Predicting board game popularity

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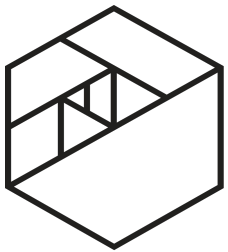


Metis (the bootcamp)

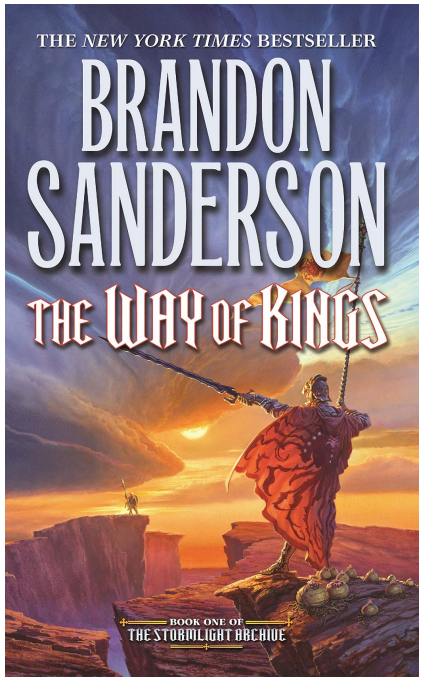
Metis (the board game)

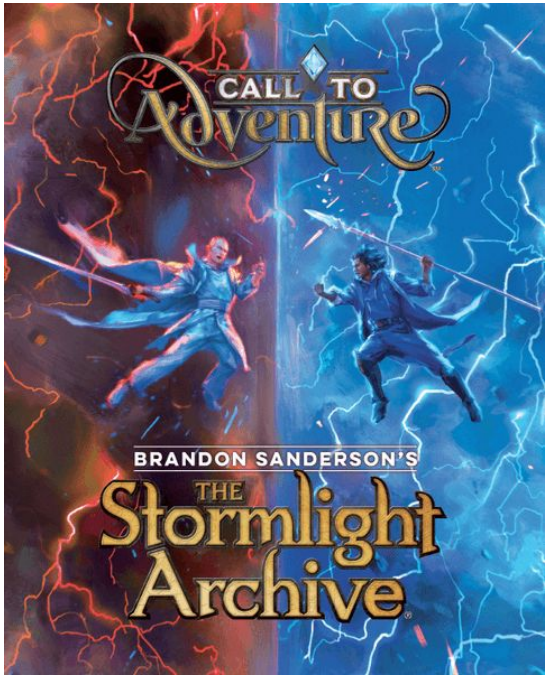
Outline

1. Setting objectives
2. Data source and features
3. Defining popularity metrics
4. Modeling results
5. Conclusions

Objective: help game makers decide on game properties to maximize popularity

Given idea, theme, or aesthetic, how can a game maker ensure success?



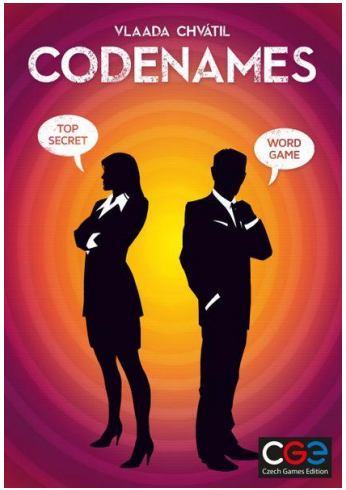


Data sources and acquisition

Scraped 10000 highest ranked board games from Boardgamegeek.com

Features: complexity, playtime, number of players, price, categories

Scope limited by data source -- popularity among ***enthusiasts***:



Rank 91

Rank 4

Many metrics can define popularity

Stats

GAME STATS

Avg. Rating	8.481
No. of Ratings	1,533
Std. Deviation	1.32
Weight	2.87 / 5
Comments	416
Fans	407
Page Views	445,514

