# GAMECO.'S STRATEGY FOR THE MARKETING BUDGET FOR 2017

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CURRENT ASSUMPTION

- GameCo assumes that sales in the various geographic regions have remained constant over time.

- Let's go deeper into the dataset to see if the assumption is correct.

- The expectation that sales would stay consistent across all regions even in 2017 appears to be based on sales statistics from the previous few years.

- We can readily see why such an assumption was made by looking at the clustered column chart. The data shows that sales in the three major market regions, namely North America, Europe, and Japan, were very similar between 2013 and 2015. (Because we are in October 2016, we do not have complete sales data for the current year.)

- We cannot confine our study to such a narrow range of sales data because it may result in false data insights.

- Let's delve into a broader range of previous sales data to draw relevant data insights and make decisions.


Sales By Market (2013-2016)
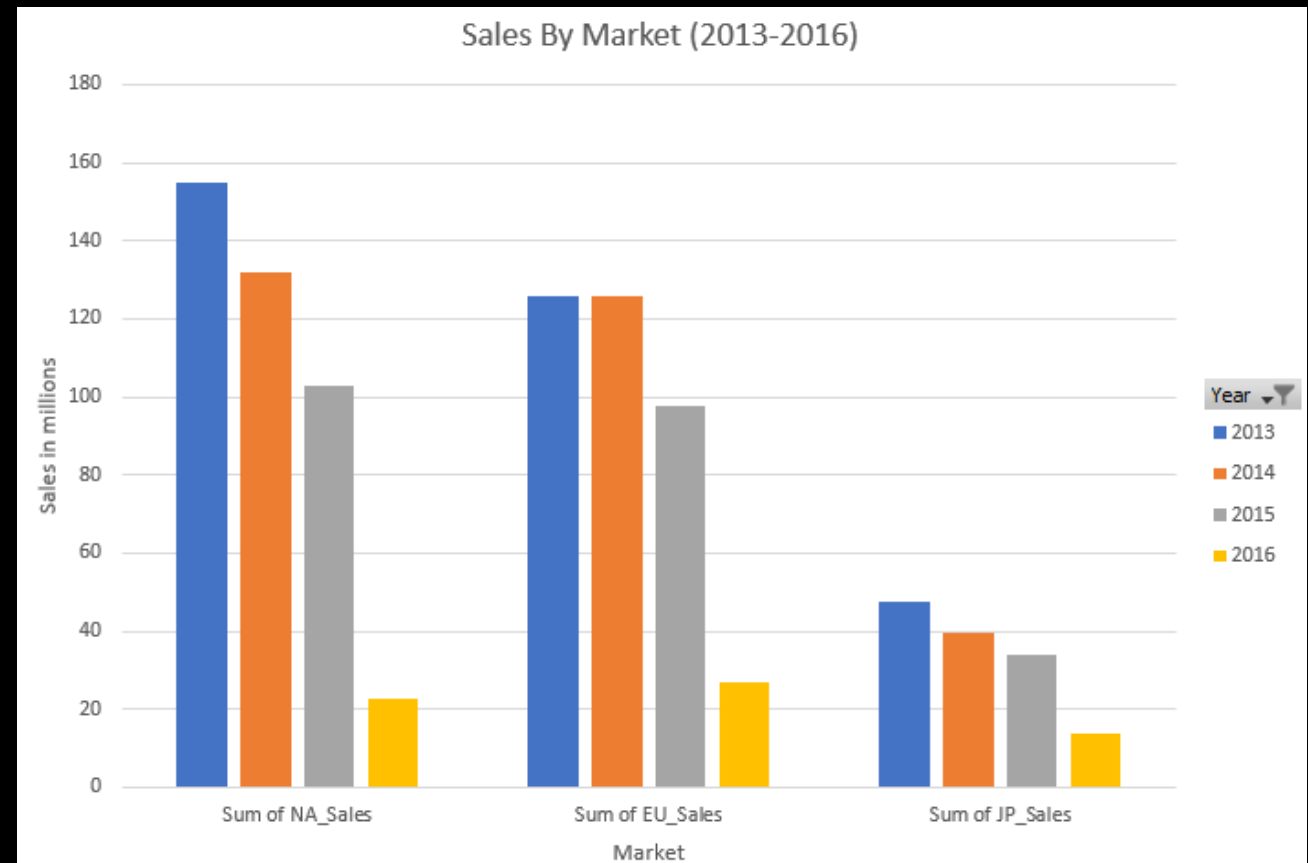
- The graph shows that the data refutes GameCo's anticipation that the volume of sales in different locations would be constant over time.

- The column chart indicates that historically, sales have never remained constant throughout all three regions.

