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Role of new technologies innovation on sports achievement

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Abstract

New technologies have played a significant role in innovation and advancements in sports achievement. The use of new technologies has allowed athletes and coaches to monitor, analyze, and improve performance in ways that were previously not possible. Some examples of how new technologies have impacted sports achievement include Improved training, enhanced performance, advancements in equipment, increased fan engagement, data-driven decision making etc. New technologies have had a significant impact on sports achievement by helping athletes and teams to improve their performance, engage more fans, and make better decisions. Technology is a tremendous thing inside sport, it differs from mobile phones, televisions, sport equipments and more, there is no uncertainty that the significance of the utilization of technologies has expanded throughout the years, and from that point forward, sports have become a universally movement, so are the choice that can change the consequence of an occasion. In this manner, coaches and athletes must know about sport technologies, and settle on shrewd decisions about how it influences their performances. This article highlights the importance of new technologies in sports. These technologies have become increasingly popular in recent years and are used by many professional and elite-level athletes to improve their performance.

Keywords: Technologies, sports, performance, equipments

Introduction

Technology refers to the tools, methods, and systems that are developed to solve problems and improve human life. It encompasses a wide range of fields, including information technology, engineering, medicine, and transportation. The definition of technology can vary depending on context, but it generally refers to the application of scientific knowledge for practical purposes.

The importance of technology is that it can make tasks more efficient, improve communication and transportation, and lead to new discoveries and innovations. It can also improve the quality of life by providing access to information, healthcare, and other resources. However, it can also have negative effects on society, such as increasing unemployment and exacerbating social inequality.

Technology is playing an increasingly important role in sports also, both in terms of performance enhancement and fan engagement. Technology being used in sports includes wearable technology, video technology, virtual and augmented reality drones and also advanced analytics and machine learning also. Wearable technology like fitness trackers and smart-watches are being used by athletes to monitor their performance and training data. Video technology like high-speed cameras and tracking systems are being used to analyze and improve technique and strategy. Virtual and augmented reality are being used to enhance the fan experience, such as by giving fans a more immersive view of the game or allowing them to see player statistics in real-time. Advanced analytics and machine learning being used to create predictive models and improve decision-making in sports organizations. Drones and other unmanned aerial vehicles are being used for capturing aerial footage during live sports events and for inspecting sports venues before the event. Overall, technology is playing a big role in sports and it will continue to do so in the future.

New technologies are having a significant effect is in sports training and performance analysis. Wearable technology such as fitness trackers, pulse monitors, and GPS devices can give athletes constant information on their physical action, permitting them to follow progress and make adjustments to their training programs.

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Smart-watches and different wearable are also give athletes access to metrics like pulse, steps, distance, calories consumed, and sleep patterns. Additionally, these devices can furnish athletes with instant criticism on their physical action, permitting them to make adjustments and improvements progressively.

Sports technologies

There are many technologies used in sports to enhance performance, training, and broadcasting. Some examples include:

- **Wearable technology:** such as fitness trackers and smart watches, used by athletes to monitor their physical activity and track progress. Wearable Computers: Headway in the realm of safety and monitoring, wearable computers consider constant following of an athlete's health. Since their creation, the incidents of dehydration, cardiovascular failures and worse, have decisively decreased. Wearable tech has had an effect in the lives of many athletes, by supervising pulse rate, hydration, and temperature through its wireless and microscopic health monitoring system. This includes fitness trackers, pulse monitors, and GPS devices that furnish athletes with continuous information on their physical movement, permitting them to follow progress and make adjustments to their training programs.
- **Sports analytics software:** It can be used by coaches and teams to analyze player performance and game strategies
- **Virtual reality and augmented reality:** It can be used for training and broadcasting, allowing athletes and fans to experience the sport in new ways
- **Smart Stadiums:** Smart stadiums which use technology to enhance the fan experience, such as mobile ticketing and in-seat food ordering
- **Video Technology:** This technology shows everything live and on the home television, however on the smart-phone, tablet, and the above screen locally. In the present sports world one is never distant from live access. Video assistant referees (VAR) in football (soccer), using video replays to assist referees in making decisions during matches
- **Hawk-Eye ball tracking system:** This technology uses 6-7 high-end cameras situated over the field of play to dissect the flight and direction of an article being used in sports competition. Most commonly used in tennis, cricket, rugby and volleyball. It helps to take a blunder free decision in sports like cricket, football, baseball and so forth. It has decreased the criticism of the players and spectators about the decision of the match arbitrator. The umpire can take a blunder free decision rapidly when the game is happening by this strategy. This technology helps in gathering and dissecting information from various sources such as wearable devices, GPS, cameras, and others, to give insights that can help coaches and athletes to work on their performance and go with better choices.
- **Drones:** This can be used for broadcasting live events and for capturing aerial footage during the match.
- **Prosthetic Devices for Disabled Athletes:** Individuals with disabilities, or lost limbs, never got an opportunity to contend, yet with the headway of prosthetic

