

BTS – MBDS – Data Driven Business

Assignment 1:

1.A: Money Ball – Summary

1.B: AI Trends

1.C: First 90 Days

20 September, 2020

1.A: Money Ball and Barcelona Analytics

Key Stats from Money Ball:

1. A new metric to evaluate teams effectiveness, Expected Run Value:

$$\text{Win\%} = (\text{Runs Scored}^2) / (\text{Runs Scored}^2 + \text{Runs Allowed}^2)$$

2. By doing regression they learned which features were the important ones when predicting runs and created a formula to reflect that, $\text{Runs Created} = (\text{Hits} + \text{Walks}) \times \text{Total Bases} / (\text{At Bats} + \text{Walks})$

3. You must be able to explain your analysis with data and convince stakeholders with good communication skills of your results to implement the right decisions.

4. Breaking myths and trusting data, for example when hiring the guy who pitches funny, but does not allow batters to get bases.

1.A: Money Ball and Barcelona Analytics

Key Stats from FC Barcelona:

1. Patterns in passing analysis: The “tiki-taka” strategy
2. The messi effect: Messi creates more space for the team by standing still than other players running like crazy.
3. Machine Learning to track the build up moments to goal and how each players contributes to the creation of space.
4. Heatmaps of the zones the players play in.
5. Webs of passes that lead to a goal.

1.B: AI Trends

AutoML: Provides methods and processes to automate Machine Learning

1. Hyperparameter Optimization, Neural Architecture Search, Meta – Learning.

QuantumML: Area combining Quantum Physics and Machine Learning(ML).

1. Predicting Quantum matter and quantum communication networks behaviors, leveraging the qubit and the superposition of states.

Hyper Automation: The sophistication of the automation

1. Document or email triggered processes all the way to actions taken by bots.

1.C: The first 90 days

| 30 Days | 60 Days | 90 Days |
|--|---|--|
| <i>Priorities</i> | <i>Priorities</i> | <i>Priorities</i> |
| 1.- Get to know the team and stakeholders | 1.- Understand the internal customer needs | 1.- Focus on communication with stakeholders |
| 2.- Get access to data | 2.- Focus on adding value with quick wins | 2.- Participate in first big project |
| 3.- Understand the business | 3.- Understand the ETL pipeline | 3.- Able to add value in assigned business |
| <i>Goals</i> | <i>Goals</i> | <i>Goals</i> |
| 1.- Build my network | 1.- Clear understanding with stakeholders | 1.- Able to quickly grasps user needs |
| 2.- Have tools for my job available | 2.- Get credibility with quick win projects | 2.- Defined workflows, and set timings |
| 3.- Understand the companies priorities | 3.- Prepare for more ambitious projects | 3.- Propose first improvement |
| <i>Milestones</i> | <i>Milestones</i> | <i>Milestones</i> |
| 1.- In contact with first level stakeholders | 1.- First quick win | 1.- Value Proposition for each project |
| 2.- All tools are available for work | 2.- Understanding of key team members | 2.- Get buy in with immediate collaborators |
| 3.- Company and department targets defined | 3.- Compiled first cheatsheet for workflow | 3.- Integrated to the team |
| <i>Outputs</i> | <i>Outputs</i> | <i>Outputs</i> |
| 1.- Can deliver value as fast as possible | 1.- First quick win | 1.- Documentation for projects |
| 2.- Understand company fit | 2.- Clear understanding of who to talk to | 2.- Networking developed |
| <i>Management Review</i> | <i>Management Review</i> | <i>Management Review</i> |
| 1.- Confirm targets and training plan | 1.- Address roadblocks for targets | 1.- Address concerns and add more projects |