

USE OF TECHNOLOGY IN THE FIELD OF SPORTS

NIRAV J. VASAVADA

TGT-PE, Delhi Public School- Bopal, Ahmedabad

TECHNOLOGY

Today's society is different to the one that existed many years ago.

- Modern technology is simply an advancement of old technology
- Technology refers to the collection of tools that make it easier to use, create, manage and exchange information.

We are living in a society which is called "technologically civilized" society. Every small work we do is technology dependent. Today every other person is recognized with the device or gadget, he carries; which is technically advanced. Ultimately, we can say that, "living without technology is like living without air" in this technical world of today. Therefore, we are much dependent on technology.

To understand Technology and its role in modern era in brief, Let us talk about its types:

TYPES OF TECHNOLOGY

1. **Mechanical Technology:** - Things that turn, or allow motion in one direction to cause a different kind of motion, are mechanical. Includes wheels, cams, levers, gears, belts, and engines.
2. **Electronic Technology:** - A complex form of technology that uses electric circuits to achieve a goal. Includes computers, washing machines, dryers, MP3 players, car radios, televisions.
3. **Industrial and manufacturing technology:** - The technology with the goal of either producing a product on a large scale, or performing another large-scale function where customers are not directly present.
4. **Medical Technology:** - Technology that serves the purpose of diagnosing, treating, or Preventing disease. It Includes like MRI scanners, which take images of the inside of the human body; ventilators, which breathe for people; or even simply drugs and medicines.
5. **Teaching Technology:** - The technology of teaching refers to instructional approaches that are very systematically designed and applied in very precise ways.
6. **Information Technology:** - Information technologies provide access to knowledge and resources on a wide range of topics. The Internet, and its World Wide Web component, is the most prominent example of information technology.
7. **Instructional Technology:** – Instructional technology (also referred to as educational technology) refers to technology that facilitates student attainment of learning outcomes through multimedia, online tools, and emerging technologies.
8. **Assistive Technology (AT):** – Assistive technology is a broad field that focuses on facilitating physical or cognitive access to “something” for people with disabilities. AT devices range from low-tech battery operated devices to high tech complex computers. Assistive technology solutions help students to participate, communicate and learn in classrooms.

TECHNOLOGY IN SPORTS

Technologies have had a profound impact on sport. The world of sport is continually changing over the years, and the use of technology is just one of those areas that have made an impact on many sports in the modern day. Technologies in sports are man-made means, developed to reach human interests or goals in or relating to a particular sport, it may be the player or coach or officials or spectators etc. It is the knowledge and application of using specialized equipment and the latest modern technologies to perform tasks more efficiently and effectively. Athlete performance is monitored using computer software and the resultant data are used to improve individual and team ability across a wide range of sports.

Role of technology in sports for different individuals or institutions or Firms or Gameare as under:

SPORTS EDUCATION

- Teaching Quality
- Teaching Technique
- Scientific Training
- Record maintenance
- Research work easier

PLAYERS AND COACHES

- **Better communication** - email, text messaging, and other electronic ways.
- **Performance enhancement** - All Basic and advance sports related Skill (in particulars Game) skills information that is widely available on the internet – including You Tube clips
- **Better awareness of events** - Message boards and chat forums are a great place to quickly learn about new leagues forming, tournaments, camps, and clinics. Coaches and players can quickly access various websites to learn about all the important places to be in order to continue to improve their athletic skills.
- **Better exposure** - There are countless ways to “get your name out of the box in the field of sports” through various videos on You Tube and other recruiting websites and can get guidance from expert’s and coaches of particular sports for better skill building, ways of coaching, managing of players, counseling of layers and new relationships that might not have ever happened without electronic communication.
- **Training Schedule** - Preparing training schedule depending upon the level of player.
- Analysis of sport performance and enabling Players and coaches to greatly improve the quality.

OFFICIALS

Technology helps officials to take correct and fair decisions, helps to communicate with other officials during the match, less match pressure to take correct decisions due to which they have to face less post match criticism. Some of technologies are as under:

- **Smart Ball system (Soccer)** - The field designed to track the ball's precise position in real time - including exactly when it has fully passed the goal line.
- **Hawk-Eye Technology** – Hawk-eye is the name of a computer and camera system which traces a ball's trajectory.
- **Goal-line Technology (Soccer)** - Looking at goal line to determine if the pass Cross over the Goal line or not. First time Used in the 2014 World Cup
- **Third Umpire (Cricket)** – It is the third umpire has been used to supplement the role of the two umpires on the ground by using camera works.
- **Decision Review System (DRS)** – DRS is nothing but a use of T.V umpire or Camera work by the field umpires or referees when their decision is challenged by players.
- **Other technologies used by officials are:** Snick-o-Meter, Ball Spin RPM, Hot Spot, Helmet cams, lasers to compliment run out decisions, sensors in bails and in the boundary rope to determine if the batsman is out OR hit a 4, stump camera to determine close catching decisions.

