

Data analysis report for GameCo executives:

The current understanding of GameCo's executives is that sales for the various geographic regions have stayed the same over time, and they've asked the data analyst to look into the data to see if this is still true.

Primary Analysis:

To analyse this request, it is important to gather the data available, observe the data, clean the data, group, and summarize the data for critical analysis. To analyse whether sales for the geographic regions (North America, Europe, Japan, and other regions) have stayed the same over time from 1980 to 2016, a time series analysis on the sales data (as-it-is) should first be performed. This time series analysis should act as a first stage statistical method to use to examine patterns and trends in data over time.

In the figure below, using the clustered chart bar to illustrate the current regional sales data from 1980 to 2016, we can clearly see a representative analysis of the video game sales data as-it-is.

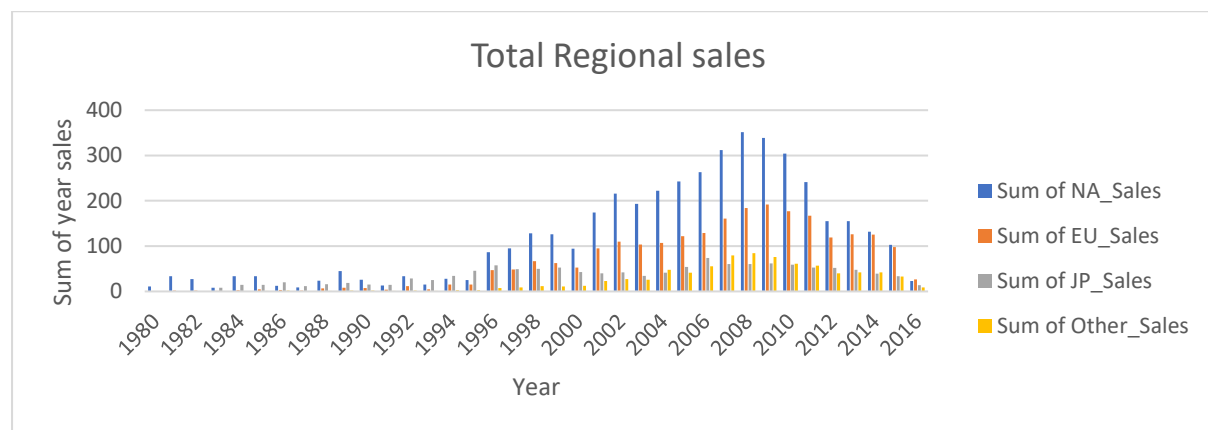


Figure 1

Looking at the visualization of the time series sales, an obvious trend can already be spotted which is the fact that regional sales have in fact did not stay the same over time. The fluctuations and inconsistencies have helped to uncover a valid insight into the regional sales of video games. And most importantly, it has helped to debunk the expectations of assumptions presumed by GameCo's executive that various geographic regional sales have stayed the same over time.

Note: To group and summarize the data that made this insight apparent, using a pivot table, the years were added on the row field and regional sales were added on the values. To make the visualization, a clustered column chart was used. It is important to use sum for this visualization because of the current assumption of the hypothesis. The total value must be a clear representation of the underlying understanding. However, in the subsequent paragraph percentages /averages will be used to uncover specific insight.

In figure 1, visualization of the current hypotheses was made which led to uncover insights that would otherwise not able to spot. In the next figure, a demonstration of visualization using line charts will be used to visualize the sales trends for each region over time. This plotting of the data will help to identify any noticeable patterns, fluctuations, or changes in the sales over the years.

