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THE STUDY OF THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGY ON SPORTS

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ABSTRACT:

Early in the twenty-first century, technology was created that enables games to enter information and aids simply and swiftly in making quick judgments in the game. Any sport is an occasion to honor effort, tenacity, skill, and perseverance. Since the beginning of time, it has played a crucial role in human enjoyment. At the time, the internet and mobile devices were not even pipe dreams. All sports have a certain allure that keeps fans riveted to their seats. Sports technology is crucial to the development of all sports. Sports of all types are evolving constantly to go beyond the bounds of human ability thanks to sports engineering. Given the speed and effects of technological advancements, more and more athletes will inevitably look for a competitive edge in their sports. The impact of information and communication technology on sports has been examined in this study.



KEY-WORDS: *Information and Communication Technology, Sports Engineering, Internet, Athletes, Sports Media.*

Research Methodology:

The research paper has depended on secondary data.

Objective of Research:

- 1) To study the impact of information and communication technology on sports.
- 2) To study the use of information and communication technology in sports.

INTRODUCTION:

It is undeniable that information and communication technology has ingrained itself into our everyday lives in the modern world. They may be utilized for a variety of things. Information and communication technology may greatly replace or facilitate sport, which is a physical activity. However, they are applied in many ways to support a player's success. The world of sports relies heavily on statistics. Sports agents, fans, and participants all need to be aware of their current performance levels. Sports employ information and communication technology to gather and track this type of data. A team manager can establish a spreadsheet database with the aid of information and communication technology, where he can keep all the team statistics. He will be able to utilize this information to pick which players to keep and which are disposable if such data are preserved throughout the season. The

same sort of information may be used by media sources to produce in-depth articles about the performance of certain individuals or teams.

Video recordings of one's own and other athletes' performances are useful to athletes. It's critical to observe how other people respond and behave, among other things. For instance, a boxer will watch films of previous fights to identify opponents' flaws and take advantage of them. In football, a team coach can review a game film and determine how to enhance his offense's throwing attack. Large volumes of video material can be saved and accessible instantly thanks to information and communication technologies. One of the main benefits of using information and communication technology is having quick access to information.

Sports media organizations regularly employ information and communication technologies. Information and communication technology (ICT) allows sports journalists to conduct research, while editors may utilize a variety of apps to produce a variety of effects. For the advantage of viewers, several sizable sports media businesses have created better technologies. The ESPN Axis Field View is only one example of this advancement. This program shifts the field of vision for various action perceptions.

Computers have made significant security advancements. The safety of the players has been the subject of a lot of press in recent years. Equipment designers have employed information and communication technology to assist build safer equipment in studies of concussions on football and hockey players as a solution to the issue. Using a variety of technical tools, Riddell created a new football helmet for the 2010 NFL season. These programs contributed to the creation of a helmet with impact absorption and neck and head protection.

There have been significant security advancements because of computers. The safety of athletes has been a hot topic in the press over the past few years. To address the issue, manufacturers of equipment have employed information and communication technologies to help create safer equipment in studies of concussions in football and hockey players. Riddell used a variety of technical tools to create a new football helmet for the NFL's 2010 campaign. A helmet that can absorb collisions and prevent head and neck injuries was created with the aid of these programs.

The Impact of Information and Communication Technology on Sports:

Coaches can now detect even the tiniest mistakes thanks to modern cameras. As a result, the quality of the feedback given to players has significantly increased. Before before, judges had a lot of difficulties when it comes to rendering a decision in sports. As a result, we witnessed a wide spectrum of reactions to poor judgment, including tense debates, public uproar, players' furious expressions, verbal altercations, and other things. However, with higher measurement accuracy and technological progress, it is now extremely simple to lessen a variety of disputes. Accurate decision-making is seen to be essential to the success of the game, particularly in precision sports.

