Summary About the Data Set

Throughout this analysis, I've used a data set that covers historical sales of video games (for games that sold more than 100,000 copies) spanning different platforms, genres, and publishing studios. This data was drawn from the VGChartz. It has been cleaned by me to prevent make incorrect inferences due to missing data.

Keep in mind the following important points regarding the data set:

- It tracks the total number of *units* of games sold (not financial figures) from 1980 to 2016.

- The numbers represent units sold in *millions*. When you see the number "1.2," for instance, this represents a total of 1.2 million units sold.

Here's the data sample in Figure 1 to give an idea of how the dataset looks like.

Rank	Name	Platform	Year	Genre	Publisher	NA_Sales	EU_Sales	JP_Sales	Other_Sales	Global_Sales
2061	1942	NES	1985	Shooter	Capcom	0,65	0,14	0,21	0	1
8359	.hack//G.U. Vol.1//Rebirth	PS2	2006	Role-Playing	Namco Bandai Games	0	0	0,17	0	0,17
7109	.hack//G.U. Vol.2//Reminisce	PS2	2006	Role-Playing	Namco Bandai Games	0,11	0,09	0	0,03	0,23
8604	.hack//G.U. Vol.2//Reminisce (jp sales)	PS2	2006	Role-Playing	Namco Bandai Games	0	0	0,16	0	0,16
8306	.hack//G.U. Vol.3//Redemption	PS2	2007	Role-Playing	Namco Bandai Games	0	0	0,17	0	0,17
1565	.hack//Infection Part 1	PS2	2002	Role-Playing	Atari	0,49	0,38	0,26	0,13	1,27
9076	.hack//Link	PSP	2010	Role-Playing	Namco Bandai Games	0	0	0,14	0	0,14
3004	.hack//Mutation Part 2	PS2	2002	Role-Playing	Atari	0,23	0,18	0,2	0,06	0,68
4296	.hack//Outbreak Part 3	PS2	2002	Role-Playing	Atari	0,14	0,11	0,17	0,04	0,46
8009	.hack//Quarantine Part 4: The Final Chapter	PS2	2003	Role-Playing	Atari	0,09	0,07	0	0,02	0,18
14279	.hack: Sekai no Mukou ni + Versus	PS3	2012	Action	Namco Bandai Games	0	0	0,03	0	0,03
2576	[Prototype 2]	X360	2012	Action	Activision	0,48	0,25	0	0,07	0,8
2742	[Prototype 2]	PS3	2012	Action	Activision	0,36	0,28	0	0,11	0,75
10598	[Prototype 2]	PC	2012	Action	Activision	0,07	0,02	0	0,01	0,1
1505	[Prototype]	X360	2009	Action	Activision	0,84	0,35	0	0,12	1,31
1604	[Prototype]	PS3	2009	Action	Activision	0,65	0,41	0	0,19	1,24
9137	¬°Shin Chan Flipa en colores!	DS	2007	Platform	505 Games	0	0	0,14	0	0,14
3770	007 Racing	PS	2000	Racing	Electronic Arts	0,3	0,2	0	0,03	0,53
1275	007: Quantum of Solace	X360	2008	Action	Activision	0,82	0,52	0,01	0,14	1,49
1741	007: Quantum of Solace	PS3	2008	Action	Activision	0,43	0,52	0,02	0,2	1,16
3040	007: Quantum of Solace	Wii	2008	Action	Activision	0,3	0,29	0,01	0,07	0,67
4501	007: Quantum of Solace	PS2	2008	Action	Activision	0,17	0	0	0,26	0,43
9320	007: Quantum of Solace	DS	2008	Action	Activision	0,11	0,01	0	0,01	0,14
14550	007: Quantum of Solace	PC	2008	Action	Activision	0,01	0,01	0	0	0,03
1202	007: The World is not Enough	N64	2000	Action	Electronic Arts	1,13	0,38	0,02	0,03	1,55
2249	007: The World is not Enough	PS	2000	Action	Electronic Arts	0,51	0,35	0	0,06	0,92
421	007: Tomorrow Never Dies	PS	1999	Shooter	Electronic Arts	1,72	1,33	0	0,16	3,21
11233	1 vs. 100	DS	2008	Misc	DSI Games	0,08	0	0	0,01	0,09
16115	1/2 Summer +	PSP	2013	Adventure	Kaga Create	0	0	0,01	0	0,01
11414	10 Minute Solution	Wii	2010	Sports	Activision	0,06	0,01	0	0,01	0,08
3888	100 All-Time Favorites	DS	2009	Puzzle	Ubisoft	0,35	0,12	0	0,04	0,51
3008	100 Classic Books	DS	2008	Misc	Nintendo	0,13	0,52	0	0,02	0,67
13892	100 Classic Games	DS	2011	Misc	Rondomedia	0	0,03	0	0	0,04
14635	1000 Cooking Recipes from ELLE v† table	DS	2010	Misc	Nintendo	0	0,02	0	0	0,03
5538	1001 Touch Games	DS	2011	Action	Avanquest	0,12	0,17	0	0,04	0,33
7712	101-in-1 Explosive Megamix	DS	2008	Puzzle	Nordcurrent	0,05	0,13	0	0,02	0,2
7115	101-in-1 Party Megamix Wii	Wii	2009	Misc	Nordcurrent	0,19	0,01	0	0,02	0,23
11310	101-in-1 Sports Megamix	DS	2010	Sports	Nordcurrent	0,08	0	0	0,01	0,08
14623	101-in-1 Sports Party Megamix	Wii	2010	Sports	Nordcurrent	0,02	0	0	0	0,03

