PROJECT REFLECTION

Data Snapshot:

	A	B	C	D	E	F	G	H	I	J	K
1	Rank	Name	Platform	Year	Genre	Publisher	NA_Sale	EU_Sale	JP_Sales	Other_Sal	Global_Sal
2	12351	Panzer Tactics	DS	2007	Strategy	10TACLE Studios	0.06	0	0	0	0.06
3	14132	Boulder Dash: Rocks!	DS	2007	Puzzle	10TACLE Studios	0	0.03	0	0	0.03
4	15709	Pirates: Legend of the Black Bucc:	PS2	2006	Adventure	10TACLE Studios	0.01	0.01	0	0	0.02
5	13059	Men of War: Assault Squad	PC	2011	Strategy	1C Company	0.01	0.03	0	0.01	0.05
6	13726	Off-Road Drive	PC	2011	Racing	1C Company	0	0.03	0	0.01	0.04
7	16452	King's Bounty: Armored Princess	PC	2009	Role-Playing	1C Company	0	0.01	0	0	0.01
8	2598	Alien	2600	1981	Action	20th Century Fox Video Games	0.74	0.04	0	0.01	0.79
9	5391	Fantastic Voyage	2600	1981	Action	20th Century Fox Video Games	0.32	0.02	0	0	0.34
10	5397	Bank Heist	2600	1982	Action	20th Century Fox Video Games	0.32	0.02	0	0	0.34
11	6730	Porky's	2600	1982	Action	20th Century Fox Video Games	0.23	0.01	0	0	0.25
12	7150	Deadly Duck	2600	1981	Shooter	20th Century Fox Video Games	0.21	0.01	0	0	0.22
13	14013	World of Goo	PC	2008	Puzzle	2D Boy	0	0.03	0	0.01	0.04
14	16311	Army Men: Air Combat - The Elite	GC	2003	Shooter	3DO	0.01	0	0	0	0.01
15	2548	Army Men: Sarge's Heroes	N64	1999	Action	3DO	0.68	0.12	0	0.01	0.81
16	4627	Army Men: Sarge's Heroes 2	N64	2000	Shooter	3DO	0.34	0.07	0	0	0.42
17	4935	BattleTanx: Global Assault	N64	1999	Action	3DO	0.31	0.07	0	0	0.39
18	5511	BattleTanx	N64	1998	Action	3DO	0.26	0.06	0	0	0.33
19	6874	Army Men: Air Combat	N64	2000	Action	3DO	0.19	0.05	0	0	0.24
20	1546	Army Men 3D	PS	1999	Action	3DO	1.1	0.14	0	0.04	1.28
21	2432	Army Men: Air Attack	PS	1999	Action	3DO	0.47	0.32	0	0.06	0.85
22	3462	Sammy Sosa High Heat Baseball 2	PS	2000	Sports	3DO	0.32	0.22	0	0.04	0.58
23	3580	Army Men: Sarge's Heroes	PS	1999	Action	3DO	0.31	0.21	0	0.04	0.56

... Sheet 2 | Sheet 3 | Sheet 4 | Sheet 5 | Sheet 6 | Sheet 7 | Sheet 8 | Answers, E2

Above is the dataset used from GameCo, sales data was gathered from the years 1980-2020, it features 16,600 rows and 11 columns. The columns are organized by rank, game name, game platform, year of release, genre, and publisher. The sales columns are divided into North American sales (NA_Sales), European sales (EU_Sales), Japanese sales (JP_Sales), Other sales, and Global sales. At the outset of exploring data, I observed that the Columns "Name" and "Platform", "Genre" and "Publisher" have some blank cells whereas Column "Year" and "Publisher" have cells with value as "N/A". There was a column named "NA Units" which was blank completely, hence deleted. In the process of data cleaning blank rows were deleted and blank cells were replaced with N/A.

