Examining Disney Magic

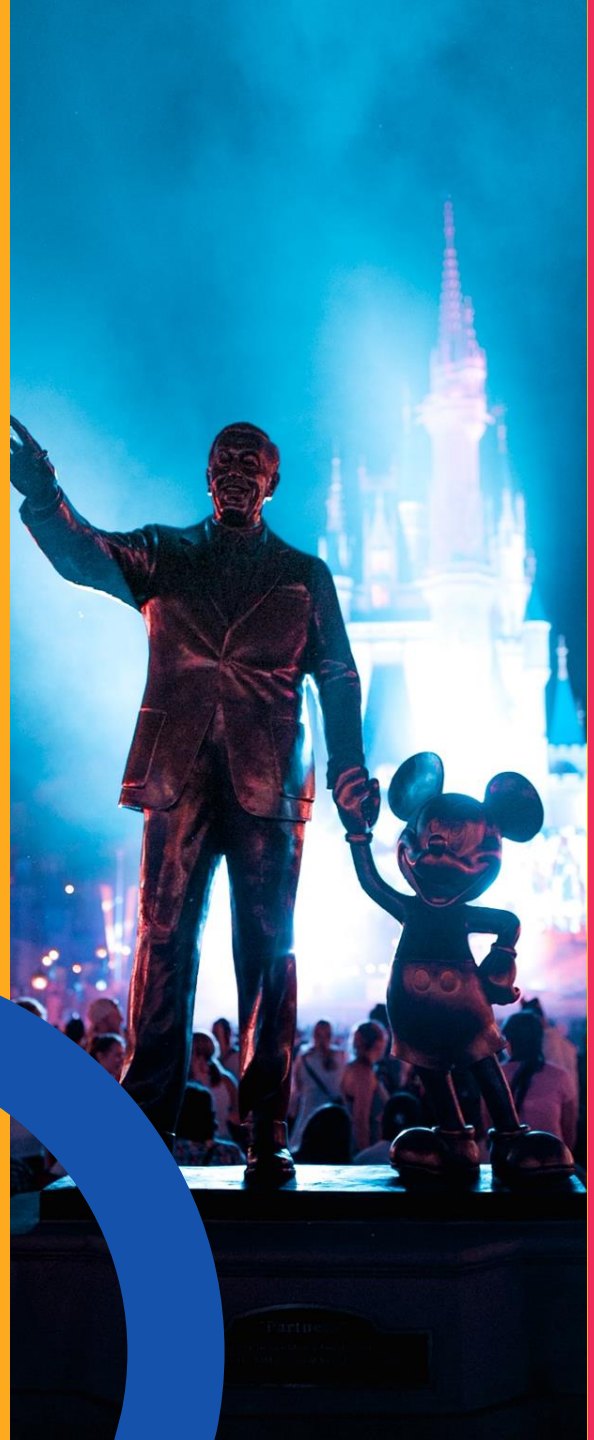
An Attempt to Predict Feature Film Success

By: Ben Roberts

Goals & Objectives

A tool to help film makers

This project seeks to understand if the previous performance of the Walt Disney Company, the Directors, and Writers of Disney movies can be used to estimate the success of future films. This is just the first phase of a larger project that will hopefully lead to the creation of a tool for future film-makers could leverage to help create successful movie projects in the future.



- Context & Scope
- Data & Sources
- Process / Analysis
- Conclusions
- Next Steps

Context

657 Disney Films

12 Disney Theme Parks

4 Disney Cruise Ships

190,000 Employees

$1.7B 2021 Est. Revenue

1937 – Snow White and The Seven Dwarfs
$1.5M Budget

2022 – Dr Strange in the Multiverse of Madness
$200M Budget Est.

Scope

- Full Length Features
- No Shorts
- No Direct to Video
- No Direct to Streaming

- Include Pixar
- Include Live Action/Hybrids
- Include Musicals, Dramas, Comedy, Documentaries, and more

