an emerging field in which technological capability must be balanced with transparency, accountability, institutional responsibility, and citizen-oriented public service delivery.

Research Hypotheses

Based on the literature concerning artificial intelligence, digital governance, administrative accountability, and public service delivery, this study proposes the following hypotheses:

H1: AI adoption has a significant positive effect on administrative decision-making in national sport systems.

AI-enabled analytical tools can process complex information rapidly and provide evidence-based insights to public sports administrators. Greater organizational adoption of AI is therefore expected to enhance the speed, consistency, and evidence base of administrative decisions.

H2: AI adoption has a significant positive effect on administrative accountability in national sport systems.

When appropriately designed and governed, AI systems can strengthen monitoring, record-keeping, performance evaluation, and audit processes. Consequently, higher levels of responsible AI adoption are expected to improve institutional accountability.

H3: AI adoption has a significant positive effect on public service delivery in national sport systems.

AI can support more efficient allocation of sporting resources, improve communication with stakeholders, facilitate service planning, and help public organizations identify service needs. Therefore, AI adoption is expected to contribute positively to the quality and responsiveness of public sports services.

H4: Administrative decision-making has a significant positive effect on public service delivery.

Effective, timely, and evidence-based administrative decisions are expected to improve the allocation of resources and implementation of sports programs, thereby enhancing public service outcomes.

H5: Administrative accountability has a significant positive effect on public service delivery.

Transparent and accountable administrative systems are expected to increase institutional effectiveness and stakeholder confidence, ultimately contributing to better delivery of government-supported sports services.

H6: Administrative accountability mediates the relationship between AI adoption and public service delivery.

The positive influence of AI on public service delivery is expected to operate partly through stronger accountability mechanisms. In other words, AI is likely to generate greater public-service benefits when its adoption is accompanied by transparent monitoring, responsibility, and institutional oversight.

H7: Human oversight positively moderates the relationship between AI adoption and administrative accountability.

AI systems operating under meaningful human supervision are expected to produce stronger accountability outcomes than systems characterized by excessive or poorly controlled automation.

Conceptual Relationship

The proposed model can therefore be represented as:

AI Adoption → Administrative Decision-Making → Public Service Delivery

AI Adoption → Administrative Accountability → Public Service Delivery

with Human Oversight strengthening the relationship between AI adoption and administrative accountability.

This framework enables the study to move beyond the simple assumption that technology automatically improves government performance. Instead, it examines whether AI creates administrative value through improved decision-making and accountability while recognizing the importance of human oversight.

Research Limitations

Although this study provides an important framework for understanding AI-driven sports governance, several limitations should be acknowledged. First, the study's focus on national sport systems may limit the generalizability of its findings to other areas of public administration. Sports institutions have distinctive organizational structures, stakeholder relationships, funding arrangements, and performance objectives. Consequently, relationships identified within public sports administration may not necessarily operate in exactly the same way within health, education, taxation, or other government sectors.

Second, the study may rely substantially on perceptions reported by public officials, sports administrators, and other institutional stakeholders. Perceptual measures can introduce response bias because participants may overestimate the effectiveness of AI systems or provide responses influenced by organizational expectations. Future research could address this limitation by combining survey data with administrative records, performance indicators, audit reports, and longitudinal organizational data. Third, the rapidly evolving nature of artificial intelligence represents a significant methodological challenge. AI technologies, regulatory frameworks, and organizational practices are changing quickly. Findings collected at a particular point in time may therefore become less representative as public institutions introduce more sophisticated AI systems. Longitudinal research would be valuable for examining whether the observed effects of AI adoption remain stable over time. Fourth, differences in technological infrastructure and institutional capacity across countries may influence AI adoption and its outcomes. National sport systems in technologically advanced countries may have substantially greater access to financial resources, data infrastructure, specialized personnel, and AI expertise than organizations operating in developing or resource-constrained environments. Accordingly, cross-national comparisons should account for differences in institutional capacity, digital maturity, regulatory environments, and public-sector resources. Fifth, the study's conceptualization of AI adoption may not fully capture the diversity of AI applications used within sports administration. AI may be employed for resource allocation, athlete development, fraud detection, facility management, event planning, communication, or policy analysis, and these applications may produce different administrative consequences. Future studies should therefore examine specific categories of AI use rather than treating AI adoption as a single organizational construct.

