Film Analysis & Examination

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Movie Genre Investigation with Python and MySQL

Exploring the industry landscape

- What is a movie idea for a prospective studio?
  - Strategies to employ
  - Constraints to be made
  - Trends to be seen

Discerning the profitability of specific movies by their genre

- How is a movie's success measured?
  - User reviews?
  - Box Office Numbers?
  - Returns based on Budget?

What was accomplished

- Correlation between user reviews & box office returns.
- Profits vs. budgets between different movie genres.
- Advantages or disadvantages between each movie genre.
- Checked if a movie figure had any monetary impact.

Mainstream Genres selected:

- 3D
- Animation
- Romantic Comedy
- Horror
- Gay/Lesbian

*genre popularity based on BoxOfficeMojo

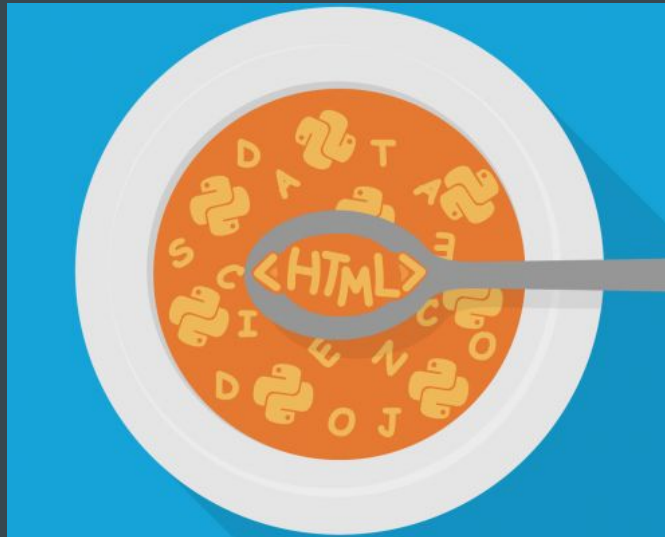# Origin of the analyzed data (Sources Used)

Data gathered onto the MySQL database

Film	Genre	Revenue	Budget	Rating	# of Stars	Total Bankability
Avengers: Endgame	3D	$856,706,929	$356,000,000	8.70	10	$103,719,571
Jurassic World	3D	$652,270,625	$150,000,000	7.00	3	$30,552,273
Star Wars: The Last Jedi	3D	$620,181,382	$317,000,000	7.10	0	$0
Rogue One: A Star Wars Story	3D	$532,177,324	$200,000,000	7.80	1	$15,416,491
Avengers: Age of Ultron	3D	$459,005,868	$250,000,000	7.30	5	$52,008,677
Shrek 2	Animation	$441,226,247	$150,000,000	7.20	1	$8,415,932
The Lion King	Animation	$422,783,777	$45,000,000	8.50	1	$10,851,176
Jurassic World: Fallen Kingdom	3D	$417,719,760	$170,000,000	6.20	3	$30,552,273
Toy Story 3	Animation	$415,004,880	$200,000,000	8.30	2	$22,070,408
Wonder Woman	3D	$412,563,408	$149,000,000	7.50	1	$8,402,849
Iron Man 3	3D	$409,013,994	$200,000,000	7.20	2	$21,075,046
Captain America: Civil War	3D	$408,084,349	$250,000,000	7.80	3	$33,805,198
Jumanji: Welcome to the Jungle	3D	$404,564,861	$90,000,000	7.00	1	$8,679,831
Frozen	3D	$400,738,009	$150,000,000	7.50	1	$9,864,583
Guardians of the Galaxy Vol. 2	3D	$389,813,101	$200,000,000	7.70	2	$24,092,742
Finding Nemo	Animation	$380,843,261	$94,000,000	8.10	0	$0
The Secret Life of Pets	3D	$368,384,330	$75,000,000	6.50	0	$0
Despicable Me 2	3D	$368,061,265	$76,000,000	7.40	0	$0

Collecting data from BoxOfficeMojo

- Involved the process of exploring the website's HTML code using the Python library: Beautifulsoup.