- Sales in North America began to rise in 1997 and then began to dip again after 2008. We can see a similar pattern in Japan and Europe.
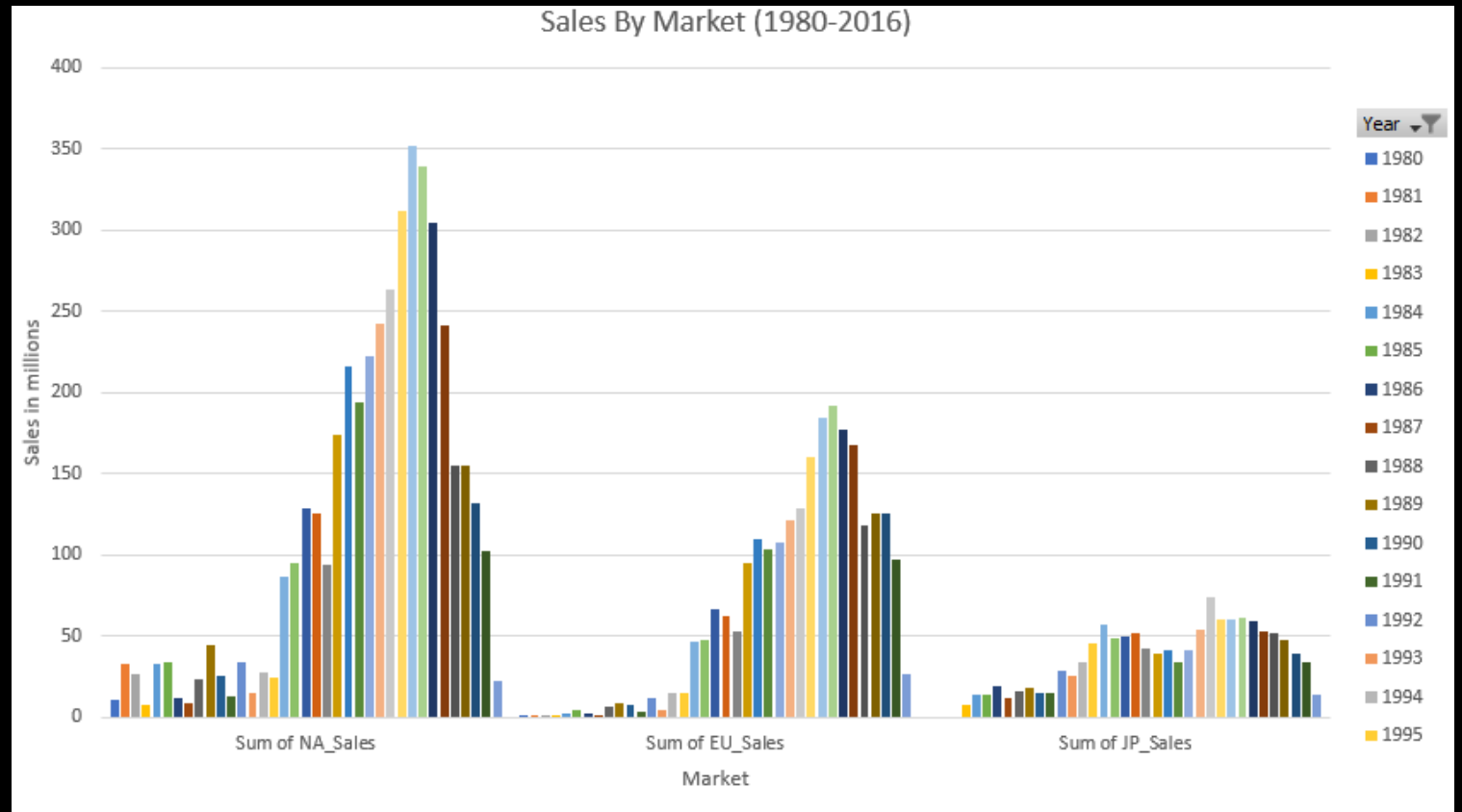
- North America provided the most to global sales between 1980 and 1996, followed by Japan.

- The North American sales fraction fell from 93% to 28% in 1995 before recovering to 44% in 1996.

- Sales in Japan increased from 6% to 55% before declining to 29% while sales in Europe increased from 1988 to 1996, reaching 24% by 1996.

- The years 1983, 1986, 1987, and 1995 are exceptions to the above pattern, as Japan had the highest global sales.

