

A Case Study :

Technological advancement in cricket

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ABSTRACT

The purpose of the study was to highlight the technological advancement in cricket. Many advancements in cricket use are Bowling machine, Hawkeye, Hot spot, Speedometer, Stump microphone, Snikometer and Sportswear technology etc. Technology has manifested itself in multiple ways to bring the sport closer to the fans. Be it outline blogs, by sportsmen, vidioblogs, liveonline introduction to multiple camera angles on the field of play and players etc. being miked up for live chats with commentators. In the 21st century, the entire face of cricket has changed drastically with the use and advancement of modern technologies.

Key words : Bowling machine, Hawkeye, Hot spot, Speedometer, Stump microphone

Today belongs to science and technologies. (Uppal, 2010). Science and technology are leading role in world cup, champion's trophy, Asia cup, IPL and are understood through records only to be broken but bettering by fraction of second only to be measured by means of the sophisticated electronics devices. The technological advancements in cricket is profusely important aspect not only for game of cricket, but also for cricketers. Among the technological advancement in cricket there are use of Bowling machine Hawkeye, Hot spot, Speedometer, Stump microphone, Snikometer and Sportswear technology (Sajwan, 2010).

There is no doubt that any technology that enables cricket followers to get scores faster and with more reliability is going to be one of the hottest things in generation. The launch of interactive tools and various sites have greatly contributed to the popularity of the game and have brought the games much closer to the most ardent cricket fans and are offered numerous options to evaluate the games in the form of live scores updates, graphs, videos and much more on the desktop. In the 21st century, the entire face of sports has changed drastically with the advent traditionally natural fibres like wool, cotton and silk have been used in the main factures of clothing. All of these fabrics have served the players well in the past but they are now being improved. Sportswear technology has moved significantly in last few years. Fabrics now being used are proven to keep warm, dry, and cool to improve the performance, help to recover quicker and even smell better (Singh, 2010).

Bowling machine:

It is a machine that can replicate the spin and swing of bowlers which has been developed by Dr. West at Loughborough University as part of a virtual reality project to improve match training for cricket (Fig. 1). Dr. west demonstrated the machine at a conference at same University. The spin and swing are put on the ball by the combination of two spinning wheels and a barrel which uses rifling theory to add side spin (West, 2006). This machine creates the leg break or off break delivery, and can also reduce swing and reverse swing mimicking fast bowlers like Brett lee, Glenn McGrath, Shane Bond, Zaheer Khan. This machine was specially designed to incorporate all the things that the real players use such as orientation of the seam on the ball and the speed at which it is released. Now a days the researchers aim to incorporate a visual element so that batsmen can see a projection of



Fig. 1 : Bowling machine

bowlers ahead of the machine, so this technology is like a revolution in the game of cricket training

Hawkeye:

Hawkeye is a sport technology device which tracks the position and trajectory of the ball. It uses cameras, image analysis software and a parametric model to track a delivery and predict its path. Hawkeye uses six fixed and calibrated camera positions to assist the image analysis process and radar technology. It is able to track the ball from the point of release from the bowler to the point at which the ball is in line with the stumps. With the TV referral system, Hawkeye plays an important role in informing the third umpire (the only official with access to it) where the ball pitched and where it hit the batsman. Hawkeye is used to shed light on LBW decisions for TV viewers; Hawkeye determines whether the ball pitched outside leg stump or in line with the stumps and whether it would continue onto the stumps. Hawkeye also facilitates other innovations like: Despin, Wagon wheels, Pitch Maps, Beehives, Rail cam (Fig. 2). Hawkeye in cricket is a great innovation that has helped officiating, enhanced television feeds for viewers and assisted coaches with technical analyses. (Collions and Evans, 2008).

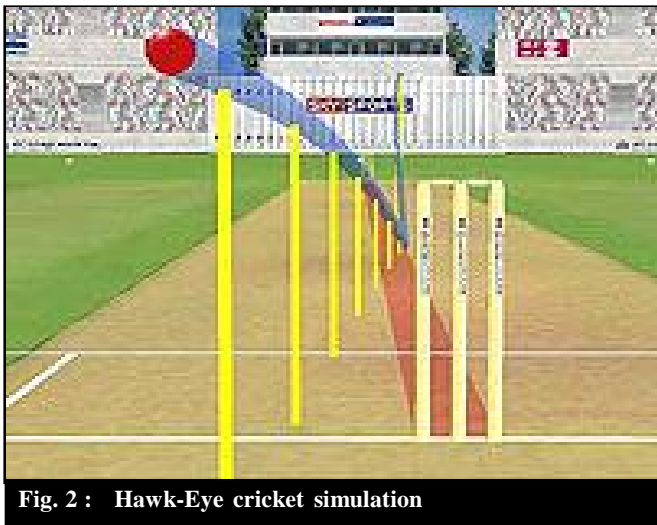


Fig. 2 : Hawk-Eye cricket simulation

Hot spot:

Hot spot is an imaging system used in cricket to determine whether the ball has struck the batsman, bat or pad (Fig. 3). This technology that requires two infrared cameras on opposite sides of the ground above the field of play that are continuously recording an image. These cameras see and measure heat from friction generated by a collision. On any snick or bat pad event, the infrared camera sends an image through to a computer showing

us the outcome of the recent incident. Any heat been produced in the field of play, giving us an accurate conclusion on the decision. This technology helps to successfully make a decision on whether the batsman is dismissed or granted 'not out', whether the ball hit the bat, pad, glove and if it hit something at all (Ting and Chilukuri, 2009)



Fig. 3 : Hot spot

The batsman's bat and pad are often closed together, and it can be very hard to determine by eye which was struck first, whereas the hotspot technology often resolves the question. This technology also provides some valuable information while analyzing the strokes played by a batsman.