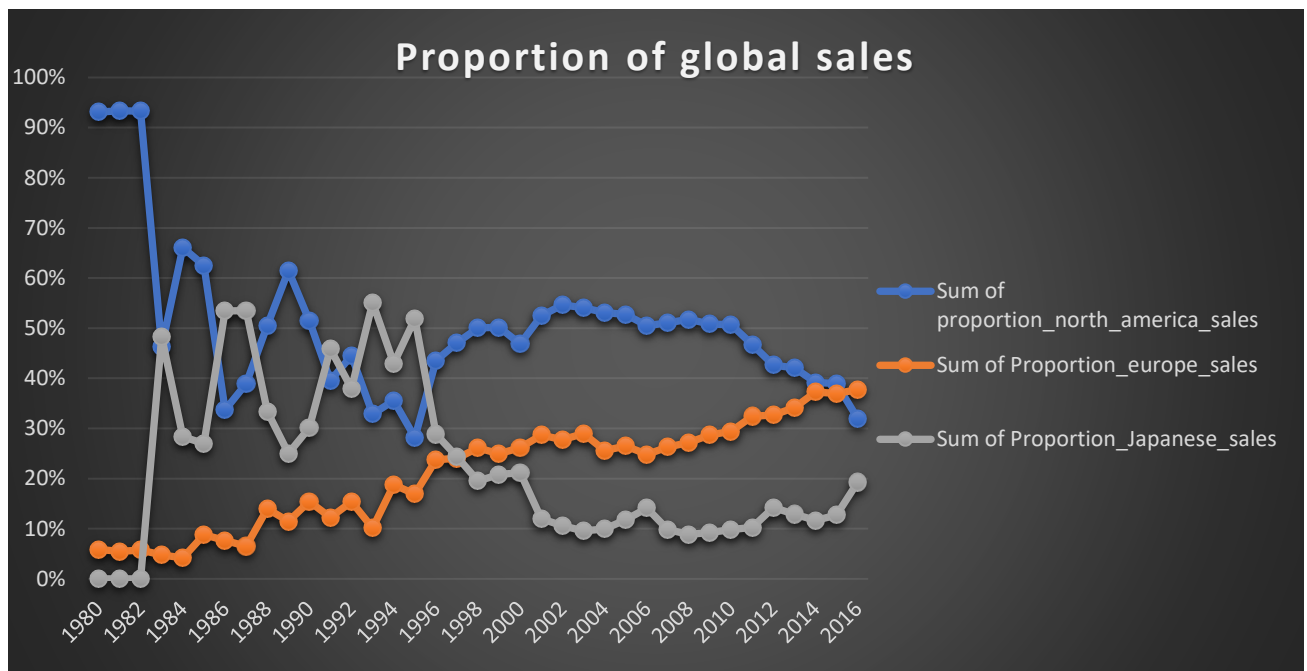


Figure 2

The visualization presented demonstrates a clear fluctuation of regional sales over time, therefore debunking the understanding of GameCo's executive's hypothesis. The information has shown an evident of patterns and trends. One can look at this and uncover a new insight; it shows that North America even with the fluctuating patterns have been leading the market and stayed consistently on the top market over time. Europe sales have constantly changed over time with related stability (on the rise). Japan while having a successful trend in the 80s and 90s have showed relative decline over time. This new insight has given the analyst more deeper understanding of the analysis and will further investigate more to gather insights why the fluctuation from the visualization therefore is the only constant trends.

Note: In this visualization, the percentages are included in the charts to better illustrate the proportion of regional sales in the global sales. This data was summarised by looking at the percentages of sales by region in comparison to global sales overall. To summarize the data, the total regional sales each year divided by the total global sales. In figure 2, the exclusion of 'other sales' were a choice based exclusively, because of lack of substantial value in evaluating total sales.

Step 4 Explanation:

The visualization used in the presentation embodies a clear representation of data as-it-is. The current understanding of GameCo's understanding allowed for data to be illustrated in such a way that followed trend, pattern, and fluctuations to agree with the statement or debunk the expectation. Thus, it was necessary to present a reality of the current sales trend of regional market. The summary visualisation of regional sales was used to illustrate and calculate the sales of each region from the 1980 to 2016. It was then visualized in a Line chart showing the sales trend and fluctuation of each region from each year.

The proportion of sales of each region were also demonstrated with a line chart to also determine the value percentage of each regional sales in comparison to global market. Here there is a clear distinction because the values are based on the percentage of what sales they contribute in comparison to the overall global sales.

Understanding variation of sales is one analysis and understanding why the variation exists is another analysis. The regional sales varied across each other, and we had to investigate why this varies exist. Upon investigation by categorizing regional sales of genre we found out that dynamic change in genre preference contributed a lot to variation in the regional sales. That was a new discovery of insight.

Looking at the data from the visualization we can already see why the regional sales remain constantly changing. Because of the genre preference, some regions tend to have a high market sale than other regions. for example, The North America has the highest genre preference therefore also having the highest market sales among its competitors.

We also compared regional sales data from 2008 to 2016 to match preference. Even with the general video game sales decline that started in 2008, North America is still the leading regional sales, except for 2016 which was Europe. Relative stability has existed in Europe and Japan; however, it is not enough to compare with the North America sales.

The visualization (used in the presentation) analysed and already existing understanding, which assumed that sales for the various geographic regions have stayed the same over time. By presenting this visualization, we can show data as-it-is, why data exists in such variation, therefore eliminating the incorrect assumption of GameCo's executives. We hoped that by presenting the data in such visualization, we invite GameCo into data driven world, therefore enabling them to have more understanding and confidence in making data driven decisions.