Proportion of Global Sales by region: 1980-1996
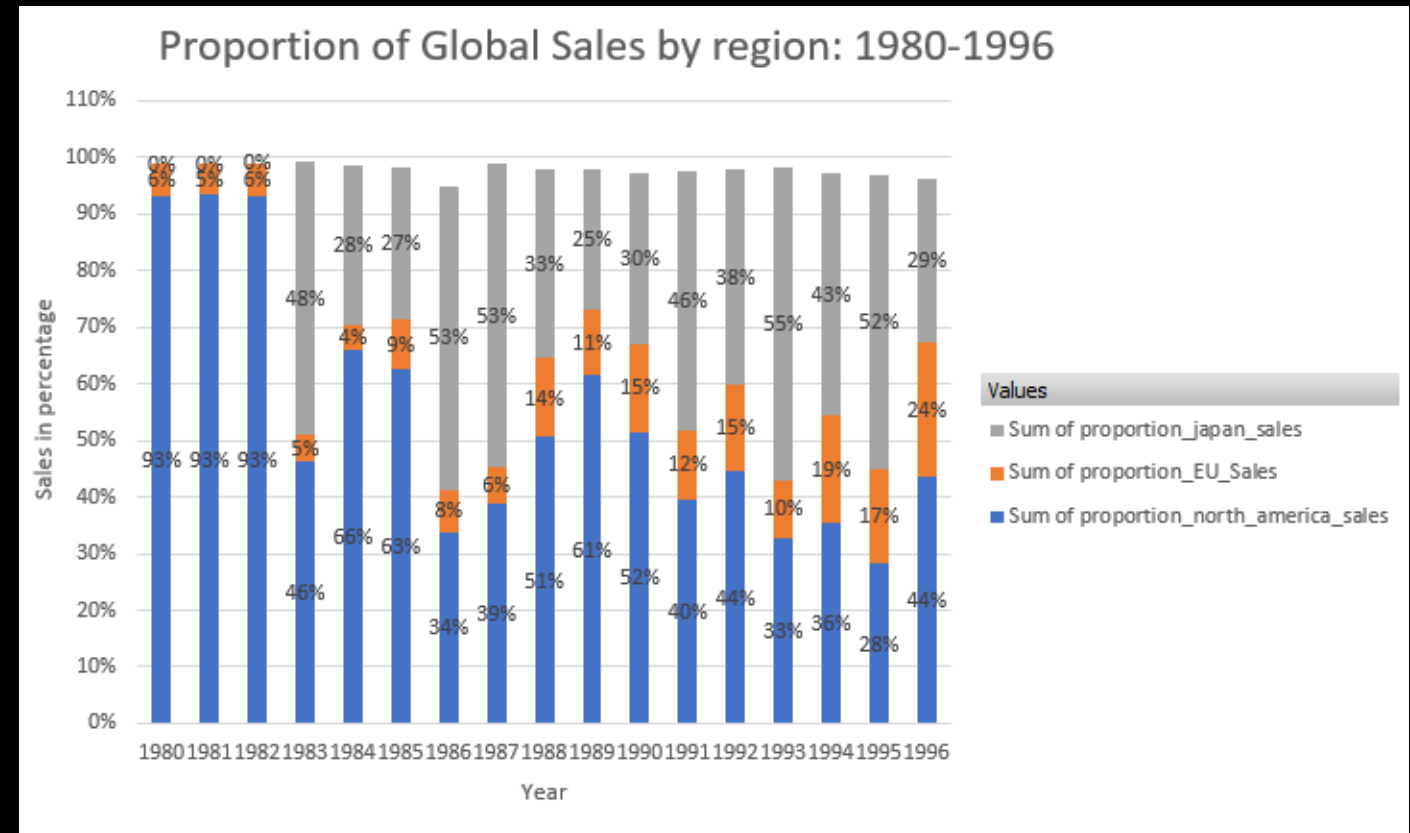
- Between 1997 and 2007, we can see that North America continued to dominate global sales, consistently contributing nearly 50% of global sales.

- During this time, the European market surpassed Japan's sales to become the second largest market.

- GameCo's premise appears to be correct for this time period, as the proportion of sales in each region stayed constant.