Data

Films List by Disney.com

Film Meta Stats by IMDB.com

Film Principals by IMDB.com

Process

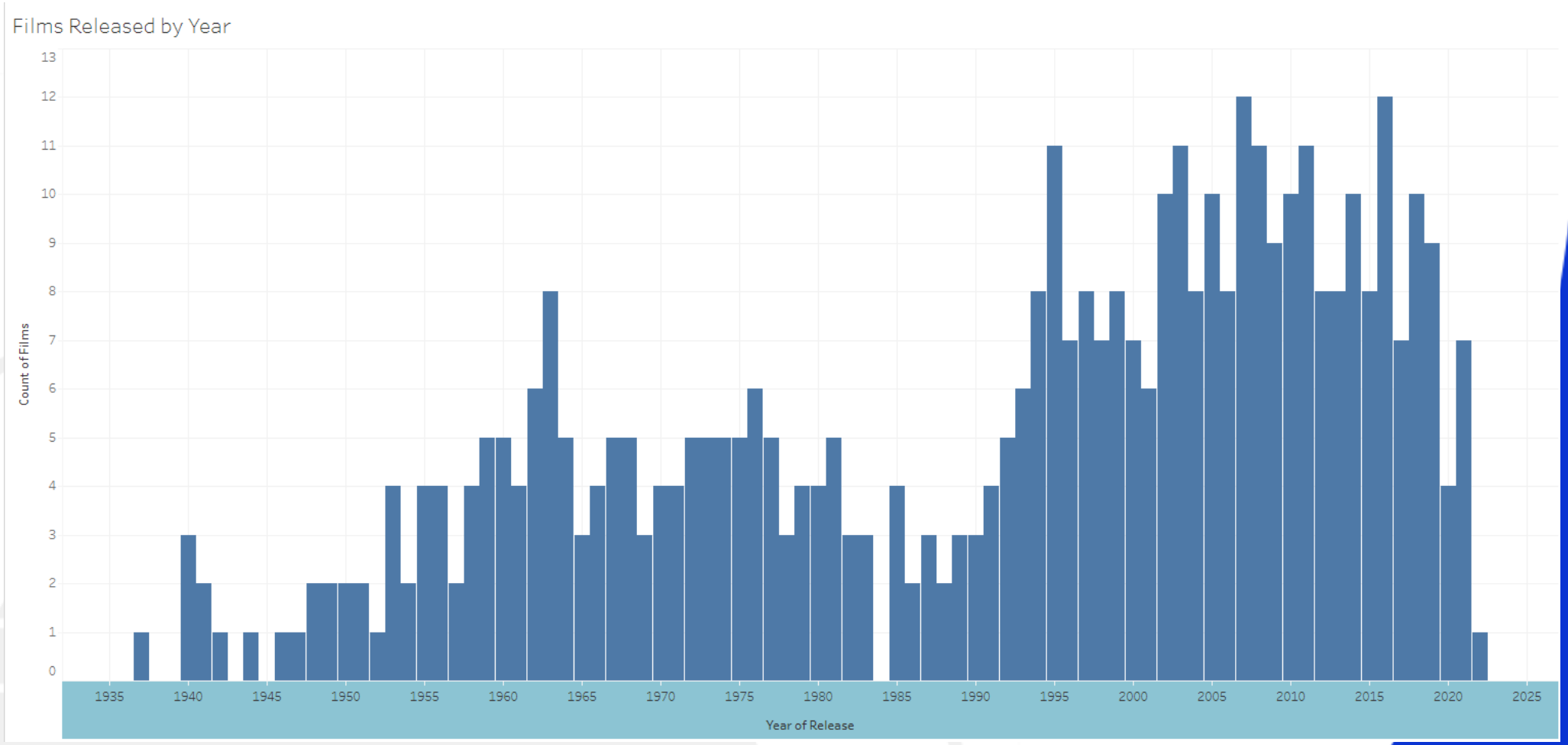
Film Stats

Release date, Budget, Revenue, IMDB Ratings

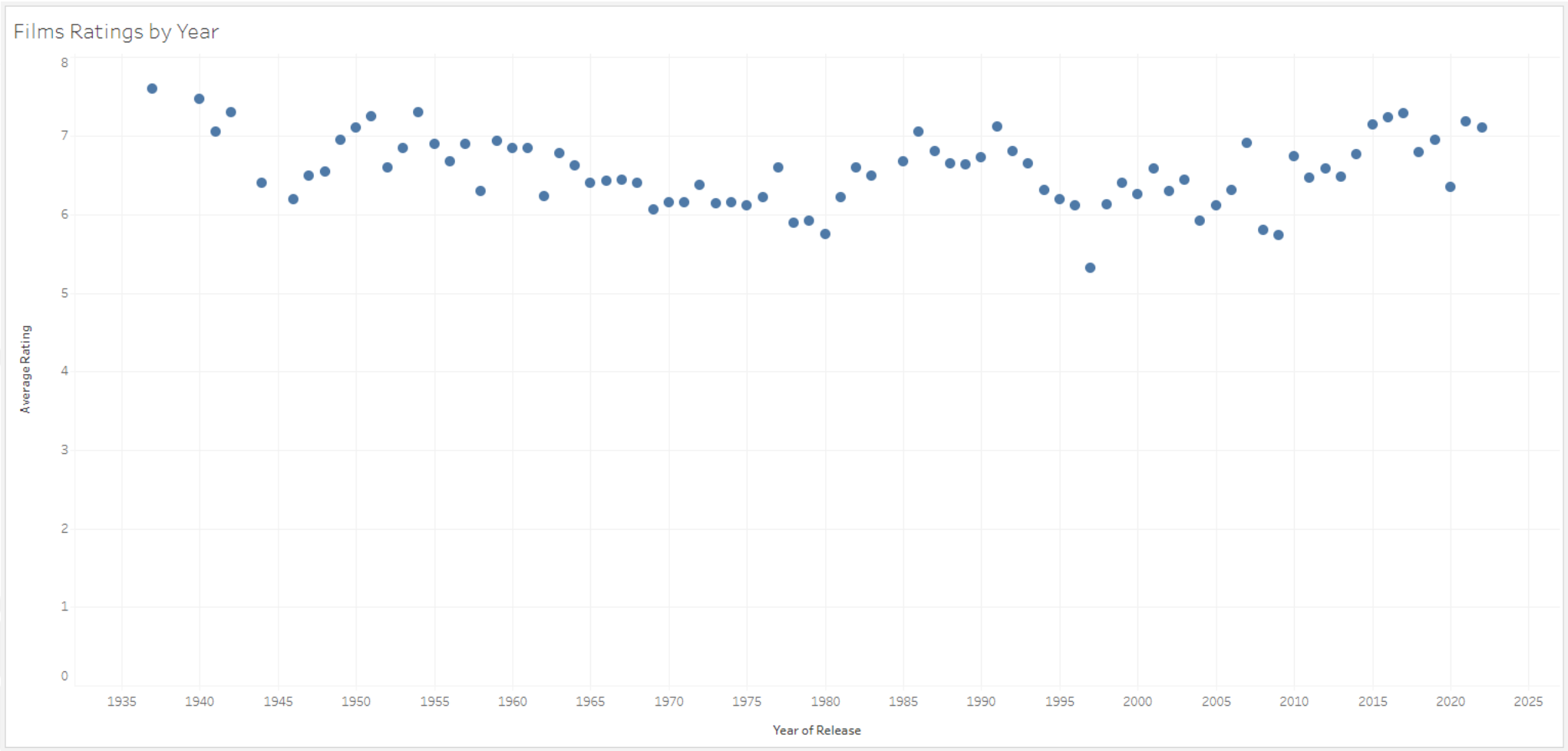
Principals Stats

Previous films, previous ratings,

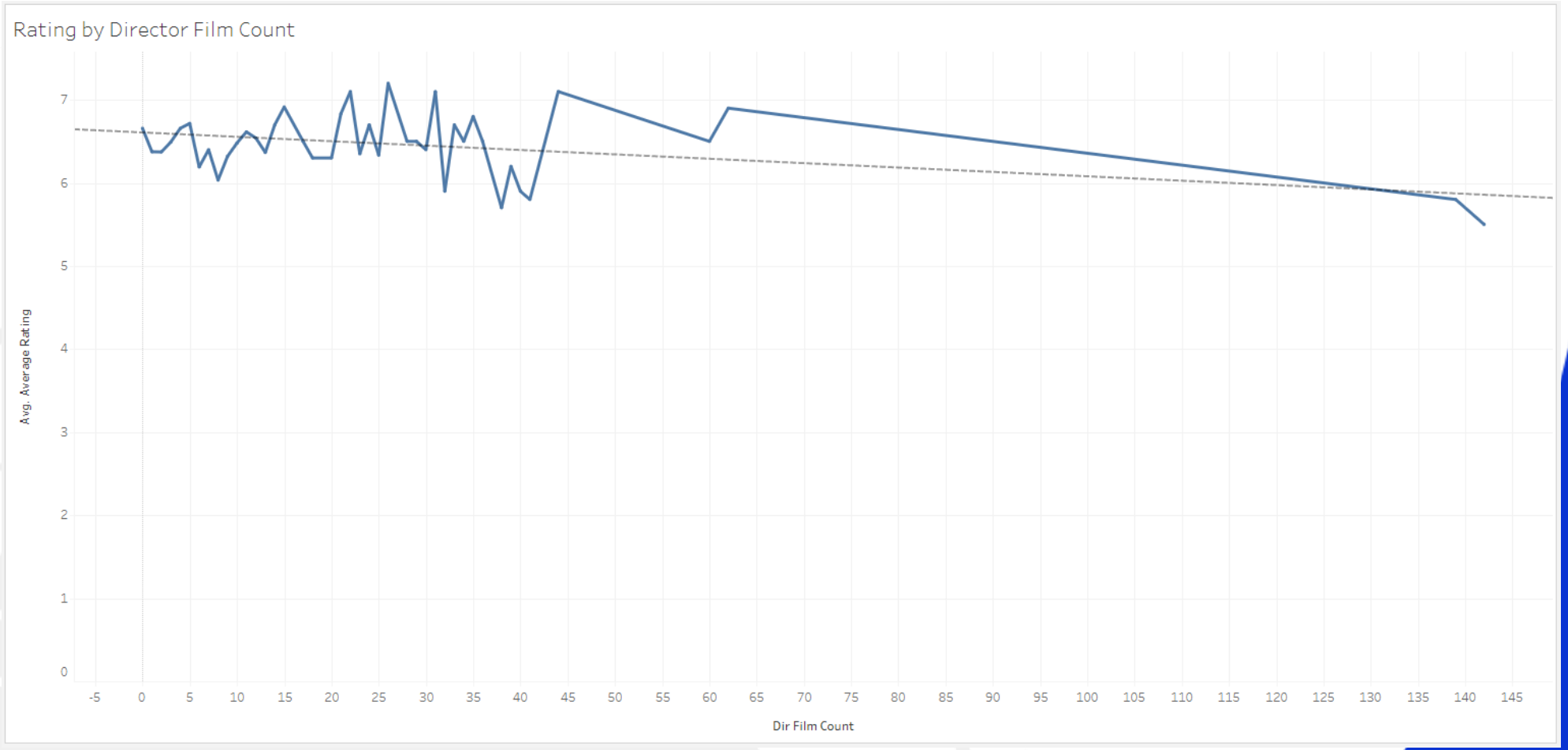
