Case Study: Billy Beane

1.) Summarize the approach of GM Billy Beane during the Moneyball period of the late 90s/early 2000s. What was so revolutionary? Why did it work?

Billy Beane was, and remains, a disruptive force in baseball. Both from his own actions and decisions as well as the ripple effects he sent through the league and the web of innovative thinkers spawning from his school of thought/front office. To put it in its simplest form, Beane and his team sought to find players undervalued in the market. But the true revolution was so much more.

Beane's crucial insight was not just realizing that some players' values were mismatched with their performance but rather that some *statistics* were being improperly valued in the game. The easiest stat to focus on is On Base Percentage - how often a player is on base with the potential to score a run. The A's deduced that someone who is fast and can steal a base (a traditionally high-value baseball statistic) is actually not as valuable as someone who is constantly on base - you cannot steal second if you do not get to first, and speedy players traditionally had much lower OBP.

This focus on the proper statistics is one part of Beane's A's re-framing of the problem. The other, sports being a business and all, was money. As the case points out, baseball is a bit of a wild west when it comes to payroll - there is no minimum/maximum. Since the A's were at the extreme low end of the spectrum of team revenues, Beane had to re-think player value further. With the focus on new statistics, the A's began looking at 'cost per win' - which more accurately provides a look at player value in a league where some teams have $200 Million payrolls and others have $40 Million to spend.

All of this worked because Beane was given security and stood his ground, not bending to the pressure of 'traditional thinking' - an especially strong force in baseball. Furthermore, Beane wisely identified that young talent both on the field and in his office was of an even higher value than most believed. Beane recruited heavily from top schools and organizations outside the world of baseball (Harvard statistics students, Economy experts, venture-capital whiz-kids) to provide a different perspective on the game and what value really meant.

2.) *There is a heated disagreement about regular season analytics and postseason analytics. What are your insights?*

Despite all the success of Beane's A's in the regular season, they have not seen similar postseason success. The case, and Beane himself, point out a key reason why.

Baseball is 162 games. There are millions of actions to be measured and they provide an appropriate statistical sample group to analyze. The playoffs, in all sports, are a different animal. In baseball, there are short series (best of 3, 5, or 7). In a shortened series, the sample size goes helter-skelter, with all kinds of variance and random variables playing a role that has no time to normalize due to the small sample size.

The funny thing, I think, about the arguments between 'stat heads' and 'traditional baseball thinkers' is that the two seemingly opposing sides are often arguing despite really believing the same thing. The playoffs bring this irony into stark contrast. The regular season is long - players will go through hot streaks and slumps. Both old-timers and innovative thinkers know this, they just use different terms. The playoffs throw such streaks, the natural ebbs, and flows of repeated actions into the spotlight - you don't have time to recover from being a little bit off the same way in 5 games as you would over 5 weeks. Old-timers have said for years that the playoffs are different. Statistics agree, there are merely different words to describe it.

The issue boils down to sample size and random chance. In most statistical analyses, randomness normalizes over time. Baseball is no different. Football is no different. Basketball is no different. One man or woman performing outstandingly, exceeding expectations that one time can win a game (sometimes people used to call that 'clutch,' a term and idea they are constantly trying to quantify, in no small part to the great David Ortiz, who seemingly delivered a disproportionate

amount when the game was on the line). And there is no way to statistically quantify that rising to the occasion. It is too finite a moment.

3. Describe the competitive response to Beane's analytics by other major League Baseball clubs.

There is a multifaceted way to look at just how much of a footprint Beane continues to leave on the game. In the macro sense, baseball organizations have almost all accepted the need to statistically analyze their players' value. However, there have been more ways to look at this as clubs with bigger payrolls have stepped into the fray.

There are ways to statistically measure a player on the field as well as their marketability - somewhere like Boston or LA this is extremely important and contributes to on-field success, primarily, but also contributes to the club's profits and ability to then turn around and find more valuable players. The Red Sox, my beloved Red Sox, are an excellent example of this. With more money, but a Sabermetric eye, a team can be much wiser in spending hundreds of millions of dollars than ever before. Big markets have accepted small-market disruption ideas.

With that growing sense of statistical importance, Beane has seen the tree of his disciples spread out across the league. Many of the important, clever, young hires of the 'Moneyball Era' are now themselves disruptive forces around the league, running or key players in markets both big and small.

Ultimately, Beane set in motion a series of responses in both baseball and statistics (and weirdness, frankly) that continues to alter the way baseball, and sports, in general, are talked about and played.

My favorite example is the Tampa Bay Rays. The case discusses one of the 'second wave' of statistical disruptions following Beane in the Rays' pursuit of value by building strong pitchers (as they control more of a game), shedding traditional hitters who hurt a team with poor fielding, and seeking players who may not be seen as great hitters - but had 'hidden' value as tremendous, run-saving defenders. Using advanced and brand-new fielding metrics the Rays got to the World Series on an absolutely tiny budget, with home-grown pitching and an *outstanding* defense. Again, ironically, this type of thinking was pretty 'old-school' - pitching and defense, if optimized, can take you places - but with statistics, such thinking could be quantified and properly acted upon.

The Rays continue to be a great example (as they cannot seem to make any money or be given any by the owner) even beyond the years discussed in the case. Recently, they have caused an uproar in baseball by looking at pitcher value - when a great pitcher's innings are most important. They have a glut of talented, young, hard-throwing pitchers. Rather than conform to 'traditional' thinking, they have completely changed the landscape by deploying these pitchers in the best position to succeed, whether that be for one inning, one batter, or at a 'strange' time of the game.

The Rays realized that if you have a great pitcher, but he can only really go once through an order, there is no rule about **when** to pitch him - no written rule, that is.

For years, there have been 'starters' and 'relievers.' Starters went as many innings as they could and relievers came in the later innings. The Rays have changed all of that. They start a hard-throwing, 'traditional reliever' and let them go an inning or two. THEN they follow with a pitcher who is capable of going a few more innings (2-5, usually) and then go to other relievers to go a few batters or innings. There are 9 innings in a baseball game, in regulation. The Rays have completely altered thinking by saying, 'we believe this pitcher is best suited to succeed here' and constructed a 9-inning puzzle - traditional roles be damned.