Accuracy has been improved by the use of cutting-edge technical instruments like software-driven spreadsheets, which make data collection simpler. Data gathering used to be done manually, which resulted in a time-consuming, error-filled procedure. After incorporating information technology into sports, data collecting on fitness, competitiveness, strength, recovery, and more has become extremely trustworthy and accurate. The field of performance cannot be improved without precise measurement. In terms of consistency and repetition, the measurement's dependability is much improved. Measurement mistakes in data collecting have almost disappeared with the development of cutting-edge technology, such as accelerometers and GPS.

The best way to raise performance standards is to establish open lines of communication between players and coaches that are focused on results. The use of cutting-edge technology in this situation is crucial. Winners and losers can be distinguished in sports using a ball, such as tennis, badminton, rugby, volleyball, cricket, football, and many more by officials, competitors, and the general public. The "Hawk-Eye technology," which can see the ball's trajectory, deserves all the praise. By taking use of the triangulation principle, this technique uses high-speed video cameras to extract temporal

information and visual pictures. These cameras are positioned such that the ball's passage may be seen from any angle.

Sportswear is another area where technology in sports has had a positive impact. Unquestionably, one of the greatest technological advances for the players has been the invention of a variety of synthetic textiles. Players may now improve the quality of their performance thanks to textiles that are more breathable, versatile, lightweight, and moisture-resistant. Even sporting goods for all sports have greatly advanced.

Injuries formerly threatened to end players' careers. Players no longer must give up on their aspirations thanks to the inclusion of AI in games. Players in the past relied on hard work to recuperate. The ligament alone can renew the ligament, accelerating the healing process, thanks to advancements in sophisticated biotechnology and nanotechnology. How can we disregard the positive impact artificial intelligence has had on disabled athletes? Sportspeople now have the power to compete at all high levels thanks to cutting-edge technology and robotics equipment.

In the 1980s, video cameras became widely used, giving coaches of various sports a new tool to record and evaluate athletic performance. Perhaps the most significant advancement in coaching in the current period of the game is the video camera. The performance times of competitors in many different sports, including triathlon, bobsledding, cycling, skiing, and athletics, are measured using computer-controlled electronic timing. In sports, electronic timing also analyses the athlete's response time to the gun in case the athlete sprints out of the starting blocks too rapidly. The force platform monitors the athlete's "ground reaction force" by placing a machine beneath their feet. It allows for the measurement of force and acceleration during an athlete's performance of a lift, making it important in sports like weightlifting. Strangely, the force measurement is triggered by minute alterations in the platform's supporting crystal characteristics.

Technology Hawk The information and communication technology device known as Hawkeye, which was initially deployed in 2001 to display the trajectory of the cricket ball, has significantly changed the sport of cricket. Hawkeye produces many different types of statistical statistics, including the ball's speed, pitch on the wicket, and trajectory after bouncing. The tennis phrase "in" or "out" is now determined with the aid of Hawkeye. Hawkeye's analysis of sporting events has significantly enhanced engagement and knowledge among viewers. Smaller video cameras have made it feasible for fans to see athletic events in a way that was not before conceivable. On goalposts, racing automobiles, cricket bats, and even athletes themselves, video cameras can be placed.

The 2008 Olympics had a significant influence from full-body polyurethane swimwear, which was eventually prohibited because it was affecting athletes' performance. Kevlar fiber is used to make a variety of products, including sails, bicycle tires, football boots, tennis rackets, helmets, body armor, and much more. It is five times stronger than steel while still being lighter. Technology is sometimes used to enhance athletic performance. Use is frowned upon, yet it is unavoidable. A separate industry that generates chances for investment and employment is the research and development of sportswear and equipment. Children in the modern period spend a lot of time interacting with television, video, and ICT. The current generation is the generation of new technology, just as the previous generation was the generation of books.

