Predictive Analytics in Football

Increasingly often in football at all levels, we are seeing coaches decide to go for the first down on fourth down rather than punt it to the other team. Just this past weekend we saw Andy Reid and the Chiefs take the risk at the end of the game, solidifying their spot in the AFC Championship game. The reason coaches are finding more confidence in this decision is predictive analytics. Teams are using data to understand and predict what is likely to happen in different fourth down situations.

A study led by Dr. Jeffrey Wilson took a closer look at whether it is possible to increase the chance of a successful decision when faced with a 4th down determination by looking at data from the Power 5 collegiate conferences. In analyzing this data, the research team found that there were four measures of significant importance: distance-to-go, line of scrimmage, pass or run, and the week of the season. The results of these measures were that the further the distance the less chance of success, each extra yard decreases the chance of success, a run is more likely to be successful, and a team is more likely to find success early in the season. The study found that if coaches were to consider data from these factors rather than intuition, they would have decreased their losses by 36.5%.

This study is one of numerous examples of predictive analytics being useful for fourth down determinations. Coaches should invest time and money into creating and using predictive models that can be enhanced and adapted each week. As the article points out, predictive analytics can be used in many areas of the game and could even be helpful when recruiting players.

Blinkoff, J., Voeller, M., Graham, S., & Wilson, J. (2020, October 06). Predictive Modeling of 4th Down Conversion in Power 5 Conferences: Football Data Analytics. Retrieved January 19, 2021, from https://thesportjournal.org/article/predictive-modeling-of-4th-down-conversion-in-power-5-conferences-football-data-analytics/