Analysis


Films Released by Year
Count of Films
0
1
2
3
4
5
6
7
8
9
10
11
12
13
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
Year of Release

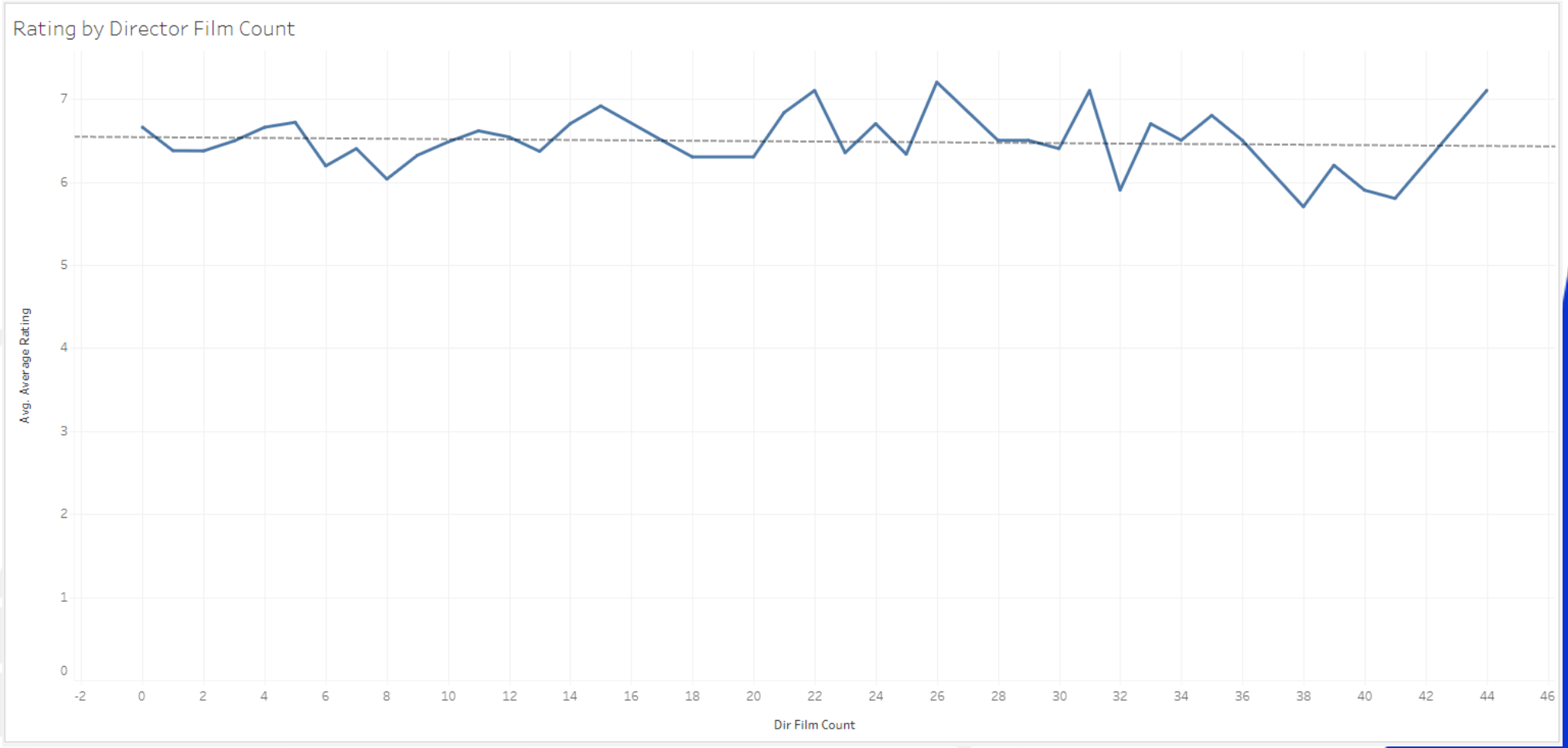
Analysis


Films Ratings by Year
Average Rating
8
7
6
5
4
3
2
1
0
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
Year of Release

