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SPORTS AND NEW WAYS TO THE ERA OF ARTIFICIAL INTELLIGENCE FOR NATIONAL DEVELOPMENT

NWAIWU NNOCHIRI, OKOROAFOR UZOCHUKWU, JUDE CHIKEZIE NWAKAMMA
DEPARTMENT OF HUMAN KINETICS AND SPORTS STUDIES
ALVAN IKOKU FEDERAL UNIVERSITY OF EDUCATION OWERRI
nochsports@gmail.com, 08060180363

Abstract

This paper provides an overview of relevant literature and explores the pivotal role of AI in enhancing the sports industry for national development. The paper further highlights the benefits of AI in the sports industry and its adoption, necessary reforms, infrastructure investments, personnel training, curriculum adjustments in educational settings, and the promotion of innovative processes at all levels of leadership. Furthermore, the paper addresses the challenges of digital inequality and ethical considerations. With the prioritization of these aspects, Nigerian sports can effectively harness A.I. to enhance economic growth and improve the quality of sports infrastructure administration, management, means, and ways. Also, the businesses associated with sports are growing fast due to the high awareness created through this technology. It is recommended that the sports industry educational ecosystem and businesses stay updated with the innovations.

Keywords: Artificial Intelligence, Nigerian Sports, National Development, New ways.

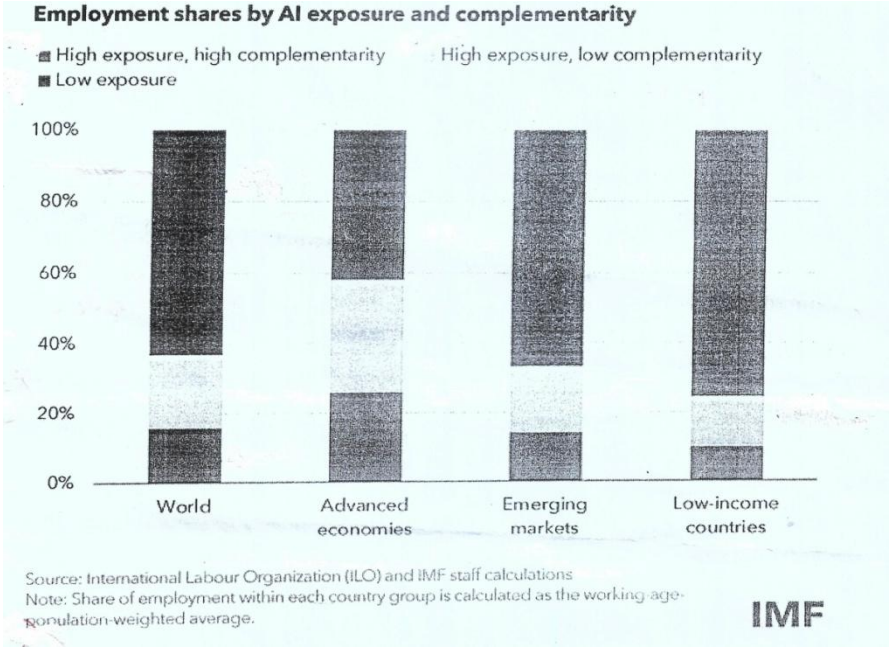
Introduction

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition and machine vision. It refers to computer systems performing complex tasks that historically only humans could do such as reasoning, making decisions, or solving problems.

The advent of artificial intelligence (AI) is reshaping industries and economies globally. For Nigeria, a nation with significant potential for growth, leveraging AI through robust science and technology in sports is crucial. The paper examines how the sports industry can respond to the AI era, driving national development and positioning Nigeria as a leader in sports digital economy.

AI's Impact on Jobs

Most jobs are exposed to AI in advanced economies, with smaller shares in emerging markets and low-income countries.



