Exploratory analysis and data visualization

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Dataset source :
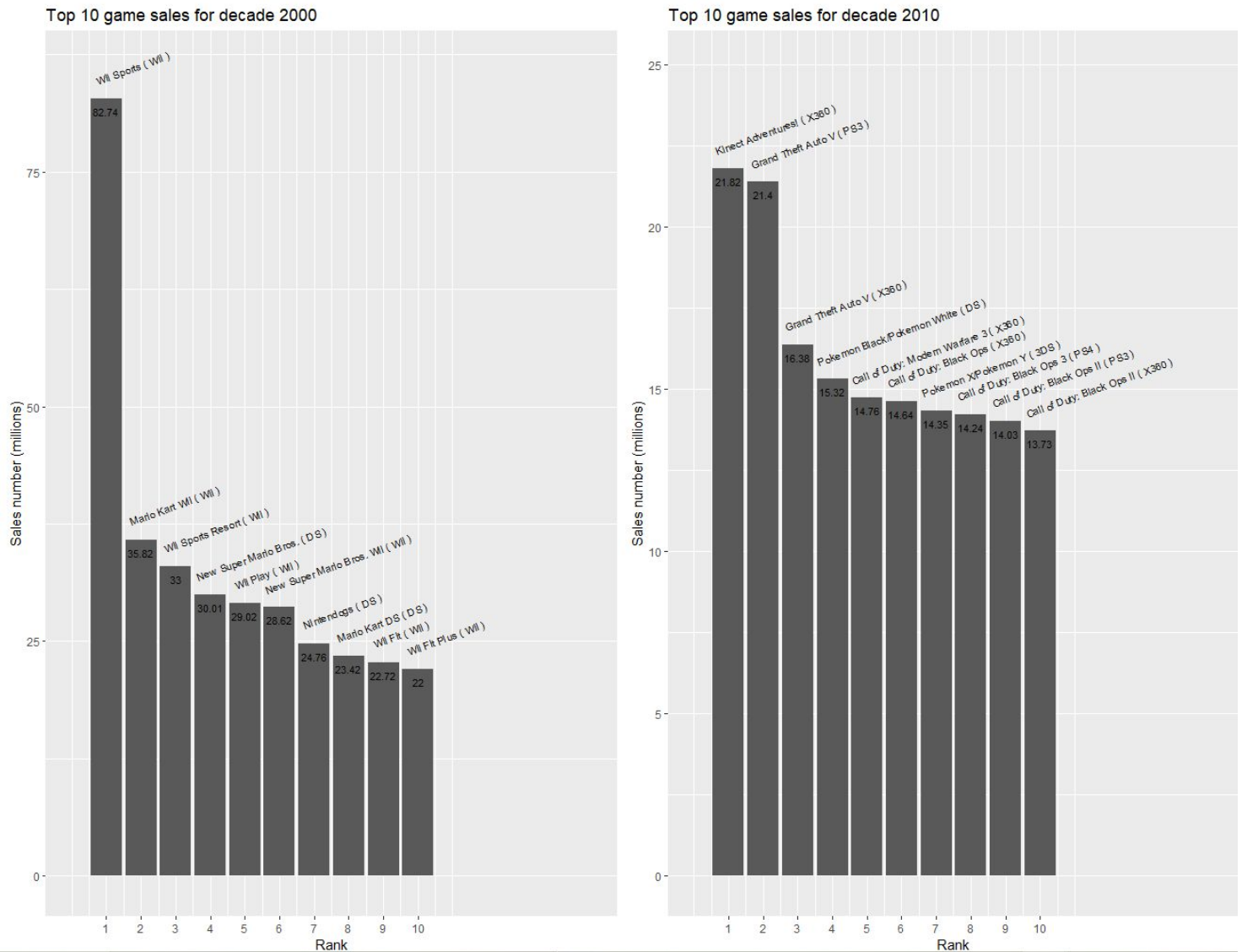- https://www.kaggle.com/gregorut/videogamesales

This dataset represents the sales of video games, from 1980 to 2015 (and incomplete data for 2016). We have data for sales in Europe, Japan, North America and 'Others'. Approximatively 16 000 video games are recorded in this data set.

In addition to the sales number, we had access to the platform the games are published on, as well as the publisher of the game. We also had access to the genre of the video game.