Analysis

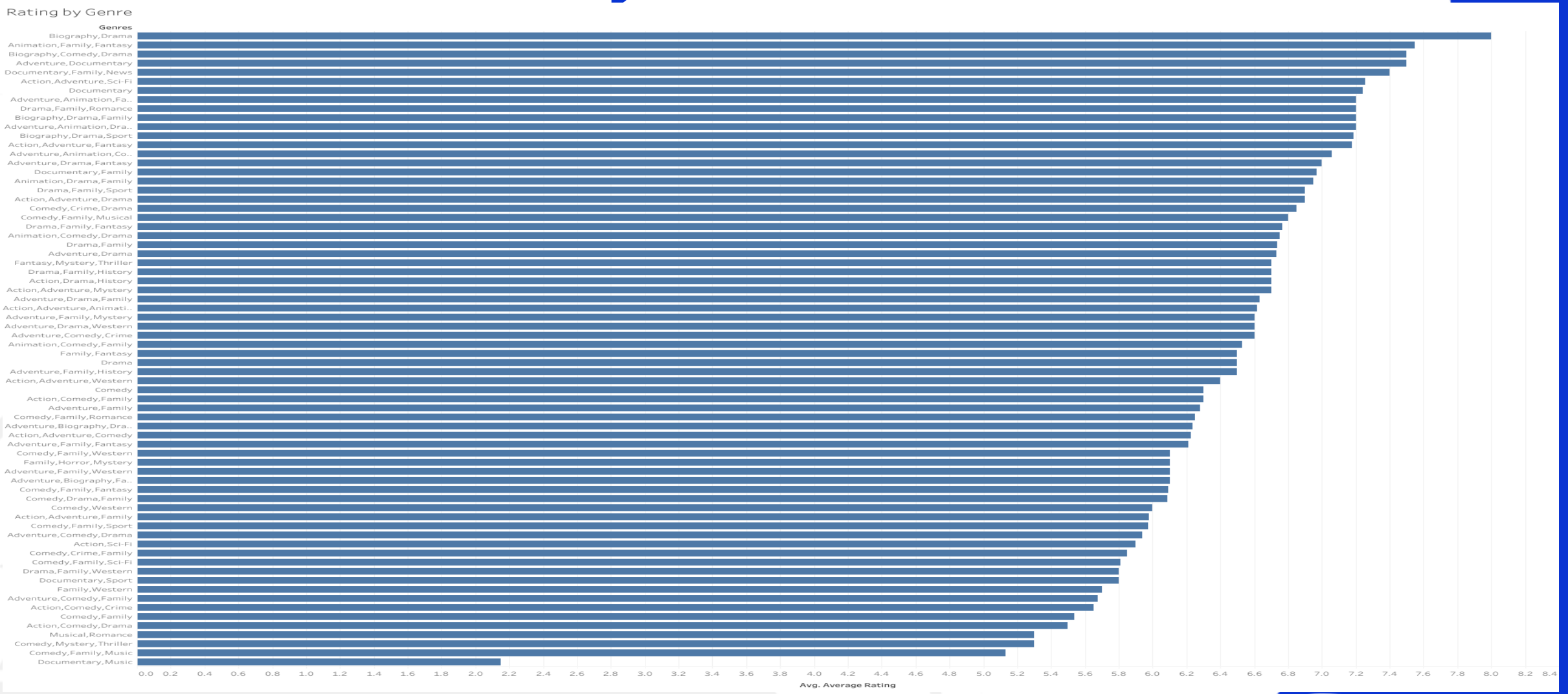

Rating by Director Film Count
Avg. Average Rating
0
1
2
3
4
5
6
7
-5
0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
105
110
115
120
125
130
135
140
145
Dir Film Count

