

Consumer motivation towards sports amalgamated with Emerging Technologies

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Abstract:

Significant numbers are required to maintain fitness, stable and successful sports career. Fitness maintenance, fan following, scores prediction, profits, National and International recognitions, no of viewers are part of this number game. Sports blended with wearable devices, IOT, AI, ML, Big Data and Analytics is a true game changer and showcases a winning path to sports persons, trainers and selectors. Technology blended with sports can inspire the consumer behavior and help the top level management in taking correct decisions. Also technology plays a vital role in reputation and economic growth of the country.. This paper presents a survey report on the consumer behavior with the impact of the technology in Sports

Keywords: *Sports, Digital Transformation, Technology, IOT, AI, ML, Big Data, wearable devices, consumers, organization, fans and players.*

1. Introduction:

High speed network connectivity with enhanced technology has revised the consumers' interface with real world of events. Through the Digital transformation journey, sports are considered as competitive sports, recreation, fitness and running commentary. Wearable devices like smart watches, heart rate monitors and fitness trackers describe the athletes' movements and their physical demand. Instant replay technology being used in cricket, football, rugby, soccer and combat sports helps referees in decision making. According to the literature, the cutting edge technologies that linking the sports and informatics are Internet Of Things, Artificial

Intelligence, Big Data analytics, digital marketing, social media, mobile technology, Augmented Reality and Virtual Reality. The technology has modernized the way sports are played, analyzed and improved. Smart stadiums that built with IOT bring people safety, create novel customer experience, collects and store the data for analytics. Broadcasting platforms are providing best experience to the fans and capturing high viewership. Social Media became crucial for digital fan engagement. The mobile apps deliver the statistics about the players, behind the scenes and the reactions of players and fellow fans. Through digital transformation, sports organizations developed into comfortable digital enterprise with customized and innovative customer experience, transforming processes and technology.

2. Digital technologies in sports:

During the covid-19 pandemic, Digital platforms offered real IPL experience through live streaming. During this time over-the-top (OTT) platforms are emerging as the new engine for growth. Remarkable technologies connected with sports are reshaping the consumers thinking towards fitness, entertainment and accepting sports as a career

i) Wearable technology in Digital Sports

¹ With reference to research study, the wearable devices market is expected to grow at a compound annual growth rate of 9.82% for the next 5 years. The market is estimated over \$15 billion worldwide. Wearable devices increase health consciousness in the people through fitness numbers and message alerts. Fitness tracker sets 10,000 steps as a benchmark goal to maintain healthy body. The trackers are assisted with wireless heart rate monitors. Mobile phones are incorporated 3D accelerometers with movement measurements and vibration. Nokia's 5500 Sports mobile was the first device that accurately tracks the physical activity. People became well versed with wearable devices and market is rising through smart watches, wearable cameras, augmented and virtual reality headsets.²In a study, 300 fitness professionals are interviewed and the results reveals that 91% of them would like to recommend the wearable.³ Comparative analyses (fig.1) depict total wearable shipments published in statista newsletter.

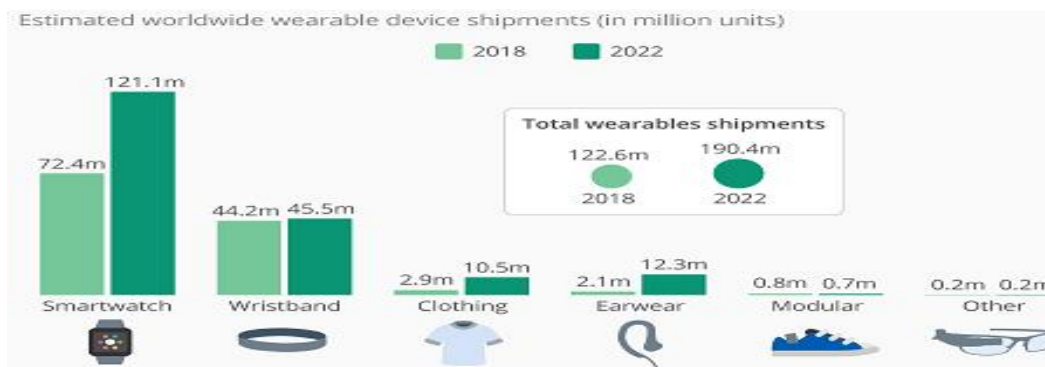


Fig 1. Estimated wearable technology shipment growth by 2022.

ii) Internet of Things in Digital Sports:

Smart Stadiums with Internet of Things technology integrates several sensors, digital signs, CC cameras with wireless and wired networks, later that collect and transmits the data to cloud and other IOT platforms. Analysis on the collected data helps towards enhanced fan engagement and stadium maintenance. Also tracks temperature in the stadium, empty parking slots allocation and crowd control at common places.⁴ Intel’s Smart Stadium is one of the best model (fig 2).



