What makes a "Good" (highly rated) video game?

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Video Link

Data

- Video Game Sales Data
  - From VGChartz
- Ratings Data
  - From Metacritic
  - Compiled by Rush Kirubi
- There are about 6825 complete cases

- Data Source

Data transformation

- “Video_Games_Sales_as_of_22_Dec_2016.csv“ was downloaded and imported into a Jupyter Notebook as ‘gameDF’
- All records containing NaN were dropped
- A "Composite_rating“ feature was created by averaging Critic_score and 10 * User_score

Null Model

- Average Composite Rating = 71.06
- σ = 12.56

Base Model

- Composite_rating ~ Global_Sales +Year_of_Release
  - R^2 = 0.06
  - σ = 12.16

Model With Genre

- Composite_rating ~ Global_Sales +Year_of_Release +Fighting +Misc + Puzzle +Racing +Shooter + Simulation + Sports + Strategy
  - R^2 = 0.06
  - σ = 12.11

Genre	Effect on Rating
Fighting	Indeterminate
Misc.	Below Average
Puzzle	Indeterminate
Racing	Below Average
Shooter	Indeterminate
Simulation	Indeterminate
Sports	Above Average
Strategy	Above Average (*)

*Strategy actually had the biggest positive effect on ratings of any genre, but the sample size was small (about 100 games).

Model with Age Rating

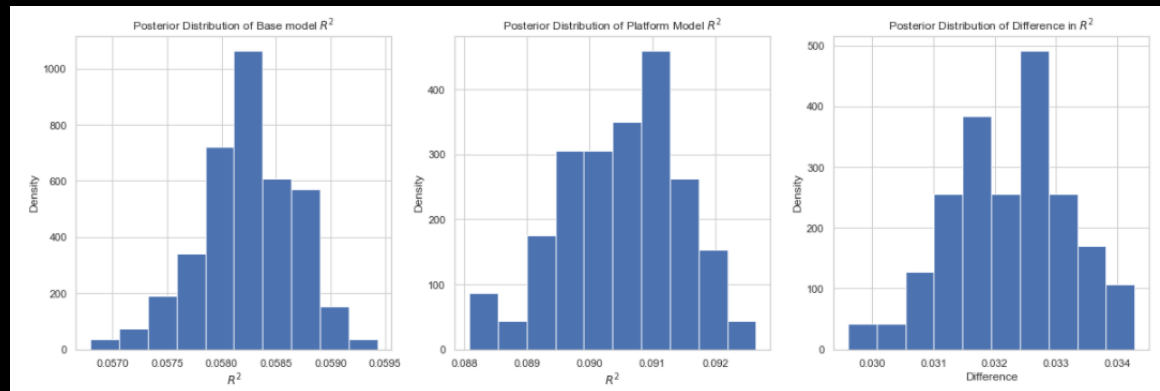
- Composite_rating ~ Global_Sales +Year_of_Release + E+T +M
  - R^2 = 0.06
  - σ = 12.14

Age Rating	Effect on Review Rating
E	Indeterminate
T	Above Average
M	Above Average

Model with Platform

- Composite_rating ~ Global_Sales +Year_of_Release +Wii + DS + X360 + PS3 +PS2 + DS3 + PS4 + PS + XB+ PC
  - R^2 = 0.09
  - σ = 11.96
- Using 10 fold validation and 100 times bootstrapping, we found the probability that the R^2 of the model with platform is greater than the base model is 100%

Platform	Effect on Rating
Wii	Below Average
DS	Below Average
X360	Below Average
PS3	Below Average
PS2	Below Average
3DS	Below Average
PS4	Below Average
PS	Below Average
XB	Indeterminate
PC	Above Average




```
print("P(platform model R2 > base model R2)", np.mean(difference > 0))
```

```
P(platform model R2 > base model R2) 1.0
```

Conclusions

Advice on how to make a highly rated game

- Don’t be afraid of high sales
  - Global sales were positively correlated with ratings
- Have focus
  - In terms of Genre, “miscellaneous” had the worst average ratings and “strategy” had the best.
- Explore Mature themes
  - “M” rated games had the highest average ratings of all themes
- Make games for PC, avoid the Wii
  - PC was the platform with the highest average ratings and the Wii had the lowest