Analysis

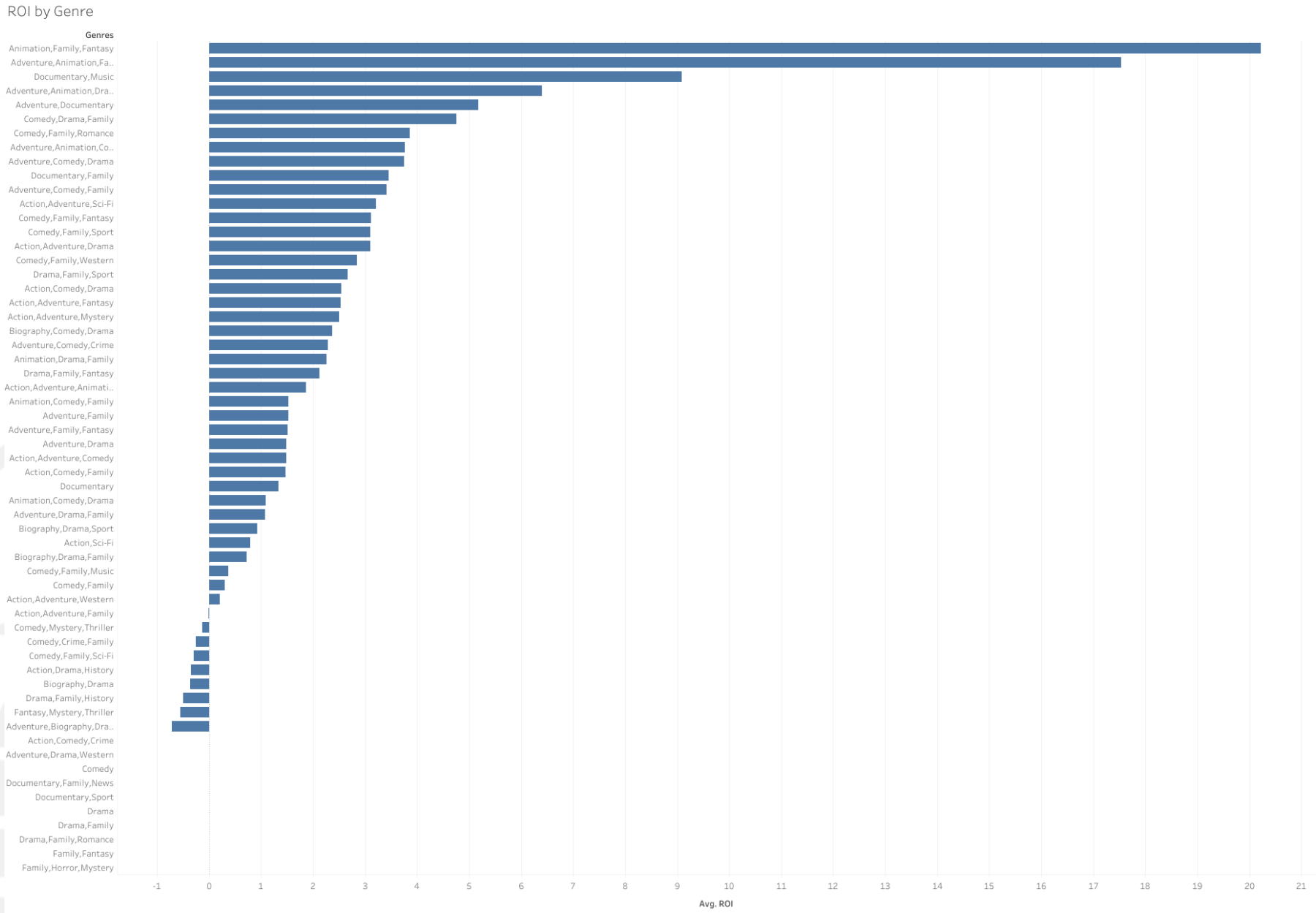

Rating by Director Film Count
Avg. Average Rating
0
1
2
3
4
5
6
7
-2
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
Dir Film Count

Analysis

Analysis


Rating by Genre
Genres
Biography,Drama
Animation,Family,Fantasy
Biography,Comedy,Drama
Adventure,Documentary
Documentary,Family,News
Action,Adventure,Sci-Fi
Documentary
Adventure,Animation,Fa..
Drama,Family,Romance
Biography,Drama,Family
Adventure,Animation,Dra..
Biography,Drama,Sport
Action,Adventure,Fantasy
Adventure,Animation,Co..
Adventure,Drama,Fantasy
Documentary,Family
Animation,Drama,Family
Drama,Family,Sport
Action,Adventure,Drama
Comedy,Crime,Drama
Comedy,Family,Musical
Drama,Family,Fantasy
Animation,Comedy,Drama
Drama,Family
Adventure,Drama
Fantasy,Mystery,Thriller
Drama,Family,History
Action,Drama,History
Action,Adventure,Mystery
Adventure,Drama,Family
Action,Adventure,Animati..
Adventure,Family,Mystery
Adventure,Drama,Western
Adventure,Comedy,Crime
Animation,Comedy,Family
Family,Fantasy
Drama
Adventure,Family,History
Action,Adventure,Western
Comedy
Action,Comedy,Family
Adventure,Family
Comedy,Family,Romance
Adventure,Biography,Dra..
Action,Adventure,Comedy
Adventure,Family,Fantasy
Comedy,Family,Western
Family,Horror,Mystery
Adventure,Family,Western
Adventure,Biography,Fa..
Comedy,Family,Fantasy
Comedy,Drama,Family
Comedy,Western
Action,Adventure,Family
Comedy,Family,Sport
Adventure,Comedy,Drama
Action,Sci-Fi
Comedy,Crime,Family
Comedy,Family,Sci-Fi
Drama,Family,Western
Documentary,Sport
Family,Western
Adventure,Comedy,Family
Action,Comedy,Crime
Comedy,Family
Action,Comedy,Drama
Musical,Romance
Comedy,Mystery,Thriller
Comedy,Family,Music
Documentary,Music
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8 5.0 5.2 5.4 5.6 5.8 6.0 6.2 6.4 6.6 6.8 7.0 7.2 7.4 7.6 7.8 8.0 8.2 8.4
Avg. Average Rating