technology increasingly more physically disabled are contending like before.

- **Ingestible Thermometer Pills:** For an athlete, it is vital to supervise visceral organs, temperature and pulse. In any case, it is not always possible to manually look at it. To observe the internal heat level precisely, some trainers are using indigestible pills. It will assist with limiting damage from heat exhaustion.

New technologies being used in the sports industry

One of the most conclusive tests for human athleticism is sports, yet this does not imply that technology can't work with it, while administering and officiating sports, technology can succeed where humans may not. This guarantees fair judgment of the performance and ensures that athletes win decently. Here some astonishing new technologies being used at present in the sports industry.

- **Instant Replay:** It is an illustration of the striking technology being used in sports today. The officials can see precisely exact thing occurred, giving a second perspective on sports events from this technology. It is used in games like cricket, football, rugby, soccer, and also in battle sports.
- **Sensor Tools:** Sensor tools are often used to dissect regardless of whether an objective is substantial. It is often used in cases where the unaided eye can't really let know if a ball went past the objective line. Various sports use shifting sensor tools.
- **Timing Systems:** No one uses a stopwatch while timing a race any longer. This means that differences in reaction time never again influence the precision and consistency of a hustling occasion. Many hustling events use laser beams and photographs to decide winners. The results are often given to the nearest thousand of a second. Notwithstanding, world and Olympic records are only recorded to the nearest 100th of a second. This procedure was established to dispense with insignificant errors.
- **RFID (radio frequency identification) Chips:** RFID chips are often used to time individual contestants in an occasion. The devices use antennas that transfer wireless signals. RFID chips are often used in long distance races to assist broadcasters and viewers with following the specific locations of contestants during a race. There are two types of chips used in races: dynamic and passive chips. Dynamic chips have an in-fabricated battery or power source and can decide the specific time a member crosses a specific line. Passive chips must be used with sensors set in a mat because they don't have an in-fabricated power source.
- **Equipment Development:** In sports, safety is a key component. Equipment manufacturers have created devices to diminish injuries on athletes. Special helmets are used in football games, hustling and hockey to upgrade the safety of sports players. Technology has assumed control over the present modern world. Many professional and beginner sports bodies have embraced new technologies including specific gears and gadgets to safeguard athletes and make it easier to officiate the games.

Impact of technology on sports

Advancement of technology has had a profound impact on

sport. These are:

- Increase accuracy in time measurements of sport performance;
- Enabling referees, umpires and sport officials to make better decisions on rule infringements;
- Analysis of sport performance and enabling coaches to greatly improve the quality of feedback to players/athletes;
- Improvements in the design of sport equipment & apparel
- Providing spectators with better viewing of sport performance; and
- Sporting equipment is continually undergoing research and development to improve sporting performance.

