

Mini 7 – Drivers of Movie Success

Caleb Miller

BAS 479

October 16, 2022

Executive Summary for Studio Executives:

Success is defined as a film obtaining a “Critic Rating” greater than 0.7; according to this definition, the average rate of success is about 17%. To maximize success, we recommend making a movie that has a run time between 150 and 250 minutes *and* that:

1. Is released on the third week of the month (80% chance of success).
2. Has a rating of “R” (64.15% chance of success).
3. Is released in December (58.82% chance of success).

Our recommendations show the strongest combinations, but the 3 main individual drivers of success include:

1. Run Time
 - a. Longer movies perform better. Longest run time had a success rate of almost twice that of any other group.
2. Distribution Company
 - a. “Fox Searchlight Pictures” and “Walt Disney Studios” boasted success rates 150%+ better than the rest of the pack.
3. Universe
 - a. Movies belonging to a universe are successful 30% more often.

The data that was used is from 3763 observations of 13 variables including but *not* limited to “Run Time”, “Genre”, and “Director”. The movies analyzed were released between 1/6/95 and 11/27/19.

Discussion of Findings:

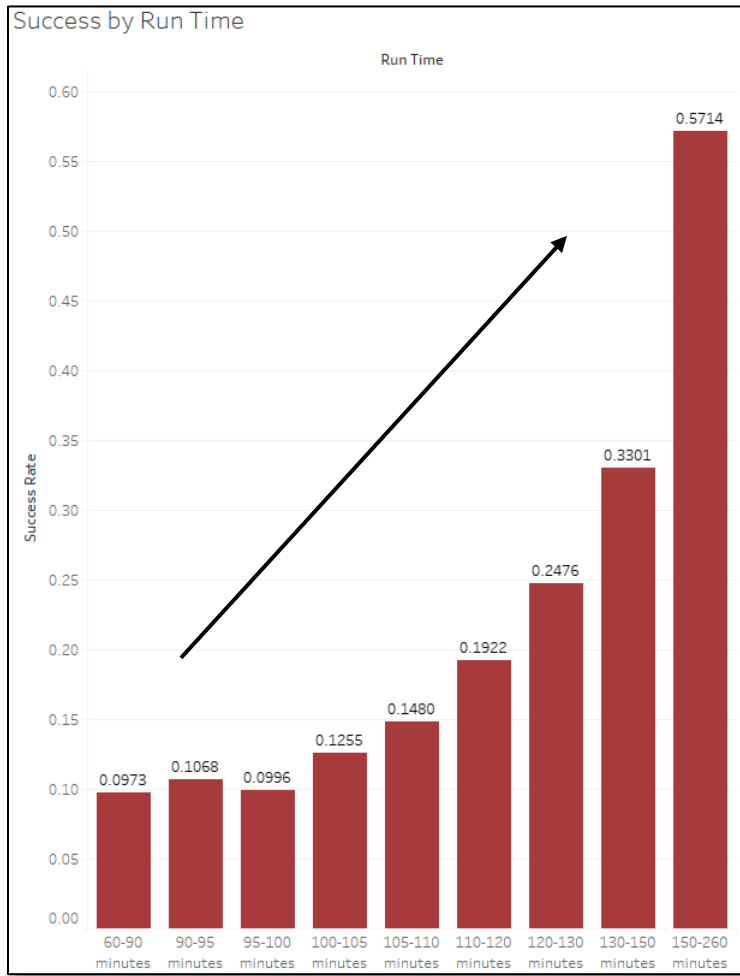


Figure 1: Success Rate x Run Time

Run Time (minutes)	Probability of Success
150-260	57.143%
130-150	33.001%
120-130	24.760%
110-120	19.219%
105-110	14.797%
100-105	12.554%
90-95	10.681%
95-100	9.957%
60-90	9.732%