Proportion of Global Sales by region: 1997-2007
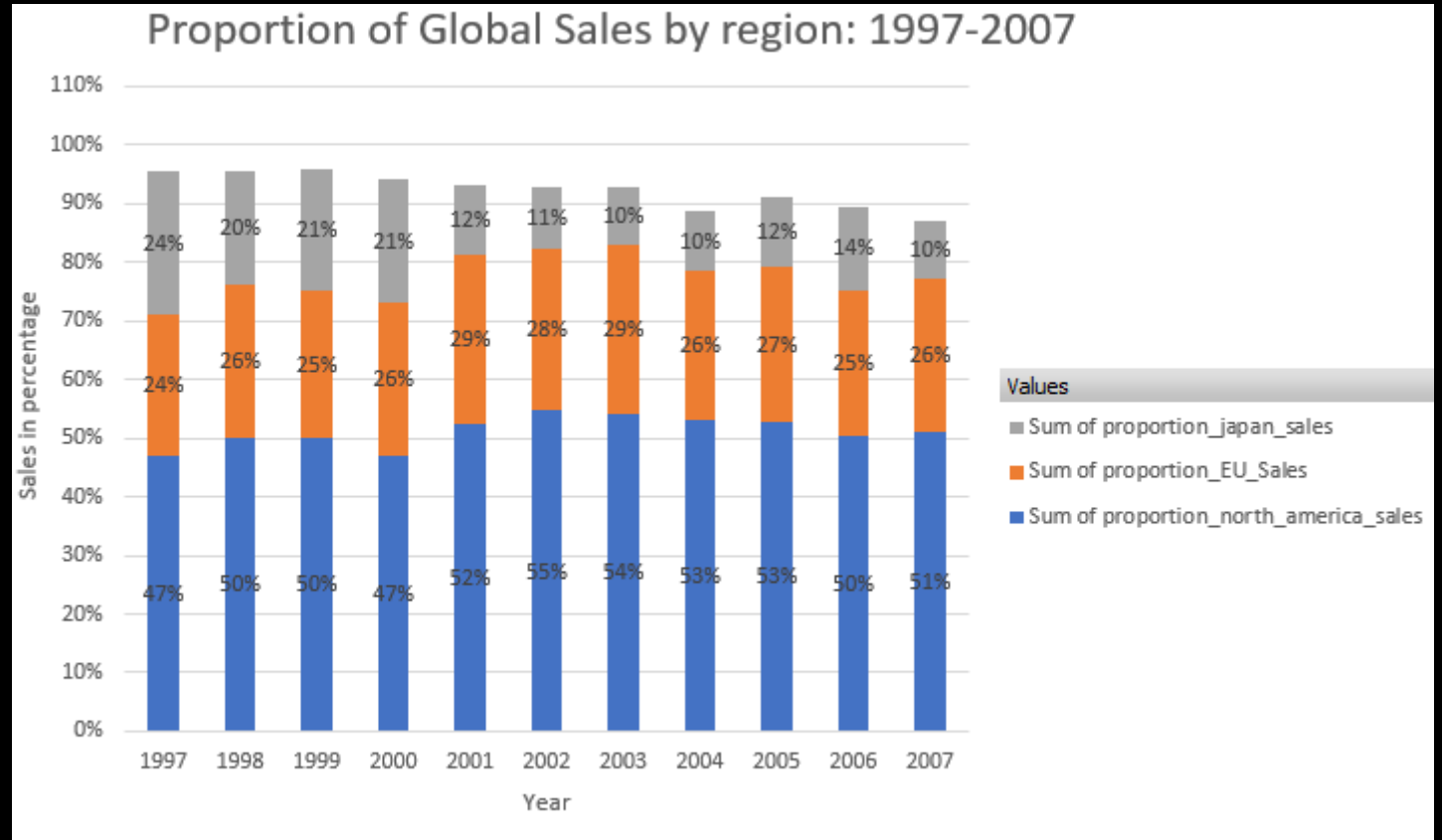
- From 2008 through 2016, we had strong increase in European sales, which surpassed North American sales in 2016.

- We don't have all of the data for 2016, so it's likely that North America may still be the winner at the end of 2016, but by a smaller margin than in previous years. Since 2010, the proportion of sales in North America has decreased significantly. It used to account for more than half of global sales but has fallen to 32% by 2016.

