

Artificial Intelligence in Algerian Sports Media: Toward a Balance Between
Technological Innovation and Ethical Commitment in Light of International Comparison

الذكاء الاصطناعي في الإعلام الرياضي الجزائري: نحو موازنة الابتكار التكنولوجي والالتزام الأخلاقي في
ضوء المقارنة الدولية

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Abstract : it This paper investigates the role of artificial intelligence in shaping the future of sports media. It proposes a framework that seeks to balance technological innovation with ethical responsibility, with a focus on the Algerian context through international comparison. The study uses a comparative analytical method, supported by a review of the literature and an analysis of three leading international models: the United States, the United Kingdom, and Japan. Findings show that the US emphasizes digital infrastructure to drive innovation. The UK focuses on ethical governance through independent regulatory bodies. Japan presents a balanced model combining advanced technology with professional standards. The study concludes that Algeria can benefit from these models by adopting ethical governance policies that support innovation and transparency. This approach can help build public trust and promote the development of intelligent and sustainable sports media

Keywords: Artificial Intelligence, Sports Media, Innovation, Professionalism

الملخص:

تهدف هذه الورقة إلى دراسة دور الذكاء الاصطناعي في تطوير الإعلام الرياضي، من خلال مقارنة تسعى إلى تحقيق التوازن بين الابتكار التكنولوجي والالتزام الأخلاقي، مع إبراز خصوصية السياق الجزائري عبر مقارنة دولية. اعتمد البحث على منهج تحليلي مقارنة مدعوم بمراجعة الأدبيات وتحليل تجارب رائدة في كل من الولايات المتحدة والمملكة المتحدة واليابان. أظهرت النتائج أنّ التجربة الأمريكية ركزت على توظيف البنية الرقمية لتسريع الابتكار، بينما تميزت المملكة

المتحدة بترسيخ الحوكمة الأخلاقية عبر هيئات مستقلة، وقدمت اليابان نموذجًا متوازنًا يدمج التكنولوجيا المتقدمة بالقيم المهنية. توصلت الدراسة إلى أنَّ الجزائر يمكن أن تستفيد من هذه النماذج عبر بناء سياسات حوكمة أخلاقية تضمن الشفافية وتدعم الابتكار، بما يعزز الثقة المجتمعية ويؤسس لإعلام رياضي ذكي ومستدام. الكلمات المفتاحية : الذكاء الاصطناعي، الإعلام الرياضي، الابتكار المهنية

INTRODUCTION

Sports media is experiencing deep transformations in the digital era. Artificial intelligence has become a central tool in reshaping how content is produced, from data collection to processing and distribution. This shift has opened new possibilities for improving media coverage and enhancing audience experience through personalization, real-time analysis, and high interactivity.

At the same time, these advancements raise growing concerns about media neutrality, privacy protection, and algorithmic bias. Media institutions now face a complex challenge: how to invest in advanced technologies while staying committed to ethical and professional values.

In the Algerian context, the challenge is how to draw lessons from international experiences—specifically those of the United States, the United Kingdom, and Japan—while adapting them to local infrastructure and social and cultural conditions. This could lead to the creation of a balanced model for intelligent sports media in Algeria.

Problem Statement

Although artificial intelligence is being rapidly adopted in sports media worldwide, Algerian media still struggles to harness its full potential. The limitations are mainly structural, ethical, and regulatory. This raises the central research question: **How can Algerian sports media use artificial intelligence to achieve technological innovation while maintaining ethical and professional standards within the national context?**

Sub-questions

- What are the main AI applications in sports media, and how have they reshaped the professional and ethical dimensions of the field?
- What are the characteristics of leading international experiences (US, UK, Japan) in integrating AI into sports media, and what lessons can be drawn?
- What technological and ethical challenges hinder Algerian sports media from adopting AI?
- What policies and approaches can help develop a national model that balances innovation and professional values in Algerian sports media?

Hypotheses

- Integrating AI technologies can improve the quality of sports media coverage, provided there is a supportive technical environment and adequate infrastructure.

- The success of AI adoption depends more on the presence of clear ethical and legal frameworks than on technological progress alone. This is confirmed by international case studies.
- Algerian sports media faces structural barriers including a shortage of specialized professionals, limited financial resources, and the absence of an ethical framework to guide innovation.
- A gradual approach, inspired by international experiences and adapted to national specificities, can help balance innovation with ethical responsibility. This could enhance public trust and contribute to the development of intelligent and sustainable sports media.