After the process of Data Cleaning, I began with Exploratory Data Analysis and data was grouped and summarized as per Genre, region, publisher and platform to draw valuable insights. Regions will differ from each other, as the trends illustrated by line chart below clearly indicates popularity of video games in North America followed by Europe and sales of Japan is significantly low from the latter two regions.
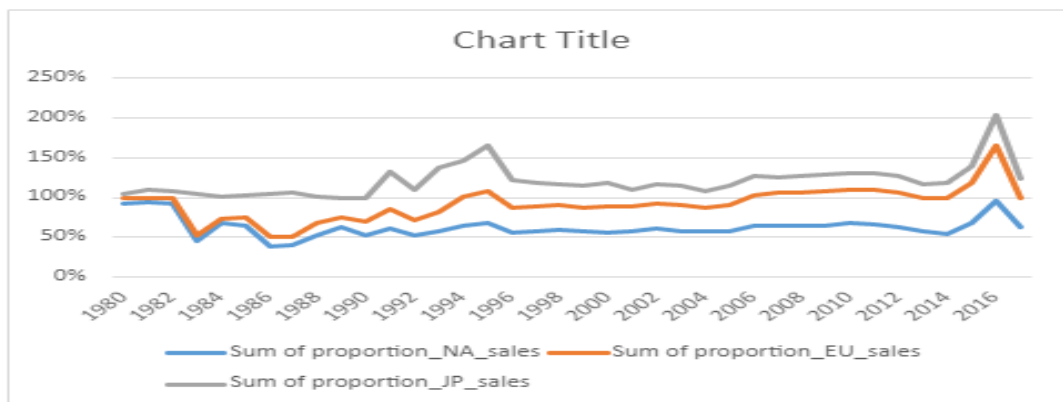

It is, however, important to note that the North America Region is Top player of GameCo global sales since it takes up the largest percentage of sales across all game Genres. The top two best performing Genres in the NA market are Shooter and Platform, which could be prioritized in marketing to boost its current and future sales. In the Japanese market Role-Playing and Strategy are the best performers. Lastly, in Europe

Assignment By: Malvika Mall

the Racing and Action genres are the best performing. The company would do best if it catered to the strongest categories of each market region.
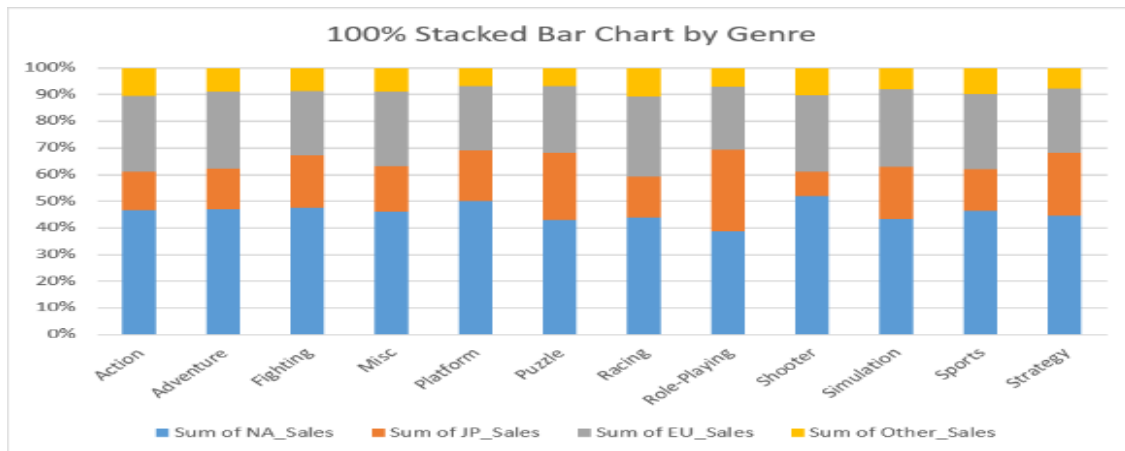