Collecting data from IMDb

- OMDb 3rd party API key to get USER RATINGS

Collecting data from The-Numbers: Historical Trends
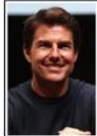

Studios

Directors

Actors

Technology

?

Collecting data from The-Numbers

Bankability Index Value per Movie for June, 2019

1 **Tom Cruise** $22,537,572
Best known as a **Leading Actor** based on credits in that role in 37 films, with $8,444,547,050 worldwide aggregate box office (rank #2)
1.1 movies/year
$24,791,329/year
Best-known acting roles: Ethan Hunt (Mission: Impossible—Fallout), Ethan Hunt (Mission: Impossible—Rogue Nation), Ethan Hunt (Mission: Impossible—Ghost Protocol), Ray Ferier (War of the Worlds), Famous Austin Powers (Austin Powers in Goldmember)
Change
Value: +$1,791,379
Best-known technical roles: Mission: Impossible—Fallout (Producer), Mission: Impossible—Rogue Nation (Producer), Mission: Impossible—Ghost Protocol (Producer), Mission: Impossible 2 (Producer), Mission: Impossible III (Producer)
Most productive collaborators: Christopher McQuarrie, Alex Kurtzman, Doug Liman, David Koepp, Steven Spielberg
Born: July 3, 1962 (57 years old)

Full Information...

2 **Will Smith** $20,593,743
Best known as a **Leading Actor** based on credits in that role in 27 films, with $5,944,329,352 worldwide aggregate box office (rank #10)
1.1 movies/year
$22,653,117/year
Best-known acting roles: Genie (Aladdin), Deadshot (Suicide Squad), Robert Neville (I am Legend), John Hancock (Hancock), Agent J (Men in Black 3)
Change
Value: +$491,681
Best-known technical roles: Hancock (Producer), Hitch (Producer), The Pursuit of Happyness (Producer), Annie (Producer), I, Robot (Executive Producer)
Most productive collaborators: James Lassiter, David Ayer, Akiva Goldsman, Jared Leto, Margot Robbie
Born: September 25, 1968 (50 years old)

Full Information...

