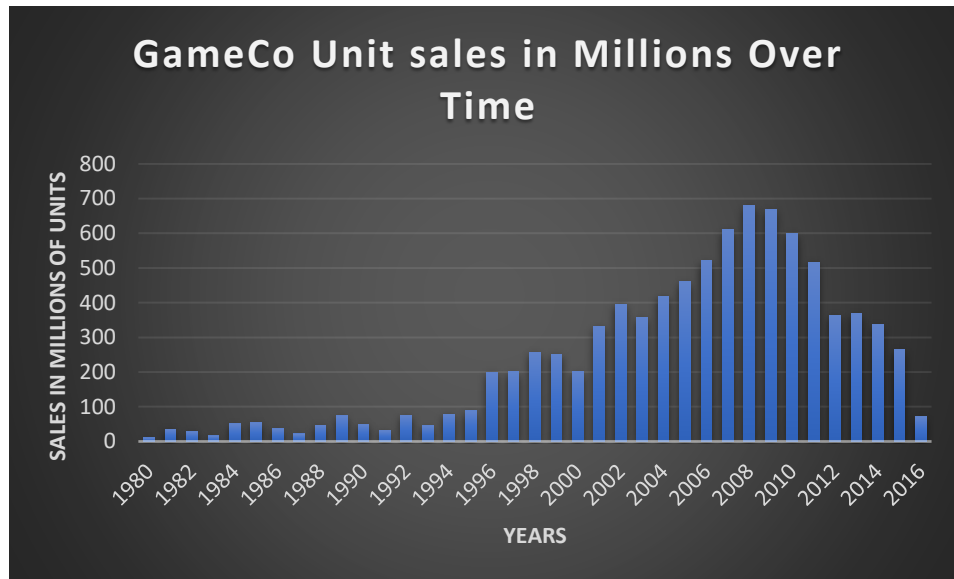# Intro to Data Analysis Final Project

Project Reflections

Gameco Assumption: Sales for the various geographic regions have stayed the same over time.

In general, if you look at the data since the year 2000 (shown above) the market for Gameco has been on the decline since 2008 when it hit its peak with a slight resurgence (pause in decline) from 2012-2013. The above bar chart was chosen to show the overall performance of the company and show as a general overview before diving more deeply into the specifics. The idea of "this is where we have been leading up to today" is being emphasized. The bar chart was chosen because I am only showing one variable over time here which is total sales, and the distinct bars are easier to visually distinguish for each year.
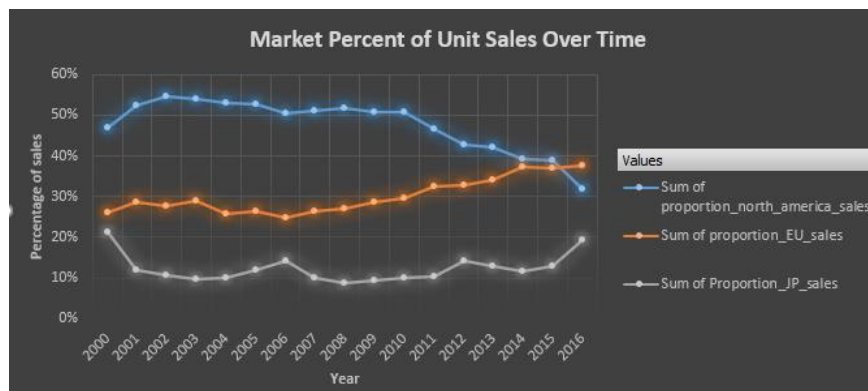
I looked at trends over the years in Regional/Global (displayed as a percentage) sales over time. This shows that the EU has been on a steady incline in percent sales of Gameco since 2006. The US has been on the decline since 2010, and Japan has been on the rise since 2014. The data from 2016 shows Europe in first generally trending up, NA is in second trending down, and JP is in 3rd trending up as shown in the above visualization. The above visualization of data was chosen so that I could show the 3 regions performance over time as they relate to the percentage of their influence of the total sales of the company in comparison to each other. The three separate colors make them easy to follow, and a dot for each year makes it clear to reference where they are at. Additionally the lines connecting the dots show clearly how the regions have trended over time.