Finally, AI-driven governance raises complex ethical issues—including algorithmic bias, data privacy, cybersecurity, explainability, and human oversight—that cannot be completely captured through a limited set of quantitative variables. Future research should consequently combine quantitative approaches with qualitative interviews, case studies, and policy analysis to develop a more comprehensive understanding of responsible AI governance in public sports administration. Despite these limitations, the study provides a useful foundation for examining the intersection of **artificial intelligence, public administration, and sports governance**. Addressing these limitations in future research can strengthen theoretical development, improve empirical validity, and contribute to the development of responsible and public-value-oriented AI governance frameworks for national sport systems.

Theoretical Framework and Conceptual Model

THEORETICAL FRAMEWORK

The theoretical framework of this study integrates Digital Governance Theory, Good Governance Theory, and Public Value Theory to explain how responsible artificial intelligence (AI) adoption can transform public administration within national sport systems. The framework assumes that AI should not be evaluated solely according to technological efficiency; rather, its administrative value depends on whether it strengthens evidence-based decision-making, institutional accountability, service quality, and outcomes that are meaningful to citizens and stakeholders. This integrated perspective is consistent with scholarship arguing that digital technologies can reshape public-sector organizational capacity

while simultaneously generating new requirements for transparency, ethical governance, and human oversight (Janowski, 2015; Margetts & Dorobantu, 2019; Wirtz et al., 2019).

Digital Governance Theory provides the first theoretical foundation. Digital governance emphasizes the use of digital technologies and data to redesign administrative processes, strengthen institutional coordination, and improve interactions between governments and citizens (Janowski, 2015). In national sport systems, responsible AI adoption can support data-informed policy formulation, resource allocation, performance monitoring, facility management, and stakeholder communication. The theory therefore supports the expectation that responsible AI adoption will positively influence administrative decision-making and public service delivery. However, digital transformation is not inherently beneficial; organizational capacity, data quality, institutional arrangements, and governance safeguards shape its outcomes (Zuiderwijk et al., 2021).

Good Governance Theory provides the second foundation by emphasizing transparency, accountability, responsiveness, participation, effectiveness, and fairness as core dimensions of legitimate public administration. AI can strengthen administrative accountability through improved monitoring, audit trails, data analysis, and performance evaluation, but automated systems can also create risks involving opacity, bias, privacy, and unclear responsibility. Responsible AI therefore requires explainability, fairness, transparency, and meaningful human control (Floridi et al., 2018; Jobin et al., 2019; OECD, 2019). Within public sports administration, these principles are particularly important when AI-supported decisions influence public funding, athlete development, access to facilities, participation opportunities, or allocation of sporting resources.

Public Value Theory constitutes the third foundation. Moore (1995) argues that public organizations should create value for society rather than pursuing organizational efficiency as an end in itself. Applied to sports administration, AI creates public value when it contributes to accessible, equitable, responsive, efficient, and trustworthy sports services. This perspective places citizens and stakeholders at the centre of the analysis and recognizes that technological innovation is valuable only when its benefits are socially legitimate. Accordingly, the model treats public service delivery as a central outcome and administrative accountability as an important pathway through which AI adoption can contribute to public value.

The integrated framework proposes that Responsible AI Adoption directly influences Administrative Decision-Making and Public Service Delivery. It also proposes that Administrative Accountability contributes to better Public Service Delivery and mediates the relationship between Responsible AI Adoption and service outcomes. Finally, Human Oversight is positioned as a moderator because the benefits of AI are expected to be stronger when automated systems remain subject to appropriate human supervision, review, and intervention. This is consistent with responsible-AI approaches that emphasize human-centred governance rather than unrestricted automation (OECD, 2019; Zuiderwijk et al., 2021).