GAME RANKS

Overall Rank	496
Thematic Rank	61
Strategy Rank	220

PLAY STATS

All Time Plays	3,838
This Month	2,154

COLLECTION STATS

Own	3,767
Prev. Owned	24
For Trade	22
Want In Trade	624
Wishlist	4,294

PARTS EXCHANGE

Has Parts	0
Want Parts	2

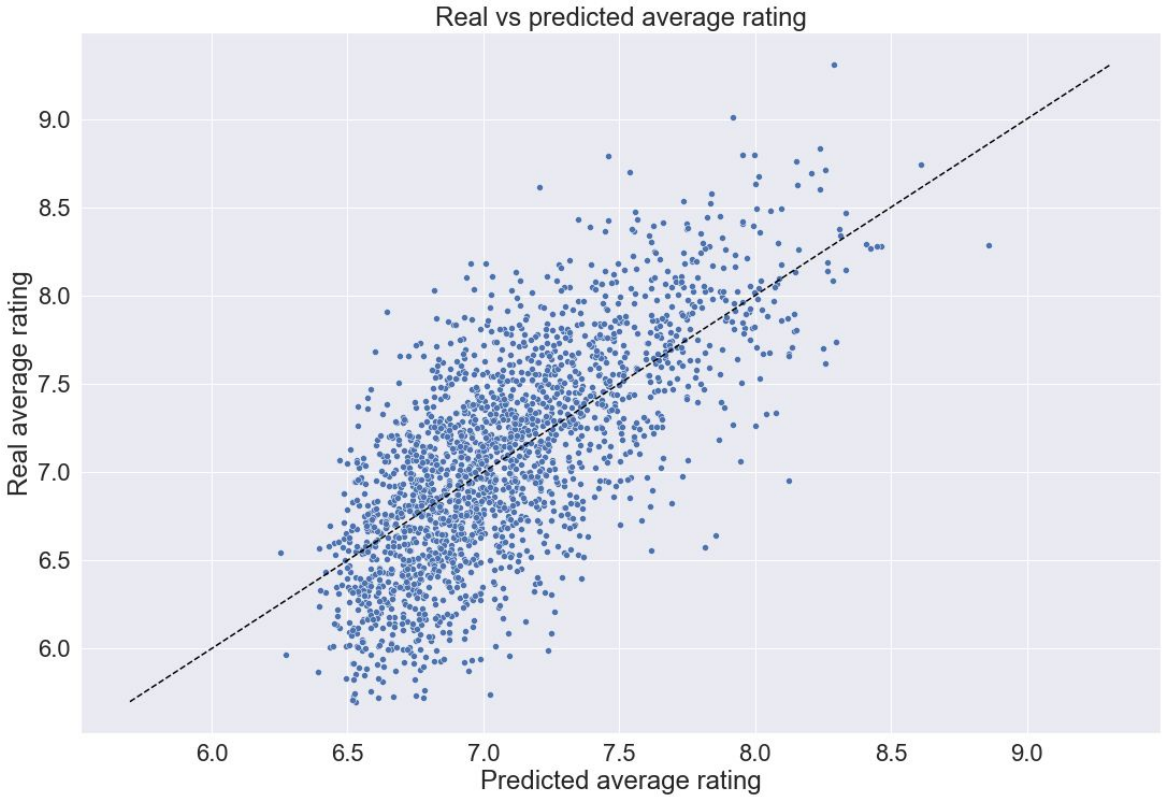
Average rating: “quality” of game

Number of plays: mass appeal

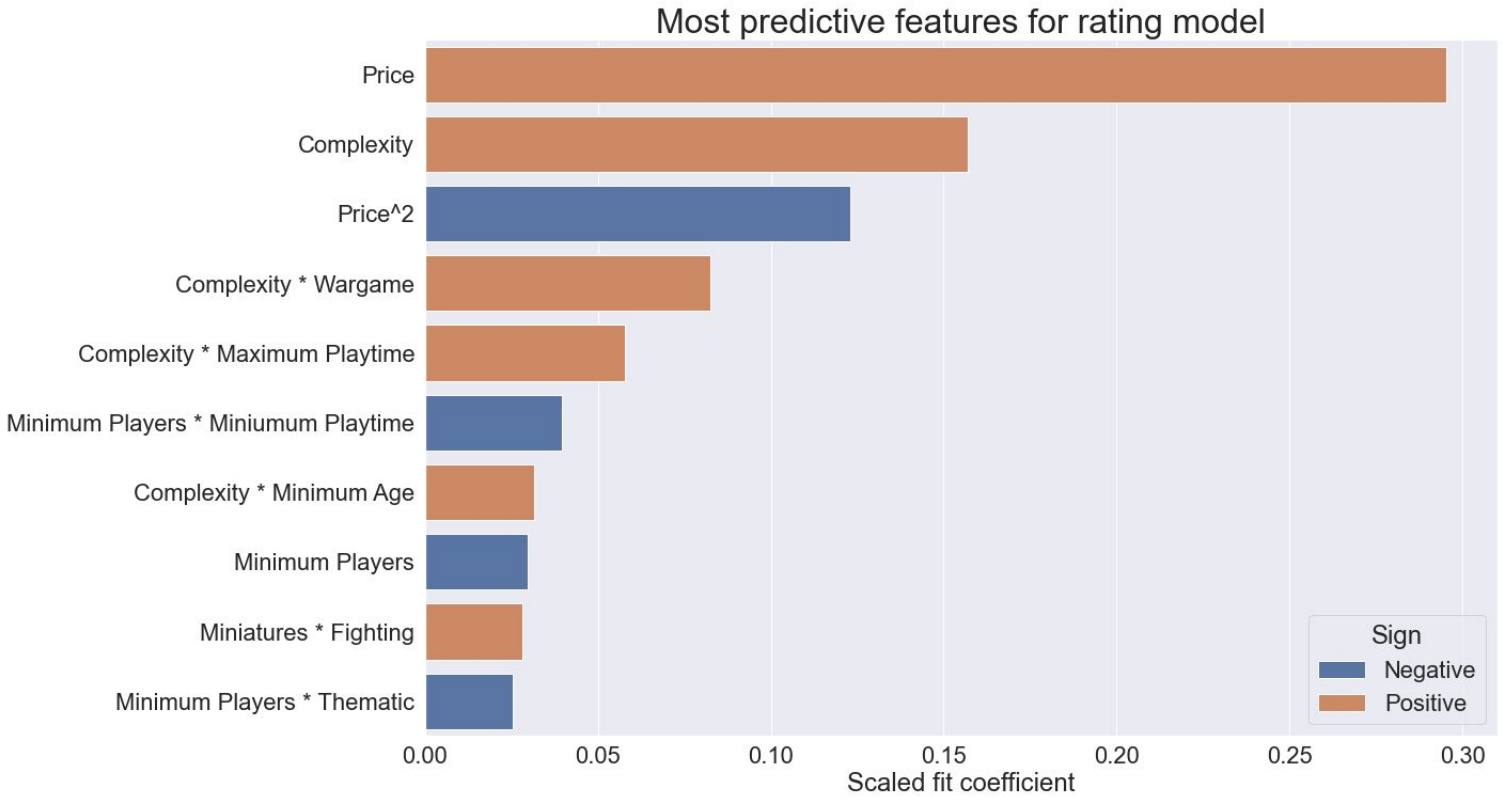
Predicting board game ratings with Lasso regression

Features include interaction terms, but 84% of all terms set to 0 by regularization