For regional data I filtered by genre and showed it as a percent of sales for that region over that individual year to show how they trend over time. I did this 3 separate times to show NA data, EU data and JP data separately. As shown below in the trending regional genre analysis of the data.

NA Sales Top 3 Genres

The below 2 charts show the performance of the specific genres in the US region.

 I chose to show the first line chart below because it shows over time what percentage sales came from where for this region. It emphasizes the fact that there have been shifts more recently that should indicate the need for a change in focus in which genres have been the top performers versus which genres are now the top performers.
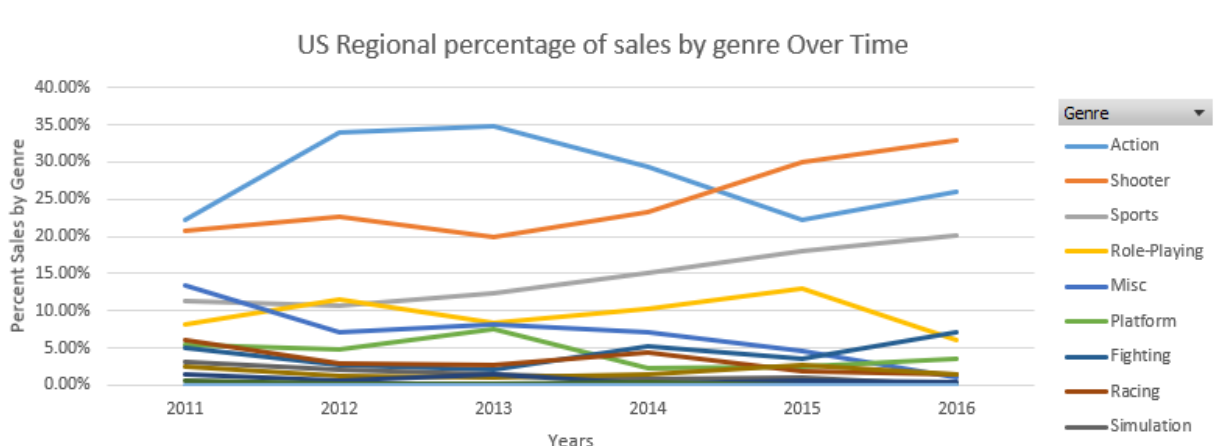
Even though the below chart does not count as a visualization I chose to put this in as a slide because it shows totals of genres over a time period. If the company pays attention to what has been consistent over time as a percentage of their sales it further emphasizes that the top 3 categories still belong in the top 3. Also showing the sum percentages allows you to show that the top 3 genres account for a very large percentage of the overall sales for this region. This gives a clear cut indication that marketing should be focusing on this specifically to continue to bring revenue in and promote what is popular within the region.