Conceptual Model. The conceptual model operationalizes the theoretical framework by specifying the expected relationships among the study variables. Responsible AI Adoption is the principal independent variable; Administrative Decision-Making and Administrative Accountability represent key administrative mechanisms; Public Service Delivery is the principal outcome; Public Trust is an additional governance outcome; and Human Oversight is proposed as a moderating condition.

AI-Driven Sports Governance: Conceptual Framework

Figure 1. Conceptual Framework for AI-Driven Sports Governance

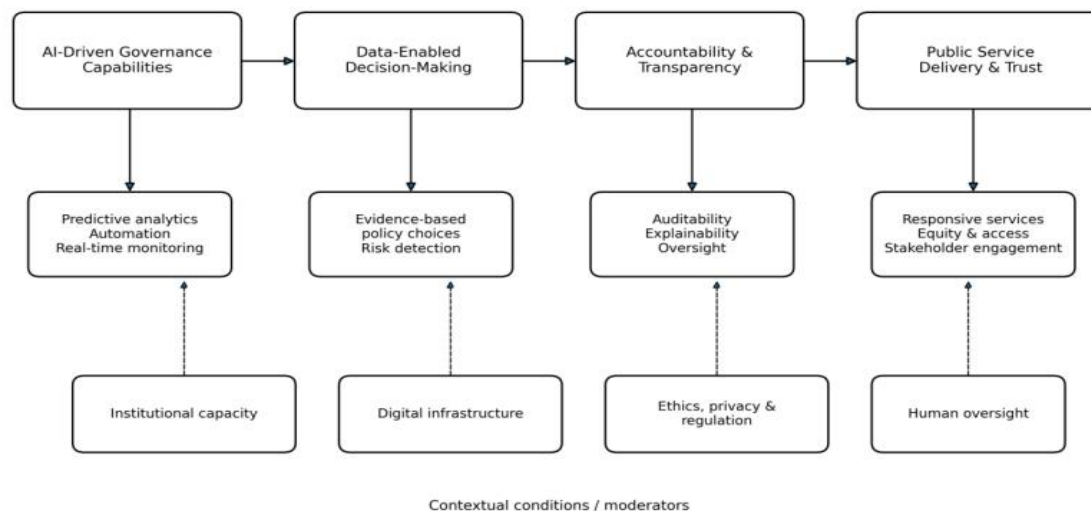


Figure 1 Conceptual framework linking AI-driven governance capabilities, data-enabled decision-making, accountability and transparency, and public service delivery and trust.

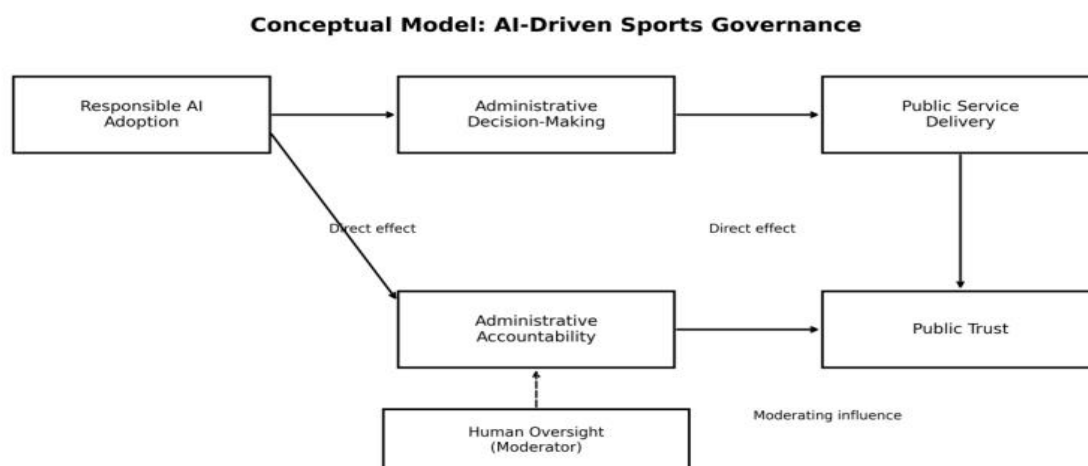


Figure 1 Conceptual model of AI-driven sports governance.

