Analyzing the Ethics of Big Data Through CyberMetrics

## Overview

This project is designed to allow the group practice analyzing and thinking critically about big data using cybermetrics and sports and then present the findings both orally and in writing. It is intended to hone group presentation skills while using an argumentative structure to present and interpret the data. . It will also allow the group to practice presentation skills, develop McKinsey-style slide and summarizing findings.

Each group (of no more than 5) chooses a sports team. The sports team must be a national team or a Tier 1 NCAA team. The team must have regular season (not just once every four years, i.e. no Olympic or World Cup soccer teams). Suggested sports include baseball, football, soccer and basketball.

### Steps:

1. Create a forecast for your team for the next five years, based on your historical data  
   (note: account for trades, drafts and injuries)
2. Find the 3 teams against which your team is most competitive
   1. Why are these your biggest competitors?
   2. How often does the team win or lose against the competitors?
   3. What is the frequency of wins, losses and draws on the road versus at home?
3. Based on historical and forecasted data:
   1. Create a budget for your team (using whatever data is available)
   2. Determine how well your team should perform over the next five years compared to the 3 strongest competing teams you chose
4. With your budget and forecasted performance in mind, answer the following:
   1. Based on the value of a player, which players should cut or traded?
   2. Based on the needs of the team, which type of players should be recruited
   3. How many tickets do you need to sell, and at what price?
5. Extra credit question:
   1. Determine who your team’s best draft pick for next year will be and state why

## Delverables

### For Ethics,

* Complete the questionnaire (group activity)
* Create an annotated bibliography to detail where data was culled from (group activity)

### For communication:

* Create 3 McKinsey-style PowerPoint slides that summarize the research and argument (group)
* Write a one- to two- page memo summarizing your findings including at least one graph, chart or table (individual)
* In a 5-7-minute presentation, present your findings (everyone must speak).

## Evaluation:

* Questionnaire: how complete is the questionnaire.
* Annotated bibliography (Group): Does it adequately summarize the sources and critically evaluate them. See rubric under assignment.
* Presentation (Group): How well did the group present together and individually.  
  See rubric in gradebook.
* Memo (Individual): Did the memo adequately summarize the findings and create an easy-to-read document using good document design. See memo rubric under the assignment.

1. Create a forecast for your team for the next five years, based on your historical data  
   (note: account for trades, drafts and injuries)

Prediction = historical data from season 18-19

1. Find the 3 teams against which your team is most competitive

Manchester City, Manchester United, Chelsea

* 1. Why are these your biggest competitors?

Manchester United (From historical sum of scores data from 06/07, need barplot(Rstudio) to show the sum of the wins as host team and loses as away team)

Manchester City (From recent yearly performance similarities of the whole team)

Chelsea/ (From recent yearly potential value of the whole team) Resolved

* 1. How often does the team win or lose against the competitors?

According to data from season 15/16 to season 19/20 Need Actions

* 1. What is the frequency of wins, losses and draws on the road versus at home?

(home/away columns in the dataset) Resolved

1. Based on historical and forecasted data:
   1. Create a budget for your team (using whatever data is available) Using last year budget.
   2. Determine how well your team should perform over the next two years compared to the 3 strongest competing teams you chose

(use team performance and team potential) Resolved

1. With your budget and forecasted performance in mind, answer the following:
   1. Based on the value of a player, which players should cut or traded?
   2. Based on the needs of the team, which type of players should be recruited
   3. How many tickets do you need to sell, and at what price?
2. Extra credit question:
   1. Determine who your team’s best draft pick for next year will be and state why

(Notice: Liverpool has a disadvantage of shooting and other factors observed by the radar chart provided by Excel or Rstudio, try to find a player in other team that can make up for the disadvantage and watch out the value for money: player overall performance / salary euro)