Figure 1

What Are We Looking For In This Data?

Because of the assumption that sales for the various geographic regions have stayed the same over time, I've been asked to look into the data to see if this is true. By doing this, I've tried to create an insight to give an opinion to distribute marketing budget among the regions to maximize return on investment. To do this, the top 3 locations in global sales were grouped and some charts were created to summarize the data.

Step 1

In the Figure, it seems that video game sales fluctuated in the range of 0 and 50 million bands until the mid 90s. After 1995, an upward acceleration is observed in sales, especially with the sales in North America exceeding the 50 million mark.

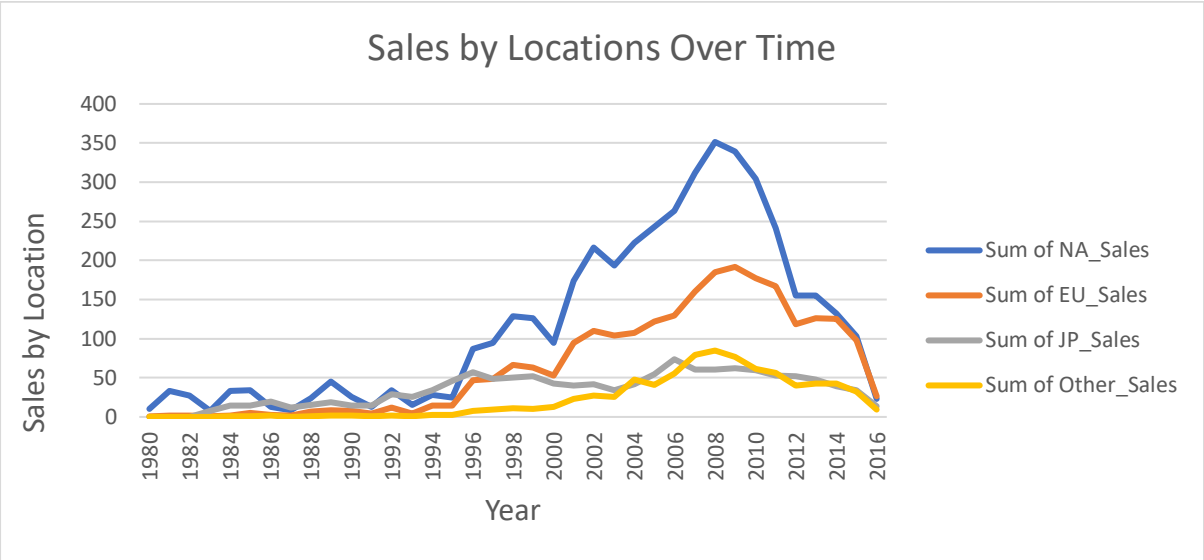

Figure 2

We can see that European sales are also following North America. Although there were short fluctuations over time, the upward trend in sales continued until 2008. After the peak in 2008, sales entered a downward trend that continues with a strong acceleration.

