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Abstract

The article deals with highlighting the victim of the crime role and the victim's personality socio-psychological structure. Victimology, which emerged at the legal and social psychology intersection, has to identify qualitative and quantitative characteristics and other issues related to the personality and physical, moral or property damage victim's behavior.

In the course of the research, the definitions of victimhood available in the scientific literature are analyzed, and several main approaches to this phenomenon are identified. Because of existing scientific opinion generalization, the work defines victimhood as a potential ability to be a victim of a crime as a result of negative personal qualities interaction with external factors, as well as the some people tendency to become the victims of a crime.

Keywords: *victimhood, victim psychology, adolescence, victimology, deviant victimhood.*

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USE OF TECHNOLOGY IN SPORTS- A BOON OR BANE?

Рам Мохан Сингх, Ірина Скрипченко. ВИКОРИСТАННЯ ТЕХНОЛОГІЙ В СПОРТІ: ПЕРЕВАГА ЧИ НЕДОЛІК? Спорт сьогодні переріс у велику галузь. Професійний підхід до спорту, його комерційна цінність та глядацькі інтереси спричинили суттєві зміни у способі сприйняття того чи іншого виду спорту. Ці зміни призвели до збільшення привабливості виступів гравців, де все більше глядачів насолоджуються спортом, отже виникає необхідність при суддівстві змагань вірно застосувати закони, норми та правила, що регулюють діяльність видів спорту, які також різко змінюються. Як ніколи раніше, сьогодні збільшується тиск на суддів, рефері, арбітрів та емпайрів, щодо уникнення помилок у своїй професійній діяльності. З огляду на вище зазначені обставини, розвиток подій в процесі гри, формування інтересів глядача, значення будь-якого рішення судді на гравця стає все більш важливим ніж будь-коли раніше. На цьому тлі було розпочато опитування для збору думки різних зацікавлених сторін, щоб дійти логічного висновку про те, як технологія впливає на законодавство, правила та норми спорту і ігор та чи потрібно їх змінювати. Спеціальна анкета була розроблена та розповсюджена серед зацікавлених учасників не лише на місцевому рівні, а й у всьому світі. Отримані результати опитування свідчать про підтримання використання технологій у спорті сьогодні, хоча деякі учасники вважали, що технологія не може бути надійним методом подолання людських помилок.

Ключові слова: *технологія, спорт, емпайри, рефері, судді.*

Introduction

Tim Paine the Australian Cricket team Captain responds to the Decision Review System (DRS) by criticizing the umpiring decision that went against his team. Ian Taylor from New Zealand, who invented and introduced DRS in Cricket offered an open invitation to the

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Australian captain to learn how the technology works before commenting. Paine was irate with the two decisions made using DRS technology and suggested that the system was "a bit off." He added that what he saw with naked eye, or watched in real time on television and what came up during replays was a little bit off the mark.

Ian Taylor, on the other hand insisted that there was "no question" that any of the decisions were wrong. He said that his company had invested in making the technology as accurate as possible and Paine was more than welcome to have a look at how they reached the decisions [1].

The above NEWS report is a classic case of how the pros and cons of using technology in sports officiating played out. The quantum of effort put to have technology in place is quite enormous. However, how real technology can get and how easy it is for the stakeholders to understand is a big question that has to be addressed.

Sports officials (umpires, referees, judges) play a vital role in every sport, and sports governing bodies, fans, and players now expect officials to maintain the highest professional standards than ever before. Many experts have studied the factors that influence the officials during different situations and different games. Though each game has its own uniqueness and it will be unfair to compare officials of all games with a common idea, certain qualities which could apply to officials in general is listed below. These are qualities that any successful official tends to possess. This includes the officials' skill, technique and physical requirements.

- * Judging the events accurately and taking decisions on its basis.
- * Manage psychological demands of self and also deal with emotional state of the players.

- * Quick visual processing.
- * Effective and timely communication and practical approach to game management.
- * High fitness level to see through the entire game(s) or sports.
- * Performance evaluation after every officiating duty

The official should be able to understand the use of technology and be comfortable with its usage if he has to survive the modernization of the games and rapid changes the electronic media is bringing about at present.

