***Note: Please remove/replace the items in Red and Italics.***

**Data 670 Data Analytics**

***Student Name***

**Professor Dr. Jon McKeeby or Dr. Steve Knode**

**Assignment Name**

**Date**

**Executive Summary**

*Please provide a 250 word description of your project. Include in* ***Assignment 2 and update for each assignment thereafter.***

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# Project Scope (Updated/revised from Assignment 1)

# Problem Description

**Assignment 2**

*Please describe the problem.*

*Please describe why the problem is important.*

*Provide at least 3 paragraphs with 6 sentences each*

# Business Understanding

**Assignment 2**

*Please describe the domain/business area.*

*Provide at least 2 paragraphs with 6 sentences each.*

### Organization

**Assignment 2**

*Please describe the domain/business area*

*Provide at least 2 paragraphs with 6 sentences each.*

### Stakeholders

**Assignment 2**

*Please describe the stakeholders*

*Please describe at least 3 different stakeholder roles*

*Provide at least 2 paragraphs with 6 sentences each.*

# Define Business Area

**Assignment 2**

*Provide at least 1 Paragraph 6 sentences*

### Business Objectives

**Assignment 2**

*Provide at least 3 business objectives through 3 paragraphs with 6 sentences each*

### Business Success Criteria

**Assignment 2**

*Provide at least at least 2 paragraphs with 6 sentences each describing what you see as success*

# Background

**Assignment 2**

*Provide at least 1 paragraph with 6 sentences*

### Research

**Assignment 2**

*Please describe what others have done regarding this problem.*

*Provide at least 1 paragraph with 6 sentences*

### Gaps in this Problem Resolution

**Assignment 2**

*Please describe the gap in research or what others have done for this problem.*

*Provide at least 1 paragraph with 6 sentences*

# Proposed Project

**Assignment 2**

*Please describe why you are doing this project*

*Provide at least 2 paragraphs with 6 sentences each*

### Key Performance Indicators

**Assignment 2**

*Please describe 3 key performance indicators*

*Provide at least 3 paragraphs with 6 sentences each*

### Project Insights of your Data Analysis

**Assignment 2**

*Please describe what you expect for results and conclusions*

*Provide at least 3 paragraphs with 6 sentences each*

# Project Milestones

*Describe the major milestones you will perform for this Project.*

# Completion History

**Assignments 2 - 6**

|  |  |
| --- | --- |
| **Week 1** | Describe the tasks that you completed. |
| **Week 2** | Describe the tasks that you completed. |
| **Week 3** | Describe the tasks that you completed. |
| **Week 4** | Describe the tasks that you completed. |
| **Week 5** | Describe the tasks that you completed. |
| **Week 6** | Describe the tasks that you completed. |
| **Week 7** | Describe the tasks that you completed. |
| **Week 8** | Describe the tasks that you completed. |
| **Week 9** | Describe the tasks that you completed. |
| **Week 10** | Describe the tasks that you completed. |
| **Week 11** | Describe the tasks that you completed. |

# Lessons Learned

**Assignments 2 - 6**

|  |  |
| --- | --- |
| **Week 1** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 2** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 3** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 4** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 5** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 6** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 7** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 8** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 9** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 10** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 11** | Describe what you learned this week. This can be either positive or negative items. |
| **Week 12** | Describe the lessons learned from this project. |

# Data Set Description

**Assignment 2**

*Describe the proposed Data Sets. You must include at least two data sources. If you select a data set from a proposed area you must include a data set from another source.*

*Each dataset should include a description and analysis of the data sets that you will be using.  Within the section you will describe the data sets and justify the use of the data sets for the project.  Include the proposed process to combine the data sets.*

*Provide* ***at least*** *3 paragraphs with 6 sentences each*

### High-Level Data Diagram

**Assignment 2**

*Provide a graphical representation of the relationships between data and data sets.*

*Provide a textual summary for the diagram.*

### Data Definition/Data Profile

**Assignment 2**

*Provide at least 2 paragraphs with 6 sentences each summarizing data.*

*Table describing each variable including definition, data type, potential quality issues.*

# Data Preparation/Cleansing/Transformation

*Describe fully the****data preparation and data cleansing****to be done on the data sets.  For this portion of the project, you should fully examine the features included in your data sets to determine which would be appropriate for the models development (which comes later).*