Looking at the Figure 3 below, it can be seen that the market share proportions of North America, Europe and Japan (NA, EU, JP) have not been remain constant over time, on the contrary, they've been changed constantly. However, within this unstable structure, it can be determined that EU sales showed a constant increasing trend over a long period of time, although it differed over a short period of time.

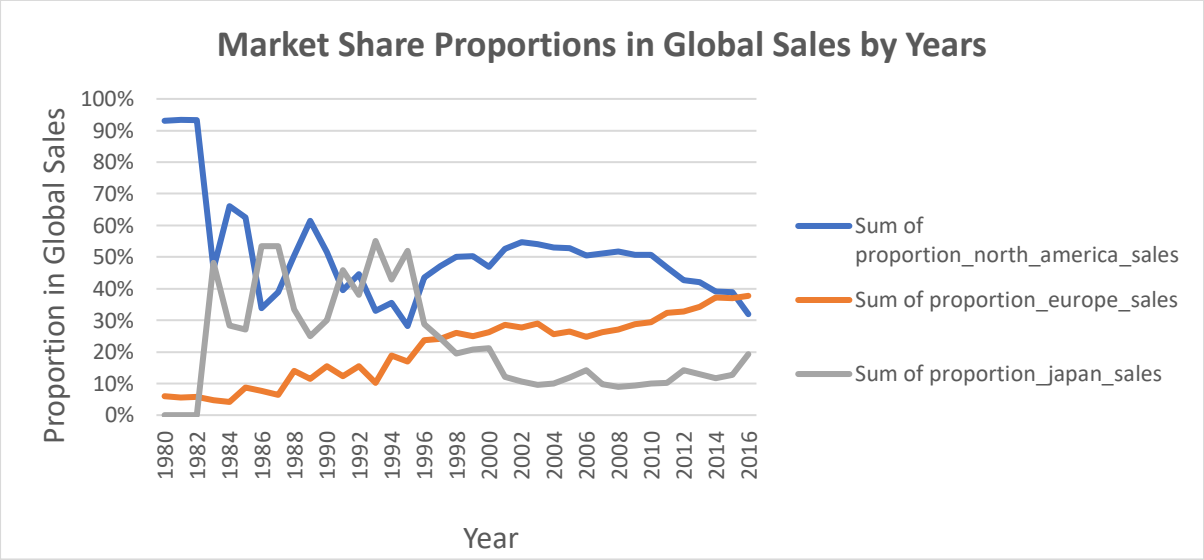

Figure 3

To elaborate what seem in the chart, it can be noticed that the market share leadership in global sales has been occupied by North America and Japan in certain time periods over time. Although North American sales have been the market leader for a long time, European sales, which have a constant upward trend over time, took the lead after 2015. Likewise, after this date, sales in Japan increased noticeably.

This may lead us to make such assumptions, the customers located in EU tend to be more loyal over the time and this continued trend might have been caused by adding new customers to existing loyal customers. Or it can be inferred that there has been a negative correlation between the sales of North America and Japan since the mid 90s.

Additionally, in order to give a different idea for the distribution of the market budget, the total sales in these regions happened of each game genre in 2016 is located on the Figure 4.

