TBA2102: Introduction to Business Analytics
AY 2020/21 Semester 2
Tutorial 1 Assignment: Overview to Business Analytics/Implementation & Value Generation
Tutorial session: Tue, 26 Jan 2021, 830pm

Instructions:

- Prepare the answers for Question 1 for discussion during Tutorial 1 in week 3.
- Yo will discuss the answers to question 2 during tutorial 2 in week 4.

Question 1:

Amazon Go is touted to be "the world's most advanced shopping technology. No lines, no checkout – just grab and go!"

(a) Comparing Amazon Go to traditional brick-and-mortar supermarket shopping (such as at Fairprice, Seng Siong), what are some data that can be collected about the customers that cannot be done before?

(b) Based on the data that can be collected (such as those you have mentioned in (a)), what are some metrics Amazon Go can collect to understand shoppers' shopping behavior? Provide 3 metrics in the table below. For each metric, describe the data that needs to be collected to compute the metric. An example is given in the table.

Metric	**Measurement**
Eg: Time spent in store	Capture the time stamp when customers scan their phone with the Amazon Go app when they enter the store and the time stamp when they leave the store. Use the difference between the two time stamps to get the time spent in store.
1.	
2.	
3.	

(c) Through the data that Amazon Go collects about its shoppers, briefly explain what are the different analytics (descriptive, predictive and prescriptive) that could be performed with such data. For each type of analytics, what are the decision(s) that can be made to improve customers' shopping experience.

(d) What are some challenges that Amazon Go might face in conducting these analytics?

Question 2:

"A new study by the Scripps Research Translational Institute suggests Fitbits could be used to detect the flu. By tracking resting heart rate and activity levels, researchers said Fitbits could improve detection of outbreaks at the state level." More details about the study can be found in the news links below.

https://medcitynews.com/2020/01/scripps-study-can-your-fitbit-track-the-flu/
https://www.fiercebiotech.com/medtech/fitbit-for-flu-researchers-show-fitness-wearables-can-help-track-outbreaks
https://www.health.com/condition/cold-flu-sinus/fitbit-flu-outbreaks

(Note: Those who are interested in knowing more about the study may read the original paper published in LANCET but you are not expected to read and understand the methodology and data analyses portions of the original research paper in answering this question)

a) Based on the news articles, what was the data the researchers with the Scripps Research Translational Institute collected in their study? How is this data different from the raw data that Fitbit collects from its device wearers? What type of analytics did they perform with the data? [4 marks]

b) How does the approach taken by this research team add value to current methods of flu outbreak detection and response? [3 marks]

c) What are the limitations of their approach and what challenges might they face in implementing their approach of flu outbreak detection and prediction? [3 marks – 1 mark per limitation or challenge]

Please note that your answers should not be in point form and one or two worded answers.
Do elaborate and explain your answers, referencing facts stated in the articles where appropriate. If you wish, you may also make reference to facts outside of the news articles provided (e.g. other research or market reports) to support your answers.