Depending upon the year-wise proportion of global sales by region illustrates sales have showed significant variations since 1980. This helps to solidify our understanding of the nature of video game sales and further negates GameCo original assumptions that video game sales remain steady over time. The below column chart for year-wise global sales of video games illustrates a significant growth between 2004 and 2012 and thereafter it has been declining.
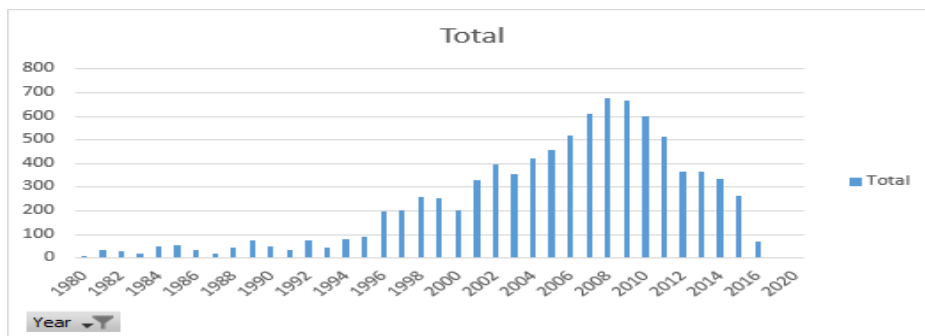
Another major insight was drawn when we take sales by genre, North America has led the sales numbers in each genre. This remains true whether we consider all sales since 1980, sales since 1997 when the volatility declined or sales in 2008 when overall global sales declined.

After digging in genre preference of each region, it appears that North America and Europe have the same top three regional preferences of Shooter, Sports and Action games for 2016. Japan has preferred Action, Role-Playing and Adventure for 2016. When we look at the last three years from 2014-2016, all three regions show that their tastes remain relatively unchanged. It appears that in 2016, fighting games have become either more popular (or experienced less decline) in North America and Europe versus Japan as this genre was in the top five for the former two and not in the latter for 2016. Below is the graph of top 5 preference by region:

Assignment By: Malvika Mall

Top 5 Regional Genre Preference (2016)
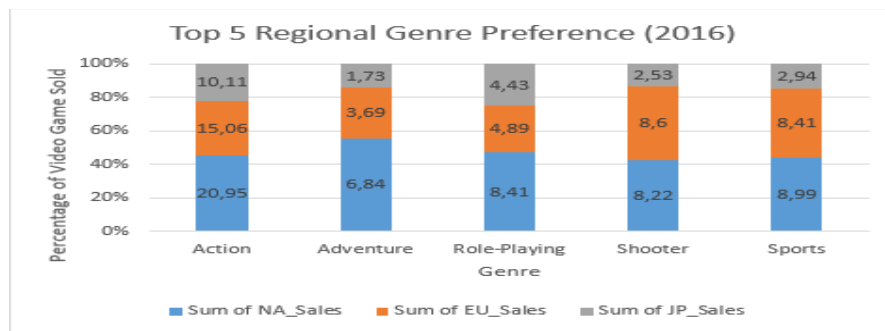
Step-4

Types of Visualizations Used with Reasons:

1. **Line Chart for Regional proportion to Global Sales –** showing the regional sales trend in a quick and easily to understand format.
2. **100% Stacked Bar Charts for regional sales contribution for each genre –** to illustrate the genre popularity by region in a quick manner with legends clearly displaying percentage of global sales held by each region.
3. **Bar Graph for top 5 Genre Preference of each region-** to ease management to focus specifically more on top 5 genres and plan their marketing budget around customer choice and preferences for each region.
4. **Column Chart for last 3 year for genre preference by region-** showing customer preference trend of last 3 year to forecast and formulate marketing budget as per preference trend historically.

Key Similarities and Differences – between the visualizations in Step 1 vs. visualizations in the presentation:

• **Similarities:** Two charts mentioned in Step 1 were used in the final presentation with modifications to show the (1) trend – line chart and (2) composition breakdown (100% bar charts). The main intention for the chart usage did not change in this scenario.

• **Differences:**

(1) The major difference for all charts used in the presentation is the scope limitation. The charts used in Step 1 display the data for all periods (1980-2016); however, for the presentation, all data was divided as (1980-1996) & (1997-2016) to analyze volatility in market and have the insights more relevant.
(2) Applied cosmetic changes to the charts in the presentation for better legibility and for better illustration (data labels)
(3) Additional charts, apart from the ones listed in Step 1, were added to explore availabilities of different insights to meet the management's objectives.
(4) Numerous stacked bar charts were used, and considerations were given on whether to use the original stacked bar charts vs. 100% stacked bar chart (show the materiality and composition vs. purely composition)

Assignment By: Malvika Mall