We will use this data to try to answer some questions.

Note : Even if there is some data for 2016+, we 'removed' them before the execution of our code because we wanted clear graphs (We could have believed that sales had dramatically dropped in 2016 if we didnt remove the 2016 sales that are incomplete).

Top10 sales per decade

Top 10 game sales for decade 2000

Wii Sports (Wii)
82.74

Mario Kart Wii (Wii)
35.82

Wii Sports Resort (Wii)
33

New Super Mario Bros. (DS)
30.01

Wii Play (Wii)
29.02

New Super Mario Bros. Wii (Wii)
28.62

Nintendogs (DS)
24.76

Mario Kart DS (DS)
23.42

Wii Fit (Wii)
22.72

Wii Fit Plus (Wii)
22

Top 10 game sales for decade 2010

Kinect Adventures! (X360)
21.82

Grand Theft Auto V (PS3)
21.4

Grand Theft Auto V (X360)
16.38

Pokemon Black/Pokemon White (DS)
15.32

Call of Duty: Modern Warfare 3 (X360)
14.76

Call of Duty: Black Ops (X360)
14.64

Pokemon X/Pokemon Y (3DS)
14.35

Call of Duty: Black Ops 3 (PS4)
14.24

Call of Duty: Black Ops II (PS3)
14.03

Call of Duty: Black Ops II (X360)
13.73

In this graph, we are going to get the video games that were the most successful of their time. We split the graph by decade and sorted the games by sales over this time period.

We can say that the Wii and DS (Nintendo) are pretty much dominating the 2000 decade, while the 2010 decade is shared between PS3, PS4, DS, 3DS as well as X360. We can also see that, during this decade, Grand Theft Auto V is, at the same time, the top 2 and top 3 of most sold games, on both leading platforms, PS3 and X360.

We can also see the difference in scale between these two graphs, one reaches 82.74 millions of sales, and the other one 'only' 21.82. This is because Wii Sports is a game that was sold with the Nintendo Wii console, and so the people were 'in obligation' to buy it. We can also say the gap can be explained by the fact that this dataset is from 2016, so the 2010 decade is not over yet.
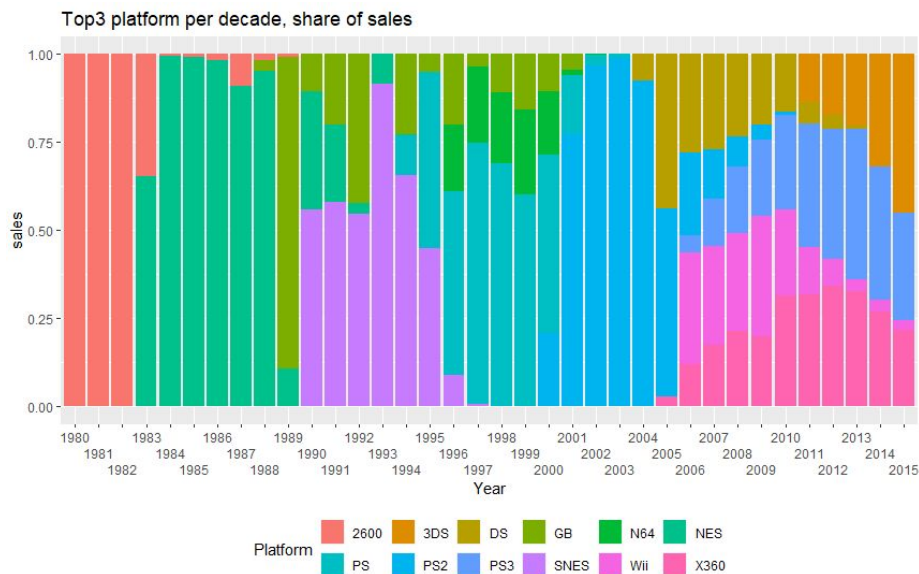
Sales per contient and per year
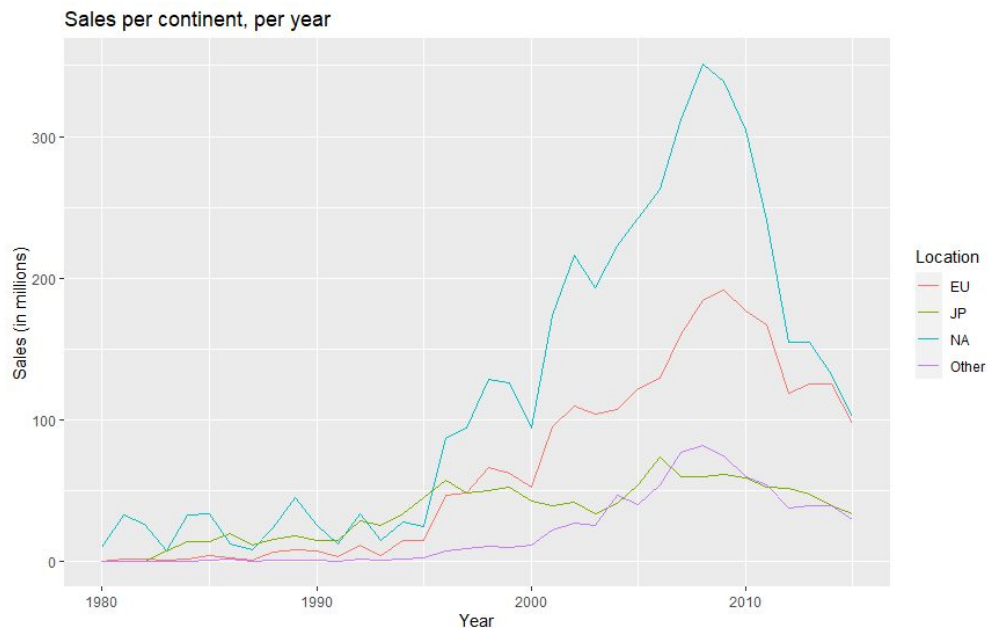
Sales of video games for Europe, North America, Japan and every other country, from 1980 to 2015. We can observe an increase in sales, especially since 1995, then a big decrease starting from 2008.