Table 1: Success Rate x Run Time

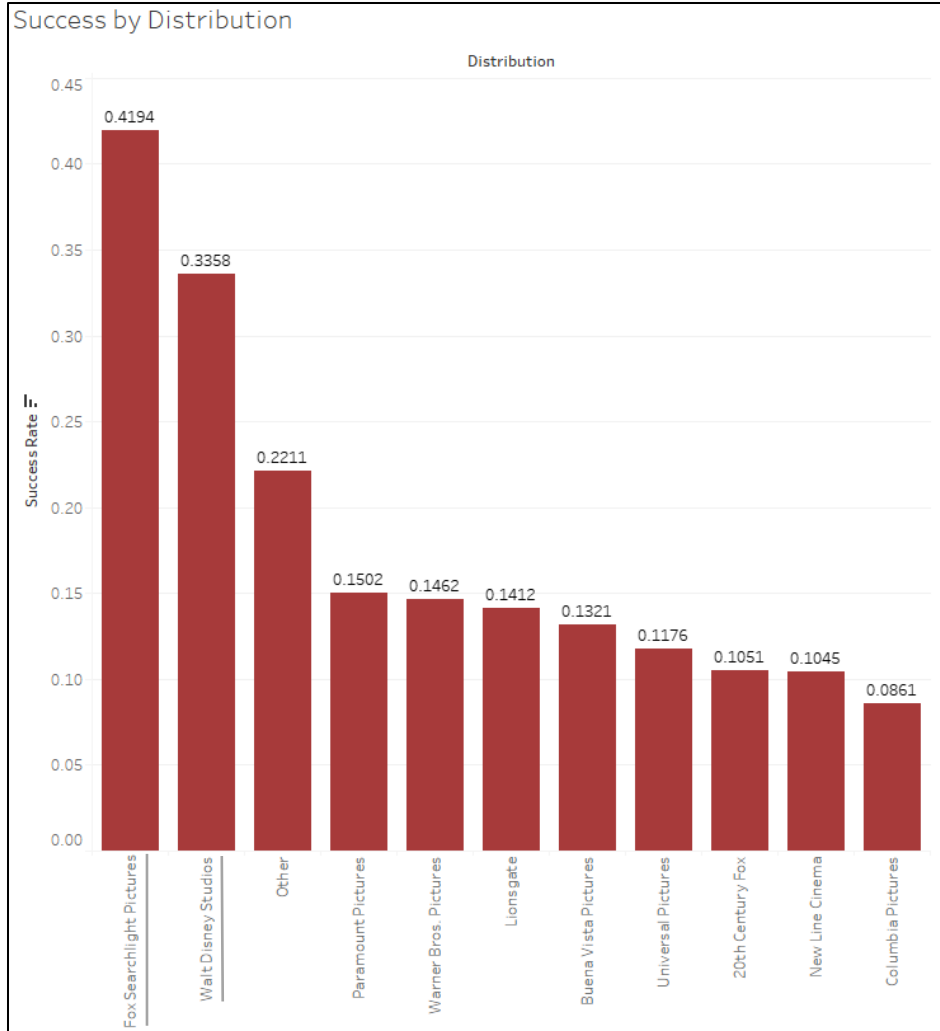


Figure 2: Success Rate x Distribution

Distribution	Probability of Success
Fox Searchlight	41.935%
Walt Disney	33.582%
Other	22.105%
Paramount	15.015%
Warner Bros	14.619%
Lionsgate	14.124%
Buena Vista	13.208%
Universal	11.765%
20th Century Fox	10.511%
New Line Cinema	10.448%
Columbia	8.614%

Table 2: Success Rate x Distribution

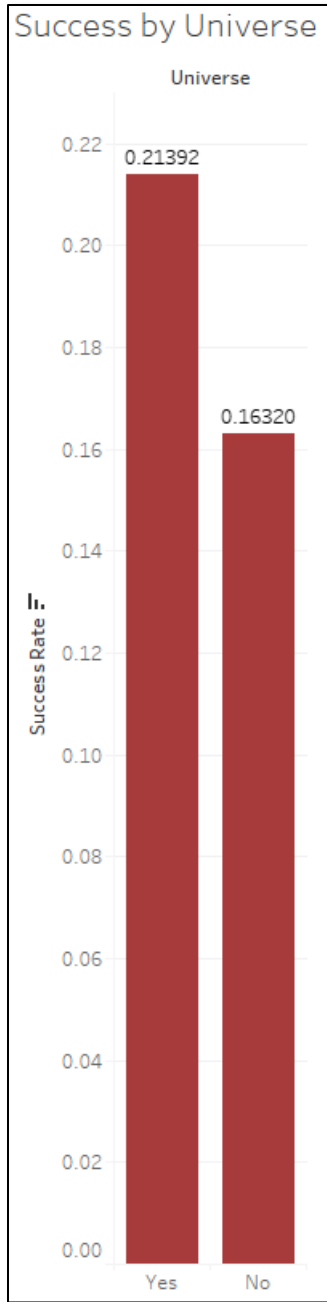


Figure 3: Success Rate x Universe

Universe	Probability of Success
Yes	21.392%
No	16.320%

Table 3: Success Rate x Universe

Decision Tree:

