

Expectations	It's October 2016 and GameCo's executive board is planning the marketing budget for 2017. They're assuming that sales for the various geographic regions have stayed the same over time, and they've asked you to look into the data to see if this is still true
Objective	The marketing budget will need to be redistributed among the regions in order to maximise return on investment.
Audience	GameCo executives

### Developing Insights on sales data

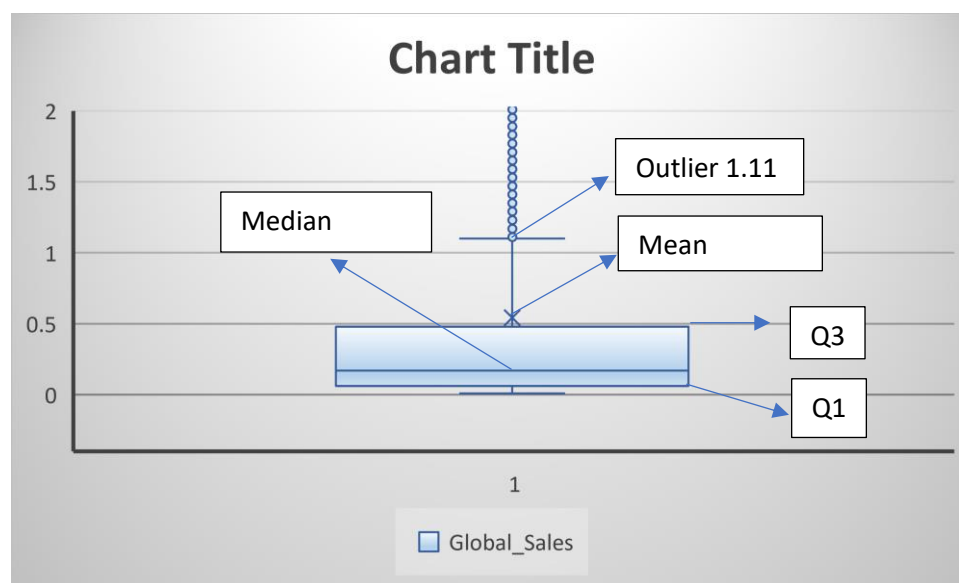


Fig 1: box and whisker plot on global sales data

The above box & whisker chart explains the distribution of data and identifies IQR and outliers. From the box chart, the mean value is higher than the median indicating that global sales data is a **right-skewed distribution**. It means sales data are distributed much higher than the average sales. IQR(Inter Quartile Range) of data is 0.6 to 0.48, so the value of the outlier is 1.11, but the global sales have more records of higher threshold outliers. The value that falls outside is considered typical for the data's distribution.



Fig 2: global yearly data sales.

By Line, chart graph it is clear yearly **global sales** have never stayed the same. There were some high sales in some years and gradually reduced next years. For example, between 1980 and 1982 the sales graph was higher and in the following years, 1982 and 1984, the sale price reduced almost to a low level. A similar pitch continues until the year 1996. Between 1996 and 2009, global sale reached their highest peak. The following year's graph shows an incline in its sale from 2009 to 2016. It is very much clear that **global sales never stayed consistent**.

The below graph shows that all the regions never had consistent sales over time.