Artificial intelligence concept is altering sports positively and taking it to an unheard-of level of success. While the facts confirm that measures and quantitative investigation have assumed a focal role in sports for quite a while, A.I. is essentially affecting how games are planned, played, and attracting the crowd. We see this pattern overrunning across baseball, tennis, soccer, football, basketball, and numerous other. Artificial Intelligence has entered the storage space conversations with better bits of knowledge about the opposition, the mentor's recommendation with better patterns, and your TV screens with quicker features (Magera, 2018). A.I. has enhanced accuracy in sports since scores, player movements, and fan habits can be easily predicted through A.I. (Porwel, 2020).

Literature Reported on Global Perspectives

Artificial Intelligence is affecting almost every significant program. This is a robust addition to the business of sports as a media inclusion turns out to be progressively substantial as the main wellspring of income in elite athletics.

With the progression spreading over all zones of vigorous space, it is trying for each Industry to refer and consistently follow cutting-edge items to take care of issues in the areas of complicated circumstances. In any case, there is a lack of upgrades pending in every aspect of the business, including the game showcases. Nonetheless, the most recent innovation, for example, A.I., can help prevail in the severe market. Numerous A.I. advancement organizations are giving A.I. frameworks that allow the games business to help players and supporters (Negrotti, 1991).

A.I. Applications used Across Major Sports

There have been several applications that are widely being used in this industry, this includes:

Chatbots:

This is an application that is being used to answer questions from the fan. It searches the history of all games and the history of sports in general and it then stores it on the home page. The app is linked to Facebook messenger to enable fans connect with the app through Facebook and get relevant information. This app has been appropriate in keeping the history of the sport and enhancing understanding among fans. Over the years now, it has helped the economy of fun to be on a higher level.

A.I. Education: The Current Landscape and Nigerian Perspective

Nigeria's educational system faces numerous challenges, including outdated curricula, inadequate infrastructure, and insufficient teacher training. To effectively respond to the AI era, significant reforms are necessary.

Curriculum Reform and Development in Sports and Physical Education

Changing economic, social and political situations in both developed and developing countries combine to create need for constant innovations and reforms in education, if the aim is to train individuals that would advance the development of their climes particularly and the world in general.

Integrating AI into the educational curriculum from primary to tertiary levels is essential. Akinwale and George (2020) suggest that early exposure to AI concepts can bridge the knowledge gap and prepare students for future challenges. This involves introducing subjects like machine learning, data science, and robotics into the existing sports curriculum.

Investment in Infrastructure

Adequate infrastructure is critical for science and technology education. This includes access to computers, high-speed internet, and modern laboratories. Okebukola (2019) emphasizes that enhancing educational infrastructure can improve learning outcomes and foster innovation. Targeted investments in infrastructure can help Nigeria harness the power of AI for national sports development. Investments in digital classrooms and e-learning platforms are also necessary to ensure widespread access to AI education.

Teacher Training and Development

Teachers are central to educational reform. Continues professional development in AI and related fields is crucial for teachers to effectively impart knowledge. The National Centre for Artificial Intelligence and Robotics (NCAIR) in Nigeria has been pivotal in offering training programs for educators. These programs should focus on both technical skills and innovative teaching methodologies.

Encouraging Innovation and Research

A vibrant research ecosystem is essential for advancing AI. Nigerian universities and research institutions should be encouraged to conduct AI research addressing local challenges. Olayinka (2021) highlights that fostering a research culture can lead to innovative solutions tailored to Nigeria's unique context. Collaborations with international institutions can provide valuable insights and resources.

Bridging the Digital Divide

Ensuring equitable access to technology is paramount. The digital divide between urban and rural areas must be bridged to provide all students with access to AI education. Initiatives such as the Nigerian Communications Commission's (NCC) Rural Broadband Initiative are critical in this regard.

Ethical and Social Implications

AI's ethical and social implications, including data privacy, algorithmic bias, and job displacement, must be carefully managed. Establishing clear policies and frameworks to govern AI use is essential. The Nigerian Data Protection Regulation (NDPR) is a commendable effort in this direction.