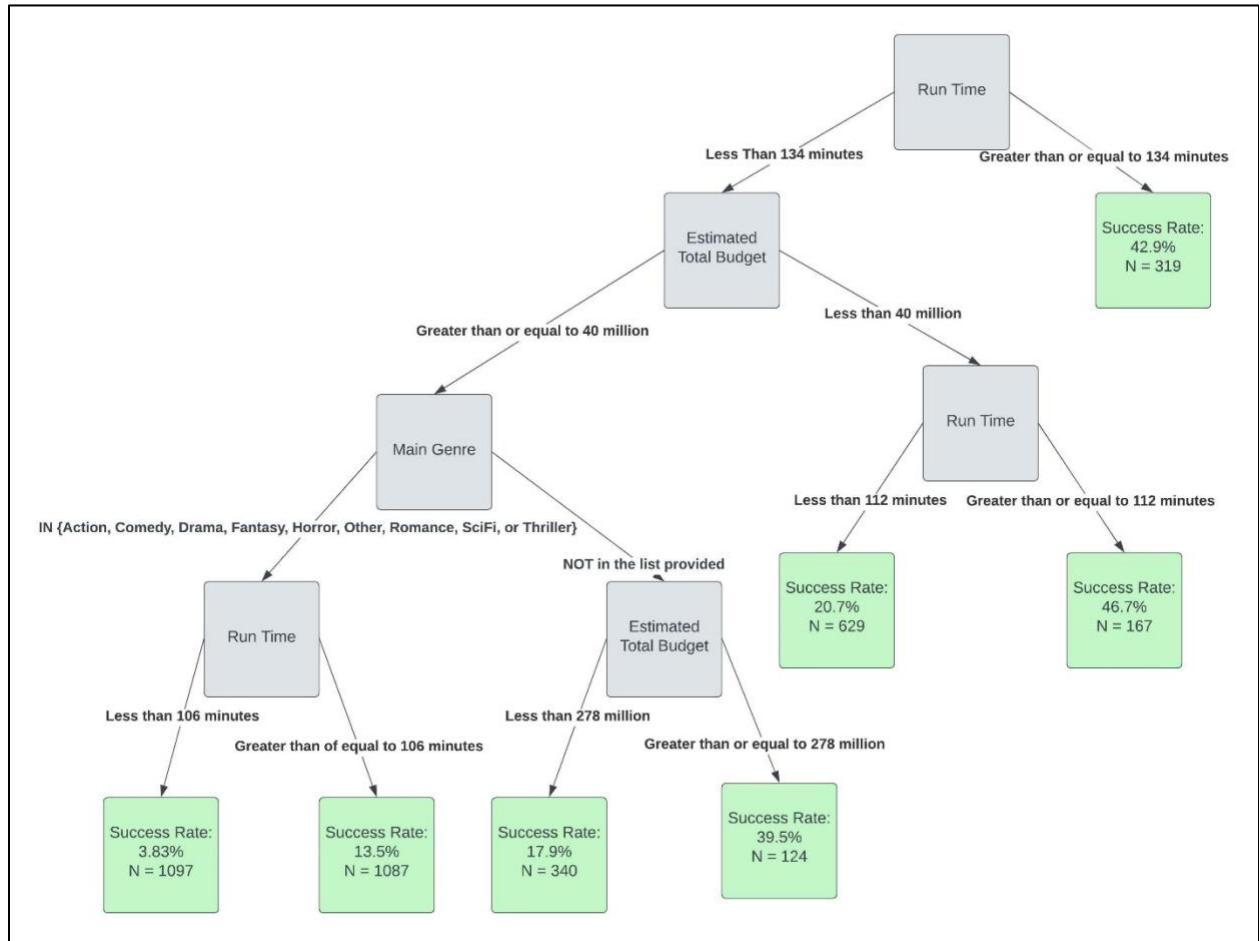


Figure 4: Decision Tree

Among movies with a run time that is less than 134 minutes but greater than or equal to 112 minutes and an estimated total budget less than 40 million, the probability of success increases by a factor of 2.729 to 0.171.

Market Basket Analysis:

Rating	Budget	Run Time	Main Genre	Week of Month	Month	Success Rate
		Between 150 and 260 minutes		Third		80.00%
R		Between 150 and 260 minutes				64.15%
		Between 150 and 260 minutes			December	58.82%
		Between 150 and 260 minutes				57.14%
	Between 5 and 10 million		Drama			48.89%
	Between 1 and 5 million		Drama			48.84%
	Between 5 and 10 million	Between 110 and 120 minutes				45.65%
R			Drama			40.94%
	Between 100 and 500 million		Animated			40.63%
			Drama		December	39.22%
R					December	39.16%
		Between 130 and 150 minutes			December	38.89%
R	Between 1 and 5 million					38.40%
		Between 130 and 150 minutes		First		37.93%
		Between 130 and 150 minutes		Third		37.11%

Table 4: Association Rules

Overall, about 17% of movies are successful. Among movies with a run time between 150 and 260 minutes and occurring on the third week of the month, the probability of success increases by a factor of 4.67 to 0.8.

Appendix:

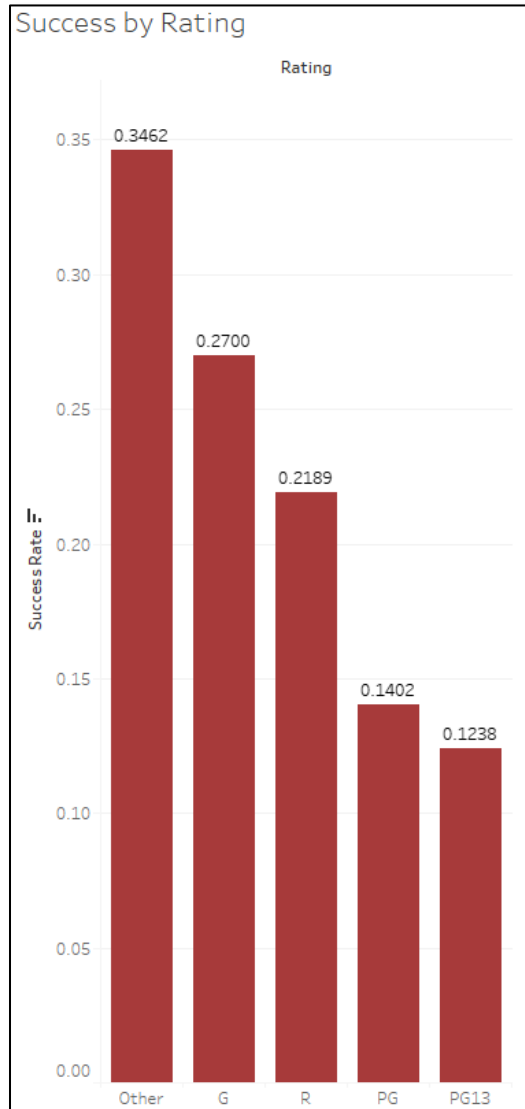


Figure 5: Success Rate x Rating

Rating	Probability of Success
Other	34.615%
G	27.000%
R	21.889%
PG	14.017%
PG13	12.383%