- Because of European growth, Japan's sales proportion remained low throughout this era.
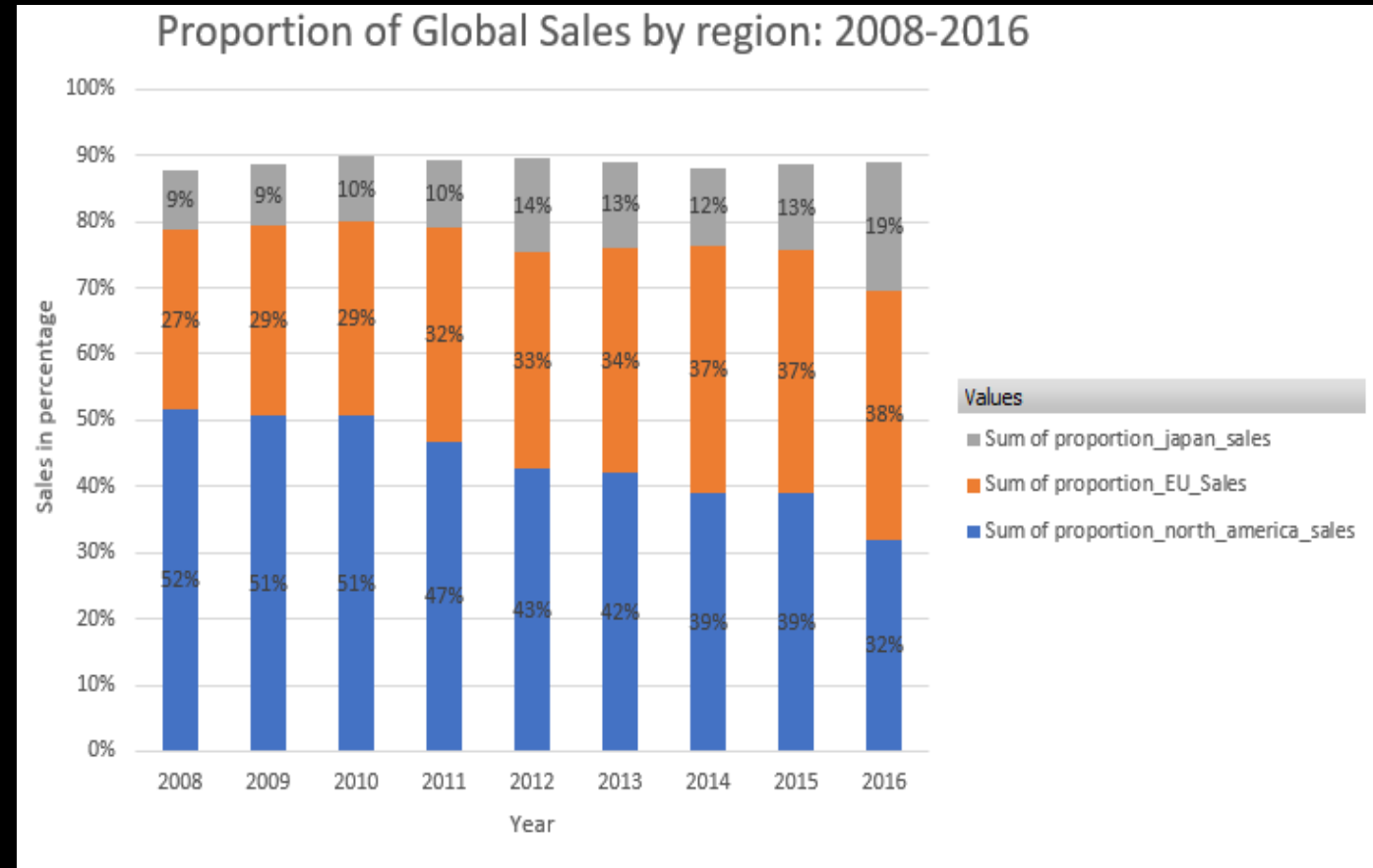
GENRE POPULARITY TRENDS ANALYSIS
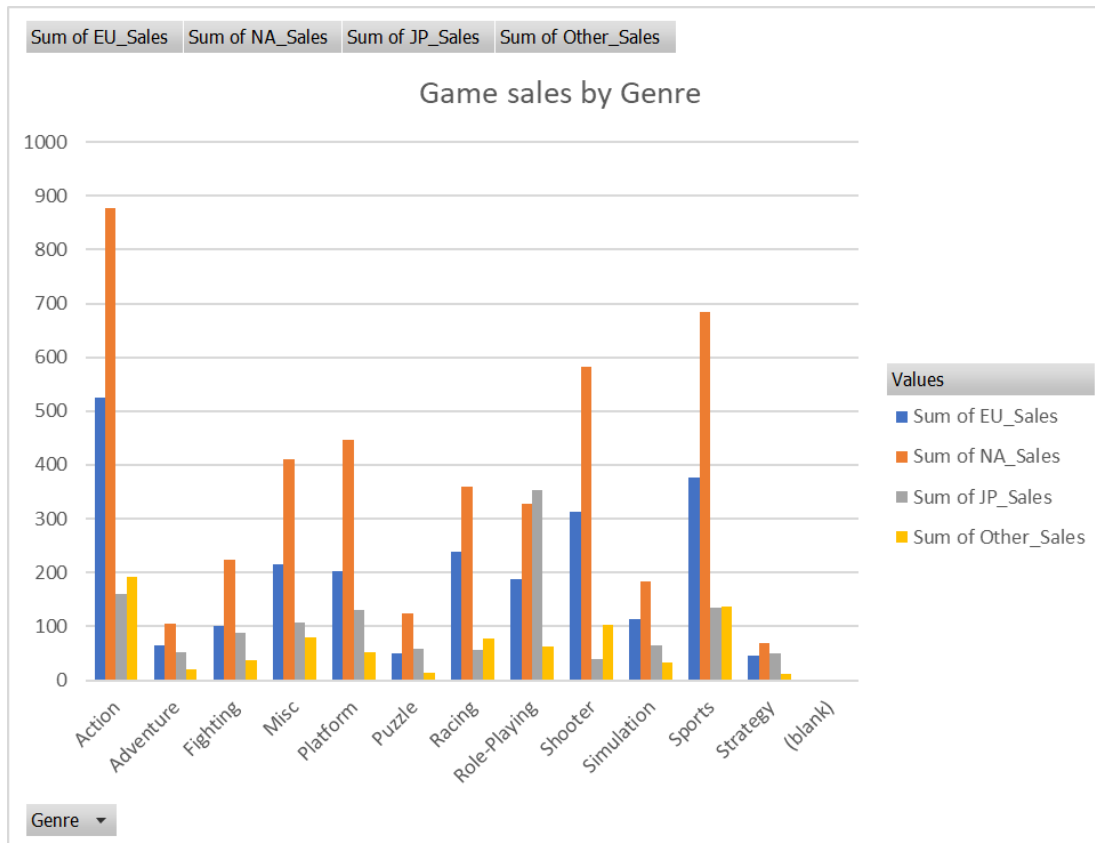
- A comprehensive examination of the bar graph reveals prominent trends in video game genres, emphasizing distinct preferences across regions. In both North America and Europe, the action and sports genres stand out as unequivocal frontrunners in terms of popularity and sales.