Case Studies and Examples

AI in Healthcare

AI can significantly enhance healthcare delivery in Nigeria by improving diagnostic accuracy and patient management. Training healthcare professionals in AI applications can lead to better health outcomes and more efficient healthcare systems.

AI and Epidemiology

Epidemiology is the study of the distribution and determinants of health-related states or events in populations. It provides crucial data for public health decision-making and policy formulation. By understanding patterns and causes of diseases, epidemiologists can identify risk factors, track disease outbreaks, and evaluate the effectiveness of interventions.

The role of AI in modern healthcare has revolutionized healthcare by enhancing diagnostic accuracy, personalized treatment plans, and predicting disease outbreaks. Machine learning algorithms analyze vast amounts of data to identify patterns and trends that may be invisible to the human eye.

AI-powered tools can analyze individual health data to recommend personalized fitness and dietary plans. AI helps in predicting healthcare needs and managing resources efficiently. Epidemiological data guide the prioritization of health initiatives based on population needs. The combined efforts in sports, health education, and epidemiology reduce healthcare costs and enhance workforce productivity. AI AI-driven innovations create new economic opportunities and technological advancements. AI models predicted the spread of COVID-19,

aiding in timely interventions. The interpretation of sports, health education, epidemiology, and AI represents a holistic approach to national development. The multi-disciplinary strategy underscores the importance of collaboration and innovation in addressing contemporary health challenges and advancing national development objectives.

AI and Sports Betting

AI virtually powers most of the betting platforms in Nigeria that offer the biggest bonuses and fastest payouts. Hotmuttis is a cutting edge AI technology powering the services of Bettonent in Nigeria. Other sport betting companies in Nigeria include Bet9ja, IXBet, betIXing, Betway, Betwinner, Bet365, NIBet, Yangasport 22bet etc.

This has led to the creation of jobs, Revenue generation, Tax revenue, Economic stimulation, foreign investments, infrastructure development, increased sports engagement sponsorship and partnerships, and social benefits.

Public-Private Partnerships

Collaboration between the public and private sectors can drive AI education and innovation. Companies can offer internships, mentorship programs, and funding for AI research, while educational institutions can provide the necessary training and resources.

Benefits of Implementing AI in Nigeria's Sporting Ecosystem

The A.I. innovation in the sports industry may be utilized to follow player execution and assist with improving the soundness of the player by providing proposals on injury; however, now A.I. and A.I., from chatbots to arrange vision ideas applied to various sports undertaking applications to improve the games planning. Indeed, it will be charming to discover that today players and associations in most highly developed games require embracing cutting-edge innovation; for example, Artificial Intelligence can proceed with speed to the base of the application. Henceforth, it assists with anticipating the game previously that helps with creating strategies to beat the game in the competition.

Will Enhance Information Across Sports

The A.I. consciousness assists in withdrawing fans and gathers essential information at the coordinate time to convey ongoing bits of knowledge for better improvement of the game. The info utilized to drive bits of data, which will be shared with players and group specialists with the assistance of a portable application. These ongoing experiences will contribute to upgrading the execution of the player and thus the group. These help the groups and players to examine and anticipate the rival's advancement through advanced level examination and give valuable insight into the game.

Accuracy in sports

According to studies, an answer worked via Automated Insights (AI) is fit for preparing information of the games to rapidly deliver rundowns and accounts of the significant

occasion of the day. It is equipped for getting the style, language standards, and sentence structure rules while making the story. A.I. intelligence would now be able to convey propelled execution investigation, regardless of whether it's discovering patterns of all the successful strategies or visual examination of each play. This gives players and mentors a fantastic asset to dissect how they performed and to investigate their rivals' qualities and shortcomings. For instance, in the forthcoming Roland-Garros tennis competition, Infosys has banded together to create Stats+.