Table 5: Success Rate x Rating

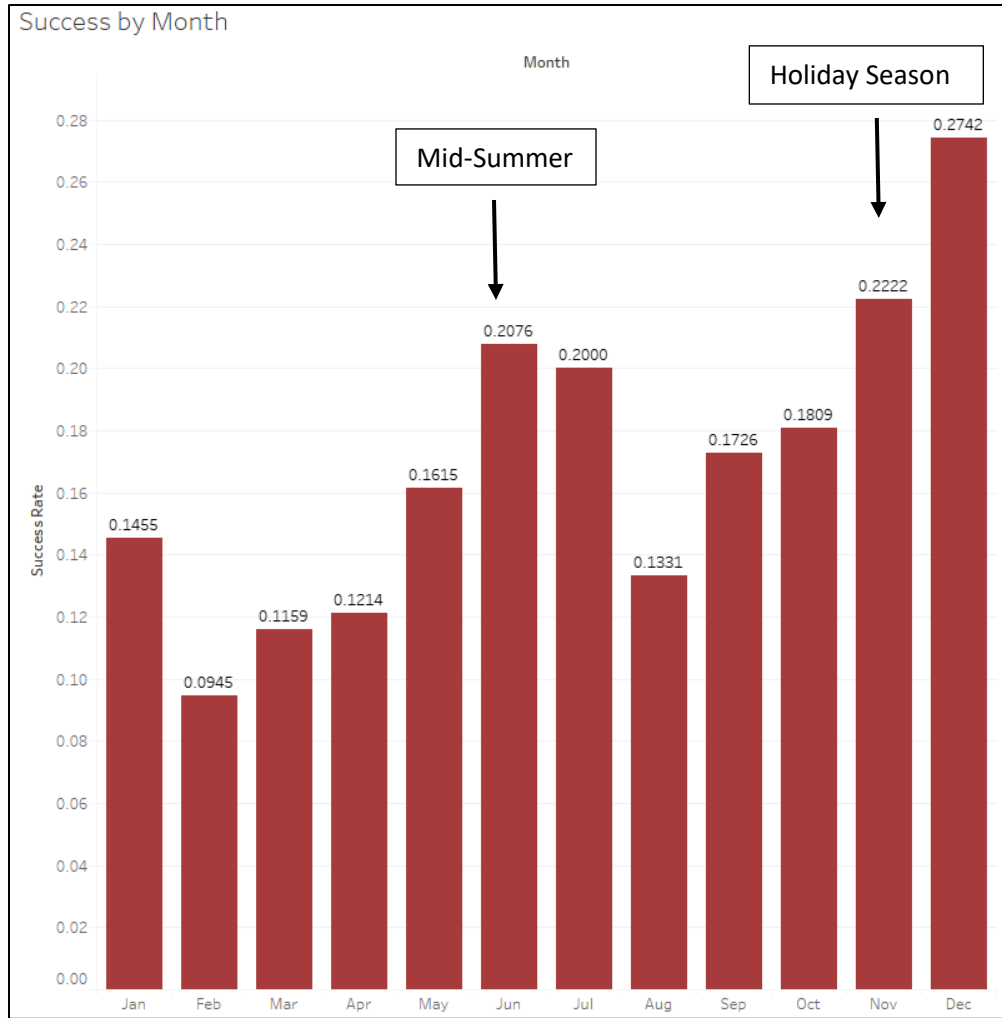


Figure 6: Success Rate x Month

Month	Probability of Success
December	27.424%
November	22.222%
June	20.761%
July	20.000%
October	18.085%
September	17.264%
May	16.154%
January	14.552%
August	13.314%
April	12.141%
March	11.585%
February	9.454%