Objectives of the Study This study aims to:

- Analyze how artificial intelligence is reshaping practices in sports media across different stages of content production (data collection, processing, distribution, personalization).
- Explore how to balance technological innovation and ethical commitment by comparing leading international models (US, UK, Japan).
- Identify the structural and ethical challenges facing Algerian sports media in the adoption of AI technologies.
- Propose a national approach that reflects Algeria's specific context while drawing on best international practices, to ensure the responsible and sustainable use of AI in sports media.

Methodology

The study adopts a comparative analytical approach, combining a critical review of literature on AI in sports media with a focus on ethical issues, a comparative analysis of international models from the United States, United Kingdom, and Japan, and an assessment of Algeria's sports media context in terms of infrastructure, human resources, and ethical practices. Both quantitative indicators (such as model accuracy and content generation time) and qualitative measures (including public trust and transparency) are employed to propose forward-looking scenarios for AI integration.

I. Theoretical and Conceptual Framework

1. Artificial Intelligence and Its Applications in Sports Media

Artificial intelligence has emerged as a transformative force in the sports media industry, reshaping the entire cycle of content production and distribution. At the data collection stage, big data technologies and sensor-based devices enable the precise capture of athletic performance and physical activity. This information is then processed through advanced predictive algorithms that allow for in-depth analysis of large datasets, facilitating the forecasting of match outcomes and the anticipation of potential injuries. In terms of content generation, AI-powered automated journalism systems now produce real-time sports reports with minimal human involvement, thereby increasing both speed and efficiency. Finally,

through machine learning techniques, AI enhances content distribution by personalizing outputs according to audience preferences, ensuring greater engagement and relevance (Mohamed Qallil). (Mohamed Qallil and Bouzid Ouchen, 2012)

Artificial intelligence is no longer just a supporting tool. It has become an active partner in the production process of sports media. This shift raises important questions about its ethical and professional implications. (Takkart, 2015)

2. Sports Media as a Multidimensional Field

Contemporary sports media has evolved far beyond its traditional function of entertainment and reporting, emerging as a strategic arena that encompasses economic, social, and cultural dimensions. Economically, sport represents a multi-billion-dollar industry, with media serving as a powerful marketing platform and a major driver of revenues through advertising and broadcasting rights (Abdul-Baqi, 2025). Socially, sports media contributes to shaping collective identities, fostering national solidarity, and promoting core values such as fair play and discipline (Noureddine Dikhan, Yasmine Taher, and Mohamed Ziyani, 2018). Culturally, it reflects and disseminates global popular culture, while simultaneously localizing and transmitting it to future generations, thus reinforcing the dynamic interplay between sport, media, and society.

Thus, the integration of AI in this field must consider these overlapping aspects. Sports media should not be reduced to a mere technical function at the expense of its social and cultural roles. (Bin Al-Shin Ahmed and Hanash Khair, 2025)

3. Professional Ethics: Between Traditional Values and AI Challenges

Journalistic ethics rest on fundamental principles such as transparency, accuracy, fairness, respect for privacy, and the avoidance of misinformation. However, the integration of artificial intelligence into sports media has raised critical challenges that demand a re-examination of these values. Questions of transparency emerge as audiences seek clarity on whether content generated by algorithms is being openly disclosed by media outlets. Algorithmic bias also poses a significant threat, as AI systems may reproduce the prejudices embedded in their training data or design, thereby undermining neutrality in sports coverage (Alcohol Shafika and Khalifi Lina, 2025). Privacy concerns further complicate the landscape, particularly with the use of AI to track athletes' performance or gather data on fans, raising sensitive issues of personal data protection. Finally, the profession itself faces uncertainty: while some fear that AI-powered tools could marginalize human journalists, others anticipate the emergence of hybrid models that integrate human judgment with machine efficiency. The central challenge, therefore, lies in harnessing AI's potential while safeguarding the ethical foundations that underpin the social legitimacy of sports media. (Al-Sadia, 2022)

II. Leading International Experiences

International experiences show that the integration of artificial intelligence into sports media has taken different paths. These paths reflect each country's institutional, legal, and cultural particularities. This chapter analyzes three leading case studies to offer a comparative foundation for developing suitable policies in the Algerian context (Saleem, 2023)