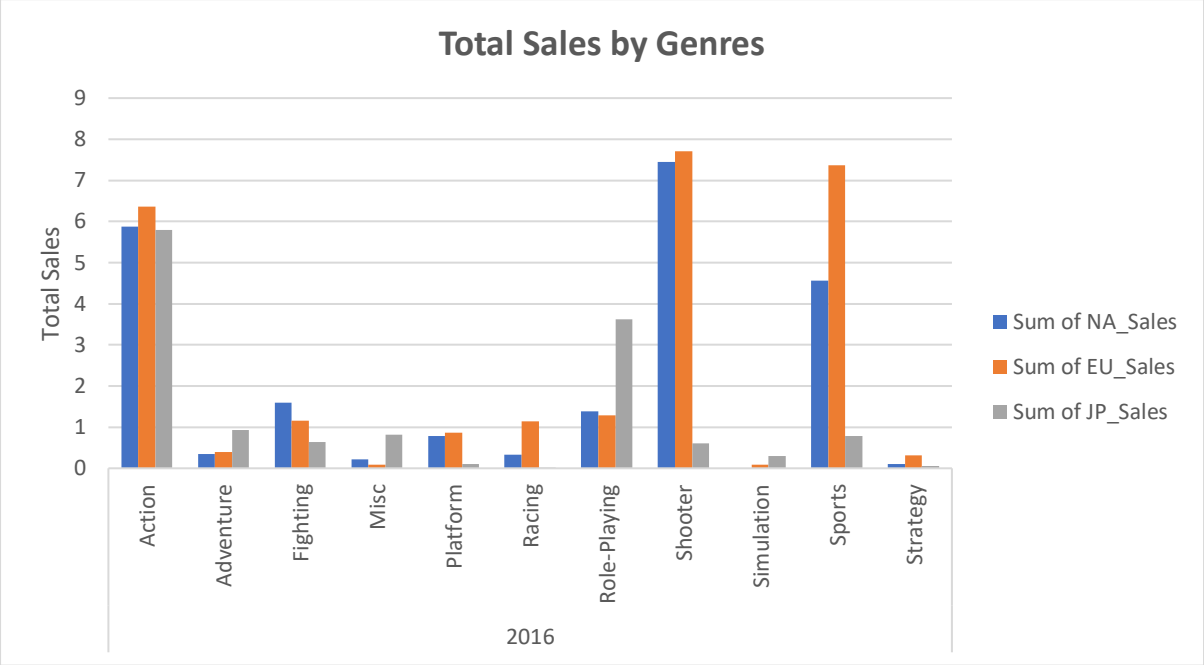

Figure 4

From this point of view, it can be interpreted that the genres that contain action and excitement attract the attention of customers in general. Contrary to this, strategy and simulation genres seem to have lost their popularity. Besides, surprisingly no sales were made in the puzzle genre in 2016. Based on this information, some marketing insights might be created on how the market budget will be distributed to different locations according to the impact of game genres.

In the Figure 5 below, it seems that the market share of different platforms and different locations in 2016.