3 **Robert Downey, Jr.** $16,602,313
Best known as a **Leading Actor** based on credits in that role in 30 films, with $2,460,365,900 worldwide aggregate box office (rank #82)
1.4 movies/year
$23,243,238/year
Best-known acting roles: Tony Stark/Iron Man (Avengers: Endgame), Tony Stark/Iron Man (Avengers: Infinity War), Tony Stark/Iron Man (The Avengers), Tony
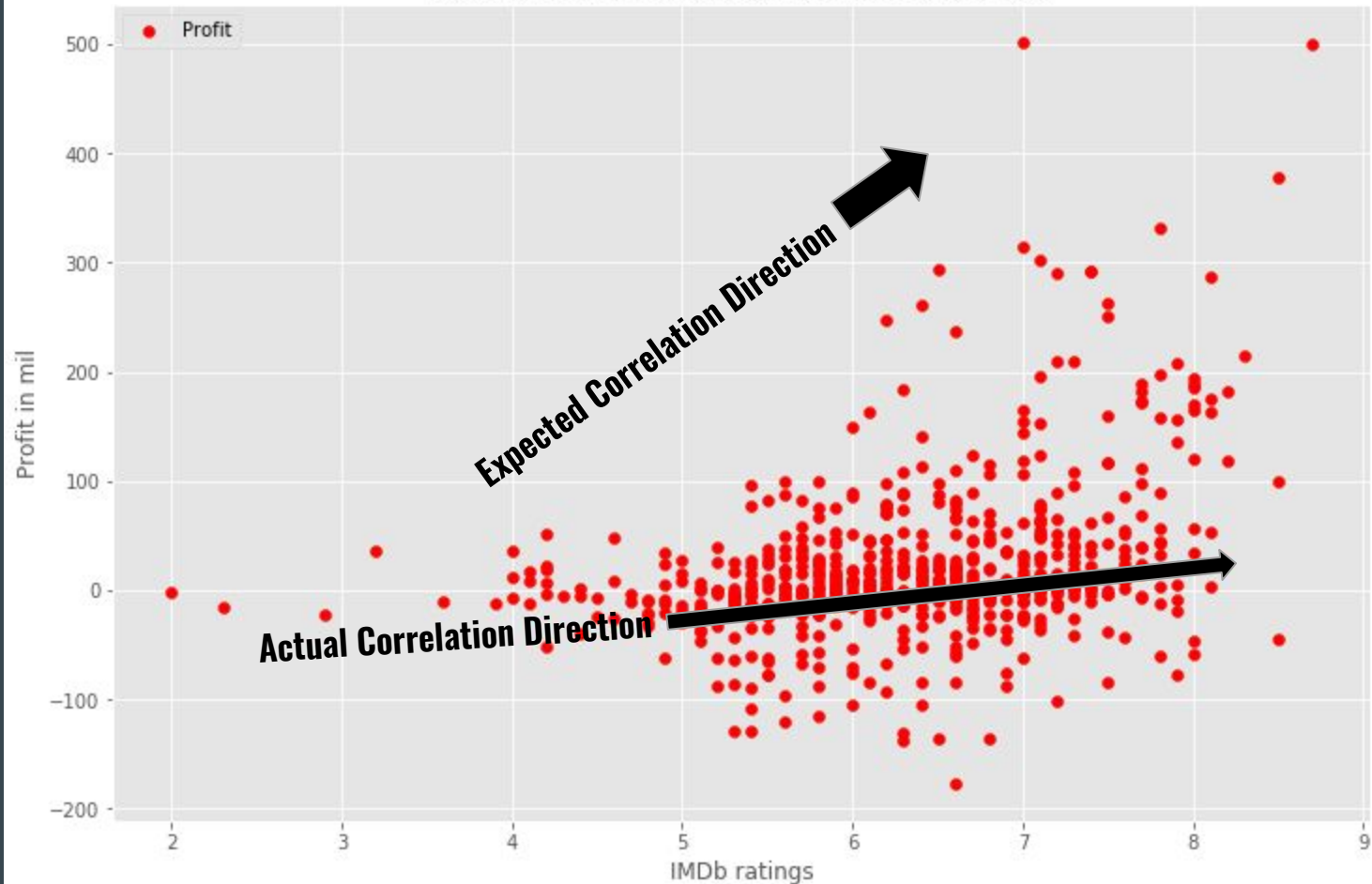Change
Value: +$91,901

Name	Bankability Index	Recent Work	Films per Yr	# of Blockbusters
Tom Cruise	$22,537,572	Mission: Impossible: Fallout	1.1	7
Will Smith	$20,593,744	Aladdin	1.1	9
Robert Downey, Jr.	$16,602,313	Avengers: Endgame	1.4	7
Sandra Bullock	$15,694,181	Minions	1	10
Kathleen Kennedy	$15,416,491	Star Wars Ep. VII: The Force Awakens	1.3	6
Clint Eastwood	$14,466,692	The Mule	1.1	7
Denzel Washington	$14,189,296	The Equalizer 2	1.2	7
Ben Affleck	$13,770,962	Batman v Superman: Dawn of Justice	1.2	6
Vin Diesel	$13,610,706	Avengers: Infinity War	1.2	8
Kevin Feige	$13,144,845	Avengers: Endgame	2.2	5
Leonardo DiCaprio	$11,501,979	Titanic	1.8	10
John Williams	$11,486,027	Star Wars Ep. VII: The Force Awakens	1.3	6
Steven Spielberg	$11,175,085	Jurassic World	2.9	10
Tom Hanks	$11,091,235	Toy Story 4	2.1	10
Michael Keaton	$10,979,173	Spider-Man: Homecoming	1.3	6
Jon Favreau	$10,851,176	Avengers: Endgame	2	8
Kenneth Branagh	$10,802,765	Dunkirk	1	8
Angelina Jolie Pitt	$10,786,097	Maleficent	1.5	7
Bradley Cooper	$10,482,036	Avengers: Endgame	2.5	6
Gwyneth Paltrow	$10,223,870	Avengers: Endgame	1	5
David Heyman	$10,080,186	Harry Potter and the Deathly Hallows: Part II	1.2	5
John Lasseter	$9,864,583	Incredibles 2	2.2	6
Alan Silvestri	$9,679,797	Avengers: Endgame	1.5	5
Scarlett Johansson	$9,675,619	Avengers: Endgame	2.2	6
Emma Watson	$9,467,350	Beauty and the Beast	1.2	5