"The development of officials, umpires and referees is increasingly recognized as an important area of sport management [2, 3, 4, 5]. As with all programmatic areas, including coach training and athlete development, officiating structures are under increasing pressure to "modernize". This imperative stems from a number of pressures, including the state's insistence that modern partner organizations are both 'what matters and what works', and the importance ascribed to effective recruitment, training and retention strategies by the sports themselves"[6].

There are strong proponents for use of technology in sports officiating. Bordner S. S. [7] in his study entitled "Call 'Em as they are: What's Wrong with Blown Calls and What to do about them" has highlighted the various mistakes committed by the officials which have gone on the change the outcome of games, championships, and even the record books. He argued that the impact of such crucial calls are very much deplorable in sport. He goes on to even label them as unjust. He concludes by recommending that due to the nature of sport in the scenario today one has to use technology to aid officials in making their judgments. He adds that doing so would prove more effective than relying on unaided human perception.

Increasingly, it can be observed that technological support for officials are being provided to aid their decision making in many sports. To analyze the impact of such an innovation the authors studied the role of the television match official (TMO) on offences committed by the players and corresponding decision made by officials in matches played in the group stages of the European Rugby Cup and European Rugby Champions Cup over 15 seasons from 2000/01 to 2015/16. It is a sport where home advantage tends to be relatively high. 65% of the matches analyzed resulted in home wins. Results suggested that crowd effects and referees' experience influenced their decisions which further varied according to the kind of incident. The main finding of the paper was that, the introduction of the television match official had influenced the incidence of punishments issued to both teams. The study further proposed that referees may have been consciously or unconsciously seeking to avoid contributing to home bias before the introduction of a further official who was not influenced by crowd effects [8].

Another study [9] analyzed the accuracy of Leg Before Wicket (LBW) decisions of umpires in the game of Cricket. Umpires are expected to be highly accurate LBW decision

makers. However, their judgments on LBW law differed while officiating in different formats of the game. The point to be noted is that the ability to judge by the same person varied just by a change in the format even though the game and the laws were the same.

On the contrary, there are strong advocates for not using the technology as well. Johnson C. proposed that use of technology has led to loss of human element associated with that sport [10]. He suggested that more people seem to think technology will help reduce errors of officiating in games and sports. He added that to certain practical applications it may be true but he presented a strong argument that the excessive use of technology has eliminated the means to understand a sport as it is played and practiced, in which human beings can reconcile themselves with the fallibilities and contingencies of life. He goes on to add that this aspect served as a forum where such losses can safely be experienced. In conclusion he suggested that officiating errors should be seen as a part and parcel of the sport and the demand to eliminate all wrong decision-making in officiating should be discouraged.

Collins H. argued that the introduction of new technology should be done in such a way that justice was maintained as a result of the decisions and that justice was not the same as accuracy [11]. Justice was best served with a restrained use of new technology.

Another study based on impact of goal line technology in Soccer has brought out some interesting conclusions. The study brought to light that both the proponents and opponents of goal line technology have laid over emphasis on the role of referees to adjudicate on goal line situations. Though they felt that the game of Soccer would only stand to gain from error free officiating, they argued that the emphasis on use of technology were based on a number of inconspicuous estimations. The authors suggested that it was a myth to assume that goal-line situations could significantly alter the result of games. They added that a referees' decision alone does not result in winning or losing a match as the game itself depends on more than just scoring goals. They also suggested that the decisions of players, coaches and managers of teams had a greater influence on the results and outcomes of any game. They supported their claim by quoting Cesar Torres's insights in which it was inferred that a referee's involvement in game was limited to regulating situations so as to restore it to actualization and nothing more. Another argument of the proponents of technology was the erroneous view that technology can actually eliminate most 'crucial' human mistakes from sport and, thus, ensure fairness of game outcomes. Such a myth he felt could easily be refuted by reference to numerous cases of inconclusive slow-motion video replays from the game of Soccer. With the above data the paper concluded that referees should not be made a scapegoat by overemphasizing their role in impacting the result of a match and added that there was a compelling need to put forth arguments which goes beyond the misguided idea that a referee should be infallible [12].