Detection and Mitigation of Fraud Cases

The greatest benefit of utilizing A.I. in inspecting recognizes wrongdoing, the thought being to detect and identify abnormalities. Misrepresentation in sports can happen if A.I. is used to support one player over others, both dependent on capacity or how the framework is set.

In the sports world, with a heavy reliance on A.I. to rank athletes, develop their data, share their data, and rate their performance, fraud can occur based on biased A.I. settings, thus clouding more accurate human judgment. The specific measure of the noticeable measurements may bring up a warning in an AI-driven, AI framework where all information is analyzed, not typically for a progressively common information-prepared framework that utilizes inspected information. For example, in recent years, A.I. has been used to catch players with doping controversies through the World Anti-Doping Agency (WADA). This refers to a subject under scrutiny as certain countries are speculated to be more targeted than others.

Enhancement of Pedagogy

By integrating AI in pedagogy, educators can create work work-effective, efficient, and inclusive learning environment, ultimately improving student outcomes and success. AI can enhance pedagogy and andragogy in various ways, including personalized learning, intelligent tutoring systems, automated grading, natural language processing, adaptive assessments, virtual learning environments, teacher support, enhanced accessibility, real-time feedback, data analysis, etc.

Proper Training of Match Officials

Officials who use A.I. need to be adequately trained to reduce cases of human error and the wrong use of A.I. The "know and show" policies should be encouraged in leagues that rely on A.I. to determine scores and to address issues that could affect team performances, such as fouls, tackles, and penalties. For example, the use of VAR has come under scrutiny for double standards and unfair rulings, which are thought to have some aspects of bias. We need to ensure that we create sustainable technology that cares about the unique sporting needs and ensures that we understand that software needs the human touch to succeed.

Enhancing Player Performance

When players are working out, they want to achieve maximum performance, which will be replicated in the field. A blend of sensor innovation and AI assists mentors in improving players' methods. For instance, in weight preparation, A.I. can give constant criticism to amplify the consequences of an exercise and make customized training regimens that bustling mentors will most likely be unable to provide. Shrewd wearables can likewise give information on levels of strain and effort a player is experiencing and can flag that a movement ought to be halted to forestall injury. This is especially significant at the secondary school level.

AI Coaching

Coaches are increasingly relying on A.I. to get tactics and strategies right for every match. Utilizing A.I. to help teams create or potentially improve game systems may not be excessively far in the far off future , (Sennaar, 2019). Successful instruction is an ability that requires understanding and is grown extra time; likewise, it is bad science. P.C.s might give mentors and groups improved exactness in breaking down normal slip-ups and improving plays at a quicker rate than people.

A.I. is no doubt having a significant impact on how coaches carry out their work, especially in football. Choices about what line-up to field against rival groups are currently affected as much by P.C. examination from the front office as by the experience of the director. Through a mix of wearable sensors and rapid cameras, A.I. stages would now be able to quantify the speed, turn, and arrangement of the tennis serve, a curveball, a forward pass, an extra shot, and many other comparable activities, as well as the movements and situated in the space of the players who perform them (Sennaar, 2019). This information helps mentors ready to get ready players for rivalry. Similarly significant, A.I. can anticipate the odds of achievement for different game strategies. For instance, some football trainers are currently going to A.I. to assist them with calling the correct plays during a game.

Automated Video Highlights

Automated video highlights will redefine the future of A.I. in sports, as it has already been tested for use in tennis. CNBC set up a video clarifying how IBM’s framework got the critical second in a match by drawing information from players, fans, and that's just the beginning (Sennaar, 2019).

Use of Video Assistant Referee in Sports

The Video Assistant Referee (VAR) has been used in football since 2018 and has been decisive in many games. It is a support tool for on-field referees and is used to objectively determine whether human decisions were accurate and fair or enormous and thus in need of correction. There is an overwhelming support for VAR, but there are also criticisms and concerns about this technology. The positive perception of referees towards VAR highlights

improved decision accuracy and minimal match disruption. Fans and media express trust in VAR but cake for refinements.