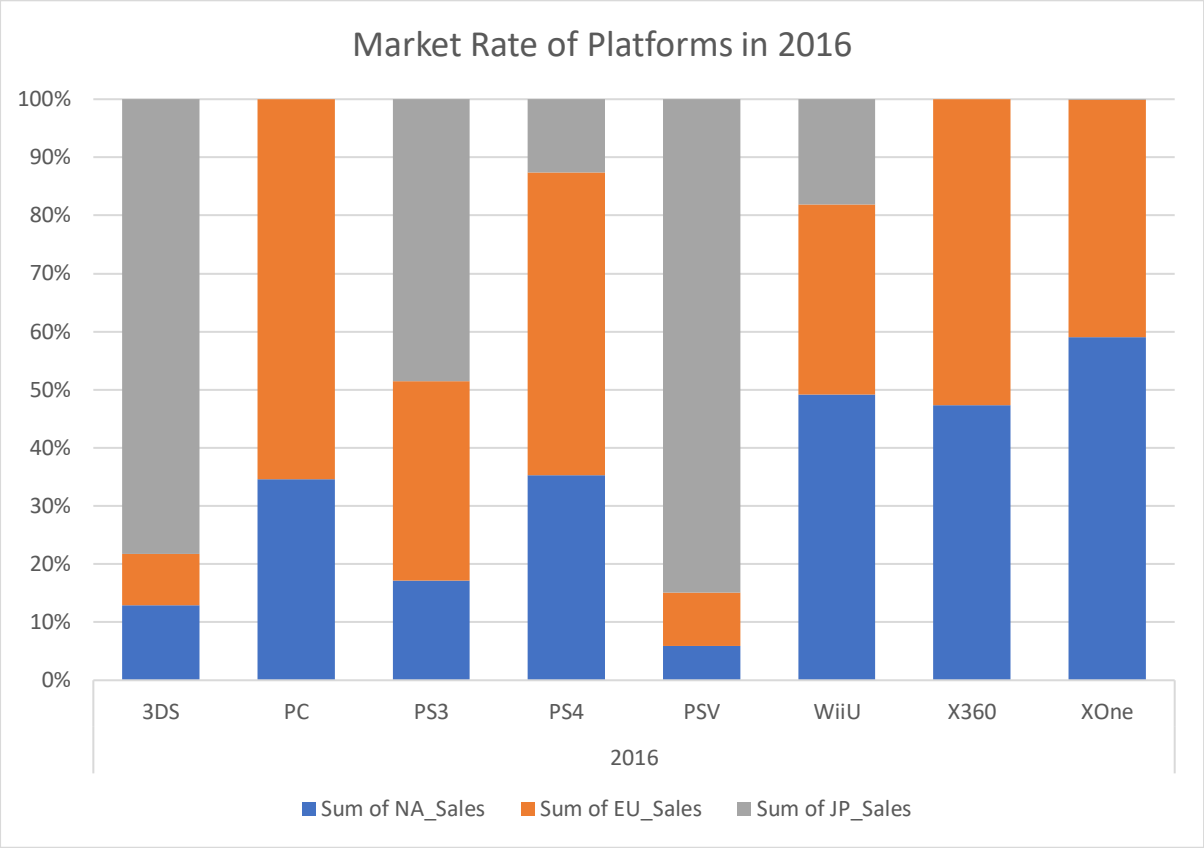

Figure 5

Based on the information in the chart, for example, NA region is the leader of the sales made on the PS4 platform. And we can see that most of the sales on DS and PSV platforms are in Japan, but on the contrary, there was no sales on PC, X360, XOne platforms last year in Japan. In the light of this information, it can be deduced that a serious sales income should not be expected from Japan for the games published on these three platforms.

In the Figure 6 below, there is information about how many games were published on which platform in 2016. It seems from the chart that the most of game was published on PS4 last year, followed by PSV and XOne, respectively. And the lowest game release was on the X360 and WiiU platforms.

Figure 6

Based on this information, inferences can be made about which platforms have been popular recently and how the popularity of these platforms has changed in different locations.

In Figures 7, 8 and 9, there is information about the publishers, which are in the top 5 in sales last year in North America, Europe and Japan, in order.