Research Results:

Visualized using matplotlib

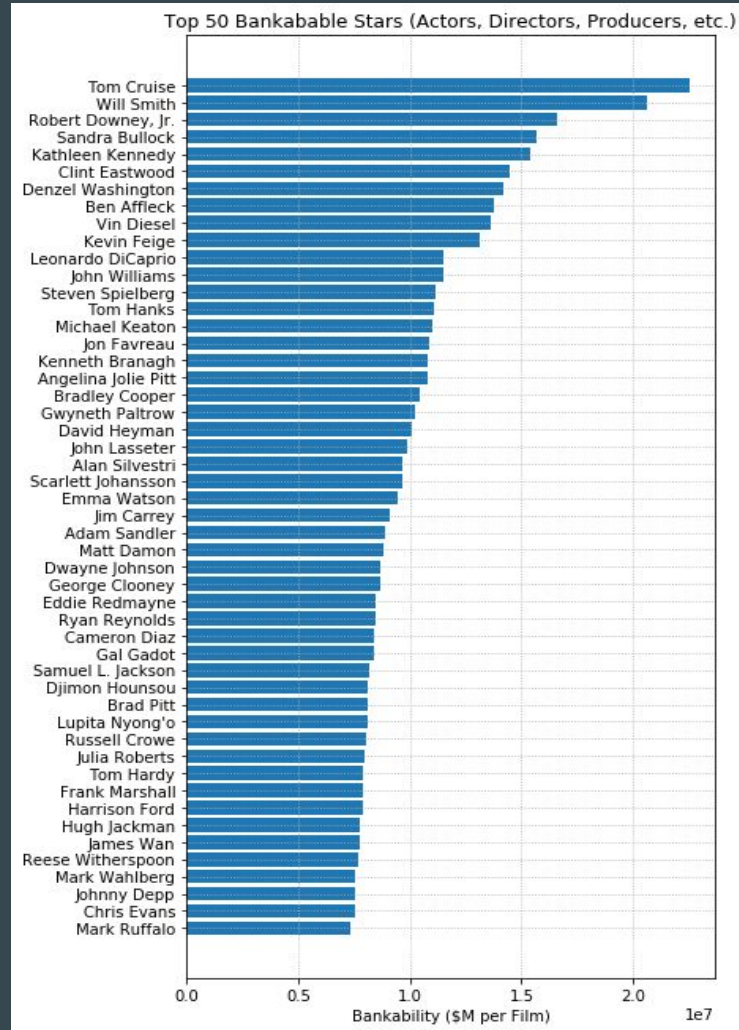# Correlation between profit and ratings

