**Homework #1**

**MEM 410, Managerial Analytics, Winter 2018**

**Due: Start of Class 1/25/18**

**Electronic Submission Only**

1. [10 points] Read this [case study about Beth Israel launching big data to improve ICU care](http://www.healthdatamanagement.com/news/beth-israel-launches-big-data-effort-to-improve-icu-care). (You may need to register for free before reading the full article). Answer the following questions concisely. Please note that the answers are not always in the article. You will need to apply what we have learned from lecture 1 and lecture 2.
   1. What are the types of analytics (descriptive, predictive & prescriptive) used in the project Risky States?
   2. What’s the specific problem that the analytics application Aptima is trying to solve?
   3. What are the challenges (analytics, people& process) to solve the above problem?
   4. How would you propose to overcome the above challenges?
2. [15 Points] Download the “NHL Scoring Data” Excel file from Canvas. The “NHL Scoring Data” tab contains detailed NHL data between 1909 and 2009. The “data definition” tab provides all the data definition for the NHL scoring data. The “2010 roster” tab provides the actual roster from the 2010 season.

Suppose that you are in charge of writing a proposal to leverage this data and develop a mobile app that will be sold to fantasy hockey fans in 2011. You are free to conduct additional research to make this as real as possible. Submit the following:

1. A one-pager proposal – articulating the situation, challenges, and your proposed solution
2. A one-page summary of assumptions – since you are not expected to be an expert in this field, you are free to make necessary assumptions to justify the one-pager proposal. Your proposal will not be judged by its own, as different people may have different levels of expertise in this field. However, it will be judged by the inter-connection with the assumptions. In practice, this is also very important. Most of the real work is about validating the assumptions. It is important to state those.
3. A one-page summary on possible options – there are always more than one way to solve the same problem. Please provide at least 3 options, as well as the different depths / analytics uncertainties related to the options

Suppose that you are the project manager in charge of delivering the above project. Please submit the following:

1. A one-pager articulation of key challenges to deliver the proposed project in a) – this should cover data, methodology and form of delivery, assuming all you have is the downloaded data
2. A one-pager articulation of validation plan to address the above challenges

Please use PowerPoint with font size no smaller than size 12. Be as concise & precise as possible, with effective layout. Presentation quality will be part of evaluation.