Hypothesized Relationships

- **H1:** Responsible AI adoption positively influences administrative decision-making.
- **H2:** Responsible AI adoption positively influences administrative accountability.

- **H3:** Responsible AI adoption positively influences public service delivery.
- **H4:** Administrative decision-making positively influences public service delivery.
- **H5:** Administrative accountability positively influences public service delivery.
- **H6:** Administrative accountability mediates the relationship between responsible AI adoption and public service delivery.
- **H7:** Human oversight positively moderates the relationship between responsible AI adoption and administrative accountability.
- To examine the influence of artificial intelligence adoption on administrative decision-making within national sport systems.
- To investigate the effect of AI adoption on administrative accountability, particularly regarding transparency, monitoring, responsibility, and institutional oversight.
- To assess the impact of AI adoption on public service delivery in government-supported sports institutions.
- To examine the relationship between administrative decision-making and the effectiveness of public sports service delivery.
- To determine the effect of administrative accountability on the quality, responsiveness, and efficiency of public sports services.
- To investigate the mediating role of administrative accountability in the relationship between AI adoption and public service delivery.
- To examine whether human oversight moderates the relationship between AI adoption and administrative accountability in national sport institutions.
- To develop an integrated AI-driven sports governance framework that promotes technological innovation while strengthening accountability, transparency, human oversight, and public value.

Practical and Policy Implications for Sports.

The integration of artificial intelligence (AI) into national sports systems has significant practical and policy implications for governments, public sports authorities, national federations, and other organizations responsible for the administration and development of sport. The findings and proposed framework of this study suggest that AI should not be introduced merely as a technological modernization initiative. Instead, it should be incorporated into a broader governance strategy that strengthens administrative effectiveness while protecting transparency, accountability, fairness, human judgment, and public value.

Development of National AI Strategies for Sport

Governments should develop dedicated AI strategies for public sports administration within broader national digital-government policies. Such strategies should establish clear priorities for AI applications in areas such as sports facility management, athlete development, talent identification, funding allocation, event administration, participation monitoring, safeguarding, and policy evaluation. A

coordinated national strategy can prevent fragmented technology adoption and ensure that AI investments are aligned with national sports-development objectives.

Establishment of Responsible AI Governance Frameworks

Sports ministries and public sports authorities should establish clear governance frameworks for responsible AI use. These frameworks should define principles concerning transparency, fairness, accountability, privacy, cybersecurity, data protection, explainability, and human oversight. AI systems used in government-supported sports programs should undergo institutional review before being implemented in decisions that may significantly affect athletes, coaches, organizations, or communities. Such governance arrangements can help ensure that technological innovation remains consistent with public-sector values.

Strengthening Evidence-Based Sports Policy

AI can significantly improve evidence-based policymaking in sport. Government sports authorities can use AI-supported analytics to identify participation trends, evaluate the effectiveness of sports programs, forecast facility demand, assess regional inequalities, and determine where public investment is most needed. Rather than relying primarily on historical practices or subjective assessments, administrators can combine AI-generated evidence with professional expertise to formulate more responsive sports policies.

Improving Allocation of Public Sports Resources

One important application of AI is the optimization of public resources. Governments frequently face limited budgets for sports infrastructure, training programs, equipment, and athlete development. AI-based analytical systems can assist policymakers in identifying areas of high demand and evaluating the potential outcomes of different investment strategies. However, resource-allocation algorithms should be regularly audited to ensure that they do not systematically disadvantage rural communities, low-income populations, women, persons with disabilities, or less commercially attractive sports.