1. The American Experience: AI and Automated Sports Analytics

General Overview and Application Model In the United States, AI technologies such as neural networks and machine learning have been applied to generate tactical and financial insights in real time. Applications include video analysis of matches to extract performance metrics, outcome prediction models, and automated systems that generate instant summaries and statistics (Maazouz, 2024)

2. The British Experience: Balancing Innovation and Ethical Regulations

General Overview and Application Model British media institutions have adopted a balanced approach between technological innovation and ethical governance. This includes internal codes of ethics and a broader legal framework enforcing standards of disclosure and neutrality. The focus is on algorithmic ethics and engagement with regulatory and civil oversight bodies.

3. The Japanese Experience: Interactivity and Media Robotics

General Overview and Application Model Japan stands out for its emphasis on innovative and interactive experiences. These include interactive user interfaces, augmented reality (AR) displays for sports statistics, and robotic or virtual presenters delivering parts of the content. The aim is to enhance viewer engagement rather than replace human journalists.

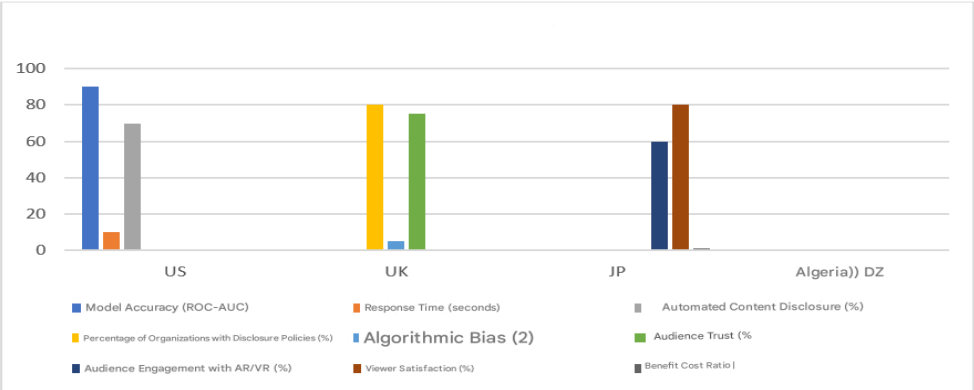
Table 01 A comparative table presenting key quantitative and qualitative indicators from the US, UK, and Japan, with insights and conclusions relevant to the Algerian context.

Prepared by the researcher 2025

Country/Model	Key Focus	Main Challenges	Measurable Outcomes	Lessons for Algeria
US	Analytics & automation (video analysis, predictive models, robot journalism)	IP rights, job displacement	≥90% model accuracy, ≤10s reporting	Launch pilot projects in smart analytics
UK	Ethical governance (transparency, bias audits, ethics officer)	Avoiding stifling innovation	≥80% disclosure, ≤5% bias, ≥75% trust	Develop national code of ethics
Japan	Interactive innovation (AR/VR, media robots, immersive platforms)	High costs, risk of marginalizing human role	≥60% AR/VR engagement, ≥80% satisfaction	Build local interactive platforms via universities
Algeria (lessons)	Balanced hybrid model (analytics + ethics + interactivity)	Data protection, resource limits	≥3 pilot projects, partnerships with academia	Balance economic benefits with social trust

Prepared by the Researcher, 2025

Figure 01 is a comparison supported by numbers and indicators measuring quantity and quality.



Prepared by the Researcher, 2025

The table presents a comprehensive vision for adopting artificial intelligence in Algerian sports media. It is structured across four interconnected levels: media institutions, ethical governance, research and training, and national policy frameworks.

The table illustrates the integration of technical, ethical, academic, and policy dimensions. This offers a strong foundation for a successful strategy in adopting artificial intelligence in Algerian sports media.