- These genres consistently dominate the market, reflecting a substantial player base and a strong affinity for dynamic and competitive gaming experiences. The robust sales figures associated with action and sports genres underscore their widespread appeal, indicating a lucrative market opportunity for game developers and publishers in these regions.
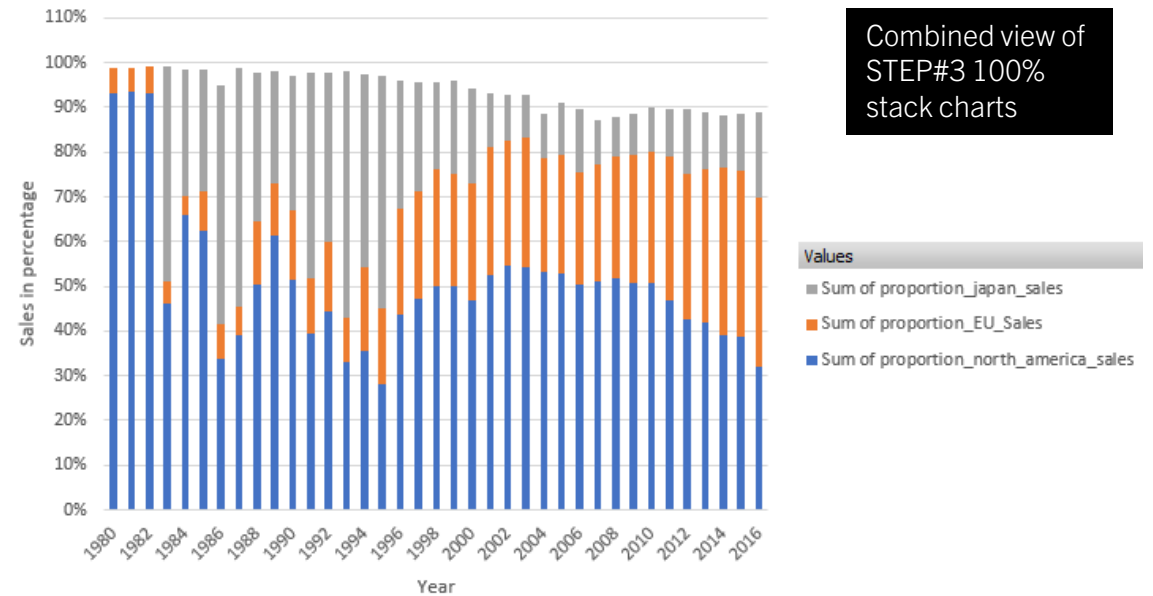
OBSERVATION

- We just noticed how the sales values change in the last three graphs for Proportion of Global Sales by Region for various time series.

- All the visualizations presented thus far show that sales data has never been constant across time. There have been a few periods where sales appear to have been consistent throughout all locations, but most of the time there have been significant differences in sales.

- If we look at current trends, the European market has been the highest performing market, and we should look at a few more data visualizations to investigate it deeper and make the best marketing selections for 2017.
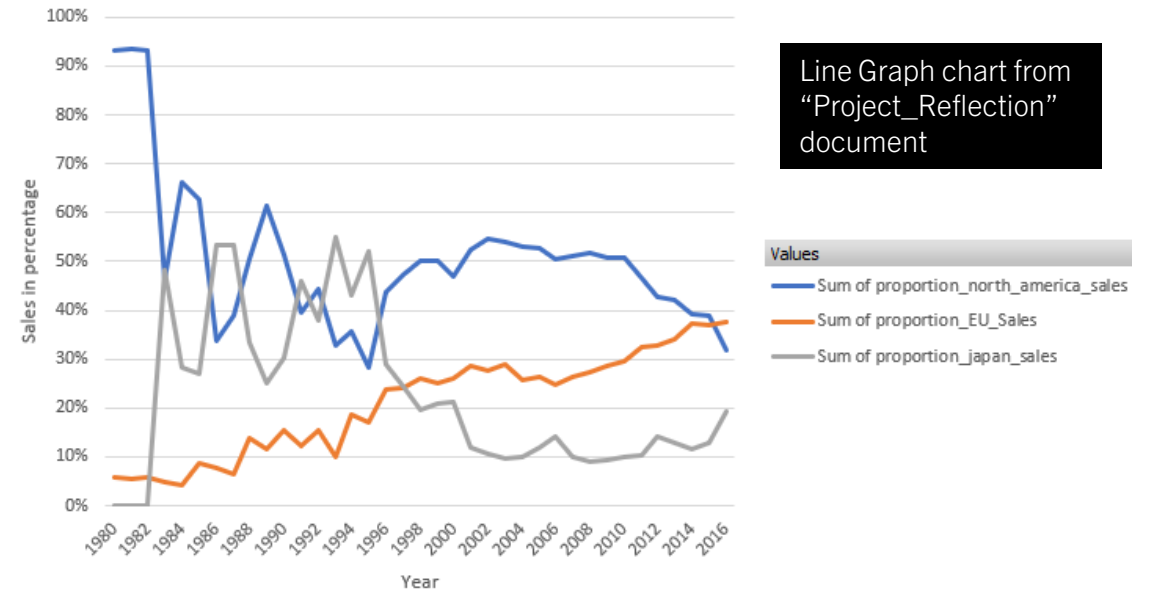
STEP 4