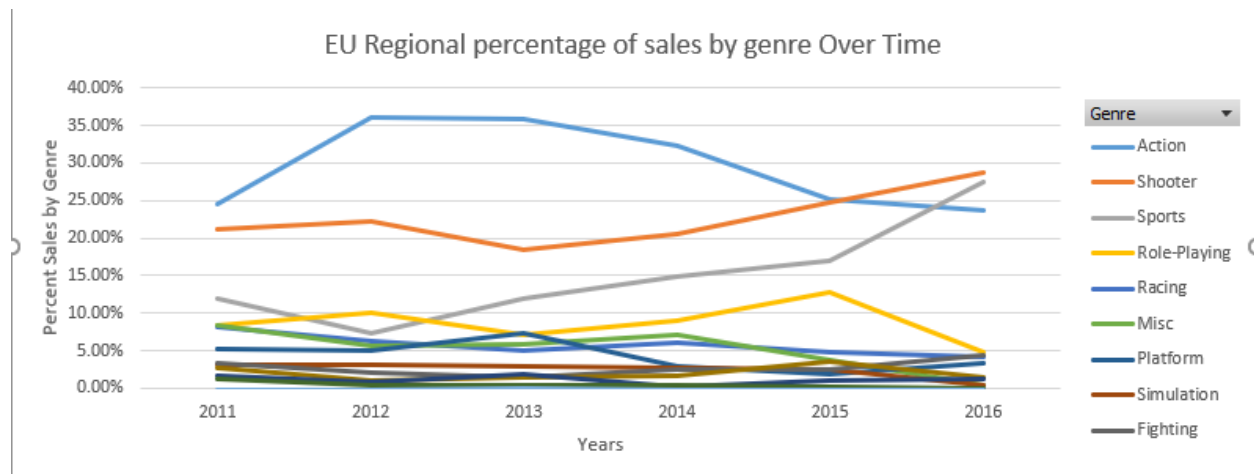| Sum of NA_Sales	Column Labels												
Row Labels	Action	Shooter	Sports	Role-Playing	Misc	Platform	Fighting	Racing	Simulation	Adventure	Strategy	Puzzle	(blank)	Grand Total
2011	22.29%	20.67%	11.39%	8.21%	13.40%	5.42%	4.93%	6.06%	3.11%	2.44%	1.39%	0.70%	0.00%	100.00%
2012	33.89%	22.63%	10.58%	11.52%	7.09%	4.72%	2.80%	2.83%	1.99%	1.15%	0.61%	0.19%	0.00%	100.00%
2013	34.75%	19.84%	12.39%	8.46%	8.10%	7.51%	2.05%	2.72%	1.46%	1.05%	1.54%	0.12%	0.00%	100.00%
2014	29.35%	23.28%	15.02%	10.28%	7.15%	2.29%	5.22%	4.44%	0.92%	1.47%	0.12%	0.47%	0.00%	100.00%
2015	22.20%	29.95%	17.95%	12.98%	4.68%	2.43%	3.50%	1.92%	1.10%	2.68%	0.55%	0.05%	0.00%	100.00%
2016	25.90%	32.83%	20.17%	6.13%	0.97%	3.49%	7.06%	1.46%	0.00%	1.50%	0.49%	0.00%	0.00%	100.00%
Grand Total	28.14%	22.83%	13.10%	9.78%	8.70%	4.74%	3.90%	3.88%	1.88%	1.77%	0.93%	0.35%	0.00%	100.00%

I chose to use the pie charts for the individual regions to show how much the top 3 genres are generating compared to everything else. It gives the part of a whole visual that people can connect with more than just percentages written on a page. Also since the company is in a dip in the market at the moment, looking at the percentage of revenue generated for each category can identify genres that the general gaming public are drawn to the most. For visual purposes I grouped all other categories below the top 3 so that labeling would not be an issue. Not that these lower revenue categories should be ignored, but that the focus should be on what is bringing in the money.
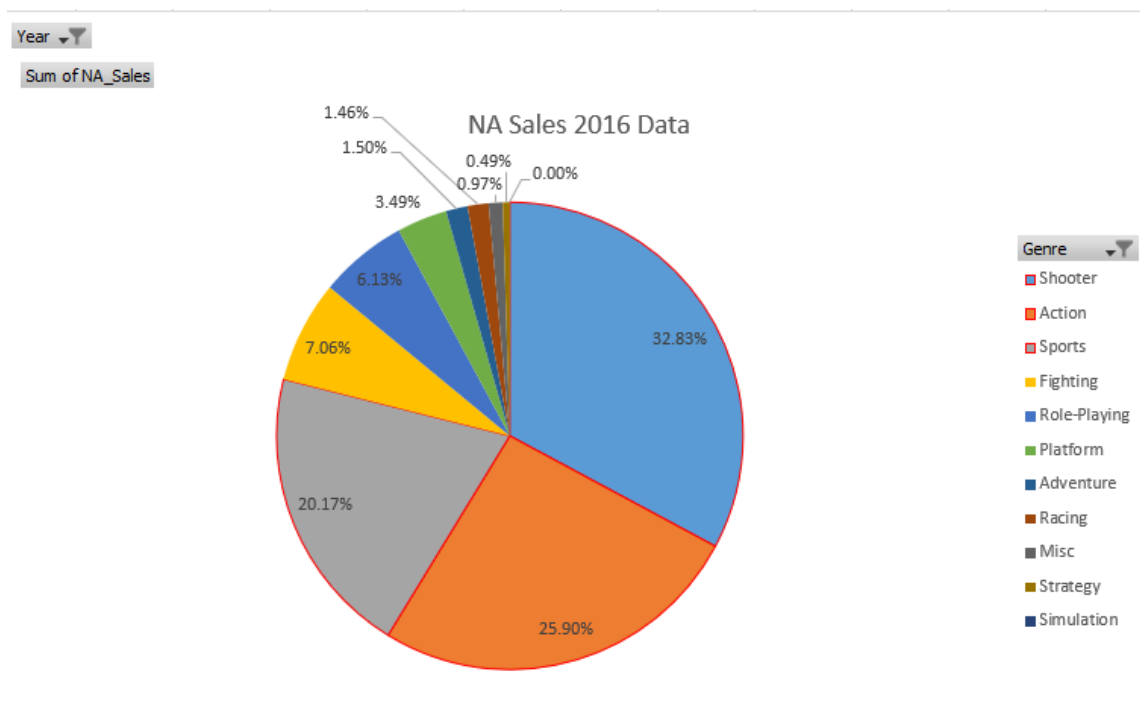