Enhancing Transparency and Administrative Accountability

Public sports organizations should use AI and digital systems to strengthen administrative accountability. Automated reporting, financial monitoring, performance dashboards, digital procurement systems, and data-based auditing can make institutional activities easier to monitor and evaluate. Importantly, AI-supported decisions should remain traceable. Administrators should be able to explain what information influenced a decision, which criteria were applied, and who remains responsible for the final outcome.

Maintaining Meaningful Human Oversight

The policy framework should explicitly require human oversight for high-impact AI-supported decisions. AI recommendations concerning athlete selection, public funding, eligibility, safeguarding, disciplinary matters, or access to publicly funded facilities should not become completely automated decisions. Qualified administrators should have the authority to review, question, modify, or reject algorithmic recommendations. This human-in-the-loop approach can reduce the risks associated with algorithmic error and preserve institutional responsibility.

Investing in AI Skills among Sports Administrators

Technological investment will have limited value without appropriate human capacity. Governments and sports authorities should establish continuous professional-development programs that provide sports administrators with knowledge of AI, data interpretation, algorithmic risks, cybersecurity, ethics,

and digital governance. Administrators do not necessarily need to become AI programmers; however, they should possess sufficient AI literacy to understand how systems operate, interpret their outputs, identify potential biases, and make informed administrative decisions.

Protecting Athletes' and Citizens' Data

AI-driven sports administration depends heavily on data, including athlete performance information, participation records, health-related information, and organizational data. Sports authorities must therefore establish strong data-governance and privacy procedures. Data should be collected for clearly defined purposes, stored securely, accessed only by authorized personnel, and protected against unauthorized disclosure. Particular safeguards are necessary when dealing with young athletes and vulnerable populations.

Promoting Equity and Inclusive Sports Development

AI governance should explicitly incorporate principles of social equity. Algorithms trained on historical participation or funding data may reproduce existing inequalities. Policymakers should therefore evaluate AI systems for potential discriminatory outcomes and conduct periodic equity audits. AI should be used to identify underserved communities and expand access to sports rather than reinforcing existing patterns of resource concentration. This is especially important for promoting women's participation, disability sport, youth development, and sports opportunities in economically disadvantaged or geographically remote communities.

Using AI to Improve Public Sports Services

AI can enhance the quality and responsiveness of public sports services through intelligent scheduling, facility-management systems, personalized communication, participation forecasting, and digital feedback mechanisms. Public sports organizations could use AI to identify periods of high facility demand, improve maintenance planning, reduce operational costs, and provide citizens with more accessible information about sports programs. Such applications can contribute to public value when technological improvements translate into tangible benefits for communities.

Establishing Independent Monitoring and Evaluation

Governments should establish mechanisms for independently evaluating AI systems used in public sports administration. Periodic assessments should examine whether AI applications actually improve efficiency, service quality, fairness, accountability, and stakeholder satisfaction. Independent audits can also identify algorithmic bias, data-quality problems, cybersecurity vulnerabilities, and unintended consequences. This would shift AI governance from a one-time procurement decision toward a continuous process of evaluation and institutional learning.

Strengthening Collaboration Across the Sports Ecosystem

AI-driven sports governance should involve collaboration among government ministries, public sports authorities, national federations, universities, technology organizations, athletes, coaches, and civil society. Universities and research institutions can provide independent.

DISCUSSION

The present study examined the role of artificial intelligence (AI) in transforming public administration within national sport systems, with particular attention to administrative decision-making, accountability, public service delivery, and human oversight. The proposed framework extends existing research on digital government by positioning AI not simply as a technological innovation but as an emerging governance mechanism capable of reshaping administrative processes and relationships

between public institutions and stakeholders. Drawing upon Digital Governance Theory, Good Governance Theory, and Public Value Theory, the study proposes that the administrative benefits of AI depend on responsible adoption, institutional accountability, and meaningful human oversight. The discussion therefore focuses on how the proposed relationships contribute to the broader literature on public administration and sports governance.

