Sports Analytics

Let's start with a question: why analytics in Sports? How does it help in sports?

Over time, professional sports have become increasingly competitive, where even a minute can change the outcome. Sports teams now have a much more loyal fan base. Just take a scenario where if we don't analyse the player and city where they are playing, there is a chance the team will not win if we pick random players without knowing their background and strategy.

Every player has a history of winning or losing over a few features. Using analytics on the same team can increase their chance of winning. So basically, various analyses take place to improve the overall experience of sports. It comes under sports analytics.

Sports analytics aims to help decision-makers within sports firms, and organisations make better assessments. Sports teams' objectives are twofold, and they pair achievement on the field with managing financial targets. These two goals are not mutually exclusive. Analytics advances create meaningful ways to understand and prioritise data, which can then improve decision-making concerning both objectives.

We can understand sports analytics with the help of real-time events known as "MONEYBALL."

In the 2003 book "Moneyball" by Michael Lewis, Beane uses Sabermetrics to discover the secret to success in the often unfair and imperfect science of baseball player evaluation. It was the first known use of prioritisation of statistics and data to make personnel decisions in professional sports.

In 2002, three of Oakland's top players signed with bigger teams in the MLB. Oakland couldn't afford to replace them with high-priced superstars. ***So the question was how they could win the match with the financial constraint.***

In a baseball team, the previous selection of the player was based on the "OLD SCOUT" theory, in which Scouts venture out and evaluate players all over the country. Rather than paying attention to statistics, they base their decisions on five tools: speed, quickness, arm strength, hitting ability, and mental toughness. In scout school, each scout is given a pamphlet that explains what to look for in certain aspects of baseball such as arm strength, fielding, running, and most importantly, hitting. When scouting, scouts are instructed not to evaluate player performance, but to "watch for things done mechanically which will lead to success and results".

He gives the player a certain grade. Going through these theories, top-graded players eventually become costlier as they take more salary.

So there is a second theory of Moneyball, which doesn't focus on the athlete's body or the physical tools that the athlete possesses. But focuses on only two questions :

1. Does this player get on base? (On-base percentage (OBP))

   On-base percentage (OBP) is defined as the statistic in baseball that measures the rate at which a batter gets on base for any reason, excluding fielding errors, fielders choice, fielders obstruction, or catcher's interference.

2. Can he hit? (Slugging percentage (SLG))

   Slugging percentage (SLG) is a popular measure of the hitter's power. Total bases divided by at-bats.

Combining these two statistics yields a new statistic known as on-base plus slugging (OPS). The matrix is known as **Sabermetrics**, defined by Billy James, who introduced the Moneyball theory as "the search for objective knowledge about baseball". But since the market valued more traditional metrics(theory one), Beane realised that players who ranked high in new matrix (Sabermetrics) statistics would be undervalued. He took that as an opportunity to select those players who were undervalued.

In short, his theory was that a team with a high on-base percentage was more likely to score runs and, as a result, more likely to win more games. Beane drafted and traded for players that fit this system and only those players. Immediately, the Athletics became a team that walked more than they struck out. The A's also looked different. Beane's sabermetrics system did not require that players fit the height, weight, speed or body composition prototypes that dictated how other clubs managed their players.

A's became convinced that these qualities were cheaper on the open market than more historically valued qualities such as speed and contact. Conventional baseball wisdom and the beliefs of many baseball scouts and executives were often challenged by these observations.

As a result of reevaluating their strategy, the 2002 Athletics were able to compete with larger market teams, such as the New York Yankees, with approximately $44 million in salary. They spent over $125 million in payroll that season. Due to Oakland's smaller budget, they had to find players undervalued by the market, and so far, their system has proven to be successful. The approach brought the A's to the playoffs in 2002 and 2003. By changing analysing features, they could get a more efficient team.

Other sports also start to follow the analytics method to improve the team's performance. For example, Moneyball has also influenced and been influenced by other professional sports teams, including European club association football (soccer)

https://prezi.com/lcqfhglamitz/the-moneyball-theory/

We encourage you to go and check out any additional information that you can find on the Internet related to the given topic. This way, you will gradually be immersed in the field of Data Analytics.