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Partying like it is 1983: Getting the Orioles Back to the World Series

Motivation

Fans always criticize the managers of teams and the executives for poor decisions they make. These same fans inevitably believe they could do better if they were in the same position. As a group, we wanted to use our data analysis skills and baseball knowledge to try to make recommendations to an organization. We wanted to choose a team that was not in the playoffs, so that we could easily assess if our recommendations helped the team or not (based on if they made the playoffs or not). Ideally, the team we chose would have some strength we could build off of, because if the team had no strength anywhere, this would be a very bleak project and one of very little analytical insight. With those parameters in mind, we selected the Baltimore Orioles for our analysis.

Problem Framing

We are going to analyze two methods front offices use to improve their teams: free agency and the MLB draft. Given that the Orioles are on the cusp of playoff contention, it is of utmost importance to sign free agents and bolster the roster. Free agency is the fastest way to improve a team, but it does carry extra risk. Making a financial commitment to a player for an extended period of time can set an entire franchise back in their pursuit of winning a championship. However, if you choose free agents carefully, it can turn a team around quickly.

A great example of successful free agent signings is the Philadelphia Phillies, who spent over 600 million dollars to sign Bryce Harper, Kyle Schwarber, Nick Castellanos and Zack Wheeler in free agency. Each of these players played pivotal roles in their push towards the World Series in 2022. For every good story, however, there is always a bad story. Such is the case with the Angels, who have made several commitments to players like Albert Pujols, Josh Hamilton, Anthony Rendon and Zack Cozart, and in every case the player has failed to contribute on the field. The Angels have been very far from playoff contention since 2014 as a result. Having that amount of money tied to one or a few players limits the flexibility of the entire franchise, and prevents other beneficial transactions from taking place. This is a great

example of the risks that come with such a strong financial commitment to one individual and why free agency is such a dangerous game.

Another way for a team to improve is through the draft. The MLB draft is unique for a lot of reasons, but in this context, the main challenge is the fact that the players drafted are not expected to make an impact on the MLB club for several years. The players are expected to develop in the minor league systems for a few years, and when the Major League team feels the player is ready, he is called up to the Major League team. This is very different from NBA or NFL drafts, where in many cases the players drafted are signed to the team and expected to make a contribution immediately. Therefore, the MLB teams have to rely on scouting to project the skillsets of amateur players several years into the future.

We are going to use some (very early) draft rankings to determine who the Orioles should go after in the draft. We will assume they will not acquire any extra picks as the result of a trade between now and July. The draft order uses a lottery to determine the first few picks, but after the lottery the order is the reverse order of the previous years' record. Based on current projections, the Orioles are slated to pick 17th. Another note to consider is that they would pick 17th in each of the 20 rounds of the 2023 draft.

We will have to use multiple draft rankings for this analysis. The first reason for this is that since we are so far away from the draft date, there is a lot of noise built into the rankings. Players need to be judged on their upcoming college or high school seasons, which could change rankings drastically. Additionally, there are several websites and reporters that create their rankings of draft-eligible players. By using multiple ranking systems, we hope to create a weighted average of sorts and acquire a more reliable ranking, minimizing noise as much as possible. Positional need and risk factors are two factors that we are going to add into our analysis. Because of our earlier positional analysis, we are going to be aware of which positions need upgrading. Our group is going to add a sense of risk for the picks, based on the level of the player we plan to draft. Elite level college players will carry the least amount of risk and high school players will carry the most amount of risk. We will need to account for this when determining how quickly a player can make an impact, and at which positions we need to upgrade. Combining these factors should incorporate an added level of precision or accuracy with the picks.

Data Overview

   Rather than analyze one large data set, we instead plan to look at multiple data sets to recommend actions to the Orioles front office. The first dataset we are going to analyze is the Orioles' offensive statistics. This table will be from Baseball Reference and will include basic offensive stats in addition to more advanced metrics, and even defensive stats. We will use Baseball Reference for Orioles pitching stats as well. Baseball Reference also has another data set for the league-wide averages in every statistic they keep track of. This table will be tremendously useful as a benchmark. Knowing the league averages will make it easier for us to determine how much help is needed at a particular position, and how quickly we need to make a change. The league average will give us a barometer upon which we can judge success. The goal of this analysis is to determine what the positional strengths and weaknesses are for the Orioles. We are also going to look at draft data, and hopefully incorporate multiple draft rankings in addition to the Orioles recent draft history, so we are aware of the prospects that they currently have in their system. The money needed to sign each individual is going to be a bit of a gray area, and that will be one of the flaws of our analysis. The draft is so far in advance and the signing process is so complicated that we will only look at the Orioles first few picks and assign each pick the previous years' slot value for that draft pick.

Contribution

Every group member contributed to the short report and met the expectations of the group.

R Code

Visualizations and R code can be seen in the html that was turned in as a separate file.

Sources

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