AI Adoption and Administrative Decision-Making

The first hypothesis proposed that responsible AI adoption positively influences administrative decision-making in national sport systems. The theoretical rationale for this relationship is strong because AI can enable public administrators to process large datasets, identify patterns, generate forecasts, and support evidence-based decisions. Within national sports organizations, these capabilities can be applied to resource allocation, athlete development, facility planning, participation analysis, event management, and evaluation of government-funded programs. Such applications may reduce dependence on fragmented information and subjective judgment, allowing administrators to make decisions on the basis of broader and more systematically analyzed evidence.

This argument is consistent with Margetts and Dorobantu (2019), who emphasize the transformative potential of AI for government decision-making, and with Wirtz et al. (2019), who identify decision support as one of the major applications of AI in public administration. However, the findings should not be interpreted as suggesting that AI can or should replace public administrators. Rather, AI is most valuable when it functions as a decision-support mechanism within institutional processes that retain professional judgment and accountability. This distinction is particularly important in sports administration because decisions concerning athlete development, funding, selection, facilities, and participation can have substantial social and professional consequences.

AI Adoption and Administrative Accountability

The second hypothesis focused on the relationship between responsible AI adoption and administrative accountability. AI has the potential to strengthen accountability by improving data recording, monitoring, performance measurement, auditing, and organizational reporting. Digital systems can create more systematic records of administrative actions, making it easier to identify patterns, evaluate performance, and monitor the implementation of sports policies. From the perspective of Good Governance Theory, these capabilities can contribute to greater transparency and institutional responsibility.

Nevertheless, AI does not automatically produce accountability. Algorithmic decision-making can also create new accountability challenges when decision processes become difficult to understand or when responsibility is distributed between administrators, software developers, data providers, and automated systems. Floridi et al. (2018) and Jobin et al. (2019) emphasize the importance of transparency, fairness, and accountability in responsible AI. Similarly, the OECD (2019) stresses that AI systems should remain subject to appropriate human-centred governance. Therefore, the contribution of AI to administrative accountability depends on whether public sports institutions establish clear rules concerning responsibility, data governance, algorithmic transparency, and human review.

AI Adoption and Public Service Delivery

The third hypothesis proposed a positive relationship between AI adoption and public service delivery. This relationship reflects the broader transformation of government services through digital technologies. AI can assist public sports organizations in identifying community needs, managing facilities, improving communication, optimizing resources, and designing more responsive sports programs. For example, analysis of participation data could help government agencies identify communities with limited access to sports facilities and subsequently improve the geographical distribution of resources.

This perspective extends digital government scholarship, which emphasizes the potential of digital technologies to create more integrated and citizen-oriented public services (Janowski, 2015). However, public service improvement should not be measured exclusively through administrative efficiency. AI-driven services may be efficient while remaining inaccessible to citizens who experience digital exclusion or lack the technological resources necessary to participate. Consequently, AI-based sports administration should incorporate accessibility, inclusion, privacy, and fairness alongside efficiency.

Administrative Decision-Making and Public Service Delivery

The fourth hypothesis proposed that administrative decision-making positively influences public service delivery. This relationship reflects a fundamental principle of public administration: the quality of public services is influenced by the quality of institutional decisions concerning resources, priorities, implementation, and evaluation. Within national sport systems, evidence-based administrative decisions can improve the allocation of public funding, scheduling of facilities, development of sports programs, and targeting of underserved populations.

AI can strengthen this process by providing administrators with timely information, but effective outcomes ultimately depend on institutional capacity and managerial judgment. The integration of AI into decision-making should therefore be viewed as part of a broader administrative transformation rather than as an isolated technological intervention. This interpretation is consistent with Digital Governance Theory, which emphasizes the interaction between technology, organizational structures, institutional capabilities, and governance arrangements (Janowski, 2015; Zuiderwijk et al., 2021).