Table 6: Success Rate x Month

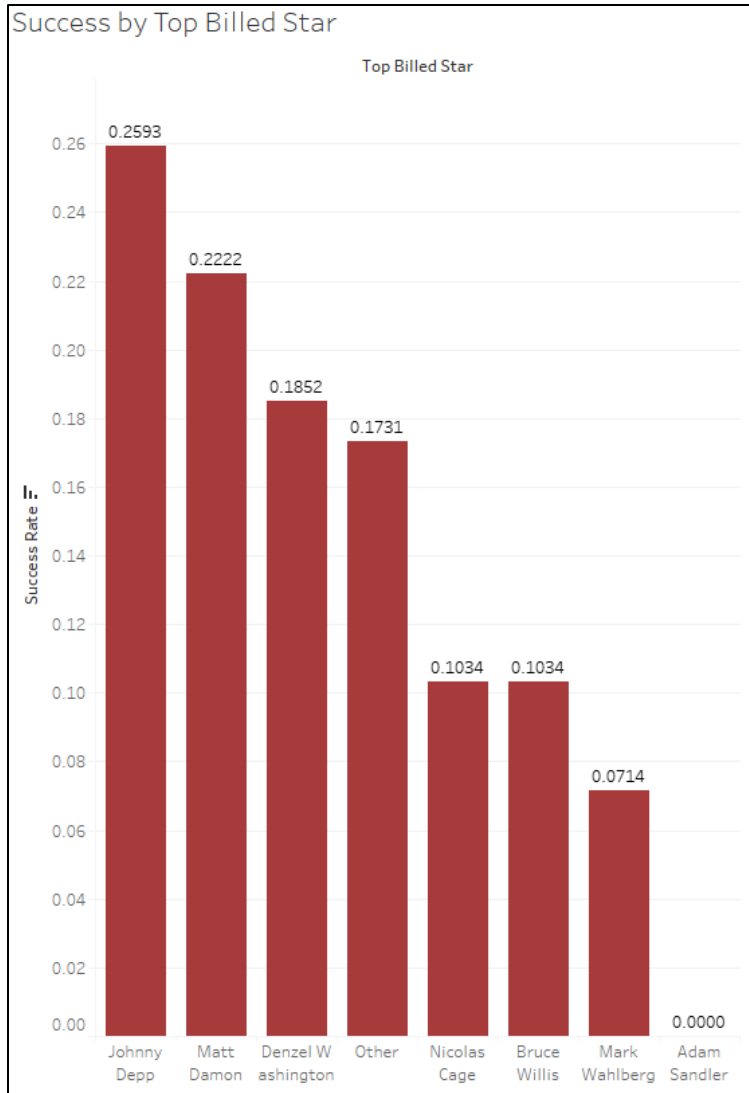


Figure 7: Success Rate x Top Billed Star

Top Billed Star	Probability of Success
Johnny Depp	25.926%
Matt Damon	22.222%
Denzel Washington	18.519%
Other	17.311%
Bruce Willis	10.345%
Nicolas Cage	10.345%
Mark Wahlberg	7.143%
Adam Sandler	0.000%

Table 7: Success Rate x Top Billed Star

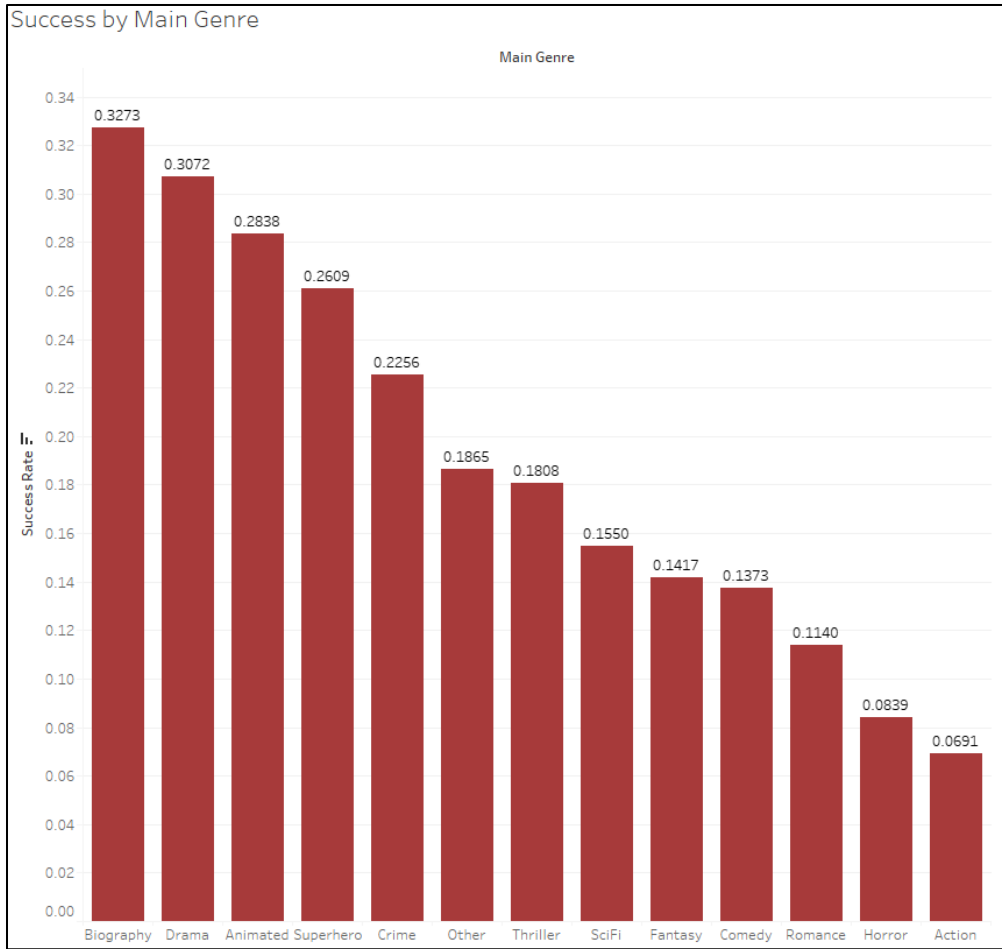


Figure 8: Success Rate x Main Genre

Main Genre	Probability of Success
Biography	32.727%
Drama	30.725%
Animated	28.378%
Superhero	26.087%
Crime	22.564%
Other	18.648%
Triller	18.079%
SciFi	15.498%
Fantasy	14.167%
Comedy	13.728%
Romance	11.399%
Horror	8.394%
Action	6.905%