Analysis


ROI by Genre
Genres
Animation,Family,Fantasy
Adventure,Animation,Fa..
Documentary,Music
Adventure,Animation,Dra..
Adventure,Documentary
Comedy,Drama,Family
Comedy,Family,Romance
Adventure,Animation,Co..
Adventure,Comedy,Drama
Documentary,Family
Adventure,Comedy,Family
Action,Adventure,Sci-Fi
Comedy,Family,Fantasy
Comedy,Family,Sport
Action,Adventure,Drama
Comedy,Family,Western
Drama,Family,Sport
Action,Comedy,Drama
Action,Adventure,Fantasy
Action,Adventure,Mystery
Biography,Comedy,Drama
Adventure,Comedy,Crime
Animation,Drama,Family
Drama,Family,Fantasy
Action,Adventure,Animati..
Animation,Comedy,Family
Adventure,Family
Adventure,Family,Fantasy
Adventure,Drama
Action,Adventure,Comedy
Action,Comedy,Family
Documentary
Animation,Comedy,Drama
Adventure,Drama,Family
Biography,Drama,Sport
Action,Sci-Fi
Biography,Drama,Family
Comedy,Family,Music
Comedy,Family
Action,Adventure,Western
Action,Adventure,Family
Comedy,Mystery,Thriller
Comedy,Crime,Family
Comedy,Family,Sci-Fi
Action,Drama,History
Biography,Drama
Drama,Family,History
Fantasy,Mystery,Thriller
Adventure,Biography,Dra..
Action,Comedy,Crime
Adventure,Drama,Western
Comedy
Documentary,Family,News
Documentary,Sport
Drama
Drama,Family
Drama,Family,Romance
Family,Fantasy
Family,Horror,Mystery
-1
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1
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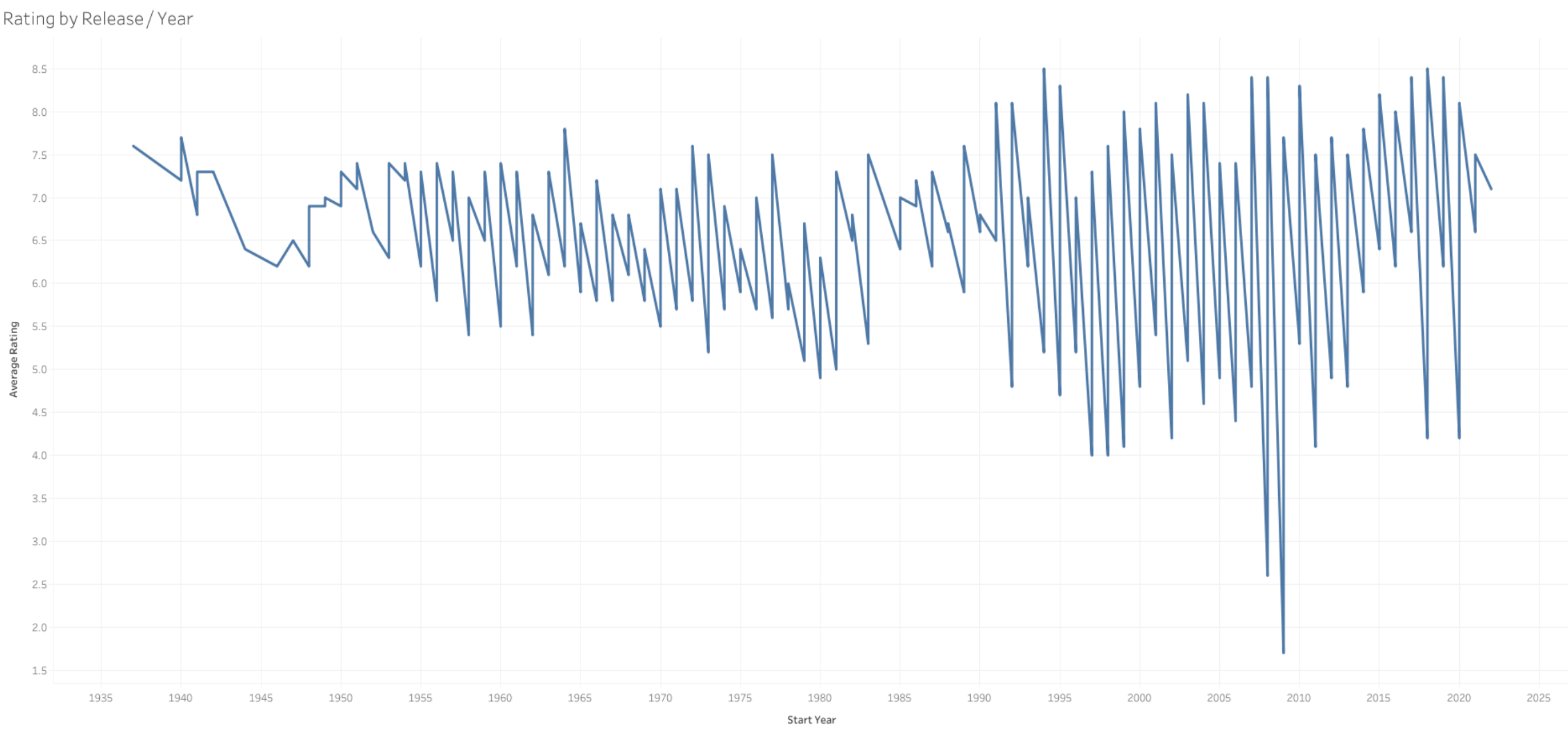
18
19
20
21
Avg. ROI

Analysis


Rating by Release / Year
Average Rating
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1935
1940
1945
1950
1955
1960
1965
1970
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2000
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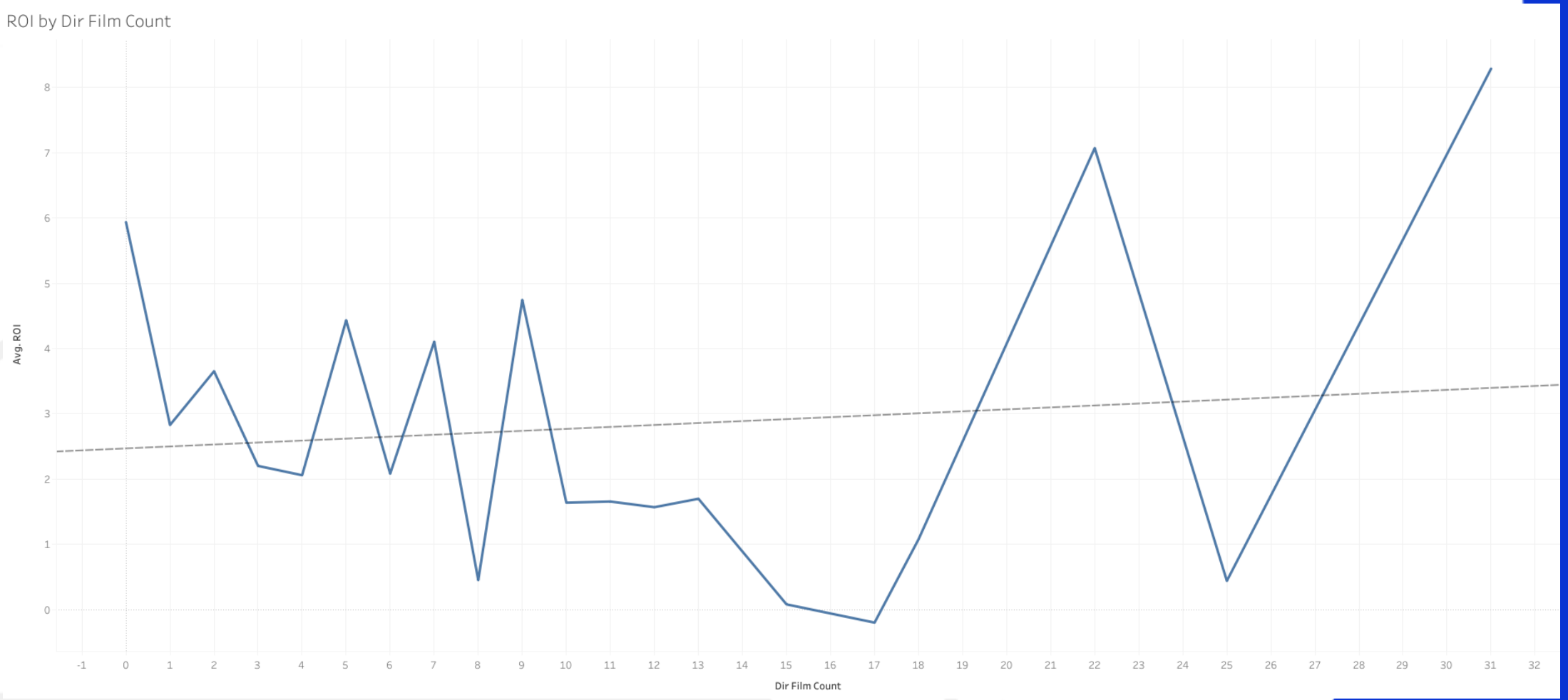
2010
2015
2020
2025
Start Year