III. Toward a Balanced Approach

The proposed roadmap for integrating artificial intelligence into Algerian sports media begins with pilot projects in TV and radio channels, where real-time

match analysis—such as tracking player movements and performance indicators—would enhance content quality and align with global standards. This requires equipping production and editing rooms with specialized AI software to support journalists in delivering data-driven analysis. A second pillar is developing local applications for audiences, offering real-time statistics, personalized replays, and interactive features. Collaboration between media institutions and local startups in software and AI development will not only improve audience engagement but also open new revenue streams through digital advertising and subscriptions. To ensure responsible innovation, the creation of a National Charter for Smart Sports Media is essential. Inspired by the British model of ethical governance, it would establish clear guidelines for AI use, strengthen public trust, and be overseen by a national committee tasked with monitoring compliance, issuing reports, and updating standards as technology evolves. Sustainability also depends on education and training. Updated curricula in media schools should include AI, big data analytics, and digital-era ethics, coupled with practical placements in media institutions. Parallel to this, university–startup partnerships can foster innovation by supporting incubators, joint research grants, and national forums that link academia with industry. Finally, Algeria can benefit from a national approach inspired by Japan, where technology is integrated with cultural values and national identity. This means embedding ethical principles into digital transformation strategies, setting official AI standards for media institutions, and ensuring broad participation from unions and civil society in shaping these policies.

Developing a Roadmap for Expanding AI Adoption in Sports Media

Simulated Scenario for the Development of Algerian Sports Media Through AI

Table 02 Simulated Scenario for the Development of Algerian Sports Media Through Artificial Intelligence

Time period	Expected outputs	Main events
short-term(2025–2027)	- Live analytics powered by AI. - Enabling audiences to replay targeted footage. - Beginning ethical regulation of AI use.	- Launching pilot projects on sports TV and radio channels. - Developing the first local fan app. - Issuing the "Ethical Charter for Smart Sports Media" and establishing a national committee.
medium-term(2028–2030)	- More professional and intelligent media coverage. - National applications that enable direct interaction with the public. - The beginning of the emergence of local products for match analysis.	- Disseminating the use of artificial intelligence tools in visual, print, and digital media. - Creating batches of media professionals specializing in smart media. - Partnerships between universities and startups to develop technical solutions.
long-range(2031–2035)	- Smart and sustainable sports media.- Algeria's emergence as a leading regional model.- Transforming smart sports media into an economic and cultural engine.	- Building an integrated national system for smart sports media. - Achieving technical independence through local solutions. - Adopting a balanced Algerian ethical model.

Prepared by the Researcher (2025)

Commentary

The proposed scenario for advancing Algerian sports media with artificial intelligence rests on four interconnected levels. At the institutional level, pilot projects allow for controlled experimentation and reduce risks, ensuring a gradual transition toward adoption. Ethical governance is reinforced through a charter and a regulatory committee, which provide the framework needed to balance innovation with societal values and to build public trust. Research and training constitute the foundation of sustainability by fostering local expertise and reducing dependence on external solutions. At the national policy level, a phased timeline—short, medium, and long term—offers a strategic perspective that avoids reactive decision-making. Overall, this vision reflects a gradual, balanced approach inspired by international best practices but tailored to the Algerian context, positioning AI as both a technological enabler and a tool for preserving ethical and cultural integrity in sports media.

Table 03 : Proposed Simulation of the Scenario for Adopting Artificial Intelligence in Algerian Sports Media

Intelligence in Algerian Sports Media			
Level	Short-term (1–2y)	Medium-term (3–5y)	Long-term (6–10y)
Media Institutions	Pilot projects	Local apps	National platforms
Ethical Governance	AI charter	Oversight committee	Ethical culture
Research & Training	AI courses	Univ. –startup projects	Research centers
National Policies	Digital strategy	Roadmap & funding	Knowledge economy integration

Prepared by the Researcher (2025)

Commentary

The proposed table reflects a balanced approach that integrates both practical and evaluative dimensions in the context of adopting artificial intelligence in Algerian sports media. The following observations can be noted:

The strength of this table lies in its combination of quantitative measures, which allow for close monitoring of performance, and qualitative measures, which provide analytical depth to assess impact. As such, it serves not only as a planning framework but also as a reference for ongoing evaluation and adjustment over time.