Sales of the 5 most sold genre, per year
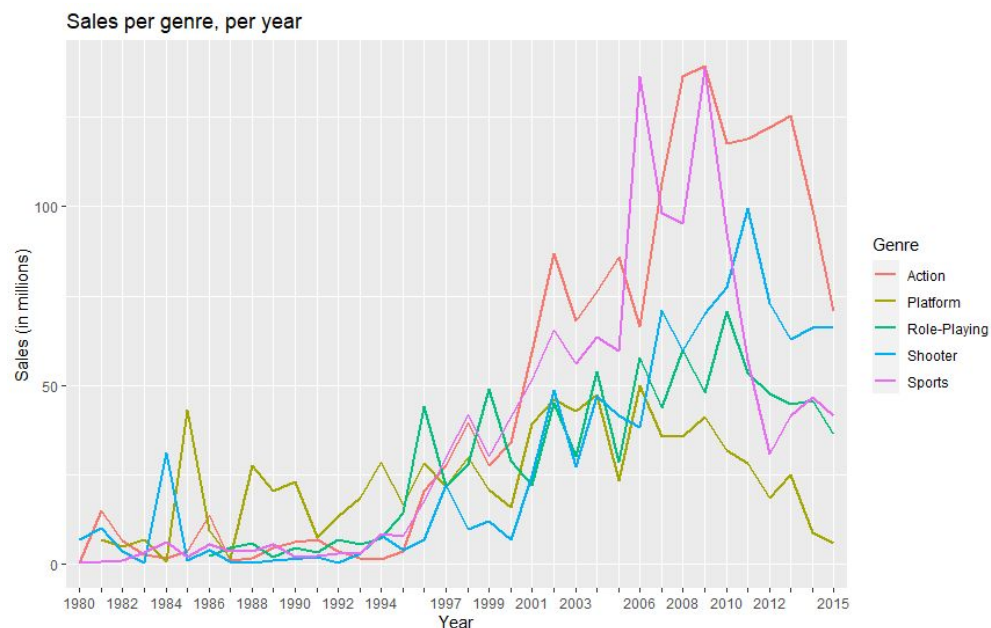
Here, we have extracted the 5 most sold genres during the 1980-2015 period. We can observe that differente genres have different periods during which they are sold. For example, the action genre, the most sold, is mostly sold from 2000, while platform games, the second most sold genre, is constant since 1980.