A different perspective emerged in the study conducted by McLoughlin I. and Dawson P. [13] which gave weight to the sociomaterial factors to be considered before advocating use of technology. They based their case on the Decision Review System (DRS) prevalent in the game of Cricket. They suggested that while applying DRS, as such, 'what really happened' remained a highly negotiable phenomenon. They also noted that even in cases where the virtual evidence seemed very conclusive, the truth remained that it was still an estimate and not the absolute truth. They opined that the 'material evidence based on virtual technology was not a fixed phenomenon but it was constantly being reinterpreted and renegotiated. They felt that a sporting spectacle due to its greater public visibility should not be overwhelmed by use of digital technology to materially make true something that may not be the truth. However, they wanted the researchers to further work on these aspects and derive more empirical evidences before any concrete conclusions could be drawn as to how reliable technology can be.

One researcher felt that technology itself is to blame as it has given the spectators the best facility to focus on close-up, slow-motion, repeat display and from several angles giving them much deeper insight into the sports itself. The author felt that it had become a mechanism for judging the refereeing decisions to a new level. He studied the role of technology in officiating and concluded that it was creating more problems for human officials [14].

Russell et al. [15] on the other hand drew attention to the issue of consistency based on game context among officials. Professional Soccer officials were analyzed for their decision making consistency using isolated foul-play video assessment. Results advocated the need for more representative game training opportunities for referees to practice making calls in the presence of key information sources.

Findings of Ntege D. K. [16] showed that respect improved between players when video

assisted referee (VAR) was introduced because the players felt that they were continuously being monitored on the pitch. Though it restrained the violent behavior of players, it failed to address the issue of Fair Play as players still faked dive to get fouls from the referee during their Soccer games. Another point that this study focused was on 'transparency' because fans were not aware of what was being communicated between the on field referee and VAR and thus failed to connect with the decision making process. The study also suggested that the referees still needed to be educated on how and when to use the technology to reach more accurate decisions and wanted to keep the spectators informed about the decision making process.

Another aspect that has added to the complexity of umpiring especially in a game like Cricket is that the umpires may have to observe many things that are happening around them very quickly and they may have to take a call on a resultant situation. Take the case of a study conducted by Southgate D. C. et al. [17] on Leg before Wicket (LBW) decisions of umpires in the game of Cricket. The study concluded that the correctness of LBW decisions improved when the umpires did not have to watch the bowler's front foot for 'No Ball' (an illegal ball in the game of Cricket). In Cricket, the ball once released by the bowler reaches the batter in a fraction of a second. An umpire in his or her usual standing position at the bowlers end, needs to look down to check the bowlers front foot landing as the bowler is supposed to deliver the ball with some part of their feet behind the popping crease. At this point the bowler is almost ready to release the ball. Imagine the time left for the umpire after having to look at the bowlers' front foot landing, to quickly look up at the release of the ball then observe, judge the trajectory and line of the ball, assess if it would hit the stumps or not and if there was an appeal for LBW then take a call on appeal almost instantly. Though the umpires have been giving decisions in this fashion for many years now, this study highlighted that there was a significant reduction in the errors of umpires in getting the LBW decision right if they didn't have to watch the bowler's front foot. At present with technology in place, the television umpire or third umpire as he is called in Cricket checks for front foot 'no ball' and informs the on field umpire immediately. This is how technology has decreased the burden and the errors made by umpires or officials in Cricket.

Given all this background for use or disuse of technology to govern and adjudicate sports laws, rules and regulations, impact of technology in altering the tempo of a game should also be considered. Some games like Cricket or Tennis are inherent with small breaks and therefore the impact on the tempo of the proceedings may not be much. But in a continues flowing game like Soccer or Basketball frequent breaks in the flow of the game to adjudicate using technology can be a big put off both for the players as well as the spectators. Hence, the need for technology to evolve in such a way that it gives instant real time reviews so as to have minimal impact on the tempo of the games should also be looked into.

This study was initiated to have a global view on the opinion of stakeholders on how technology impacts the law, rules and regulations in sports and games. The study also focused on the need for such technologies and if it was a foolproof solution for overcoming human errors during officiating in games and sports.