For the NA data, we are showing that our top 3 categories of Shooter, Action and Sports are dominating at 78.9% of the revenue overall for 2016.

EU Sales Top 3 genres focus

The same reasoning is used for the visualizations and what they show for the European numbers.

EU Regional percentage of sales by genre Over Time

Sum of EU_Sales	Column Labels													
Row Labels	Action	Shooter	Sports	Role-Playing	Racing	Misc	Platform	Simulation	Fighting	Adventure	Strategy	Puzzle	(blank)	Grand Total
2011	24.51%	21.09%	11.86%	8.42%	8.07%	8.41%	5.29%	3.11%	3.39%	2.80%	1.74%	1.31%	0.00%	100.00%
2012	36.02%	22.18%	7.43%	10.08%	6.38%	5.58%	4.95%	3.05%	2.05%	1.10%	0.83%	0.35%	0.00%	100.00%
2013	35.94%	18.40%	12.05%	7.11%	5.02%	5.96%	7.23%	2.83%	1.55%	1.54%	1.96%	0.38%	0.02%	100.00%
2014	32.22%	20.54%	14.88%	8.95%	6.13%	7.06%	2.89%	2.74%	2.44%	1.68%	0.18%	0.30%	0.00%	100.00%
2015	25.23%	24.80%	17.08%	12.81%	4.85%	3.80%	1.85%	2.57%	2.44%	3.46%	1.00%	0.11%	0.00%	100.00%
2016	23.77%	28.77%	27.50%	4.82%	4.26%	0.34%	3.25%	0.34%	4.30%	1.46%	1.20%	0.00%	0.00%	100.00%
Grand Total	30.28%	21.53%	13.08%	9.07%	6.19%	6.17%	4.55%	2.78%	2.51%	2.09%	1.19%	0.54%	0.00%	100.00%
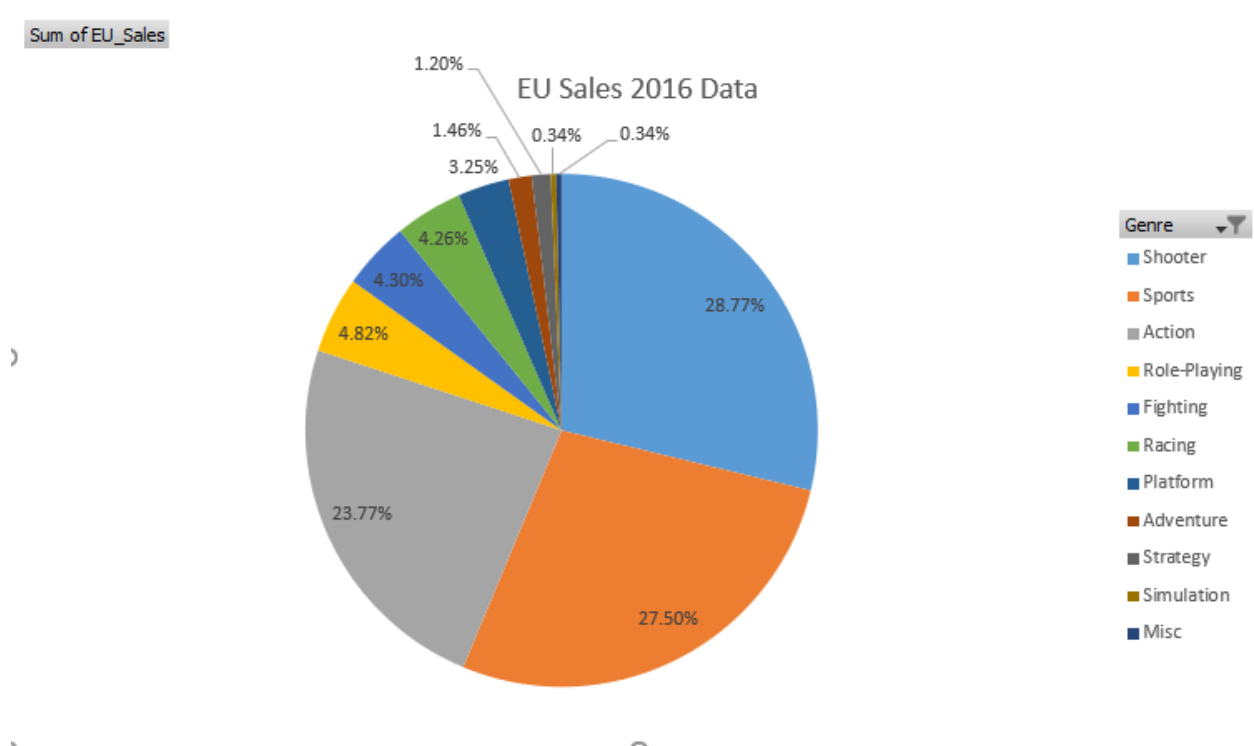
EU data is pretty clear cut for what people want lately with 2016 showing that 80% of the sales are coming from the top 3 genres of shooter, sports and action. This is further supported by the historical data showing that these 3 have also dominated the market since 2013. I would continue to put advertizing money into those 3 categories for the EU region. Also notice that the shooter genre has become the top seller in the EU followed by sports, which is a shift from previous years where action used to dominate and is now 3rd.