Sales for the top 3 of console per decade, per year

Here, we choosed top the 3 of console per decade, then we show, per year, the share of market they had relatively to others. We can see that one console is taking almost every share of the market before 2000, then, in 21th century, the market is shared between Sony, Nintendo and Microsoft consoles.
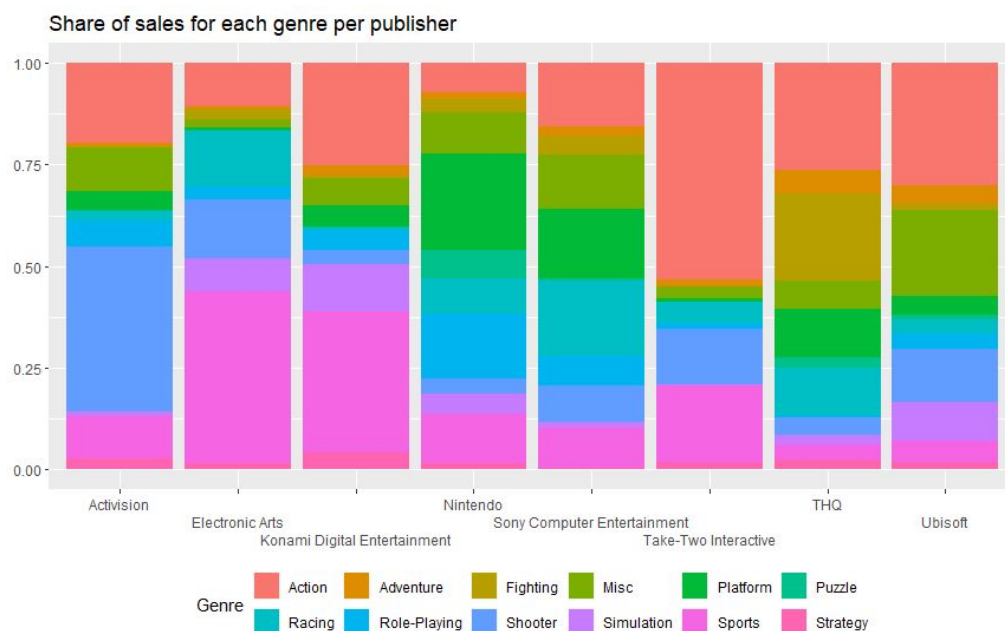
Most sold genre per console
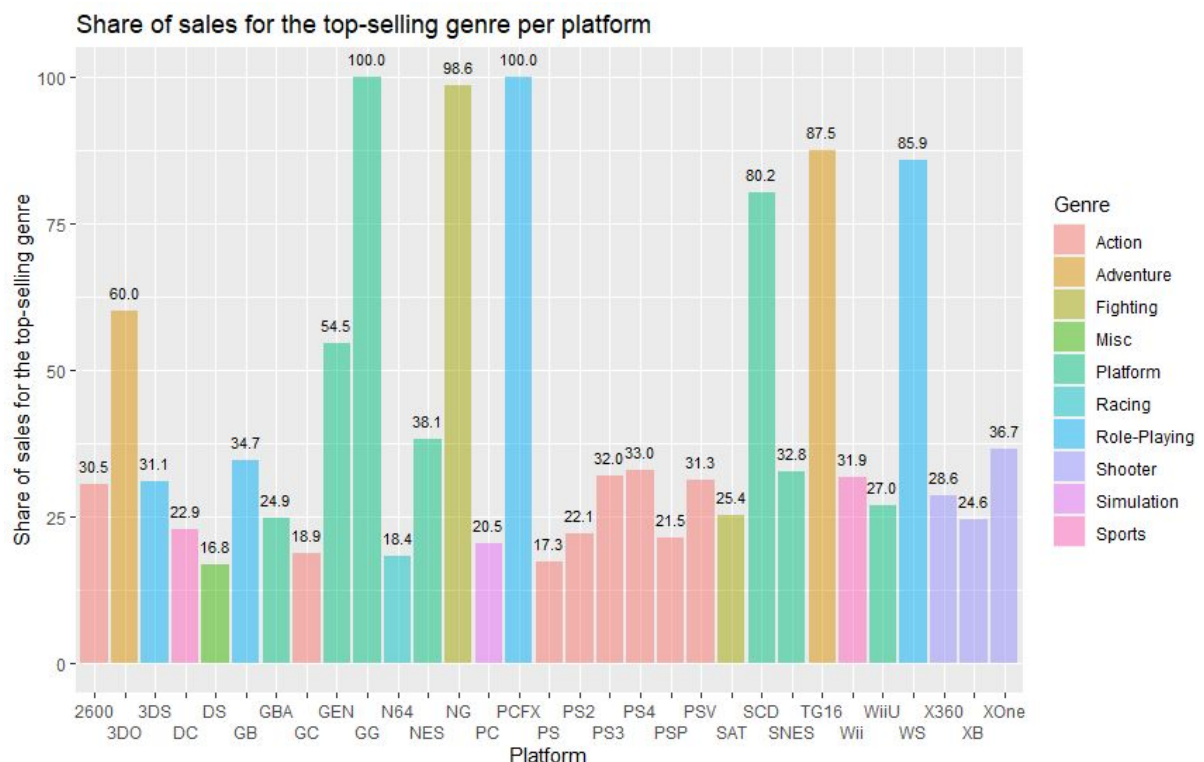
For each platform, we have a show which is the most sold genre for this platform. We can see that, for example, Sony platforms (playstations) are mostly sold for the action genre, and Microsoft consoles (xbox) for the shooter genre.