Table 8: Success Rate x Main Genre

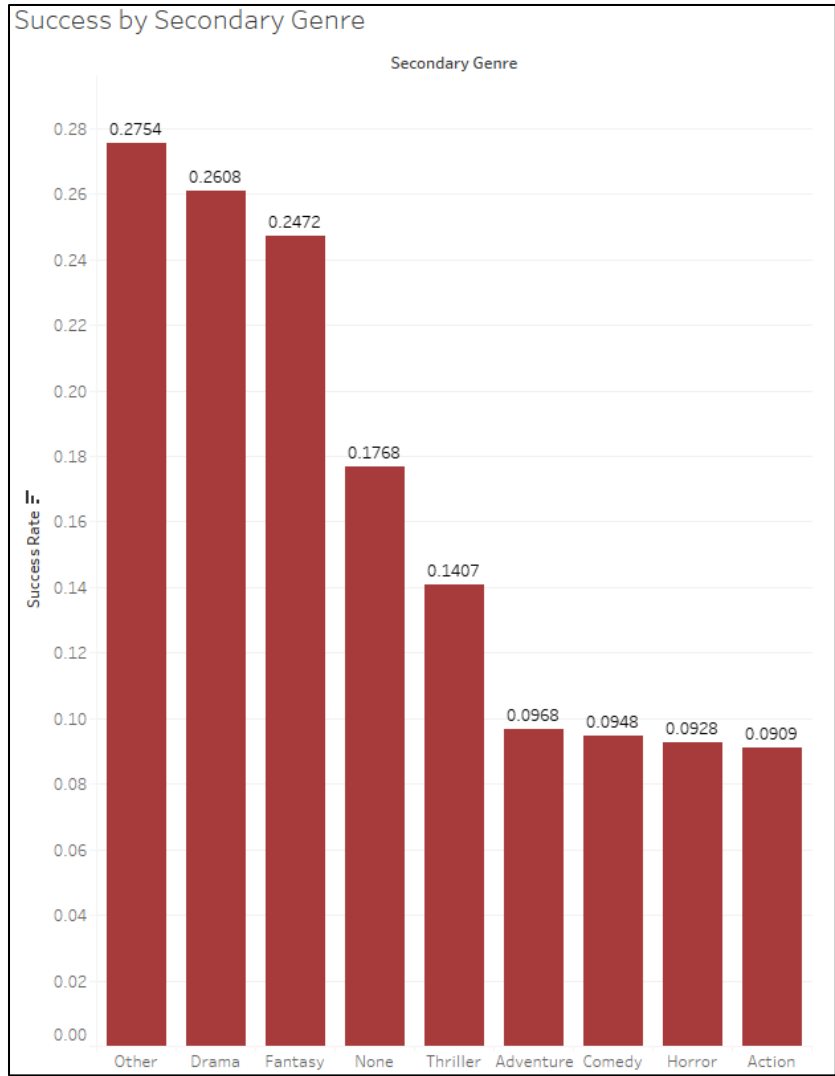


Figure 9: Success Rate x Secondary Genre

Secondary Genre	Probability of Success
Other	27.542%
Drama	26.079%
Fantasy	24.719%
None	17.679%
Thriller	14.072%
Adventure	9.677%
Comedy	9.477%
Horror	9.278%
Action	9.091%

Table 9: Success Rate x Secondary Genre

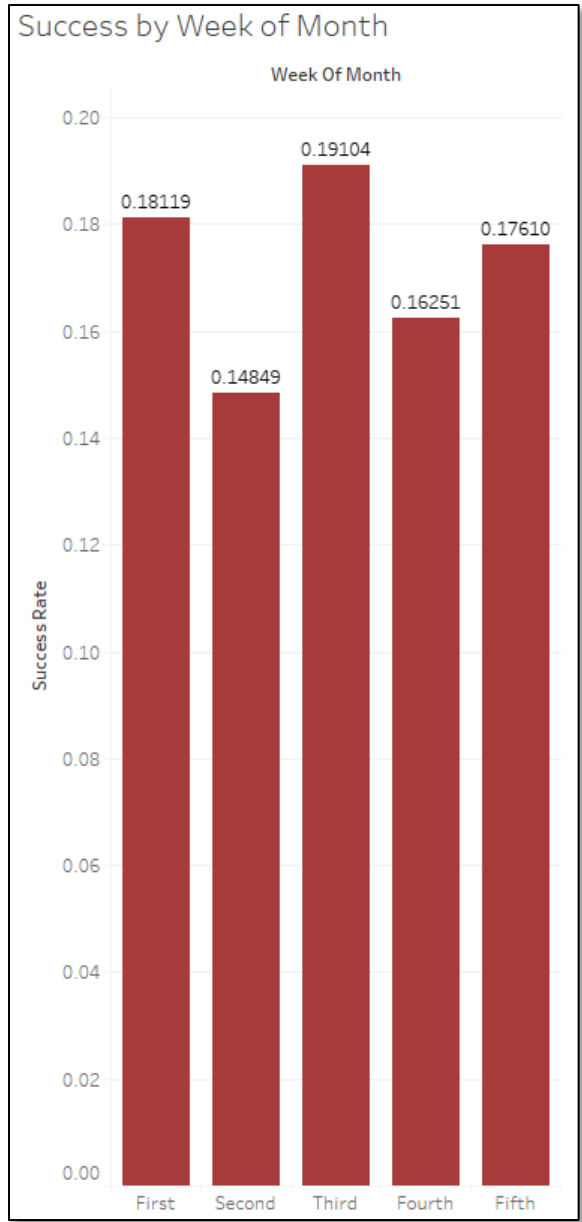


Figure 10: Success Rate x Week of Month

Week of Month	Probability of Success
Third	19.194%
First	18.119%
Fifth	17.610%
Fourth	16.251%
Second	14.849%