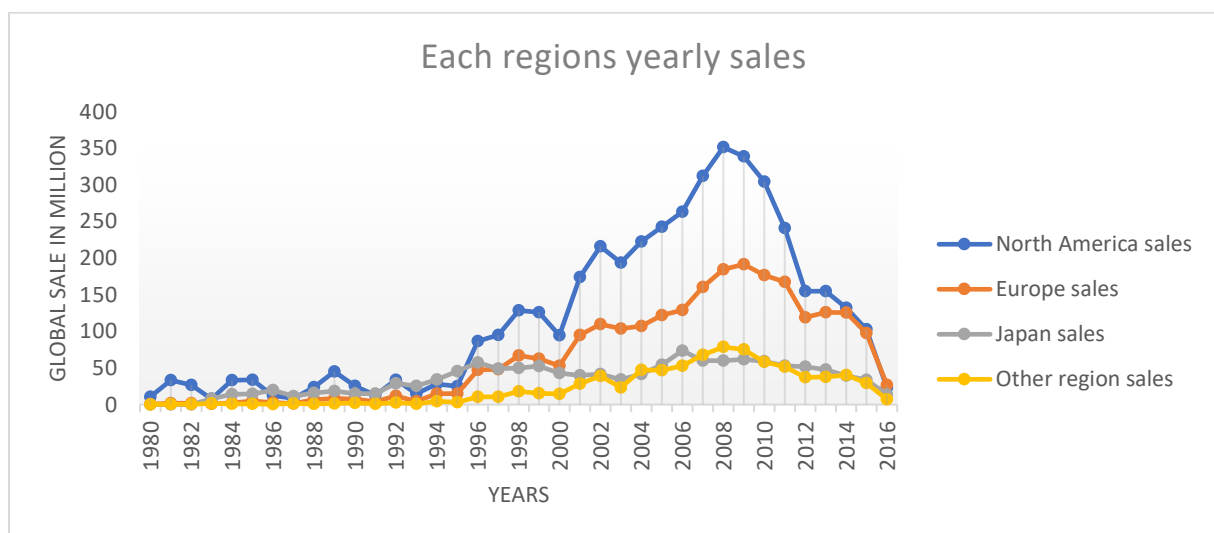


Fig 3: Regional yearly total sales

#### Comparison of sales between the regions

- **North American** sales are the highest proportion of global sales at 49%. But the sales are different across the year. The line chart shows North American sales had higher sales except from 1993 to 1996 and 2015, 2016.
- As well, **European** sales from 2014 to 2016 had almost equal to North American sales.

- If we compare regional revenue between **Japan** and the rest of the areas, most of the years, North America & Europe maintained higher sales. But Japan had higher sales than the rest from 1993 to 1997 and the lowest from 2008 to 2010.

**The overall difference in sales pitch demonstrates that the sales for the various geographic regions never stayed the same over time. The data could show various factors in distributing marketing resources rather than regional sales data.**

#### STEP-4

Figure	Type of a chart	Reason
1	Line Chart	<p>It is a simplified representation of a graph to display continuous historical sales data connecting data points for each year. It gives a clear idea of how the sales changed over time.</p> <p>The main objective was to tell the audience that the sales data never remained consistent. Also, it is a typical standard chart to display finance and not requires explanation to the audience.</p>
2	Line chart: Historical data points of yearly regional sales	Comparison of sales value between the regions over time gives much understanding to find insight into the data. The graph answers the question of which part made the highest/least sales over the years, whether it remained the same over time, and whether there were high or low sales peaks. One graph has all the answers.
3	100% Stack chart: Each region's proportion in global sales	This graph gives what percentage of the regional sales contributed to global sales, and this graph provides a quicker image of the total percentile. And it allows me to find more insight into data by answering <b>which</b> games/genres/platforms generated sales.
4	Bar Chart: Total sales in the genre	It answers <b>how</b> the type of games made revenue in each region. For GameCo executives makes the window to overlook the marketing resources distribution over the genre.
4.1	Line chart: Yearly global sales and the number of games published	It gives answers to the question of <b>why</b> the regions made varying revenue in sales over time. It helps to compare the total number of games over the global sales.
4.2	Scatter Plot: Correlation between the number of games published vs global sale	<p>Correlation between the number of games published and global revenue. By this graph, it is much clear that both are positively correlated.</p> <p>GameCo can distribute more games and reduce shipping costs through online downloads or streaming.</p>
<p>How does it connect to or differ from the visualisations you worked with in step 1, which were part of your process of getting to the insight?</p> <p>The audience for the presentation is GameCo executives, and it is more phenomenal to give a higher result rather than more technical depth. Considering their time and subject expertise, it is valuable to present regular charts rather than mathematical calculations.</p>		

The above box and whisker chart used for analysis are more technical and need to be explained to the GameCo executives.