How-To Create a Productive Data Analytics Shop

Vision and Commitment

1. Leadership is an essential ingredient - executive champion/sponsor who has an agreed upon vision of the value and direction of the implementation of a data analytic project. DON'T start without it!
2. Set expectations and secure resources - don't expect to get a Cadillac on VW budget – no free lunch.

Strategy

3. Benchmark other organizations who have been successful – do NOT forge your own path unless absolutely necessary!
4. Take advantage of "Lessons Learned" from benchmark organizations.
5. Research legal & IT security requirements (SORN, CMA, C&A, etc …)
6. Determine what skill sets would be needed "over time" and then establish an effective interview and selection methodology – no, you can't fudge this one!

Project Management

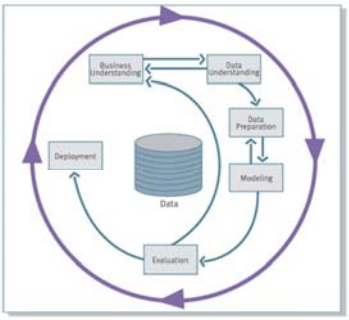
7. Identify your customer requirements & needs (Audit & Investigations).
    a. Audit – traditional risk models reflecting how best to allocate limited audit resources that focus on critical operational areas.
    b. Investigations – data analytical models looking for known fraudulent patterns within key operational areas that have the highest return on investment of investigation resources.
8. Seek program experts to help develop your data analytics projects.
9. False positives are your enemy – these can be fatal!
10. Deliver on time and don't miss milestones, otherwise you jeopardize losing your "Champion" supporters.
11. Be prepared for unintended consequences/results of creating risk models!

What is NOT Data Mining?

1. **Data Matching**
   - Do any of our current contractors match those on the debarred/excluded party list?
2. **Database Queries**
   - How many beneficiaries in our program are over 100 years old?
3. **Slicing & Dicing Data in Excel Spreadsheets**
   - Which contract has the highest dollar value?
4. **Visualization**
   - Who is connected to the suspicious contractor?

What IS Data Mining?

- Data Mining: Discovering **patterns in past data** that can be used to **predict the outcome of future cases.**
- Build **predictive models** with valuable business knowledge from SMEs
- Allows the **computer** to find the patterns and anomalies that humans are not able to find



Industry-Standard CRISP-DM Process