Brandon Huggard

Dr. Thomas Finholt

SI 311-30

28 October 2022

HW7: Identifying the Best Choice of Action on 1st and 10 for the 2016 Patriots

Historically speaking, in the world of sports analytics- football is an infant. Whereas baseball was formed alongside high level statistical analysis and using every angle on data to gain an advantage over one's opponent over the course of a season; football front offices have just recently began using data to try and field the best possible teams and make the best possible choices relative to how long the game has been played.

Taking center stage in our analysis is EPA, or expected points added. Acting as a measure of how a team's expected points changed after a given play. Examining EPA for specific plays and players can give us a concrete measure of how much a player or play was worth to a team over the course of a game, season, or even career. Using the 2016 New England Patriots on 1st and 10 as an example; we can examine EPA on run plays versus pass plays to determine what worked out better for the team over the course of the season in that situation. Some things the analysis doesn't account for are; location on the field, score, time left in the game, or time before half. All of the aforementioned can have a significant impact on what a team should do and how a defense is likely to react. At a high level we can see that on 1st and 10, the Patriots average EPA on run plays is -0.071 whereas pass plays saw an EPA of 0.307. We can see a stark difference in result and as such conclude that outside of niche situations the Patriots are almost always better off passing on 1st and 10 with the only reason for running being to potentially keep a defense guessing.

Work Cited

Ryurko. (n.d.). NFLSCRAPR-data/play_by_play_data/regular_season at master ·ryurko/NFLSCRAPR-data. GitHub. Retrieved October 28, 2022, from https://github.com/ryurko/nflscrapR-data/tree/master/play_by_play_data/regular_season