Analysis


ROI by Dir Film Count
Avg. ROI
Dir Film Count
0
1
2
3
4
5
6
7
8
-1
0
1
2
3
4
5
6
7
8
9
10
11
12
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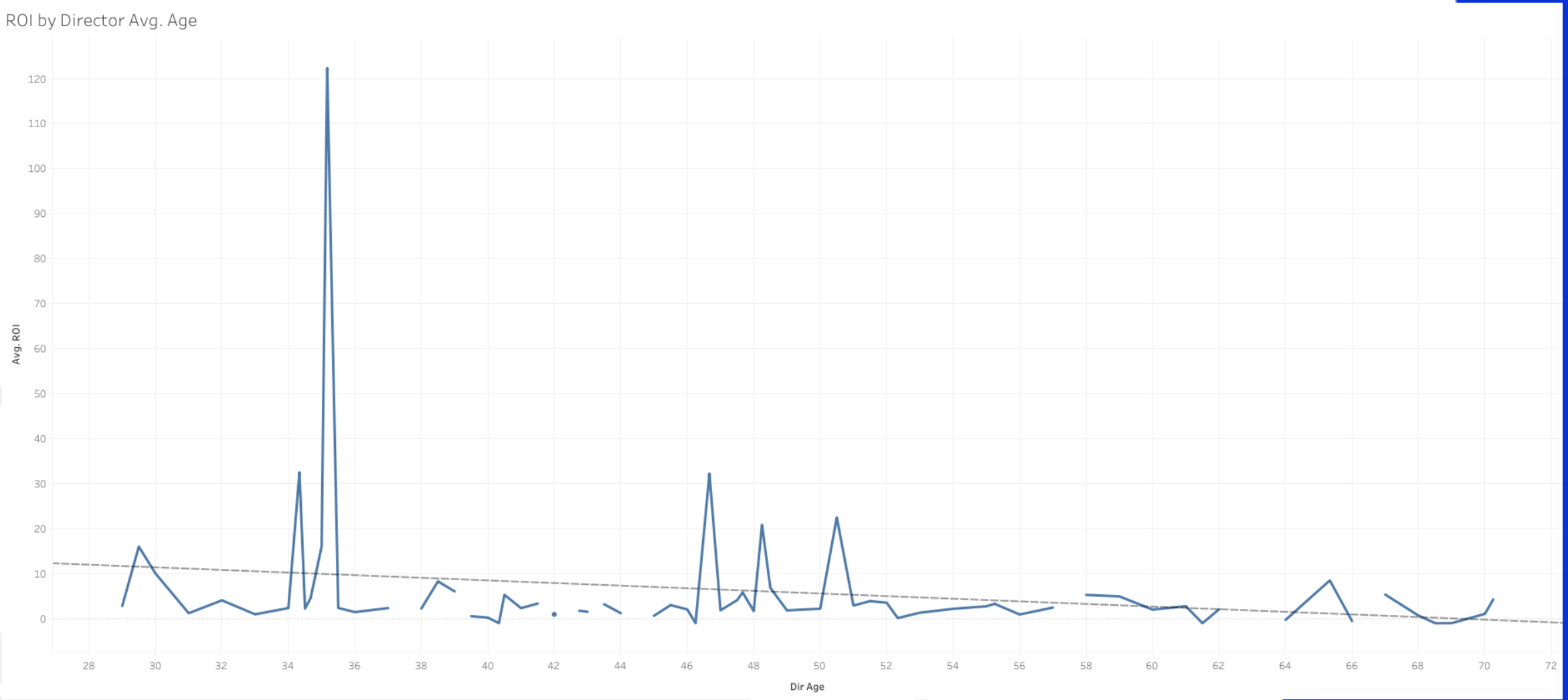
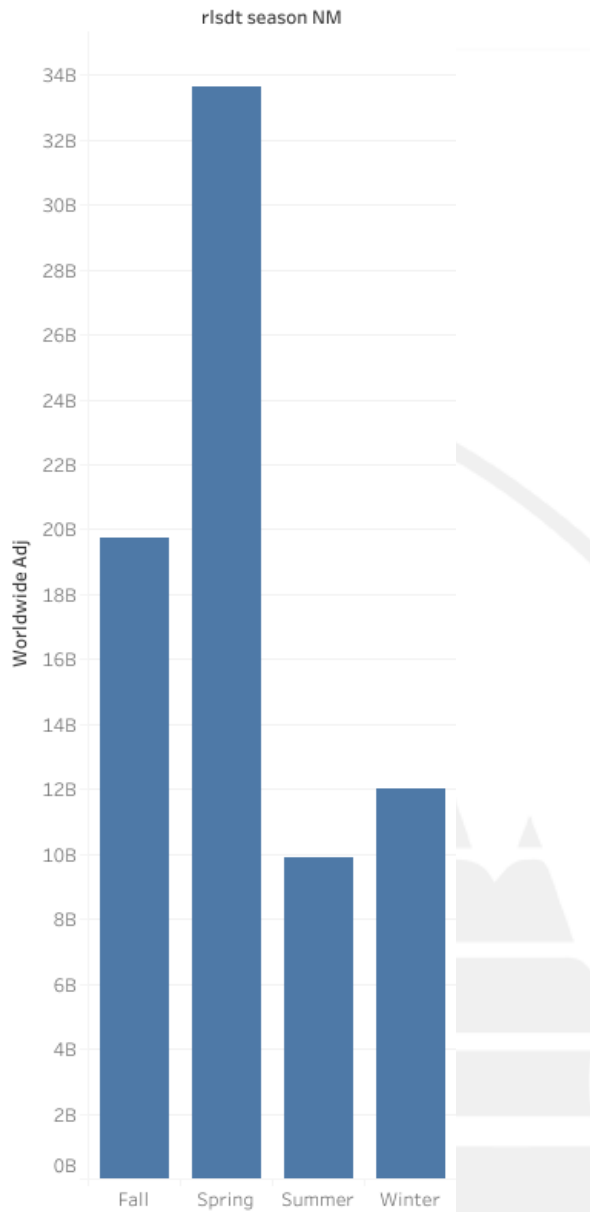
32