Administrative Accountability and Public Service Delivery

The fifth hypothesis proposed that administrative accountability positively influences public service delivery. Accountability is essential because public sports organizations frequently operate using government resources and are therefore expected to demonstrate responsible stewardship of public funds and equitable delivery of services. Transparent monitoring and clearly defined institutional responsibilities can reduce inefficiency, improve organizational performance, and strengthen stakeholder confidence.

The relationship also reinforces the central argument of Good Governance Theory: effective public administration requires more than formal organizational authority; it requires mechanisms through which institutions can explain, justify, and evaluate their decisions. In sports administration, accountability can therefore improve public service delivery by encouraging organizations to monitor outcomes, respond to stakeholder concerns, and ensure that public resources are directed toward socially relevant objectives.

Mediating Role of Administrative Accountability

The sixth hypothesis proposed that administrative accountability mediates the relationship between AI adoption and public

Recommendations and Future Research

RECOMMENDATIONS

The increasing integration of artificial intelligence (AI) into national sports administration creates significant opportunities to improve decision-making, accountability, and public service delivery. However, these opportunities can only be realized when AI adoption is accompanied by appropriate institutional, ethical, and administrative safeguards. Based on the theoretical framework developed in this study, several recommendations are proposed for governments, sports ministries, national sports authorities, and public sports organizations.

First, governments should develop comprehensive AI governance policies specifically for the sports sector. National AI strategies should include clear provisions for public sports administration rather than focusing exclusively on general government applications. Such policies should identify appropriate AI applications in areas including sports infrastructure planning, public funding, talent development, event management, participation monitoring, facility utilization, and sports-program evaluation. A sector-specific policy would provide institutions with clearer guidance regarding responsible implementation.

Second, public sports organizations should adopt a responsible AI governance framework. AI implementation should be guided by transparency, accountability, fairness, privacy, security, explainability, and human oversight. Before an AI system is introduced into an important administrative process, institutions should assess its potential risks, data requirements, expected benefits, and possible effects on different stakeholder groups. This would ensure that technological innovation does not undermine established principles of public administration.

Third, human oversight should remain central to AI-supported administrative decisions. AI systems should primarily function as decision-support mechanisms rather than completely autonomous

Future Research

Future research should expand the empirical and theoretical understanding of AI-driven sports governance in several directions. First, longitudinal studies should examine how AI adoption influences public sports organizations over time. Because AI technologies and administrative practices are continuously evolving, cross-sectional research may not fully capture long-term changes in organizational performance, accountability, and public service delivery.

Second, future researchers should undertake cross-national comparative studies. National sports systems differ considerably in institutional capacity, financial resources, technological infrastructure, regulatory arrangements, and administrative culture. Comparing developed and developing countries could reveal whether the proposed relationships operate consistently across different governance environments. Such research could also identify institutional conditions that facilitate or constrain responsible AI adoption.

Third, future studies should examine specific AI applications rather than treating AI adoption as a single construct. AI used for facility management may produce different outcomes from AI used for athlete selection, public funding allocation, fraud detection, or sports-program planning. Research distinguishing these applications would provide more precise evidence concerning which forms of AI generate the greatest administrative and public-value benefits.

Fourth, researchers should investigate additional mediating and moderating variables. Variables such as organizational readiness, digital competence, institutional capacity, ethical climate, leadership support, data quality, regulatory strength, and organizational culture may influence the relationship between AI adoption and administrative outcomes. Including these factors could produce more sophisticated explanatory models.

Fifth, future research should examine public trust and citizen acceptance more extensively. Although the present framework includes public trust as an important governance outcome, future studies could investigate whether citizens perceive AI-supported sports administration as more efficient and fair or, alternatively, as less transparent and less human. Citizen perceptions are particularly important because public-sector technological legitimacy depends partly on whether users regard automated systems as trustworthy.