Method

A questionnaire with few simple questions that directly connected with the study topic was designed and mailed to all the contacts of the researcher both inside and out of India (Ukraine, Montenegro, Spain, England, Slovenia, etc.). A request to share the same with their contacts was also made thus activating the snowball sampling method to collect the data. Emails and other social media platforms were utilized to distribute the questionnaire to as many possible participants. The participants were given a choice to proceed only if they were interested in responding. 447 responses were recorded in which the participants gave their opinions about their sports background and their views on technology. The description of the accumulated data is given below.

Results

The results of this study as shown in (Diagram 1) revealed that most of the stakeholders who chose to respond were in favor of incorporating technology in the laws, rules and regulations pertaining to games and sports. Of the total number of 447 respondents, 67% of them were professional and serious sportspersons. 18% of them were casual and recreational sportspersons. 11.6 % of them were just sports lovers. There was no response from anyone who was not interested in sports. Thus we can interpret that almost all the 100% of the participants were having keen interest in sports but in varying degrees.

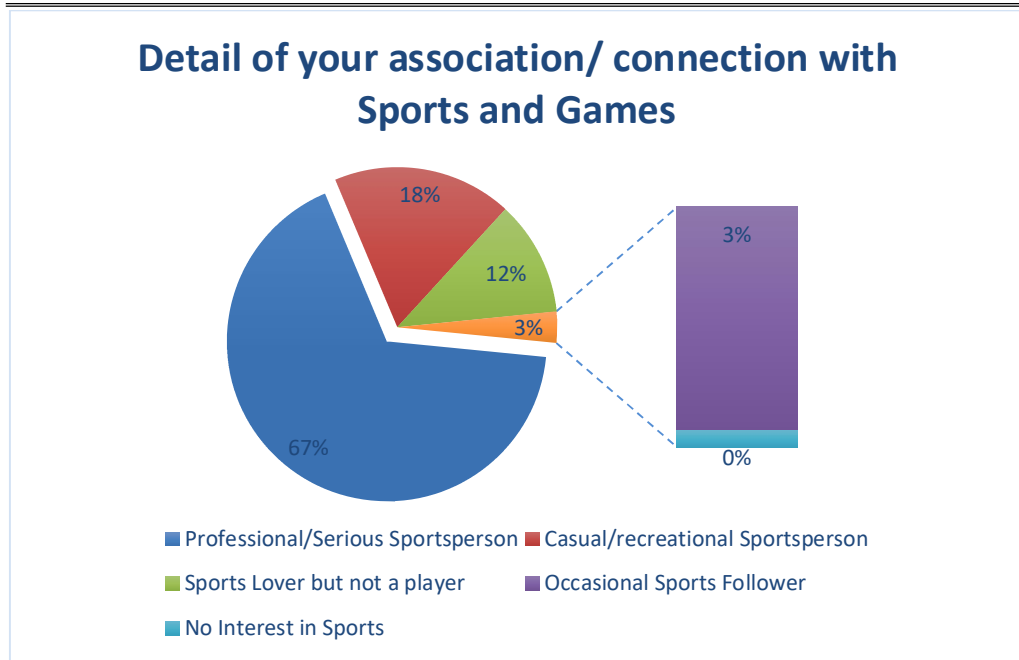


Diagram 1: Responses with regard to the Association/Connection of the respondents with Sports and Games revealed the following

As far as distribution of age (Diagram 2) was concerned it was observed that more than 27 % were in the age group of 41 to 50 years. 25% of them were in the age group of 31 to 40 years followed by 21 to 30 years group who were at 24.9%. Above 50 years participants recorded at 16.7 % and last but not the least below 20 years participants were at 6.9%. The results shows that the bulk of the respondents were from 20 to 50 years age group who were matured and experienced enough to express their opinion on topic in question.