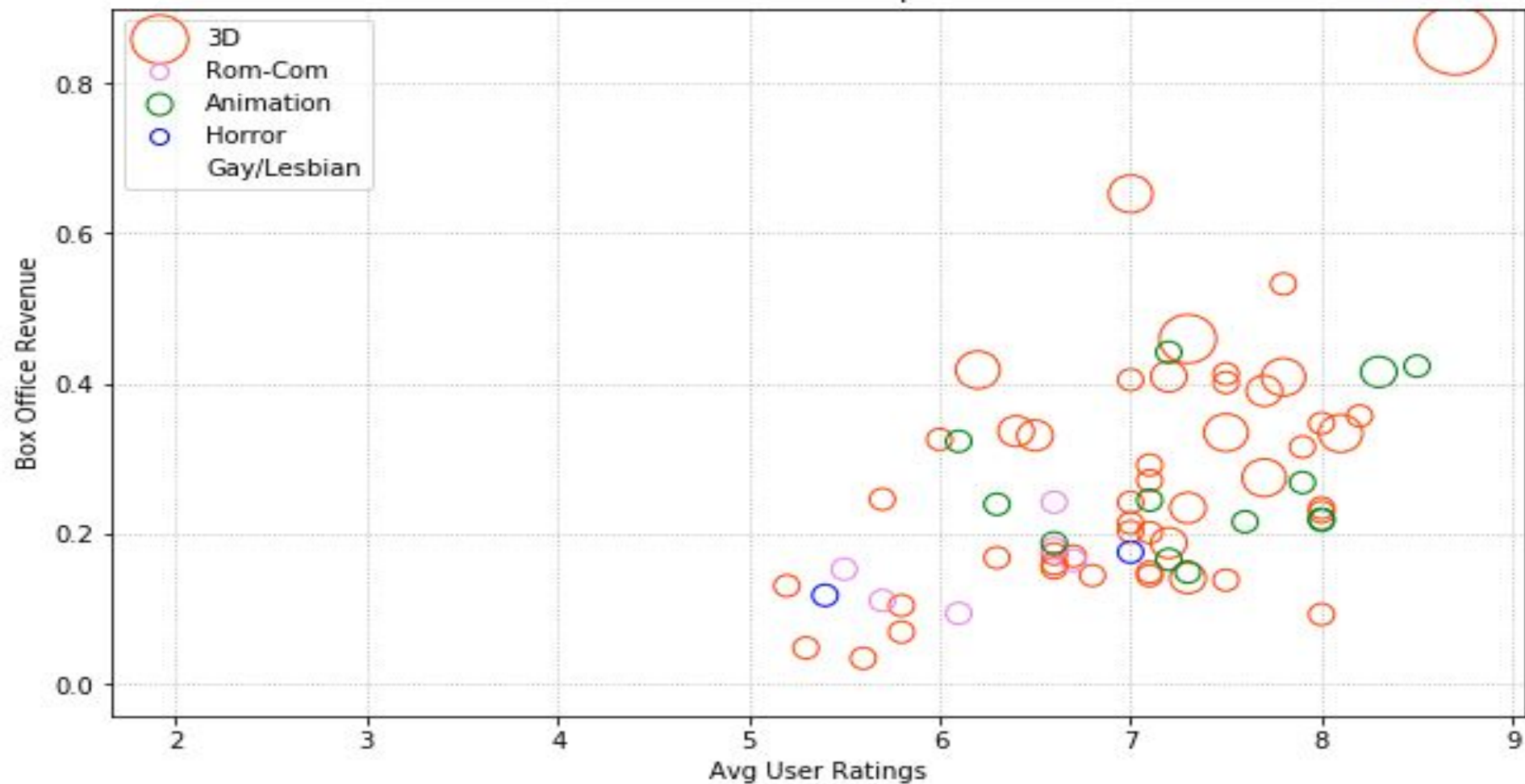Relationship between profit and IMDb ratings

Are ratings overrated?