Sales for the 20 most sucessful publishers

Sales per publisher, between 1980 and 2015
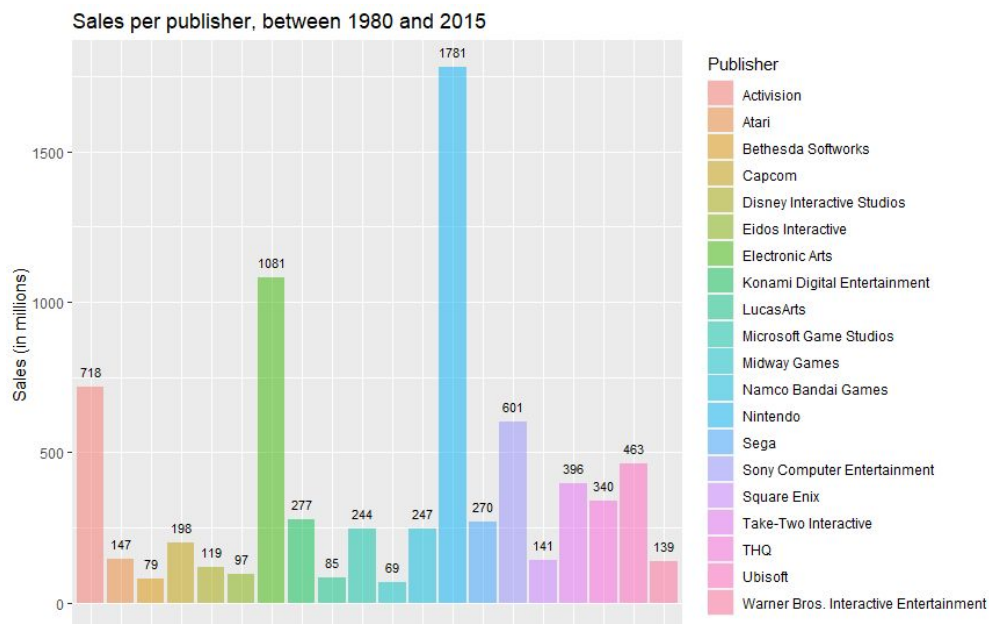
We wanted here to find who were the most popular publishers. To realize this bar graph, we summed all the sales associated with the publisher. Nintendo is far above every other competitor. Followed by EA and Activision which have respectively six tenths and a third of Nitendo sales. Other competitors are quite far from this top 3.

Percentage of genre for top8 publisher

Share of sales for each genre per publisher

For the top 8 of most sucessful publishers, we show the share of each genre for their sales. For each publisher, we can link them with their platform and "Most sold genre per console" and we will pretty much find the top genre we find in this graph too. We can see that publishers are generaly specialized in 3 genres approximatively, and these 3 main genres represent about 80% of the sales (It can be linked with Pareto Principle).