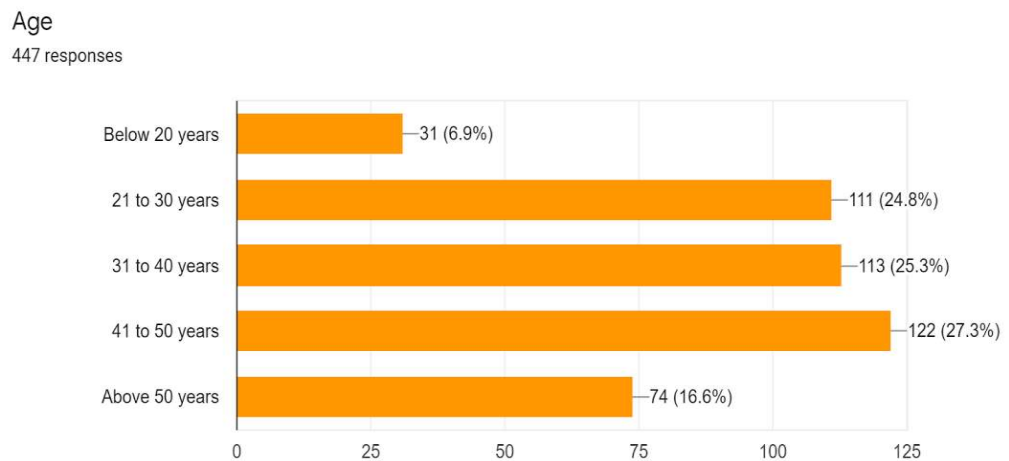


Diagram 2: Responses with regard to the 'Age of the respondents revealed the following

Your view on how technology has impacted the Laws, Rules and Regulations governing Sports and Games

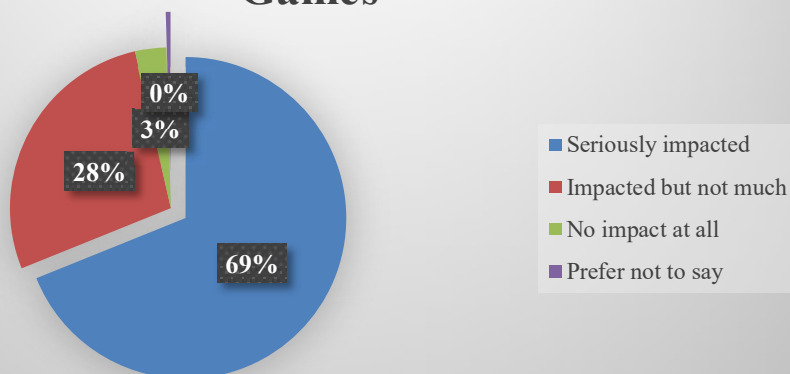


Diagram 3: The respondent's opinion on how Technology has impacted the Laws, Rules and Regulations of games and sports revealed the following

The responses from the participants on the question about how much impact they thought technology (Diagram 3) was having on the laws, rules and regulations of games and sports, the following opinions were compiled. 69% of the participants felt that technology did make serious impact followed by 27% who felt it made some impact. Only insignificant number of them felt it made no impact at all. Therefore, it can be interpreted that technology has already made significant inroads as far as laws, rules and regulation of games and sports are concerned. Perhaps there are few games that are yet to incorporate technology in an appropriate manner.

For the question which elicited the views of the participants on the need for technology (Diagram 4) to be incorporated to implement the laws, rules and regulations in games and sports, 68% of the respondents felt it was absolutely necessary and 31% of them felt that it was somewhat necessary. Only insignificant number of them felt that it was not necessary.

Last but not the least, the respondents were asked if they felt that technology was a foolproof method to eliminate human error during officiating in games and sports (Diagram 5), The responses showed that, 49% of them agreed that it was and 38% of them said that they somewhat agree. 6% of them somewhat disagreed while 4% of them completely disagreed. 3% were undecided. The views of the participants supporting the use of technology softened the bit as the affirmative percentage in favor of technology dropped from high sixties to high forties. Perhaps the participants were not having enough detailed knowledge on technology due to which they could not commit to a strong answer or perhaps technology itself had margin of errors due to which they could not be cent percent sure.