- In my previous document, "Project_Reflection," I utilized a line graph to examine sales data from various locations. I chose a line chart graph for my study since it allowed me to display sales trends over time for different locations. For example, we might simply deduce that North America's total sales proportion had been leading most of the time. However, Europe only just surpassed North American sales in 2016.

- STEP 3: I utilized 100% stack charts (with data levels) for several time periods to illustrate the proportion of sales in different locations.

- Both charts convey the same idea, however one advantage of a 100% stack chart over a line chart is that it provides for a better comparison of proportions of sales over time.

- The total height of each segment in a 100% stack chart represents 100% of the data for that time period, providing for an easy comparison of the proportion of sales within that total. A line chart, on the other hand, only depicts changes in absolute values over time, which may not indicate relative changes in proportion as clearly. Furthermore, a 100% stack chart can highlight any changes in the distribution of the categories over time that a line chart may miss.

Proportion of Global Sales by region: 1980-2016

Combined view of STEP#3 100% stack charts

Proportion of Global Sales by region: 1980-2016

Line Graph chart from "Project_Reflection" document

SUMMARY STATISTICS

Row Labels	Sum of NA_Sales	Sum of EU_Sales	Sum of JP_Sales
2006	263.12	129.24	73.73
2007	312.05	160.65	60.33
2008	351.44	184.7	60.38
2009	338.85	191.74	61.93
2010	304.24	176.88	59.53
2011	241.06	167.44	53.04
2012	154.96	118.78	51.74
2013	154.77	125.95	47.63
2014	131.97	125.65	39.46
2015	102.82	97.71	33.72
2016	22.66	26.76	13.7
Grand Total	**2377.94**	**1505.5**	**555.19**
Q3	312.05	176.88	60.38
Q1	131.97	118.78	39.46
IQR	180.08	58.1	20.92
Mean	216.1763636	136.8636364	50.47181818