### Data Preparation

**Assignment 3**

*Describe the process and tools that you will use to prepare the data.*

*Provide at least 3 paragraphs with 6 sentences each.*

### Data Cleansing

**Assignment 3**

*Describe the process and tools that you will use to cleanse the data.*

*Provide at least 3 paragraphs with 6 sentences each.*

### Data Transformation

**Assignment 3**

*Create and describe* ***at least one additional feature*** *to be used in the analysis.*

*Relate why this new feature is important to the project.*

*Provide at least 3 paragraphs with 6 sentences each.*

### Data Analysis

**Assignment 3**

*Describe the tools you are going to use for the analysis (visualizations and predictive models).*

*Provide rationale why these tools are the appropriate ones.*

*Provide at least 4 paragraphs with 6 sentences each.*

# Data Visualization

*Present the results of the* ***data visualizations*** *you have created (create at least three). What insights do they provide?  What did you discover that alters the scope of expected results of the project? What additional ones could be useful?*

### Data Visualization 1

**Assignment 4**

*Show the visualization.*

*Provide at least 3 paragraphs with 6 sentences each describing the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Data Visualization 2

**Assignment 4**

*Show the visualization..*

*Provide at least 3 paragraphs with 6 sentences each describing the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Data Visualization 3

**Assignment 4**

*Show the visualization.*

*Provide at least 3 paragraphs with 6 sentences each describing the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the visualization.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Proposed Visualizations

**Assignment 4**

*Propose* ***at least two additional visualizations****.*

*Provide at least 4 paragraphs with 6 sentences each describing the visualization and why it would be valuable.*

# Predictive Models

*Present the results of at least three predictive models created.  Provide comparisons of the models and appropriate conclusions. What do you recommend for the champion model and why?*

### Predictive Model 1

**Assignment 5**

*Show the Model.*

*Provide at least 3 paragraphs with 6 sentences each describing the model.*

*Provide and describe the appropriate results. Use appropriate tables.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the model.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Predictive Model 2

**Assignment 5**

*Show the Model.*

*Provide at least 3 paragraphs with 6 sentences each describing the model.*

*Provide and describe the appropriate results. Use appropriate tables.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the model.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Predictive Model 3

**Assignment 5**

*Show the Model.*

*Provide at least 3 paragraphs with 6 sentences each describing the model.*

*Provide and describe the appropriate results. Use appropriate tables.*

*Provide at least 2 paragraphs with 6 sentences each describing the insights of the model.*

*Provide at least 2 paragraphs with 6 sentences each describing what you discovered that alters the scope of expected results of the project.*

### Predictive Model Review

*Provide at least 3 paragraphs with 6 sentences comparing and contrasting the models.*

*Provide at least 2 paragraphs with 6 sentences recommending, with supporting rationale, the champion model.*

*.*

# Final Results

### Analysis Justification

**Assignment 6.**

*Provide at least 6 paragraphs with 6 sentences each justifying the analysis performed.*

### Findings

**Assignment 6.**

*Provide at least 6 paragraphs with 6 sentences each*

*Tables welcomed*

### Review of Success

**Assignment 6.**

*Provide at least 6 paragraphs with 6 sentences each evaluating the success of the analysis to meet the project scope, business success factors and key performance indicators defined in Assignments 1 and 2.*

### Recommendations for Future Analysis

**Assignment 6.**

*Provide at least 6 paragraphs with 6 sentences each*

# References

***Please provide at least 5 references for each assignment****.*

*Brady, N., Palmes, P., & Walsh, J. (2015). Using a Big Data Analytics Approach to Unlock the Value of Refrigeration Case Parametric Data. ASHRAE Transactions, 121(2), 1-8.*

*Erwin Jr., R. W. (2015). Data Literacy: Real-World Learning Through Problem-Solving With Data Sets. American Secondary Education, 43(2), 18.*

*Fiaidhi, J. (2014). The Next Step for Learning Analytics. IT Professional, 16(5), 4-8. doi:10.1109/MITP.2014.78*

*IBM. (n.d.). IBM Academic Initiatiavie. https://www-304.ibm.com/ibm/university/academic/pub/page/cloud\_program*

*Reyes, J. (2015). The skinny on big data in education: Learning analytics simplified. Techtrends: Linking Research & Practice to Improve Learning, 59(2), 75-80. doi:10.1007/s11528-015-0842-1*

*Venkatraman, A. (2014). Uni boosts students' job prospects with IBM Academic Skills Cloud. Computer Weekly, 8.*