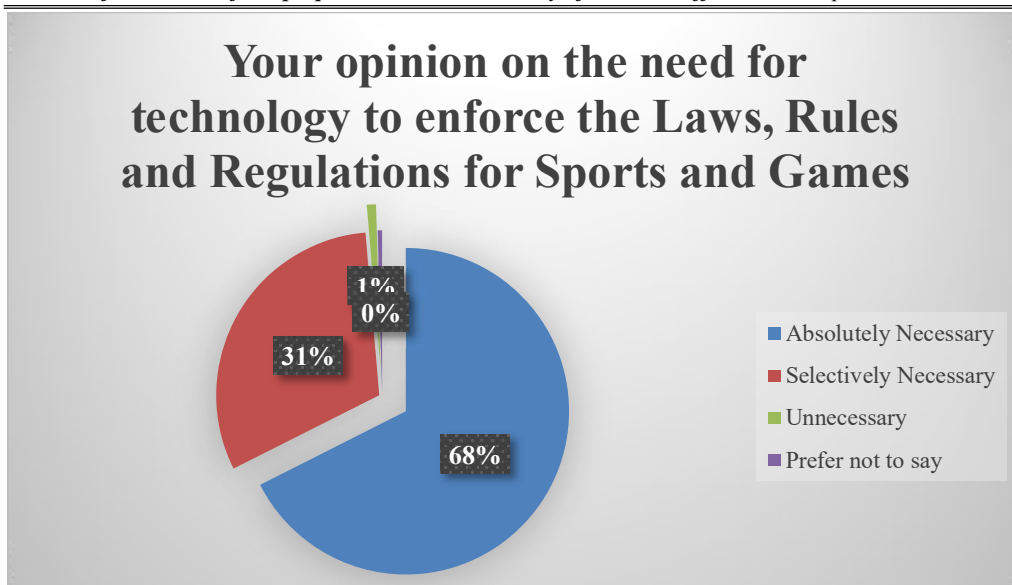


Diagram 4: The respondent's opinion on the need for Technology to enforce the Laws, Rules and Regulations for Sports and Games revealed the following

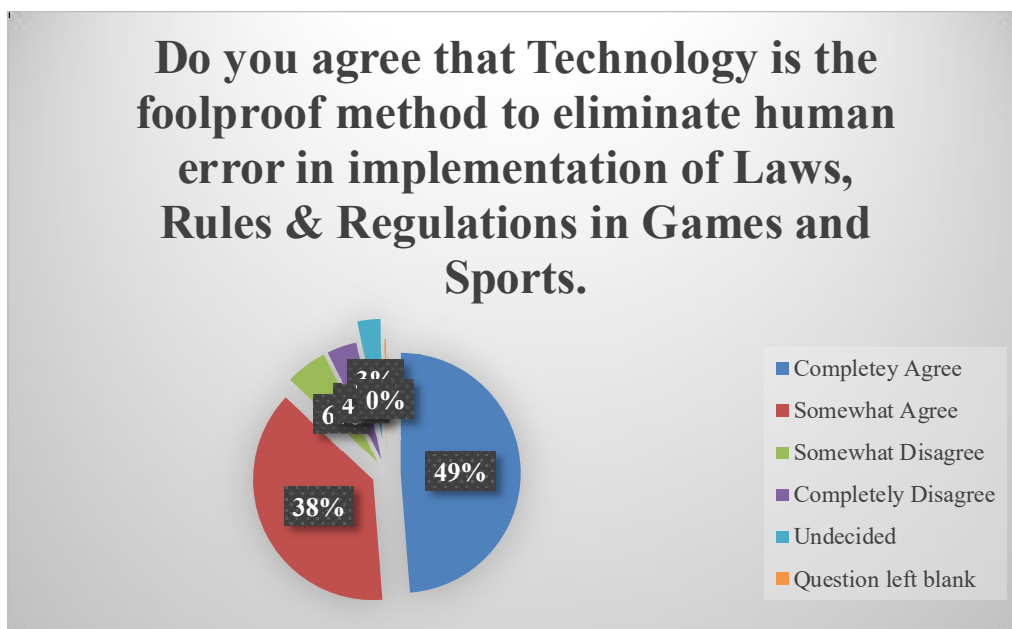


Diagram 5: The respondent's opinion if they agreed that Technology was a FOOLPROOF method to eliminate human error in implementation of Laws, Rules and Regulations revealed the following

Discussion

To summarize, it can be said that significant majority of the respondents agreed that technology is playing a big role already in the implementation of laws, rules and regulations of games and sports and they also support such a need. Since they are actual stakeholders in the sport of their choice, their voice may be reflecting the fact and the need of the hour. But, they stopped short of agreeing that, at present technology is a foolproof method to avoid human errors. This proves that technology still needs to evolve if it has to gain the complete confidence of the stakeholders.