Table 10: Success Rate x Week of Month

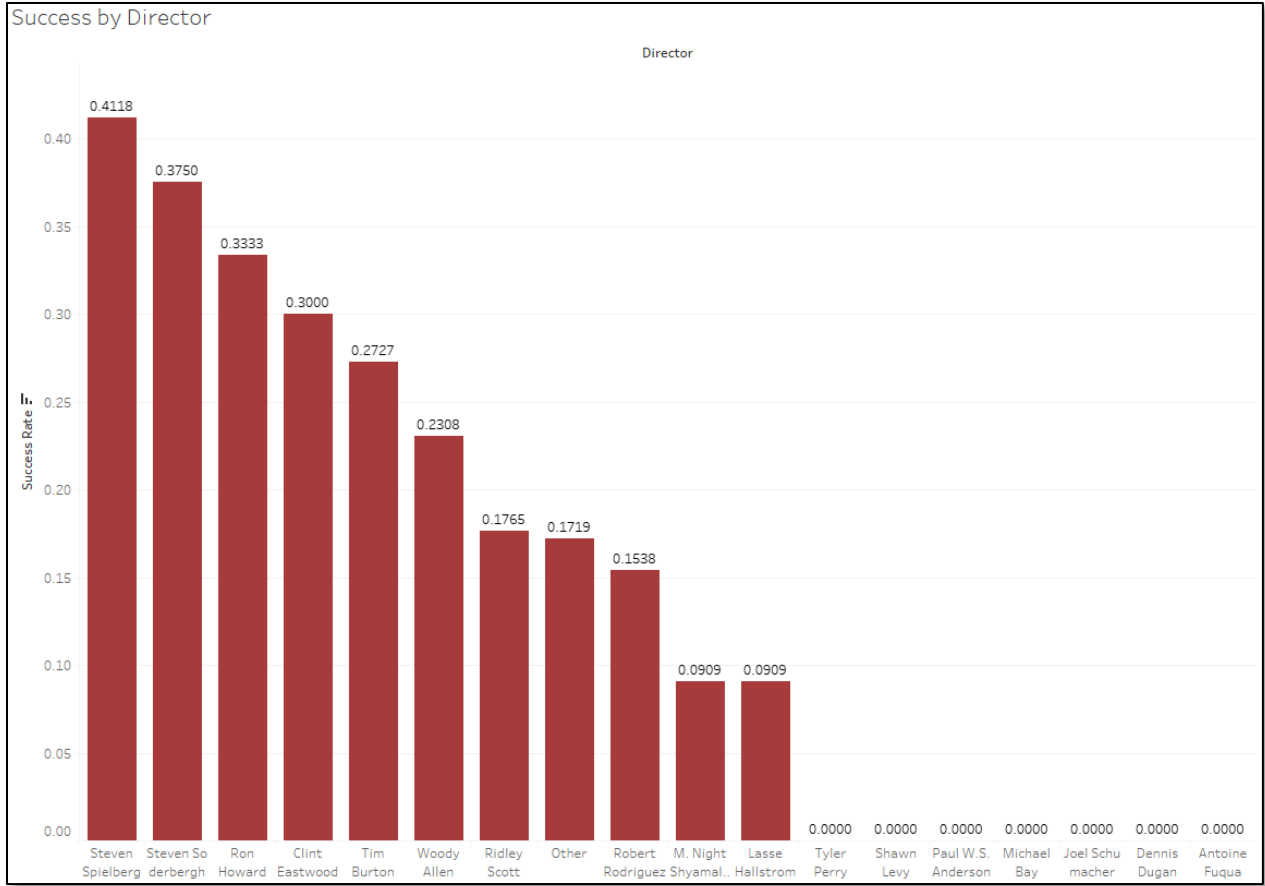


Figure 11: Success Rate x Director

Director	Probability of Success
Steven Spielberg	41.765%
Steven Soderbergh	37.500%
Ron Howard	33.333%
Clint Eastwood	30.000%
Tim Burton	27.273%
Woody Allen	23.077%
Ridley Scott	17.647%
Other	17.191%
Robert Rodriguez	15.385%
Lasse Hallstrom	9.091%
M. Night Shyamalan	9.091%
Antoine Fuqua	0.000%
Dennis Dugan	0.000%
Joel Schumacher	0.000%
Michael Bay	0.000%
Paul W.S. Anderson	0.000%
Shawn Levy	0.000%
Tyler Perry	0.000%