SPECTATORS

- Advances in technology have meant that information is now more accessible than ever. High bandwidth, increasingly powerful devices and most recently, the advent of HD and 3D TV, have raised the bar. In addition, the rise of social media has enhanced fans’ expectations regarding the frequency and interactivity of engagement. Venues now rely heavily on the web and smart phone applications to create touch points and converse with the sports community.
- Time has become a high value commodity and people want technology to enhance their sporting lives. After all, why would you travel to a venue 10 miles away unless you knew a court was available and you could park nearby? In this scenario it is the role of technology to provide participants with the real-time information they need. Wider range of sports accessible/visible for spectators.

GAMES/SPORTS

- **New records**
- **Changes in rules and regulation for betterment**
- **Quality of safety equipments**
- **Increasing athletic performance**
- **Improved Medical Facility - Health and well-being can be maintained, observed, and injuries treated on the spot of venue.**
- **Increase in number of players, coaches and spectators.**

SELECTORS AND GOVERNING BODIES

- **Information of players**
- **Record of players**
- **Online registrations and profile verifications**
- **Number and Level of coaches required camps**
- **Venues for competitions**

- **Availability of dates:** - like for venue, officials, manpower, finance etc for either organizing training camps or tournaments.

ORGANIZERS

- **Venue management** - Increased demand on intelligent information, Long lifespan, minimal costs, Effective facilities management.
- **Construction of playfield or courts** - World-class sports performances require world-class venues, and technology is a vital ingredient in creating the perfect sporting event.
- **Catering and Manpower** – For Players, VIPS, Media Persons, Support Staff.
- **Facilities for broadcasters** - Camera positions, Studio space, Flash interview areas, Satellite uplink areas, Broadcast compounds, Commentator positions, Permanent or temporary cabling, Telecommunications links
- **Safety and security** – CCTV systems can provide real-time and recorded images s capable of being viewed from multiple locations both on- and off-site, Real-time 3D models can be produced.
- **Event operations, fireworks, lazar work, sound and lights.**
- **Transport and Directions** - Modern intelligent transport systems can be used:- CCTV, Dynamic displays, Traffic signals, Sensory technology, Car park management, Safety technology, Transport management systems, Computer-assisted decision support, Delivery vehicle scheduling systems
- **Commercial strategy** - The modern sports economy has created, new opportunities and risks in technology, design, procurement and operation

FRANCHISES

Technology has become a vital and integral part of every business plan. The reasons for the present use of computer technology in business can best be determined by looking at how it is being used across the business world. Due to more commercialization of sports many Franchises came and sponsor the good players and purchase.

- **Communication** – email, live chat systems, online meeting tools, video-conferencing systems, Voice over internet protocol (VOIP) telephones and smart-phones etc.
- **Budgeting**
- **Data Management** – List of players, No. of rooms, Support staff, Vehicles required,
- **Global Financing**
- **Manpower**

DIGITAL MEDIA AND STREAMING

- Because of improvements in technology, sports coverage is more extensive.
- People are able to record, save, and replay any footage.
- Sporting events are now able to use technology to share information at a pace quicker.
- News and updates are send quickly to smart phones the moment the news occurs

SOCIAL MEDIA

Social media is creating opportunities that never would have been considered possible

- Twitter, Facebook, Instagram, and other social media have provided access to an incredible platform for fans and athletes to connect.

SPORTING EQUIPMENT

Sporting Equipment continually undergoing research and development to improve sporting performance. Some of the best examples include:

- Kevlar fiber (5 times stronger than steel yet lighter, used in the manufacture of sails, bicycle tires, football boots, tennis rackets, helmets, body armor and more.
- Raving cycles and rowing shells made of lightweight but strong materials, and minimize drag though the air or water.

SPORTS APPLICATIONS

Statcast - Statcast is a high-speed, high-accuracy, automated tool developed to analyze player movements and athletic abilities.

Hawk-Eye Technology – Hawk-eye is the name of a computer and camera system which traces a ball's trajectory.

Xbox Kinect systems - Three-dimensional motion capture technology

The Sport Performance Assessment - Mental Toughness App

OptimEye S5 device- Collects data relating to acceleration, direction, position and, crucially, the impact of collisions

CAD (Computer aided design) - It allows virtual design and testing techniques and other technologies.

CONCLUSION

Technology play vital role in particularly in field of sports and games. It makes better information available to the coach's, athletes, selectors, government, spectators and all those who are attach to the game, and this serves the sport on many different levels; it enables better match analysis, performance ranking, player selection, sports statistics and predictions and in general makes the more interesting.

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