Role technology on sports

Because of technology, tremendous change was seen in various territories. The mechanical progression in sports prompts improvement of the level of performance; empower coaches and executives; overhaul development pathway of skilled athletes; revived sports development; better readiness of athletes, groups, coaches and Officials have less weight, because of technology, ideal decisions are made by player/official relationships and directors. Sinkhole (2015) states that “technology plays an expanding job in helping proficient athletes, novice sprinters and easy chair fans to take part in the sport.”

The utilization of technology varies sport to sport like fascination and inclusion among onlookers and making of interest, refreshed statistics, fair decision making in officiating, Info structure, Systems, Strategies, Strategy, Training, Wellness. With the implementation of technology, ideal decisions have been made, accommodating the right gathering the champion spot. The utilization of technology has its pros and cons anyway basically every sport nowadays is bolstered by it allowing fans, athletes and judges, an increasingly pleasant condition while watching, playing or choosing a sport occasion, for instance, Cricket, Tennis, Football or Swimming. Technology has the possibility to incredibly upgrade sports performance and further develop training methods. This large number of technologies can be used in combination to give a comprehensive and successful way to deal with sports training and performance. With the right technology and training, athletes can accomplish ideal performance and arrive at their maximum capacity.

New technologies innovation in sports training

New technologies have had a significant impact on sports training, allowing athletes and coaches to monitor, analyze and improve performance in ways that were previously not possible. Some examples of these technologies include:

- **Wearable technology:** Fitness trackers, smart watches and other wearable devices can track a variety of data, including heart rate, sleep patterns, and steps taken. This data can be used to optimize training and recovery.
- **Biomechanical analysis:** Video analysis software, motion capture systems and force plates can be used to analyze an athlete's movements, providing detailed information on technique and performance.
- **Virtual reality:** Virtual reality simulations can be used to replicate game situations and help athletes improve their decision-making skills and reaction times.

- **Training software:** There are many training software available that can be used to track and analyze an athlete's progress over time, and to create customized training programs.
- **Smart equipment:** Smart equipment like smart balls, smart bat, smart goal post etc are used to get the data on impact, speed, spin etc.

These technologies have become increasingly popular in recent years and are used by many professional and elite-level athletes to improve their performance.

Conclusion

New technologies have played a significant role in improving sports performance in India. The use of advanced equipment and data analysis has helped athletes train more effectively and efficiently. Wearable technologies, such as fitness trackers and smart-watches, have also become increasingly popular among athletes and coaches, as they provide valuable insights into training patterns and physical activity levels. Additionally, video analysis and virtual reality simulations have been used to help athletes improve their technique and tactics. Overall, the incorporation of new technologies in sports has helped Indian athletes to better understand and improve their performance, leading to better results in competitions.

New technologies are revolutionizing the manner in which we approach sports and physical movements. These technologies can upgrade sports performance, further develop training methods, and increase our understanding of the human body and its capabilities. Wearable technology, such as fitness trackers, pulse monitors, and GPS devices, can furnish athletes with constant information on their physical action, permitting them to follow progress and make adjustments to their training programs. Additionally, new technologies are being used in sports medication and injury prevention, equipment design and manufacturing, and virtual and expanded reality for training. With these new technologies, athletes can get an edge in the sports performance, train better and make the most out of their abilities.

References

1. Cave A, Miller A. Technology in sport: the speed of science. *The Telegraph*; c2015.
2. Daniel A Lebowitz. *The Future of Sports Technology* David Epstein, *The Sports Technology Revolution: How Innovations are Shaping the Future of Sports*.
3. Ellul J. *The Technological Society*, Journal Wilkinson, Trans. (New York: Vintage,); c1964. p. 14.
4. HH Innovations. <http://www.hawkeyeinnovations.co.uk>.
5. Kaplan MA. *Thinking about Technology, the World & I*; c1996. p. 287-300.
6. Mark De Rond. *The impact of technology on Sport*.
7. Martin Polley. *Understanding Sports Technology*.
8. Michael J Kane. *Sport Science: Integrating Theory and Practice*.
9. TBMAE Granum. *A survey of computer vision-based human, Computer Vision and Image Understanding*. 1999;73(1):82-98.