Such an opinion was also be voiced by Spitz J.[19] who concluded that in Soccer correct decision making odds after using video assist referee was significantly higher when compared to original decision of the referees without assist. The decision making accuracy increased from 92.1% to 98.3% due to the use of video assist.

Referee bias is particularly relevant in sports at present, where partial decision-making can determine competition outcomes, which can have strong repercussions on athletes' careers

and supporters' well-being [20].

The proportions of LBW dismissals in test cricket matches from 1978 to 2004 were analyzed in this study. The location, the team, presence or absence of neutral umpires were taken into account. The study put out some clear evidence that some players were out leg before wicket less often at home which could suggest that there was an element of favor by umpires for some players during their home matches [21].

Bo Han in a study concluded that after the introduction of VAR, the number of off sides and fouls in the Chinese Super League dropped significantly, the total playing time increased significantly and the home team advantage decreased slightly [22]. It exposed the profound impact technology had on high profile professional football. Technology also helped referees optimize their refereeing strategy.

However, there is a need for technology to become more transparent as evidenced from Stoney [23] which brought out the inconsistencies in the relay of television match official (TMO) decisions. Though the fans were generally in favor of TMO they wanted more information on TMO referrals and decisions. They suggested relaying of TMO decision delivery in stadia over the PA system and/or captions providing explanations and decisions on TMO referrals. They felt it would mostly improve their event experience. Hence, sports is not just about the players and officials anymore. There are both physical and virtual stakeholders who are connected to the sport through a wide ranging mediums of electronic gadgets. They must be involved as well if the sport has to survive and have a long life. The wide ranging participants of this study also expressed the same need that they wished to stay more connected with the sport by incorporating technology into it.

This article explored how technology could creatively manipulate and play with the spatial and aesthetic realms of Cricket using unconventional methods to recast, re-position, support and enhance the viewing experience. The cameras could switch quickly between a specific point of focus to a broad overview in no time and as often as possible. Technology also allowed interactive options providing a highly versatile and visual kaleidoscope through newer prospective and analytical details using high-end technological gadgets to give a superior experience to all the participants. Cricket today has also been digitalized and extended in mobile and many other virtual formats. Yet technology has continued to re-shape the present and future consumers of Cricket as a sport [24].

Conclusion

Technology has come to stay as it has already made significant inroads in sports officiating. The need for incorporating technology also has overwhelming support from the stakeholders and the participants of this study. Hence, it can be concluded that there is a need to incorporate technology in officiating for all games and sports if it has to appeal to and attract more and more stakeholders towards it. But, for technology to become foolproof, there is perhaps more room for improvement. Therefore, the study concludes that use of technology in implementing the laws, rules and regulations in games and sports needs to be accepted and actively encouraged.

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Abstract

Sports has grown into a big industry these days. The professional approach to sports, its commercial value and spectator interests has brought about substantial changes in how a sport is played and viewed. These changes has brought about eye catching performances from the players and with more and more spectators enjoying sports, the need to judge the application of laws, rules and regulations governing such sports has also changed drastically. The pressure on umpires, referees and judges to be error free is like never before. Given such circumstances how a game is being evolved, how the spectator's interest is being cultivated and how the impact of any decision is felt by a player concerned is becoming more critical than ever before. With this background a survey was initiated to gather the opinion of various stakeholders to arrive at some logical conclusion on how technology in influencing Law, Rules and Regulations of Sports and Games and if it needs to be so. A specific questionnaire was designed and circulated among interested participants not only locally but across the world. The responses supported the use of technology in sports today though some of the participants felt that technology may not be an answer as a foolproof method to overcome human error.

Keywords: *technology, sports, umpires, referees, judges.*