Group Project

Part 1 Cost Benefit Analysis (10 points)

Contoso, a IoT sensor manufacturer has decided to increase their product offerings by offering an analytics platform for their sensors. Customers would have the option to store, manipulate and make predictions based on the data coming in from their sensor data. Contoso needs to decide how to implement their solution.

***Scenario A: Onsite***

– Will be implemented on site at the Contoso head office. Will require the purchasing of $150,000 of hardware in order to operate properly.

– The software has a yearly license cost of $50,000 with no user limits

– The vendor will be on site at Contoso HQ to install and configure the platform for 8 weeks for $30,000

– Contoso has also decided to bring in the vendor’s organizational change consultant for the same 8 week duration as the install to help ensure people are embracing the change the platform is bringing. This costs $20,000

– The vendor has also suggested that other customers budget $10,000 a year for miscellaneous maintenance

– It is expected that with vendor’s product there would be a decrease in the number of IT/Support staff needed. This is expected to be a savings of $150,000 a year

– It is expected that with the vendor’s product it will greatly improve demand forecasting. This should reduce carrying costs significantly. This is expected to be a savings of $1,000,000/year

– Through overall efficiencies and improvements effectively utilizing the vendor’s product Contoso is expected to expand revenue by $3,000,000/year

***Scenario B: Cloud***

– Implementation will take place in the cloud and is offered as Software as a service. So there is no explicit hardware costs however there is a licensing fee of $200/user/month to access the service.

– Contoso is expected to need an average of 100 people licensed for the cloud solution for customer support

– In order to improve response time of the solution Contoso would have to upgrade its internet connection which would cost $1200/month.

– It is expected that with the cloud solution Contoso will be able to use less data centre space. This is expected to be a savings of $1,500,000/year.

– It is expected that with the cloud solution Contoso will be able to use 3 fewer IT administrators. This is expected to be a savings of $250,000/year.

– Through overall efficiencies and improvements effectively utilizing the cloud solution Contoso is expected to expand revenue by $2,750,000/year

## Cost Benefit Analysis

Assumptions

* In order to simplify the cost benefit analysis, we will not make a net present value calculation for each cost and income.
* Please report all calculations in yearly terms
* Please calculate the cost benefit over a 3,5 and 7 years term

**Required Submission**

One Microsoft document file include following information:

* Please create a table that lays out the project cost and benefits (3 points)
* Please create a table that shows the cost over 3,5 and 7years (2 points)
* Please create a table that shows the benefit over 3,5 and 7years (2 points)
* Please create a table that compares the costs and benefits over 3,5 and 7years (2 points)
* Which option(Scenario A or B) should Contoso go with for 3,5 and 7years term? (1 point)

Part 2 Social media data analytics (20 points)

You are going to utilize any social media API to download data and perform social media data analysis. Your work must not be plagiarized.

**Part 1: Get the Data (5 points)**

Create a python code which download the social media data for selected search word in csv file

**Part 2: Analyse the Data (15 points)**

Now that the data is available in csv file

Please perform below data analysis on your social media data

# Social Media Data Analysis

# Data Visualization

1. Sentimental analysis

**Required Submission**

1. Jupyter Notebook file contain both step (including summary of any interesting findings you have discovered for part 2)
2. data in csv file