Table 11: Success Rate x Director

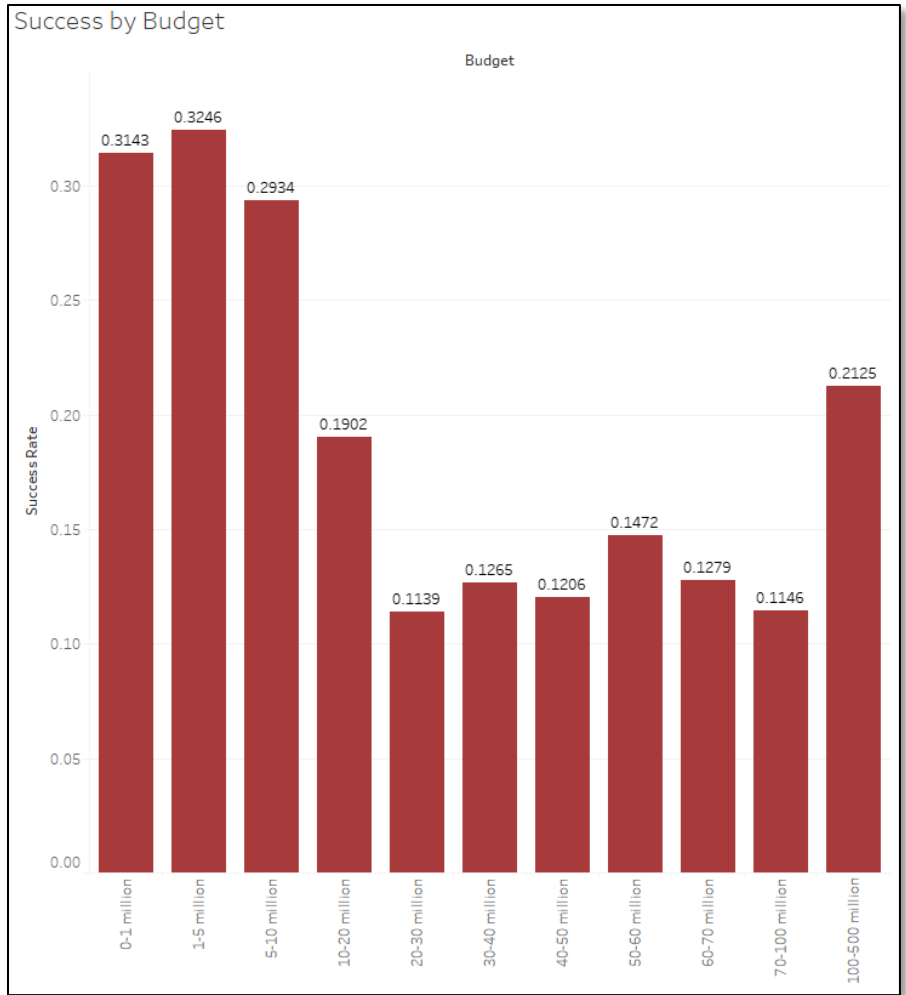


Figure 12: Success Rate x Budget

Budget (Millions)	Probability of Success
1-5	32.461%
0-1	31.429%
5-10	29.344%
100-500	21.250%
10-20	19.021%
50-60	14.719%
60-70	12.791%
30-40	12.646%
40-50	12.059%
70-100	11.463%
20-30	11.385%

Table 12: Success Rate x Budget

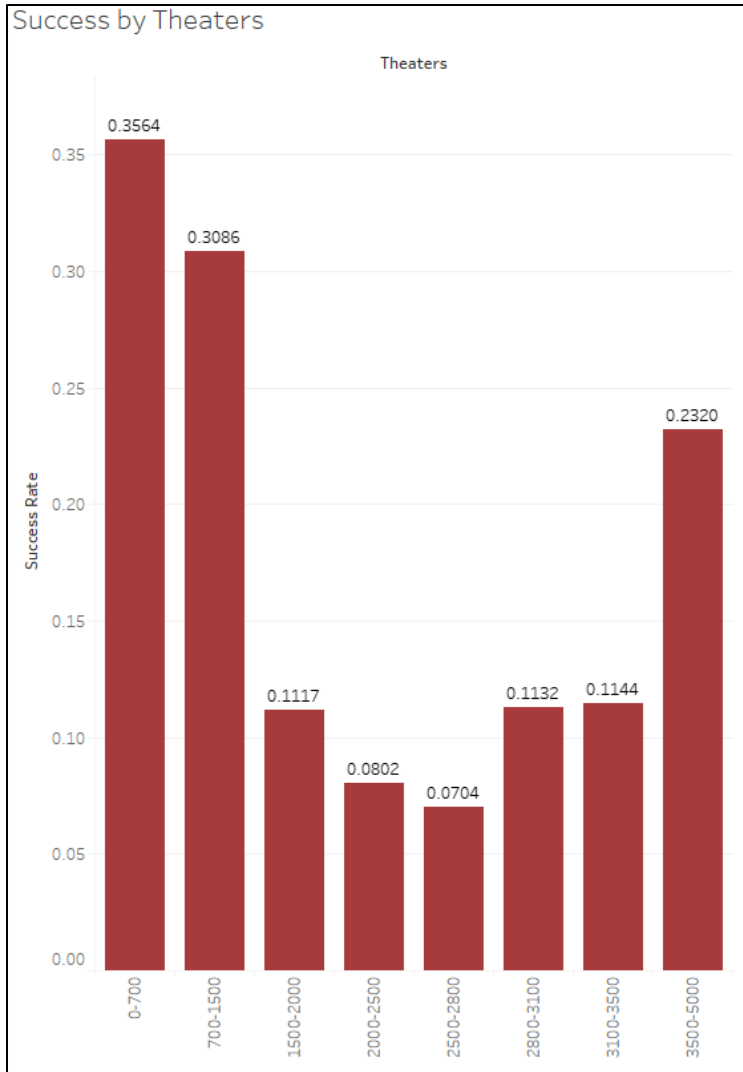


Figure 13: Success Rate x Theaters

Number of Theaters	Probability of Success
0-700	35.642%
700-1500	30.856%
3500-5000	23.198%
3100-3500	11.442%
2800-3100	11.321%
1500-2000	11.170%
2000-2500	8.020%
2500-2800	7.039%

Table 13: Success Rate x Theaters