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Udacity Project 2 NYSE

Business Analytics NanoDegree

**Task 1:**  
a. Identify the question about the data that you will answer based on your data analysis. Your **question should include at least one categorical variable (GICS Sector or GICS Sub Industry) and one quantitative variable (one of the financial metrics) and require the use of at least one of the summary statistics**. A tab within the Excel spreadsheet that you submit should include the summary statistics [measures of central tendency (e.g., mean, median) and measures of spread (standard deviation and range)] you used to answer your question

How is the Gross Profit for IT Industry and its Sub Sectors in Year 4 compared to HealthCare Industry in Year 4?

From the data, we can see that the gross profit in Year 4 in Healthcare is $442B and Technology is higher $449B. It is very obvious that both industries are slightly close in Gross Profit for Year 4

However, when we break it down by Sub Sectors, we are able see how the Gross Profit for Year 4 has performed. The *“Gross Profit in Sub Sectors For Healthcare” bar graph, show the total Gross profit by sub sectors for Healthcare industry. We can see that the highest two Sub Sector are “Managed Health Care” estimated Gross Profit of $115B and the second is “Pharmaceutical” is $100B.*

*Also, 3 of the sub sectors in Health care are below $20B. On the Other Hand, Sub Sectors in Technology are very competitive since there 15 sectors. From the graph “Gross Profit Sub Sector for Technology”, the highest Gross Profit is Computer Hardware Sector with $93B, yet its less than Healthcare highest sector. 9 Sectors of Technology are lower than $20B Gross Profit compared to HealthCare.*

*The mean Gross Profit of Sub Sectors for Healthcare industry in Year 4 is $49B and the Technology is less with $28.6B. The median of Sub Sectors in HealthCare is $42B while Technology is $8.9B. Also, the standard deviation of Gross Profit healthcare is $42B, and Technology Sub Sectors is $31.9B.*

*To conclude, we see that Technology sub sectors is higher in total of Gross Profit than healthare. However, we notice that the mean of healthcare sub sectors are higher that’s because Technology has a lot of sectors and Gross profit distribution effected the total to make less.*

The Healthcare industry is slightly increasing from 2012 $345B to 2016 $443B. And the IT industry is increasing from Year 1 $345B to 3 $399B then decreased in Year 4 $443B.

Also, we noticed the average of Gross Profit of All 4 years in Healthcare is $386B and Technology higher $444B which shows that Technology has better performance in all years combined.

Moreover, the median of Gross Profit in Healthcare is $378B where Technology has higher median of $440B which means that technology industry is has stable of its profit gross despite the decrease in year 4.

From data shown we see that Healthcare Gross Profit standard deviation is $44B, yet Technology industry is $16B, we can conclude that the variability of healthcare companies have higher revenues and higher spending’s in COGS of all the 4 years.