Create a Tableau Story

Summary

This document presents a visual analysis using some parameters that shows differences in the performance of the baseball players. The data set contains data of 1,157 baseball players with their handedness (right or left handed or ambidextrous), height (in inches), weight (in pounds), batting average, and home runs. The performance is measured as their batting average and the number of home runs. Handedness, height and weight are the parameters. Height parameter is used (height and weight are positively correlated).

Design

Initially created a chart to show the batting average of the players. Then created a bar graph with respect to player handedness to see count of players who are right handed, left handed or ambidextrous batters. After feedback added percentage of handedness to the visualization.

Visualized at:

https://public.tableau.com/profile/sampath.grandhi#!/vizhome/BaseBallData/Story1?publish=yes

Wanted to analyse if handedness was a parameter to have into account so then created a combined visualization to explore the relationship between batting average and player handedness. After feedback added Caption and also included HR's and Avg in a single visualization, Described the axes with Average of player's home runs (HR) and Average of players batting performance (Avg) and Circle representing player batting performance average (Chosen as easy to understand the batting average). And Bar plot describing player HR average (because visually it is easy to appreciate the difference between the bar heights.) And bar chart as a whole was chosen as it would be easy to understand with respect to handedness.

Visualized at:

https://public.tableau.com/profile/sampath.grandhi#!/vizhome/BaseBallData/Story2?publish=yes

After some exploratory data analysis, thought it would be good to check that players with low height are better in their batting average. (Maybe a lower centre of mass helps them to performing the batting movement).

Furthermore, since weight and height are generally related, a similar trend between height and batting average could be explored. So using the "height" parameter and average of players batting performance and average of player's home runs, created a

visualization. A notable observation is that the average number of home runs by player's height tends to be more constant in medium players. They could have the perfect balance between height and strength to achieve home runs. So decided that a line plot would be a good representation to show the downward trend in batting average when the height increases and also show that there is a region of height/batting average where the average number of home runs is more constant.

Visualized at:

https://public.tableau.com/profile/sampath.grandhi#!/vizhome/BaseBallData/Story3?publish=yes

Created the visualisation worksheets as stories as suggested by the Udacity reviewer.

Finally, wanted to find relationships between batting average and the number of home runs. But realized this would be wrong as we have only the absolute number of home runs for each player, and we do not know the number of batting attempts/ innings /chances.

Feedback

Friend 1 (first draft)

- Recommended to add a title/ caption with brief description.
- What are the units for Height?
- What does avg "AVG" mean?
- What means avg "HR" mean?
- What is the circle for in the second plot?
- The second plot implies that left hand and ambidextrous batters are successful than others?
- Do left hand/ ambidextrous players hit more home runs?

Friend 2 (first draft)

A title/ caption for each visualization is recommended. Explain basic baseball terminology as many might not be aware of the terms, like what does avg "avg" or avg "hr" mean? What are the percentage of batters who are left / right / both handed. What is the relationship between circle and line plot in the final visualization. Do shorter players hit more Home runs?

Friend 1 (second draft)

Captions and description of axes are good. Difference in colours in the second plot help to understand the visualization easily.

Friend 2 (second draft)

Adding the captions and describing the axes help and adding the percentage to the handedness of batters is helpful to understand their share. Explanation of terminologies is helpful to new comers and the brief explanation of the inference s from the plot add to the story.

Udacity Reviewer

The captions did not look like they are telling a story. To tell a story, we should choose captions that show some change of what happened from the beginning of the plot exploration to its end. The design could be made more interactive by adding more filters, menus, more animations, transitions

Observations form the graphs:

1. Shorter players are better at batting, with ideal height at 65 inches. Then, the higher the height, the smaller the average batting, it diminishes slowly till 77 inches and then drops low.
2. There is an almost uniform distribution of average home runs across all heights, with some outliers located at both ends: a very high value at 65 inches and a very low value at 79 inches.
3. Left-handed players are better at both, batting and doing home runs, but those who are ambidextrous (i.e. they use both hands) are equally good at batting. In terms of doing HRs, being able to use both hands does not enhance HRs values when compared to only right- or only left-handed.

Conclusions are:

1. Shorter players are better at batting (have higher batting Average).
2. Medium players have more constant (similar) in their home run rates.
3. Left-handed players are better batters (Higher Batting Average) and hitting home runs (Home Run Average).

Resources:

[1] Data Visualization Playbook

[2] https://en.wikipedia.org/wiki/Batting_average#Major_League_Baseball

[3] https://en.wikipedia.org/wiki/Home_run#Inside-the-park_home_run