Tracking motions and gathering data about each move performed on the playing field, during a practice session, or playtime is one of the crucial uses of ICT in sports. There is a possibility. using sensors and lasers to collect data and communicate it to tablets and smartphones for analysis and usage in making decisions and enhancing performance. One of the most competitive individual sports has a new moniker thanks to sensors hardwired or integrated into tennis rackets. These sensors can monitor every aspect of the game being played by or with players and are often placed in the handle. The created and gathered data may be sent to cellphones or other computing devices like laptops and PCs, allowing for a complete analysis of every level of the game.

Even the sport of boxing has not been immune to the effects of ICT applications in recent years. The sensors included in boxing gloves are designed to offer data on various elements of a boxing practice or fight that have been recorded. Punch speed, punch type, and count, calories burned during

practice sessions or real matches are all recorded or analyzed in the data. The boxer is then provided insight and analysis by knowledgeable instructors to improve his tactics and practices and better get ready for fights and contests. Such collected data may be kept in the cloud. One of the top technologies transforming embedded sensor real-time data gathering is strike boxing technology.

Football is the most widely played sport worldwide and is practiced in practically every nation. Along with the optional every four years World Cup and Euro football competitions, the lucrative and fiercely competitive European football leagues are also very popular. Soccer balls were inevitably going to be impacted using ICT technology, allowing a variety of players to step up their game and coaches to fine-tune tactics based on data. Soccer balls have sensors built into them to detect ball hit, ball drift, impact sites on the field as well as players' shoes and heads, as well as flight trajectory. Sensor packages, which are normally hanging in the center of the ball, may send data to tablets and cellphones in real time.

The sports of cricket, snooker, and tennis all utilize hawk-eye technology. Additionally, it was employed during the highly publicized 2013–2014 Premier League season in the UK. The spectators now enjoy watching cricket more because of the usage of Hawk-Eye technology. With arguments included, the subtleties of Hawk-Eye technology have improved cricket viewing and engagement for players and commentators in a complicated sport like cricket.

For captive television and internet audiences, the advent of video refereeing has altered decision-making processes and raised the drama of sports viewing. In the NHL, NBA, NFL, MLB, and now the NRL, Central Command Centres have made it possible for video referees to make judgments more quickly and correctly. The amount of time it takes to reach a choice is decreasing because of the availability of pertinent angles of play and sophisticated, high-tech video review technologies. Decision-making that is rapid and shrewd maintains game continuity for fans in the stadium as well as watchers on television and online. The live explanation of outcomes to spectators enhances the fan experience in all sports while ensuring fair play and transparency. The most popular sport in the world, football, has profited immensely from decision-making. Major tournament matches have been won by a few razor-thin, occasionally human-error-driven calls, and have also led to the contentious elimination of multiple teams during high-stakes knockout games. Football officials frequently made high-profile mistakes in front of big television audiences. Goal-line technology was implemented by FIFA at the World Cup in Brazil. These goal-line technologies use a group of electronic equipment positioned close to the goal lines to accurately and quickly assess whether the entire ball has passed the goal line. This greatly aids the referee and steers clear of contentious calls.

CONCLUSION:

Technology has a unique position in athletics, but it raises concerns if it replaces effort and clear human talent. Sports have undoubtedly become more precise and secure thanks to technological advancement, but it might be difficult to prevent technological applications from displacing a player's fundamental abilities, which is why the spirit of the game is so important. To stay up, the game's AI now must be controlled. ICT applications have had a significant influence on sports and sporting disciplines. In addition to revolutionizing the delight of spectators, he has greatly enhanced the mechanism for making decisions. Referees, umpires, and other appointed authorities can decide quickly and wisely while averting confrontations. Technology advancements have had a significant impact on sports, allowing coaches to significantly improve the quality of sports performance analysis and feedback to players, increasing the accuracy in measuring the time of sports performance, allowing rule violations to allow referees, umpires, and sports officials to make better decisions, improving the design of sporting equipment and apparel, and allowing spectators to view sporting events more clearly.

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