Japan sales top 3 genres

The same visualizations for the same reasons were used for the Japan data.
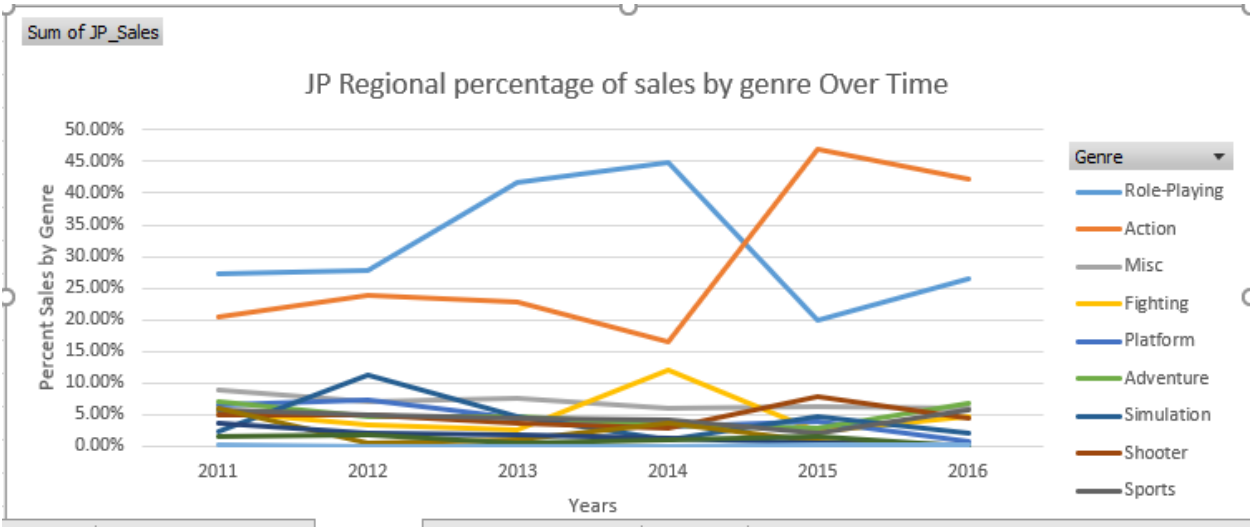
Sum of JP_Sales	Column Labels													
Row Labels	Role-Playing	Action	Misc	Fighting	Platform	Adventure	Simulation	Shooter	Sports	Racing	Strategy	Puzzle	(blank)	Grand Total
2011	27.21%	20.40%	8.94%	5.54%	6.58%	7.07%	2.32%	5.07%	5.81%	5.88%	3.58%	1.45%	0.15%	100.00%
2012	27.81%	23.77%	7.07%	3.46%	7.42%	4.68%	11.33%	5.06%	5.01%	0.39%	2.15%	1.86%	0.00%	100.00%
2013	41.77%	22.88%	7.53%	2.69%	4.37%	4.58%	4.63%	3.64%	4.52%	1.14%	1.72%	0.53%	0.00%	100.00%
2014	44.88%	16.47%	5.98%	12.16%	3.19%	3.45%	0.94%	2.74%	4.05%	3.70%	1.39%	1.04%	0.00%	100.00%
2015	19.90%	47.00%	6.23%	2.34%	3.83%	2.97%	4.69%	7.98%	2.14%	0.83%	0.44%	1.54%	0.12%	100.00%
2016	26.50%	42.26%	5.91%	4.67%	0.80%	6.79%	2.19%	4.45%	5.69%	0.07%	0.36%	0.00%	0.29%	100.00%
Grand Total	32.08%	25.98%	7.21%	5.12%	5.05%	4.87%	4.82%	4.77%	4.57%	2.35%	1.91%	1.22%	0.07%	100.00%