Test R^2: 0.49
Test MAE: 0.34



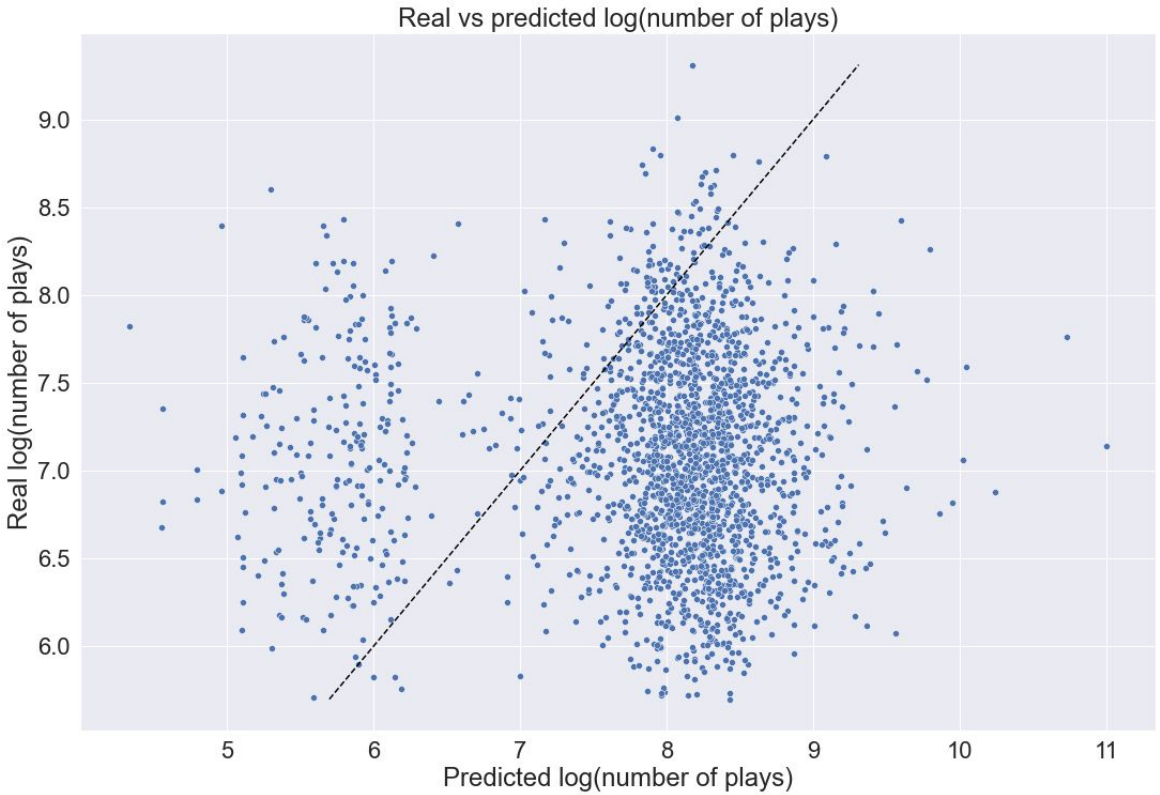
Largest predictors of rating are continuous features



