What-Why-How Analysis of Amazon, Apple and Biogen Idec. Stocks from 2010 to 2013
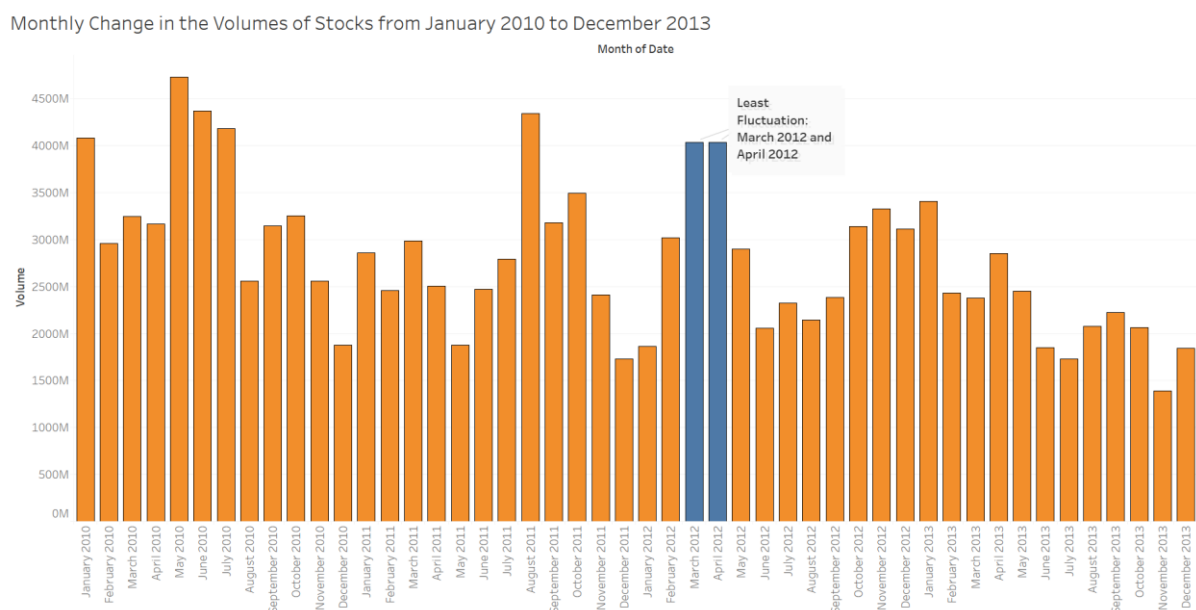
The bar graph below shows the monthly change in the volumes of stocks from 2010 to 2013.

The what-why-how analysis of the chart below is as follows:

What data the user sees: From the chart below, the user immediately sees two bars of March 2012 and April 2012 because of their different colors. This is done to highlight the least fluctuation in the volume of the stocks.

Why bar chart is used: Since we want the monthly change in the volumes of stocks, bar chart is a good option for visualisation. Because month is a discrete attribute and we need to visualise just 2 characteristics (month and volume), bar chart is easier to understand the analysis.

How the visualisation is done: This visualisation is done in Tableau in the form of a **bar chart** by using Date and Volume. I changed the date settings so that monthly changes are seen. From the bar graph, it is immediately seen that the **least fluctuation is observed in March and April 2012**. But to better highlight the answer, I made a set of the corresponding 2 bars and gave them a different colour so that they stand out. I have also annotated the bars for better understanding.

Monthly Change in the Volumes of Stocks from January 2010 to December 2013

The what-why-how analysis of the chart below is as follows:

What data the user sees: There are two tables as seen below. The first table shows the Volume of Stocks from 2010 to 2013 according to year and quarter. The other table shows the main table which gives the required answer. The second table is a highlight table which shows the percentage difference in the volumes of stocks arranged according to year and quarter.

Why the highlight table is used: Since, we want to visualise the percentage difference in the volume of stocks, highlight table better highlights the subtle differences in the volume using a colour palette. So, even if the difference is very minute, the highlight table visualises it efficiently.

How this visualisation is done: For this visualisation, tableau is used. I use a **highlight table** here. I changed the settings of the date to year and quarter and used the company name to see the volumes. For seeing the percentage difference, I used **edit table calculation** option and selected **percentage difference of each pane**. This way, it became easier to immediately get the required percentage differences. From the highlight table, it is seen that the shades of blue colour are used to see the positive percentage difference. So, we see that **the company Biogen Idec observed a positive percentage difference in the volume of stocks for a total of 5 quarters.**

Volume of Stocks by Company and Year and Quarter

Year of..	Quarte..	Amazon	Apple	Biogen Idec
2010	Q1	59,92,59,087	9,52,57,18,538	16,33,26,374
	Q2	43,88,80,908	11,62,54,28,360	20,02,92,668
	Q3	42,32,53,815	9,27,84,93,119	19,01,56,070
	Q4	36,79,29,292	7,18,31,37,346	13,36,50,809
2011	Q1	32,85,38,926	7,86,04,84,814	11,33,29,447
	Q2	31,87,62,419	6,35,83,25,057	17,32,99,500
	Q3	39,54,59,597	9,78,52,49,544	12,68,61,806
	Q4	42,15,34,988	7,10,47,08,093	11,43,35,619
2012	Q1	37,02,09,716	8,45,41,28,130	9,12,48,073
	Q2	26,91,35,190	8,64,08,92,029	7,86,56,528
	Q3	20,11,65,164	6,59,66,63,815	5,90,32,676
	Q4	20,97,23,461	9,30,23,92,372	6,59,11,604
2013	Q1	21,14,75,340	7,91,13,78,167	9,19,63,563
	Q2	19,46,02,367	6,85,66,87,985	9,78,47,947
	Q3	15,49,51,148	5,80,78,50,762	7,29,33,901
	Q4	18,73,49,596	5,03,04,81,085	7,75,45,708

Percentage Difference in Volumes of Stock of Companies by Year and Quarter

Year of..	Quarte..	Amazon	Apple	Biogen ..
2010	Q1			
	Q2	-26.76%	22.04%	22.63%
	Q3	-3.56%	-20.19%	-5.06%
	Q4	-13.07%	-22.58%	-29.72%
2011	Q1			
	Q2	-2.98%	-19.11%	52.92%
	Q3	24.06%	53.90%	-26.80%
	Q4	6.59%	-27.39%	-9.87%
2012	Q1			
	Q2	-27.30%	2.21%	-13.80%
	Q3	-25.25%	-23.66%	-24.95%
	Q4	4.25%	41.02%	11.65%
2013	Q1			
	Q2	-7.98%	-13.33%	6.40%
	Q3	-20.38%	-15.30%	-25.46%
	Q4	20.91%	-13.38%	6.32%

% Difference in ..

-29.72% 53.90%

Biogen Idec showed positive per-centage difference in volumes of stocks for 5 quarters.