The-Numbers: Bankability Index

- Methodology
  - Weighted Inter-relationships
  - Annually Recalculated
- Not only Actors/Actresses
  - Growing Diversity
  - Factors into Profitability?
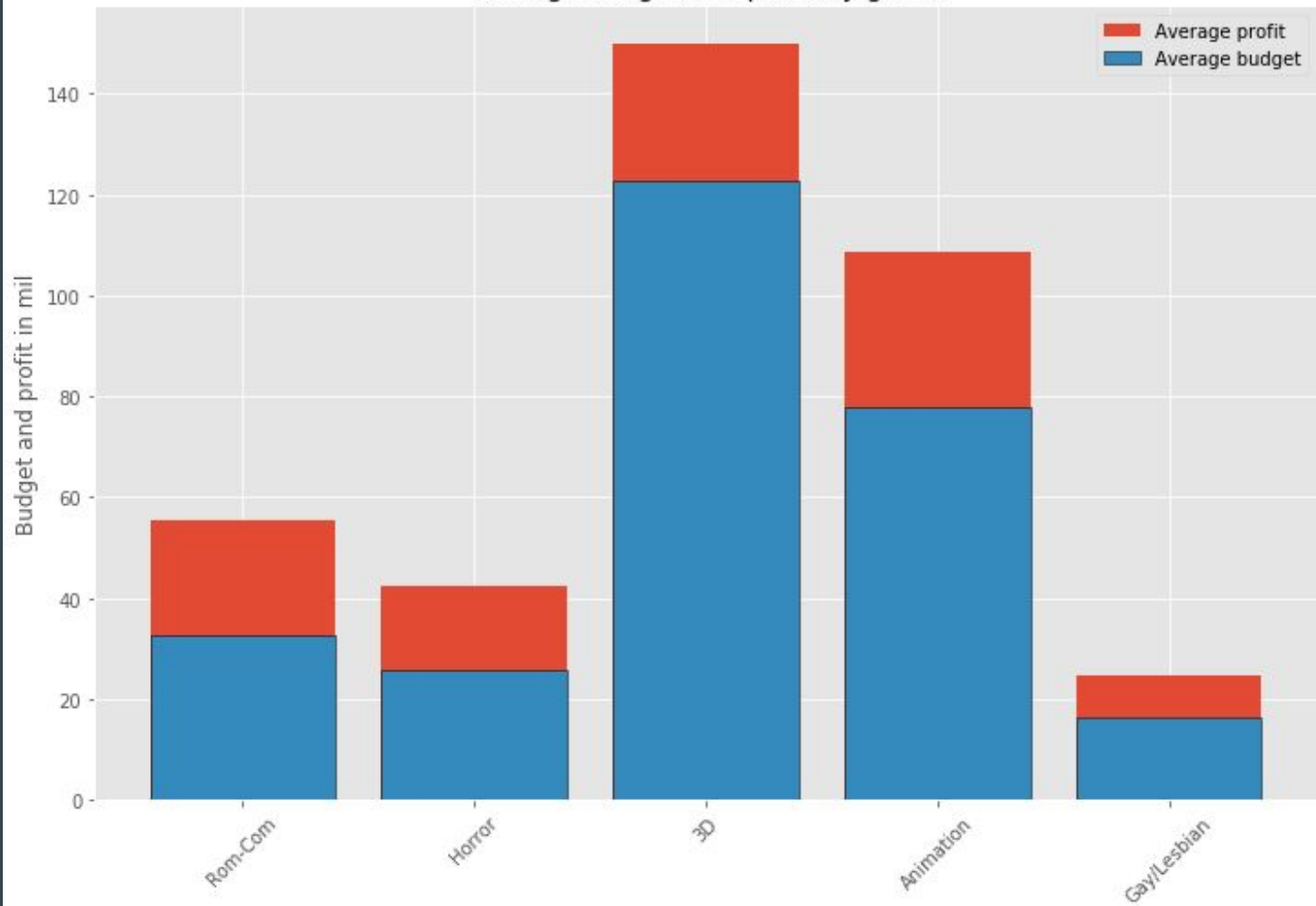 - Factors into User Satisfaction?

Top 50 Bankabable Stars (Actors, Directors, Producers, etc.)

Bankability ($M per Film)

Relationship between User Ratings and Box Office Revenue
Circle Size = # of Top 50 Bankable Stars