Development of AI –Powered Sports Equipment

The advent of AI – AI-Powered Soccer Ball demonstrates a leap in technological integration within traditional sports gear. The soccer ball equipped with sensors and AI algorithms can provide real-time data on its trajectory, spin, and force, offering players and coaches unprecedented insights into every kick and pass.

Similarly, advancements in tennis equipment, particularly AI – AI-enhanced tennis racquets, mark a significant innovation. These racquets are designed to analyze a player's swing, contact point, and ball spin, offering personalized feedback to improve technique and power. This technology enables players to make real-time adjustments to their play, enhancing the training process and match performance. Incorporating AI into sports equipment has profound implications for athlete performance and training efficiency. For coaches and trainers, AI-powered equipment provides a wealth of information that can be used to develop more effective training programmes. They can now identify specific areas of improvement for each athlete, tailor training to target these areas, and monitor progression in real-time.

In correlation, AI-driven innovations in sports equipment and techniques represent a significant leap forward in the sporting world.

Challenges: This includes, but is not limited to

1. Lack of a structured data ecosystem in Nigeria and Africa.
2. Skills acquisition, the necessary skills and education to design, develop, deploy, and apply AI technologies are lacking.
3. Insufficient infrastructure and network connectivity – most African countries lack to necessary infrastructure and connectivity to support AI technologies.
4. Government policies. There is a lack of government policies, regulatory support the executive will for the development and use of AI technologies in Africa.
5. Ethics – There are ethical concerns surrounding the use of AI to technologies in Africa, such as privacy and bias.
6. User attitude – Some people in Africa may be resistant to the adoption of AI technologies due to a lack of understanding or trust in the technology.
7. Uncertainty – There is uncertainty about the future of work and the impact of AI on employment in Africa.

Conclusion

The bottom line is that the use of A.I. will keep changing sports in more ways than we can ever realize. A.I. is now defining every aspect of sports from every possible level. A.I. has enabled statistics and analysis to redefine the way games are strategized and implemented on the pitch. A.I. has enhanced accuracy in sports since scores, player movements, and fan

habits can be easily predicted through A.I. It has also disrupted the way sports are broadcast and learned what the audiences want to see and experience on the pitch. Computer-based intelligence has infiltrated the storage space conversations with better bits of knowledge about the opposition, the mentor's recommendation with better patterns, and your TV screens with quicker features. That is not all. Computer-based intelligence is creating a more creative way to triumph in sports for everybody, from sportspersons to supporters, with ongoing game insights for players and fans, game strategy expectations to empower the player to pick the correct system. There are instances where it even cautions the player if there should be an occurrence of a potential decrease in execution or injury. Progressively customized encounters, increasingly accommodating robotized connections may well mean more fan devotion and commitment over time. In this regard, human-made reasoning in sport won't be very different than its applications in media and programming for the most part. Wearable tech is another use of AI in sports that holds an incredible promise for future development. Organizations understand the need to go past merely the following information to change it to essential bits of knowledge that really assist competitors with meeting their performance objectives. These items can engage wellness lovers just as expert competitors, offering a broad market reach.

Recommendation

1. The Nigerian government, through its relevant agencies, should develop policies that support AI education and research. It should increase funding for AI–related projects, scholarships for students.
2. Community engagement. The state and local government should engage local communities in AI education with initiatives crucial for widespread adoption. Community centres and local organizations can offer workshops and training programs to raise awareness and build skills in AI.
3. The Federal Ministry of Education, in conjunction with the three tiers of administration, namely primary, secondary, and tertiary, must review the curriculum to integrate course content and syllabus that will enhance the adaptation and adoption of AI technology.
4. Public-private partnerships – collaboration between public and private sectors will drive AI education and innovation

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