Speedometer:

Cricket ball has been developed which can measure its own speed and display the boll speed measurement on the tiny LCD screen on one side, it also comes with an inbuilt long lasting battery. Until now radar guns have been measured the bowling speed of bowler. With the new speed sensor measuring technology inside the boll itself, it might become possible to get the accurate speed measurement. The inbuilt speed sensor measures the speed of the boll between the time when it first gets released from the bowler hand and until hits something (preferably nets) whereas the radar guns reads out the speed between the point when the boll gets released from bowler hands and strikes the pitch. The boll sensor could get damaged if hit hard directly by the cricket bat so only mint for measuring speed on the needs only during practice during practices (Shashank, 2008).

Stump microphones:

ICC had tested this technology in September 2004

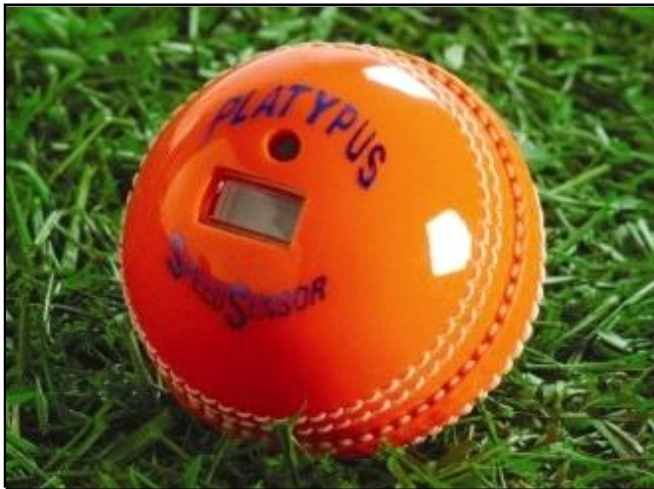


Fig. 4 : Sensors in ball

but It is not the first time it has happened as it has been tested in South African domestic cricket, but it is the first time it will be used in a major tournament. Stump microphones help in making correct close catching decision. Microphones are fitted with ear-pieces linked to TV-stump microphones in cricket's latest experiment with technology-guided decision making. This help umpires make correct judgments over contentious lbws or catches where there is doubt over whether bat has hit ball. This may also enable us to decide for the deferment of no-ball decisions to the TV umpire to assess the impact this has on the on- field umpire as the (Thompson, 2004).

Snickometer:

A snickometer is used in televising cricket to graphically analyse sound and video and show whether a fine noise, or snick, occurs as ball passes bat. The snickometer is often used in a slow motion television replay by commentators to determine if the cricket ball touched the cricket bat on the way through to the wicketkeeper. The commentators will listen and view the shape of the recorded sound wave. If there is a sound of leather on willow, then the ball has touched the bat. Other sounds such as the ball hitting the batsman's pads, or the bat hitting the pitch, and so on, tend to have a fatter shape on the sound form. In many cases, the snickometer showed many decisions to have been incorrect, for example, the Border Gavaskar Trophy during the 07/08 series in Sydney, at the SCG. Andrew Symonds was given not out, even though snickometer showed an obvious snick. (Dassgupta, 2010).

No nose :

No contact made here..... And no problem for the

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Fig. 5 : Snickometer

umpire with this 'not out' decision.

Short' noise:

The sharp peak on the graph gives the game away here, and it's curtains for the batsman as long as the 'nick' is safely caught by the waiting keeper and slips cordon



Fig. 6 : Snickometer

Sportswear:

Improvements in sportswear technology over last few years, have mainly changed the hamlet design and the materials use, size and weight of bats, thickness and weight of pads and gloves with a little change in regards to the ball, hats etc. Fabrics now being used are proven to keep warm, dry, cool to improve the performance, to help recover quicker and even smell better for sports clothing. The beauty of the sportswear is that they have quite light in build and not restrict in free body movement

of the player. These are exclusively designed to bestow complete flexibility and freedom to play. Historically, natural fibres like wool, cotton and silk have been used in the manufacture of clothing. All of these fabrics have served us well in the past but they are now being improved upon particularly with regards to sports clothes (Singh, 2010).

Conclusion:

In this article, we have discussed the technological advancements in cricket such as: Bowling machine, Hawkeye, Hot spot, speedometer, stump microphone, snikometer and sportswear technology etc.

Not only these advancements have helped to make correct decisions but they have also brought the game closer to its fans. Players can now analyse and improve their performance, indeed, these technological advancements have changed to entire face of cricket in 21st century.

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