Table 04: Multi-Stage Strategic Timeline for Implementing Artificial Intelligence in Algerian Sports Media

Level	measuring tool	Long-term (6–10 years)	measuring tool	Medium-term (3–5 years)	measuring tool	Short-term (1–2 years)
media institutions	Media Market Reports + Regulatory Statistics	15% of the media market relies on artificial intelligence.	Statistics from app stores(Google Play, Apple Store)	500,000 smart app users	Official reports from channels and radio stations + field follow-up	3 pilot projects
Ethical governance	Official Bulletins + Transparency International Indicators	90% commitment to ethical governance	Reports of the competent committee + external audit	70% commitment to ethical standards	Institutional Surveys + Reports	50% of institutions adopt the charter
Research and training	Ministry of Higher Education Reports + International Publication Evaluation	2 specialized national research centers	Partnership contracts + number of patents	10 University-Company Joint Projects	Curriculum Review + Academic Accreditation Documents	5 new university programs
National policies	Central Bank data + official GDP reports	1% contribution to GDP from smart media	Ministry of Communications data + funding reports	20 funded initiatives	Workshop minutes + number of participants	3 national workshops

Prepared by the Researcher (2025)

Commentary

The proposed framework shows a gradual and measurable development across four levels. Media institutions evolve from pilot projects to national platforms, while ethical governance moves from partial adoption to near-

complete integration, enhancing public trust. Research and training progress from academic programs to national research centers, reflecting knowledge maturity. At the policy level, the shift from workshops to measurable GDP contribution ties the project to broader economic goals. The strength of this model lies in combining short-, medium-, and long-term objectives with clear indicators, but its success depends on effective coordination among all four levels.

Monitoring Matrix the Monitoring Matrix outlines the responsibilities for data collection related to Key Performance Indicators (KPIs) across the four levels

Table 05: Monitoring Matrix – Responsibilities and Timelines for KPI Data Collection

Level	Time period	The party/person responsible for follow-up	Measuring tools	Key indicators
media institutions	biannual	Media institutions + Audiovisual Regulatory Authority	Channel Reports - App Statistics - Market Reports	Number of pilot projects - Market share - Number of users
Ethical governance	annual	Ministry of Communication + Media Ethics Committee	Questionnaires - Committee Reports - External Audit	Charter adoption rate - compliance rate - number of violations
Research and training	annual	Universities + Ministry of Higher Education and Scientific Research	Accreditation Documents - Partnership Contracts - Ministry of Higher Education Reports	Number of university programs - joint projects - research centers
National policies	Every two years	Ministry of Communication + Ministry of Finance + Central Bank	Workshop minutes - Financing reports - Central Bank data	Number of workshops - Funding volume - Contribution to GDP

Prepared by the Researcher (2025)

Commentary

The monitoring matrix establishes clear responsibilities for different entities, ensuring accountability and transparency, while its time-based data collection enables continuous evaluation and early adaptation. By combining

quantitative metrics such as app usage, academic output, and financial returns with qualitative insights like ethics and public trust, it provides a balanced assessment of progress. Moreover, through coordination among media, regulators, academia, and government, it evolves into a comprehensive national system that integrates technological innovation with ethical, institutional, and economic dimensions.

This matrix is not merely a technical tool for performance measurement. It serves as a comprehensive governance framework. It enables transparent and internationally evaluable tracking of the initiative. However, a key challenge lies in ensuring the independence of the body responsible for monitoring. Without this, the process risks becoming a symbolic exercise rather than an effective mechanism.

IV. Results, Recommendations, and Conclusion

Key Findings

- The US model demonstrated AI's potential to drive media innovation, especially through real-time analytics and automated coverage. However, it also raised issues related to intellectual property and job displacement in routine tasks.
- The British experience showed that pre-established ethical governance and transparent disclosure are essential for public trust and controlling algorithmic bias.

- The Japanese case emphasized viewer interaction and the use of media robotics, enriching user experience without eliminating the human role. Nevertheless, it presented challenges related to high implementation costs.
- The Algerian context currently reflects limited adoption of AI in sports media, due to weak digital infrastructure, a lack of specialized talent, and the absence of a clear ethical and institutional framework.
- **Development potential** exists through investment in university–industry partnerships, launching local pilot projects, and adopting a national charter that aligns technology with professional values.

Conclusion

The study concludes that integrating artificial intelligence into Algerian sports media offers a strategic pathway to modernization while simultaneously raising ethical and professional challenges that demand proactive governance. International experiences demonstrate that success in this field depends not only on technological advancement but also on embedding principles of transparency, neutrality, and privacy protection. Therefore, Algeria is called upon to adopt a balanced national model grounded in scientific research, institutional partnerships, and phased policies. If effectively implemented, this vision could position Algerian sports media as a trusted actor in the digital transition and a catalyst for both economic and cultural development.

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