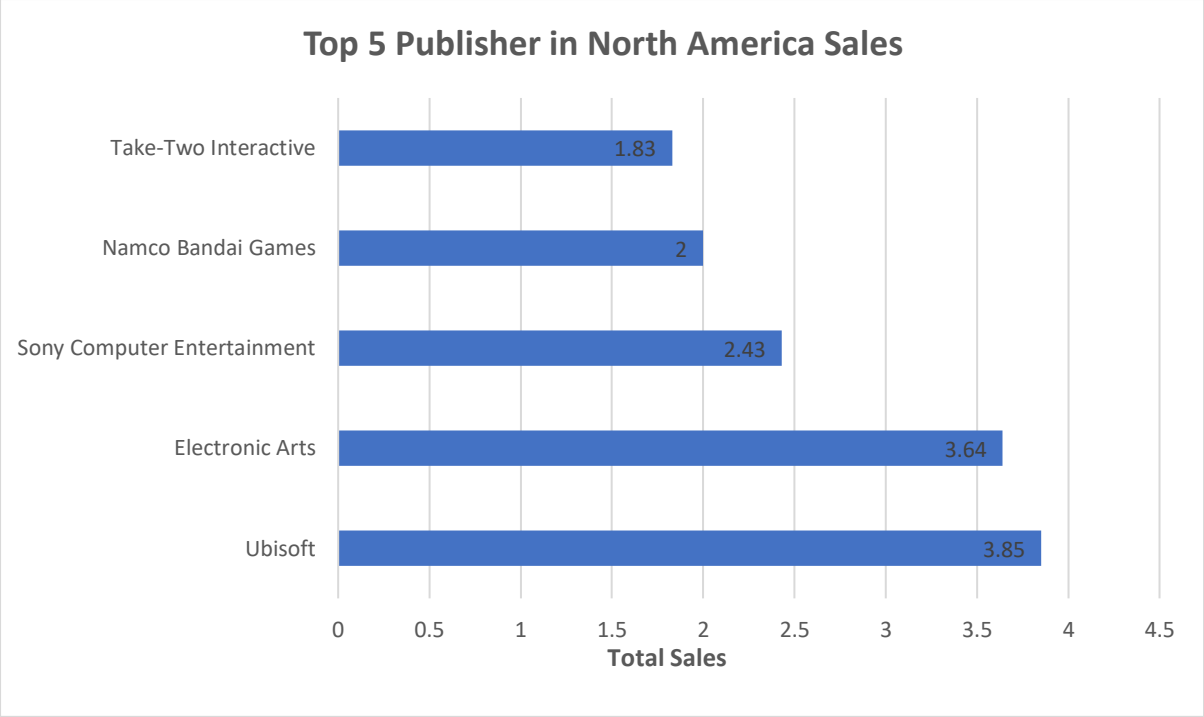

Figure 7

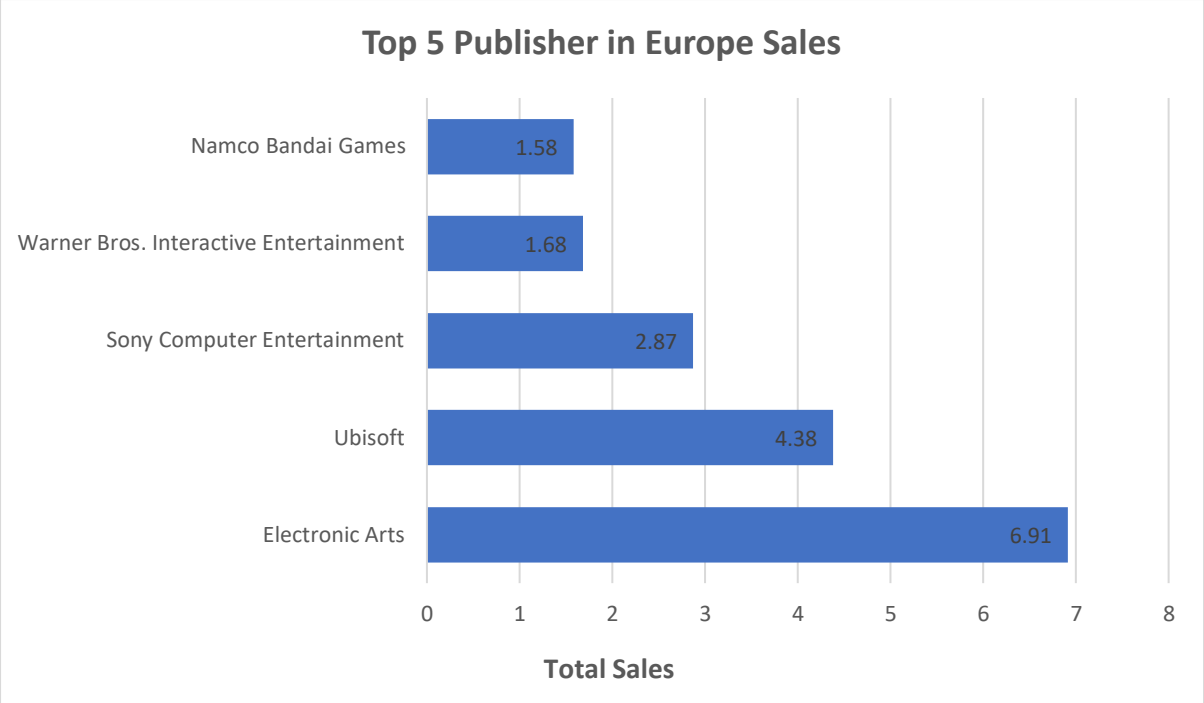

Figure 8

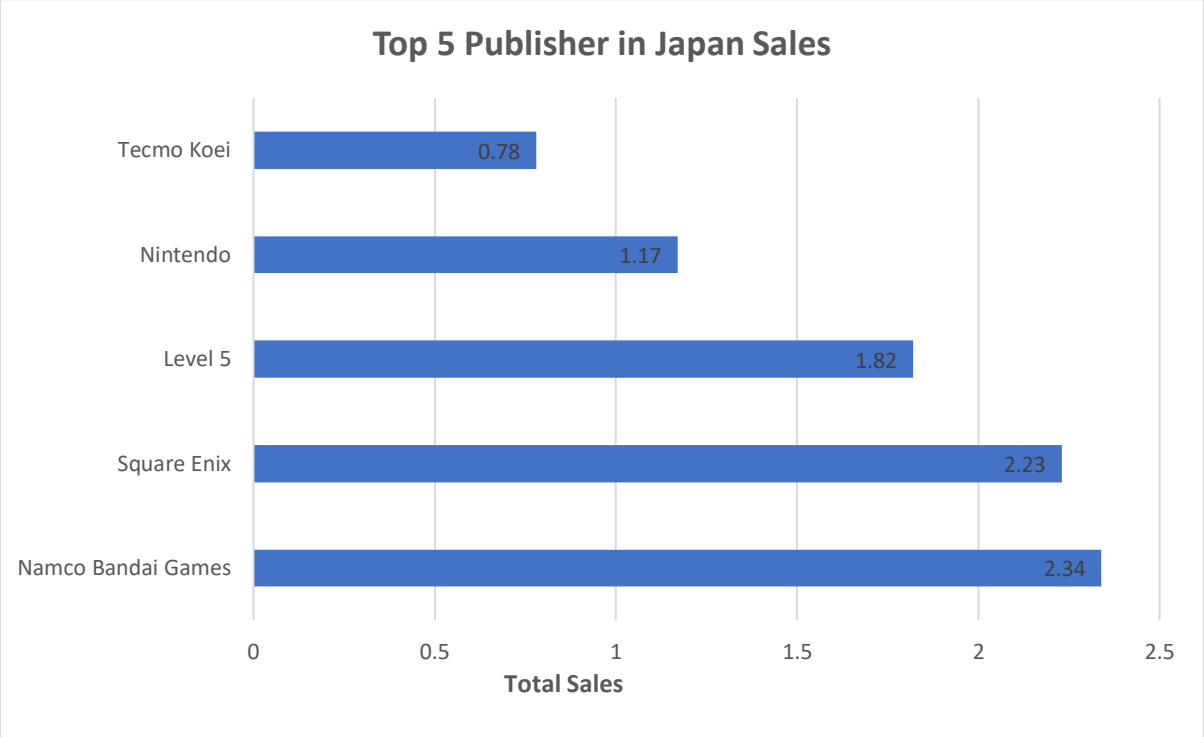

Figure 9

The information in these charts shows us that the same publishers generally get the market shares in North America and Europe while different publishers dominate the market in Japan. In the light of this information, Electronic Arts and Ubisoft publishers might be preferred for the future in the European and North American markets, but Namco Bandai Games and Square Enix publishers should be preferred instead of these publishers for the Japanese market.

Step 4

In the step 1, to summarize the different information, I've grouped different variables and used different graphs, the details of which are given below.

- I used the line chart that shows the fluctuation of sales in different locations over time. If the assumption were true, it would be expected to see a straight line on the graph, but on the contrary, by showing how the lines fluctuate at different intervals on the graph, the change over time can be easily noticed even by stakeholders who do not have in depth knowledge of the data.

- I used another line chart that shows the share of different locations in global sales over time. In support of the above chart, the change in the market share rates of the 3 largest regions over time can be easily observed so that it is shown also in this chart that the current assumption is invalid.

- In order to specify which game types have been popular in different regions recently by consumers I used clustered bar chart. This chart shows the clustered data obtained by comparing different variables, allows the difference to be easily noticed. Thus, in which location which game genre is more popular than the others can be distinguished at glance by stakeholders.

- To determine which region get more market share in sales from different platforms I used a stacked bar chart. With stacked bar chart, it can be recognized in what proportion the sales on each platform are distributed to the locations. Likewise, the information about which platforms are more popular than the others in different locations can be detected.

- To show which platforms have been popular around the world recently and the total number of games released on the platforms I used a pie chart. In the pie chart, the data that has the most and the least share of a whole is visually seen in the simplest and easiest way. It can be understood from this chart that which platform has the most and which the least number of published games, even without the numbers.

- To see which publishers have taken the most market shares recently in different locations I used horizontal bar charts. For this, I created separate charts with data from the top 3 locations, North Africa, Europe and Japan. In this way, stakeholders can realize and compare which publishers dominate the market in different regions.

With all these different charts created with different variables, I aimed to transmit the historical data to the stakeholders in the easiest way. Even if they do not have detailed information about data structures, with these plain visualizations constituted I intended to encourage them review their current assumptions and in the light of this new information make them revise their views on the sector.