Average budget and profit by genre
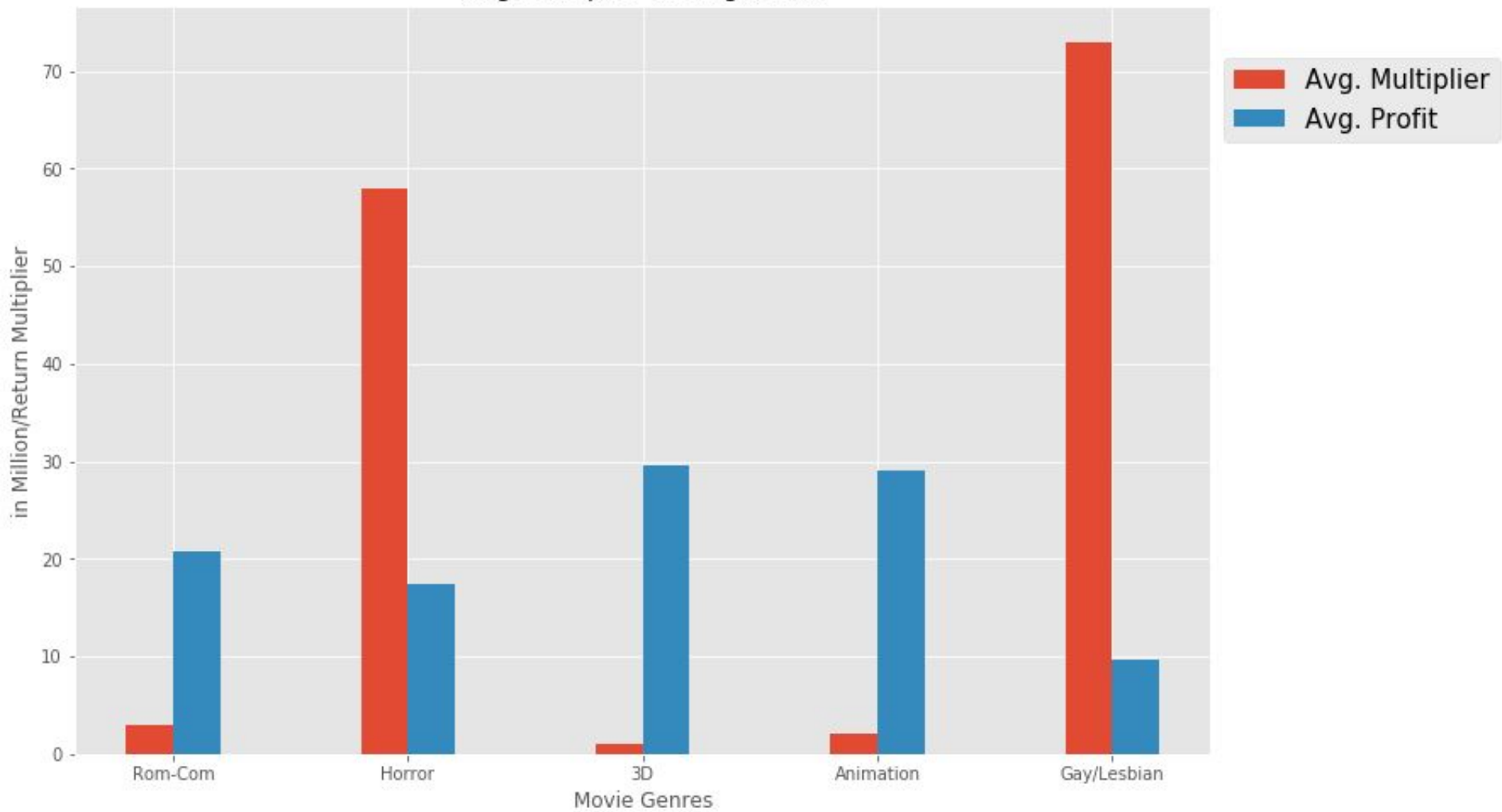
Average budget and profit by genre
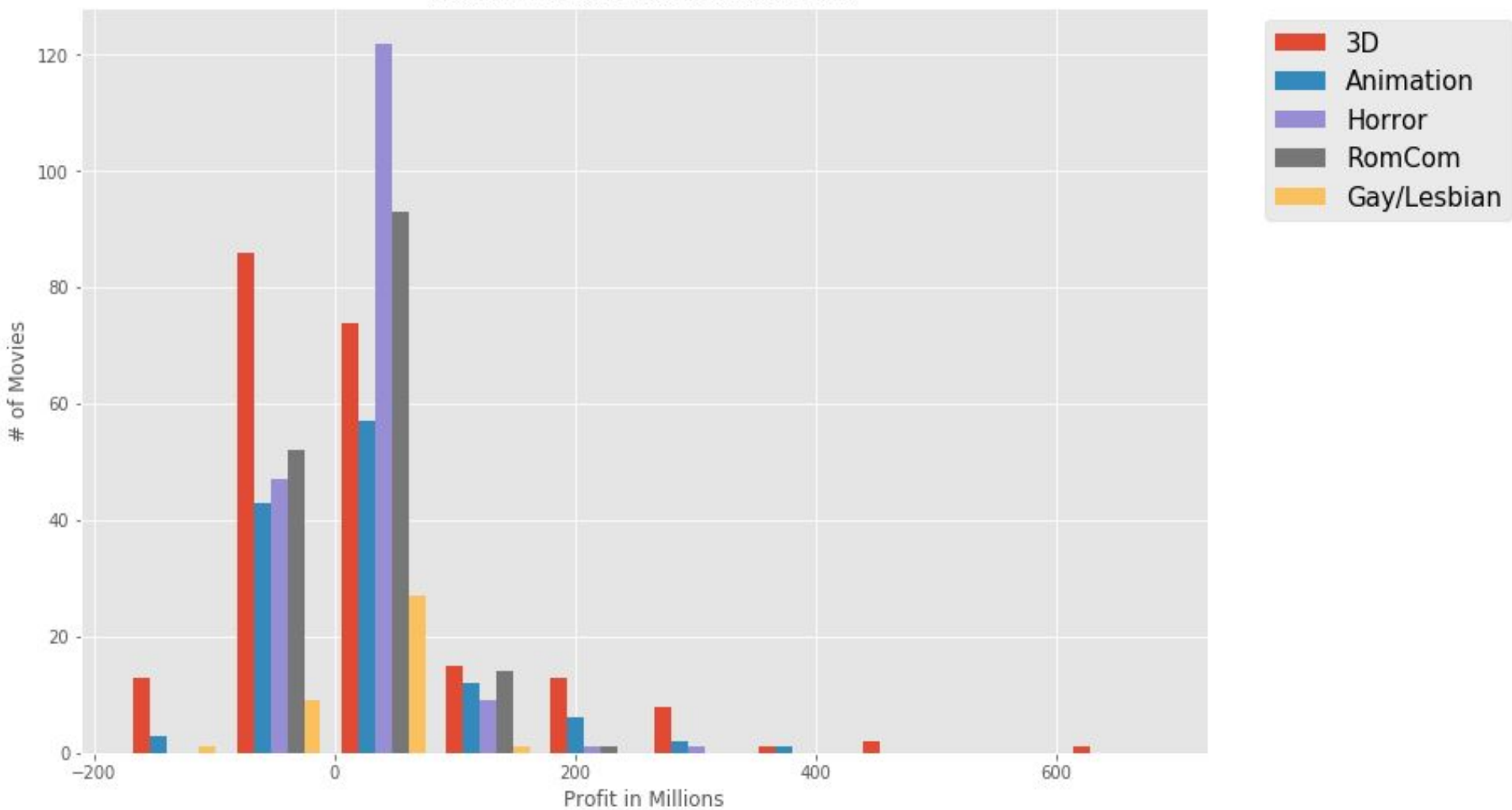
Counterpoint

Two Factors to be Compared

- Average multiplier per genre
  - Calculated as Box Office Returns / Budget
- Average profit per genre
  - Calculated as Box Office Returns - Budget

Avg. Multiplier vs. Avg. Profit

Likelihood of profitability in the Movie Industry

Chances of Profit based on Genres

Recommendations

- Horror or Gay/Lesbian film genres
  - Least risk, great returns
- 3D with a well-known actor/director/producer
  - Huge impact on profits
- Well-known industry professional
  - Big impact on profits

Movies are more likely to break-even or lose money