**BA 355: Short Assignment 1**

Write up a one-page memo about what Business Analytics is. Search online for the following topics and see what you learn.

1. What is Business Analytics? (Find a couple of different definitions and merge them into your own definition.) How does Business Analytics relate to Management Science and Operations Management?

Business analytics is a buzzword field that has the potential to make a tremendous difference in the world by leveraging data to influence important decisions. This is not inherently a positive difference. In fact, I argue that it is often times leads to explosive outcomes such as financial recessions, fiscal policy, and resource allocation by promoting a false sense of security. However, when models are correctly applied, and the extent of credibility is established and maintained, firms and individuals can better approach an efficient decision with a refined process. With such a broad definition, business analytics is simply about making more informed decisions using data.

1. Which companies currently sell business analytics software? List at least three.

Wolfram Alpha, Bloomberg Terminal, Palisade

1. What big companies use business analytics to improve their performance? List at least three and include details about how and what they do.

Symetra, or any insurance company, use stochastic modeling to predict the severity and frequency of claims. The actuarial department is responsible for modeling financial risk. Often, claims are modeling using a Poisson distribution. The data are imperative for the company to make decisions on options contract pricing, which helps fund payouts, in addition to fixed income asset laddering timelines.

Goldman Sachs is focusing BA development on AI applications in risk management, cyber security, and fraud detection. Uniquely, GS is also applying AI towards wealth and asset management roles as well. It’s AI-ran trust uses natural language processing (NLP), a type of data analytics that I spent the summer doing, to make investment decisions. This allows some work to be automated, and perhaps generates/leverages a computational competitive advantage.

Darktrace is a cyber security company that uses artificial intelligence using anomaly detection to defend from hackers. It employs defense mechanisms mimicking the body’s immune system to predict and prevent attacks. The software works by calibrating itself to a normal/attack-free environment, and then monitoring for any deviations from that state. While a more niche application of BA, using data to predict and establish a normal environment allows data scientists to make more efficient decisions under time pressure to respond to threats.

1. What is a Certified Analytics Professional?

The CAP exam encompasses seven domains of business analytics applied in a business context. It is marketed as showcasing skill sets and validating analytics ability for prospective employers.

1. Find a statistic or statement online that “proves” that Business Analytics is one of the “hottest” business topics today.

I prefer to rely on empirics than individual reviews, and a simple search on indeed for business analytics pulls up 268,070 jobs.

1. Later in the term, we will analyze real data from Ska Brewing (sales) and from FLC (student location demographics). From what you’ve learned above, theorize how either Ska or FLC could use business analytics to improve their overall performance.

It would be interesting to quantify how effective Ska’s current allocation of capital is. For example, does a dollar spent on reducing inventory costs result in higher margins than in marketing to drive a higher volume of sales? Or, how can orders align best with demand?

It seems backwards to make scaling/business decisions based on student location/application rates. It seems that FLC should determine what conditions are necessary to achieve maximum profitability and then tweak admission decisions based on them. FLC could use BA to determine how the student body size affects revenue from tuition, grants, etc, and where that point maximizes before costs rise.