Japan 2016 data

Japan Sales 2016 Data
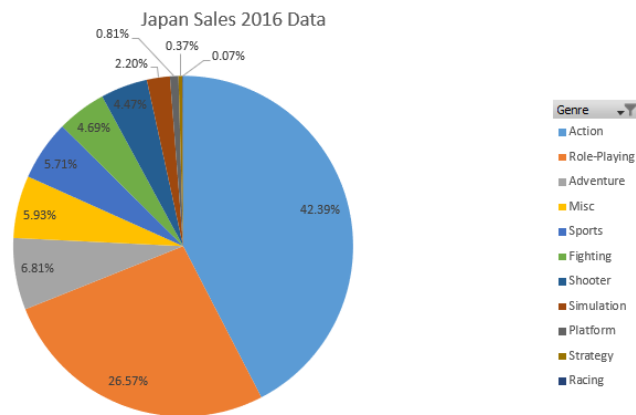
The data shows that Action and role playing have been the most dominant holding on to the 1st and 2nd slot. There was a more recent shift where they switched places indicating a rising interest in the action genre over role playing. Going by the summation of the genres from 2011 to 2016 the 3rd place genre should be the MISC category. It has been the most consistent performer with the least amount of variance. One thing to note is that in 2016 the adventure genre jumped into the 3rd place slot for that year indicating a more recent jump in interest in this genre. It would be wise to consider this a 4th genre of focus so that the company can shift towards rising interests of Japan.

Comparison to original assumption and summary

Gameco Assumption: Sales for the various geographic regions have stayed the same over time.

From the data shown, this would not be a wise way for the company to proceed. Historically, the North American region was dominant however it has now been overtaken by Europe. In fact the North American region has been tending down in percentage of the overall sales, while Japan has been on the rise. Going by the assumption that things have stayed the same would not help the company to shift to the changes that have been happening more recently. Putting more marketing into the US and Japan will help to rouse more interest in the Japanese market and re-invigorate the US gaming market. Within the regions as shown in the above analysis, the US and Europe should put emphasis on the Action, Shooter, and Sports genres with a high emphasis on the Shooter Genre since it has risen to the top Genre in recent years. For Japan the three genres of focus for marketing should be Action, Role-Playing, and MISC with a fourth focus on Adventure since it was high in sales in 2016.