Sixth, qualitative research should complement quantitative approaches. Interviews with sports administrators, policymakers, athletes, coaches, and technology specialists could reveal institutional

experiences and ethical concerns that standardized questionnaires may not capture. Case studies of national sports authorities implementing AI could provide detailed insights into organizational change, resistance, implementation challenges, and governance practices.

Seventh, future studies should pay greater attention to algorithmic fairness and social inclusion. Researchers could examine whether AI-supported resource allocation systematically benefits already well-funded sports, urban areas, or highly visible athletes. Such research would connect AI governance with broader public administration concerns concerning equity and distributive justice.

Eighth, future research should investigate the relationship between AI and sports integrity and anti-corruption governance. AI-enabled monitoring may potentially identify unusual financial transactions, irregular procurement patterns, competition-related anomalies, or other governance risks. However, the accuracy, legality, and ethical implications of such systems require systematic investigation.

Finally, future scholarship should develop AI maturity models for national sports administration. Such models could assess organizations according to dimensions including technological readiness, data infrastructure, administrative capacity, ethical governance, cybersecurity, human oversight, and public-value orientation. This could provide governments with a practical tool for evaluating institutional preparedness before implementing advanced AI systems.

CONCLUSION

Artificial intelligence is rapidly emerging as an important force in the transformation of contemporary public administration, and its implications for national sports systems deserve substantially greater scholarly and policy attention. This study examined AI-driven sports governance as an emerging form of public administration that can influence administrative decision-making, accountability, and public service delivery. Rather than conceptualizing AI simply as a technological tool, the study positioned it within broader principles of Digital Governance Theory, Good Governance Theory, and Public Value Theory. This perspective emphasizes that the value of AI depends not only on its technical capabilities but also on the institutional conditions under which it is designed, implemented, monitored, and governed. The study argues that responsible AI adoption can strengthen administrative decision-making by enabling public sports organizations to process complex information, identify patterns, support evidence-based policymaking, and improve the allocation of public resources. AI can similarly contribute to administrative accountability through enhanced monitoring, data management, performance evaluation, and institutional reporting. These capabilities have considerable potential to improve public sports services, including facility management, sports-program planning, athlete development, participation monitoring, and resource distribution. However, recent public administration scholarship emphasizes that AI can simultaneously generate new risks involving algorithmic bias, opacity, distributed responsibility, and weakened democratic accountability.

A central conclusion of the study is therefore that AI adoption does not automatically produce good governance. Its contribution to public value depends on responsible institutional design. Administrative accountability represents an important mechanism through which technological capabilities can be translated into improved public service outcomes. Similarly, meaningful human oversight is essential to ensure that AI-supported decisions remain reviewable, contestable, and connected to identifiable administrative responsibility. This argument is consistent with emerging research calling for human-centred AI governance, transparency, explainability, and stronger accountability mechanisms in public institutions. For national sports systems, this conclusion has important practical implications. Governments and sports authorities should develop sector-specific AI policies, strengthen digital and data capabilities, protect athlete and citizen information, establish algorithmic auditing mechanisms, and ensure that high-impact decisions remain subject to appropriate human review. AI should also be deployed in ways that promote equity and inclusion rather than reproduce historical inequalities in access to sporting opportunities and public resources. Overall, this study contributes to the emerging intersection of artificial intelligence, public administration, and sports governance by proposing an

integrated framework linking responsible AI adoption with administrative decision-making, accountability, human oversight, and public service delivery. The research responds to calls for more empirical, theoretically grounded, and sector-specific investigation of AI in public governance. Future empirical testing of the proposed relationships across different national sports systems can further establish when and how AI generates genuine public value. Ultimately, the future of AI-driven sports governance should not be measured by the sophistication of its technology alone, but by its capacity to create transparent, accountable, inclusive, trustworthy, and citizen-oriented public sports administration.

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