Total sales by regions

Box and whisker chart for range analysis
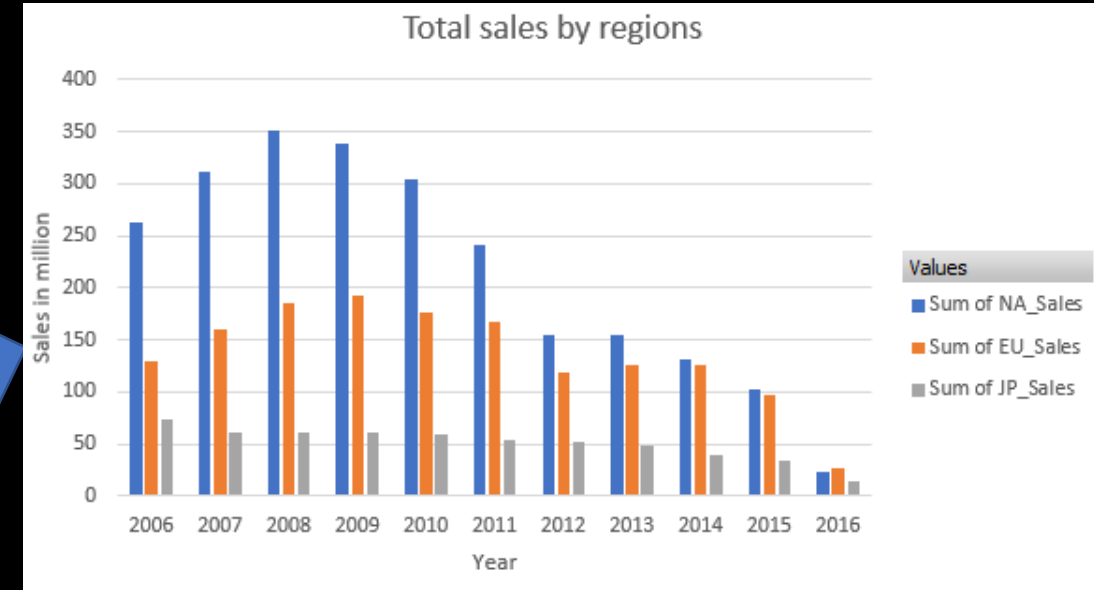
- I used the last ten years of data (2006-2016) to analyze our summary stats variables rather than the entire dataset because we have made significant progress in terms of video game technology, platforms, and changes in gamer demography.
- We may deduce from IQR, mean, and median analysis that North America has the highest median sales of video games when compared to Europe and Japan, indicating that it has been the largest market for video games over the years. NA sales likewise have a somewhat high IQR, indicating that the distribution is considerably skewed to the right (sales are declining). The IQRs and medians in Europe and Japan are quite tiny, indicating that they have smaller sales but more consistent sales data.
- All the above insights strongly refutes our assumption that sales have been consistent across areas.
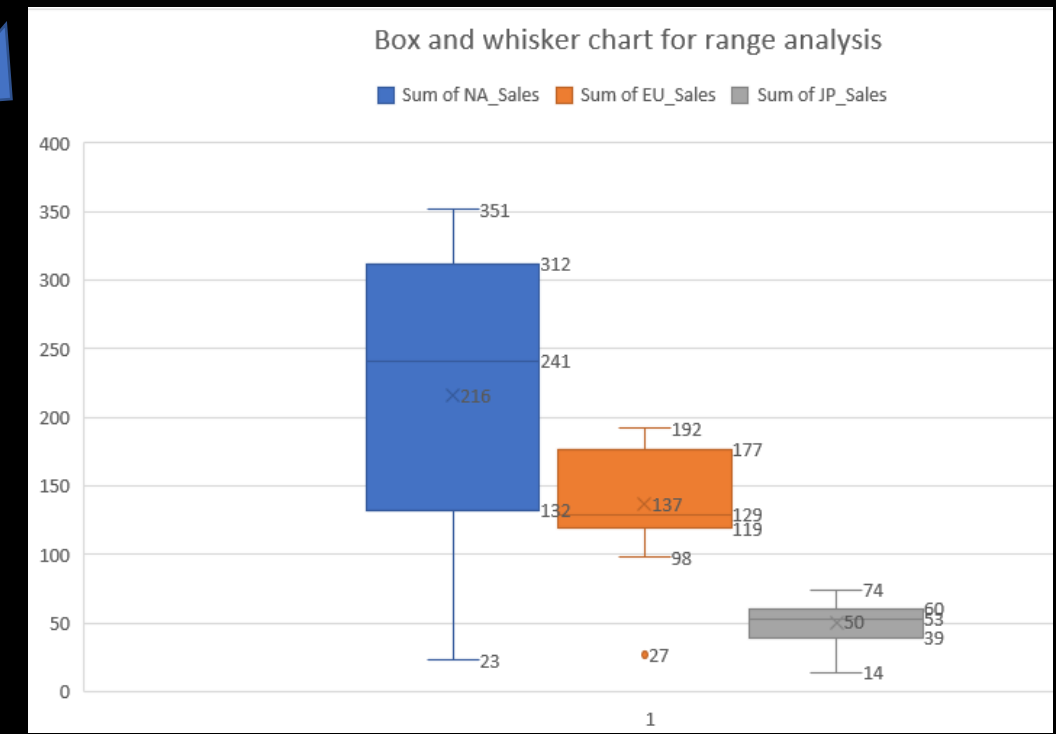
CONCLUSION & RECOMMENDATIONS

- Overall, the data indicates that North America is the largest video game market, but sales data is highly variable, whereas Europe and Japan have smaller sales but more constant sales data.

- We can plainly conclude from the various data visualizations and analyses that sales have been constantly altering across different locations. The trend has moved in favor of the European market, which has obviously outpaced North America in terms of growth. Japan's sales have been steadily expanding in recent years, although it contributes less to worldwide sales because it is a smaller market (both geographically and in terms of population) than North America and Europe.

- Following 2008, the trend in regional sales and their proportion of global sales shows a shift away from North America and toward Europe and Japan. This implies that sales in North America have decreased, but sales in Europe and Japan have increased during this time period, with Europe holding most of the market share. Increased sales in Europe and Japan could be attributed to a variety of factors, including changes in consumer preferences, economic situations, or marketing initiatives aimed at those markets. Overall, this tendency emphasizes the significance of understanding regional sales trends in order to make sound business decisions.

- Recommendation:

- Prioritize the development of action and sports genres, tailoring games to regional preferences in North America and Europe.

- Based on the sales trend analysis performed thus far, it would be prudent to allocate more marketing budget to Europe and Japan, while maybe reducing marketing spend in North America. To further enhance sales growth, it is critical to capitalize on the increase in sales in Europe and Japan by investing in marketing activities aimed at these markets. However, additional factors such as market saturation and competition in each region must also be considered, and marketing strategies must be tailored accordingly. Finally, the goal should be to optimize marketing budget allocation in order to maximize ROI and the highest return on investment and drive overall sales growth.

- We shouldn't completely cut marketing spending in North America because it has historically been our largest market and still accounts for a significant amount of worldwide revenue. To discover possible areas of sales growth and pick the proper strategy, we should examine additional analyses for North America, such as genre or platform specific data.

THANK YOU