Figure 2: Smart Stadium with Sensors, Wi-Fi, IOT Digital Technology

Sensors collect data on player’s training management, performance, health, and injuries etc. and helps to formulate effective in-game strategies.⁵ The real-time insights make the players to

take smarter decisions to develop career. Smart cricket bat, i.e. IOT Device collects data like swing speed, impact, distance and angle, analyses and gives an insight of a player's batting style.



Fig 3: Data collection with IOT sensors in sports

iii) Impact of Artificial Intelligence & Machine Learning in sports:

Artificial Intelligence fundamentally affects the decisions made by mentors, previously, during, and after the game. Artificial Intelligence with wearable sensors and rapid cameras can measure forward pass, an extra shot, LBW in cricket and it's a great deal of comparative activities in different games. Artificial Intelligence and Machine Learning integrated applications like HomeCourt measures the basketball players' skills and provides a path for improvement. Computer based intelligence is utilizing sports information to make clear data on various games. Wordsmith software is equipped for handling games to give outlines of the significant occasions of the day. In addition to this, AI has an impact on the way the audience experience sports by choosing the right camera angle, subtitles for live streams in vernacular languages based on the viewer's region. Random forest, SVM, gradient KNN and Model trees for classification via regression, the machine learning algorithms allows the individuals in predicting the match results. Be it in soccer, or in cricket, where massive data is available, a model outcome can be created to predict the upcoming sports events. Artificial Intelligence and Machine Learning propose dynamic models and help the team management to review their plans quickly and improve team performance. Also being used in the Umpire Decision Review System (UDRS), Duckworth Lewis, and analyzing the result of run-outs. Another latest technology i.e. Virtual Reality, a simulation tool allows batsman to practice, and hitters to master throws by specific

pitchers. Algorithms can add more value to football. Goal Line Technology (GLT), Video Assistant Referee (VAR) technologies have improved the game's efficiency with additional support to referees in finalizing the right decisions. In addition to this, AI has brought life to Wimbledon, Such example is IBM's Watson AI technology, possesses the ability to understand, learn, and interact and permits fans to see the game from close quarters, thus gaining valuable insights and improves viewing experience.

⁷Virtual Reality(VR) has added a different dimension to sports with new headsets, and fans can compete virtually around the world. This platform provides a genuine experience in a virtual environment that matches the experience of witnessing the game live. Also, with the emergence of 5thGeneration mobile technology, such experiences will get more interactive.



Fig 4: Augmented and Virtual Reality Technology in Digital Sports

V) Sports Analytics through Data Science:

Numerous kinds of measurements are to be taken carefully to see which players can beat records. Data science provides this insight and plays a vital role in improving game quality, fan experience and player safety. Training and practice can be done seriously based on largely collected data and analytics. ⁸Analytics provides data product with opposing team player statistics, latest wins and losses, contribution of individual player performance to the games.

Besides to this, athletes can keep track of their own statistics and can analyze existing performance. Also player can improve knowledge about nutritious food, capacity improving mechanisms and mind balance at time of playing. Coaches may get knowledge of best player combinations and can check the improvement in statistics with on field length and lineups. ⁹Research studies anticipate an exceptional growth in sports combined with digital technology and analytics by 2028, depicted in fig 5.

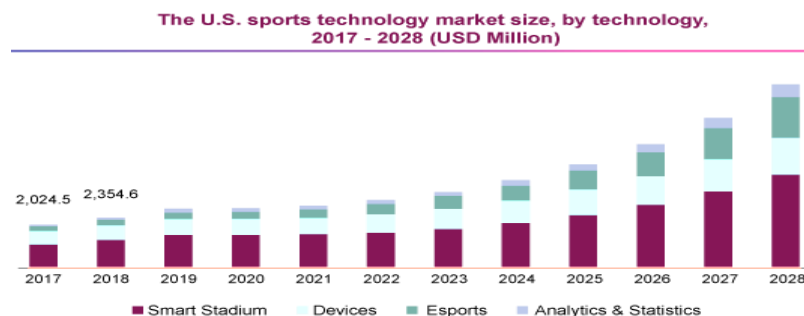


Fig 4: Digital Sports Forecasting with IOT and Analytics.

Conclusion:

Digital technologies embedded with sports instilling the winning hope to the individuals, players and teams with improvement in numbers and ranks through better ideas, plans and strategies. Research studies clearly indicates that the technology is really engaging the individuals in sports, highly motivating towards fitness and moving further in sports career

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