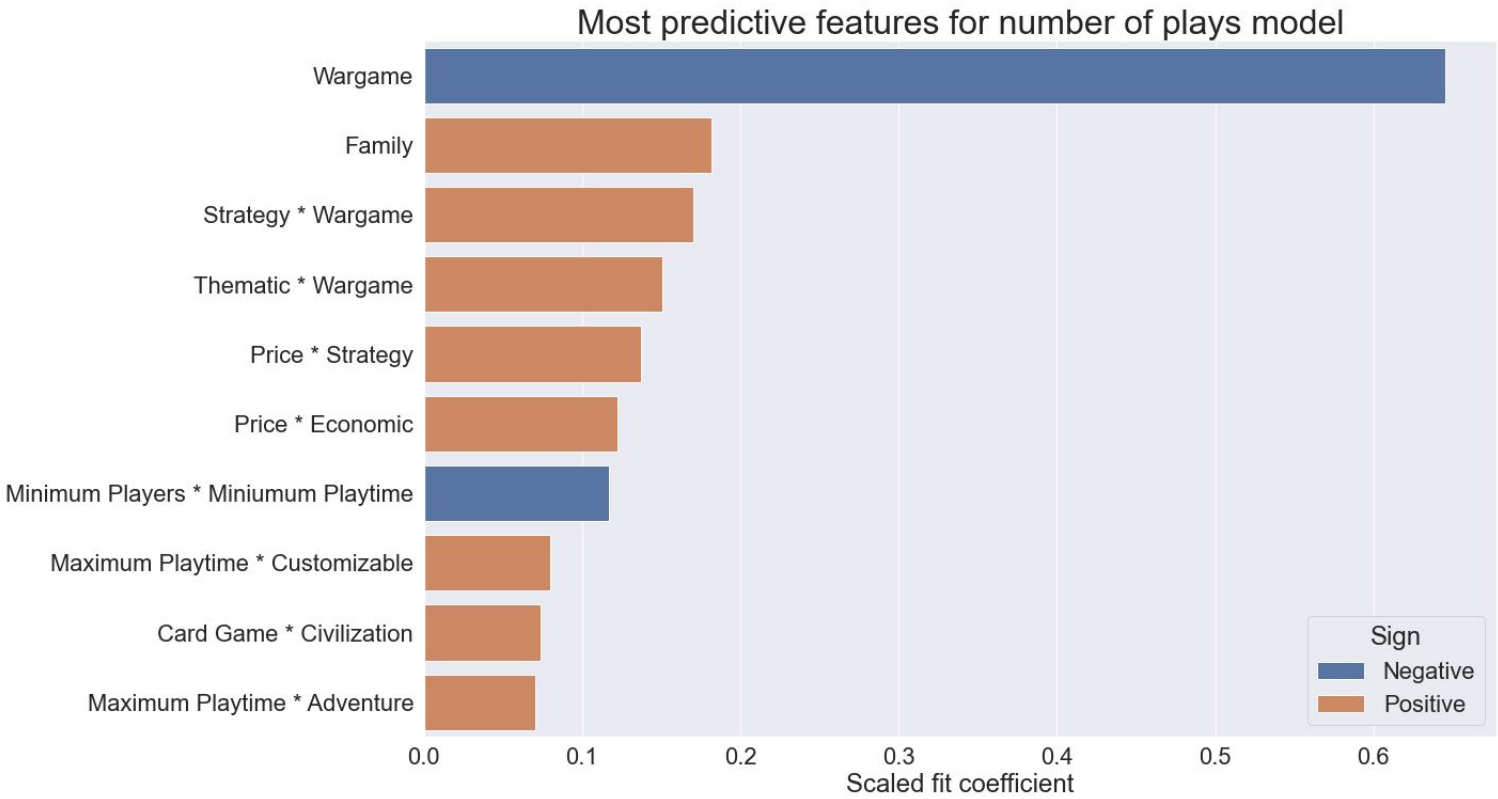
Predicting number of plays with Lasso regression

Model uses log of the number of plays as objective

Test R^2: 0.27
Test MAE: 1.13
(multiplicative factor of 3.1)



Largest predictors of play number are categorical



Conclusions and recommendations

- Two similar objectives rely on different features
- Easier to predict rating than number of plays a game will get
- Games of all categories can perform well
- Keep audience in mind when using these models

Questions?

A free board game idea

Occult Hamster Apocalypse

Predicted rating: 9.5/10

* Complexity : 4.11
* Minimum Players : 2
* Maximum Players : 7
* Miniumum Playtime : 10
* Maximum Playtime : 380
* Minimum Age : 14
* Price : 73

Categories:

* Strategy
* Thematic
* Wargame
* Abstract Strategy
* Science Fiction
* Fantasy
* Deduction
* Horror
* Adventure
* Party Game
* City Building
* Bluffing
* Fighting