Analysis

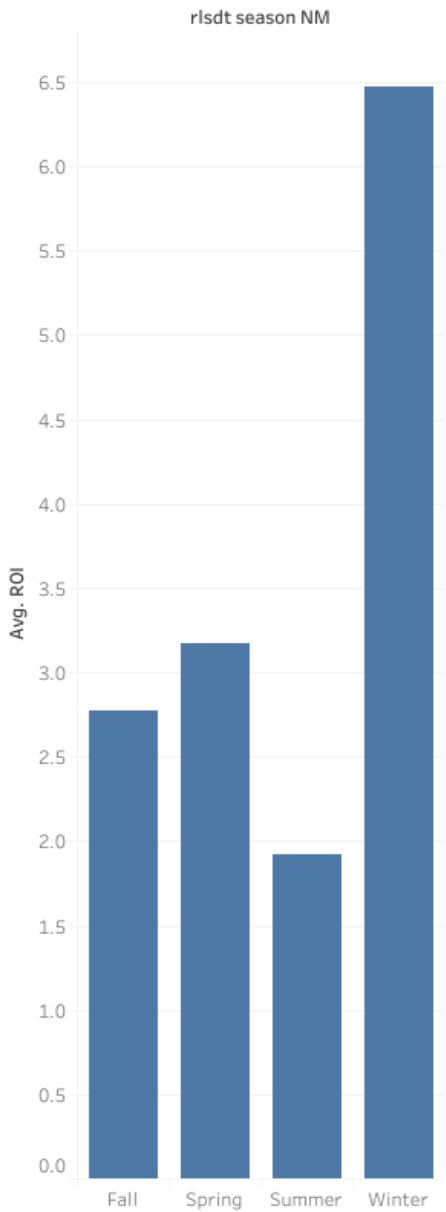

ROI by Director Avg. Age
Avg. ROI
120
110
100
90
80
70
60
50
40
30
20
10
0
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
Dir Age

Analysis

Rev by Season

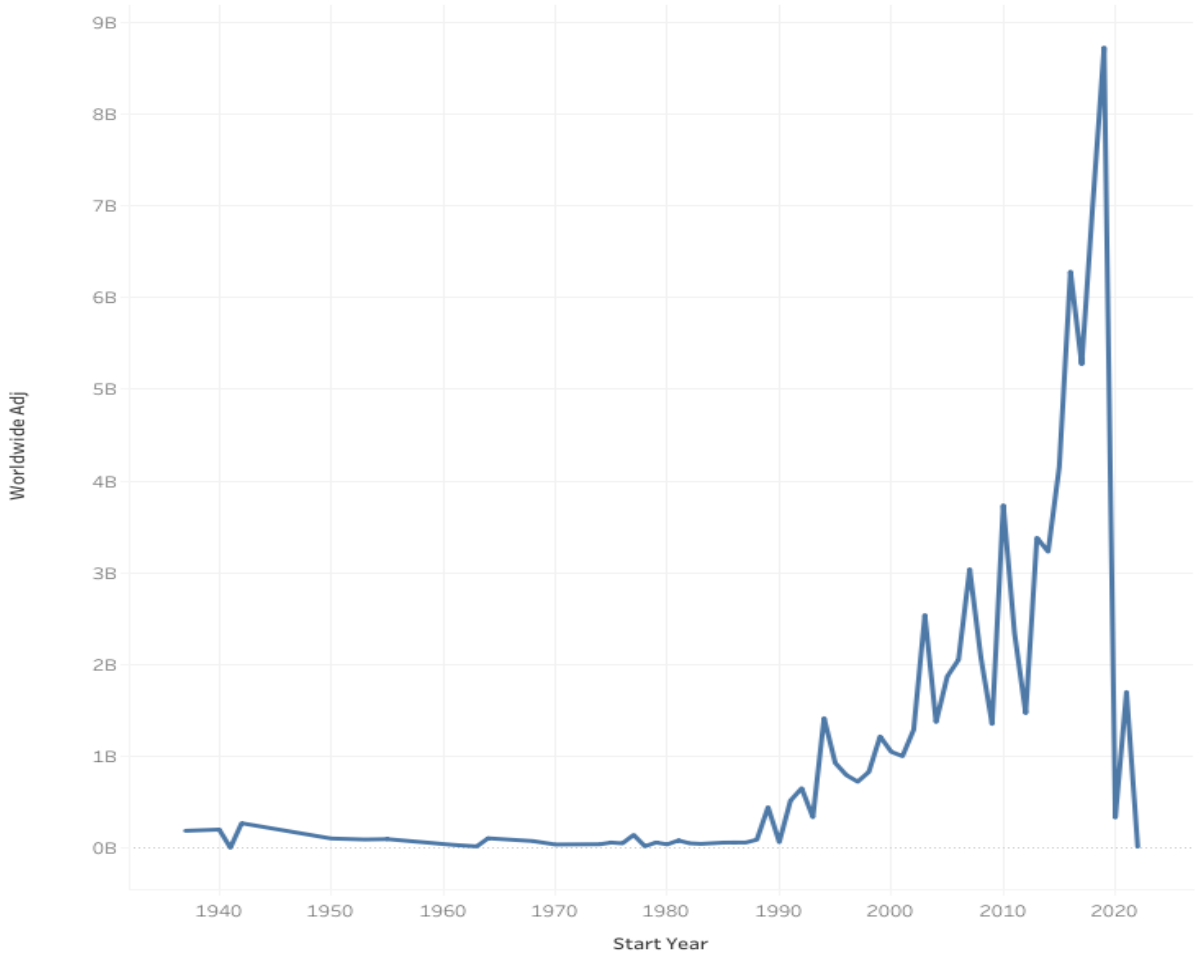


ROI by Season

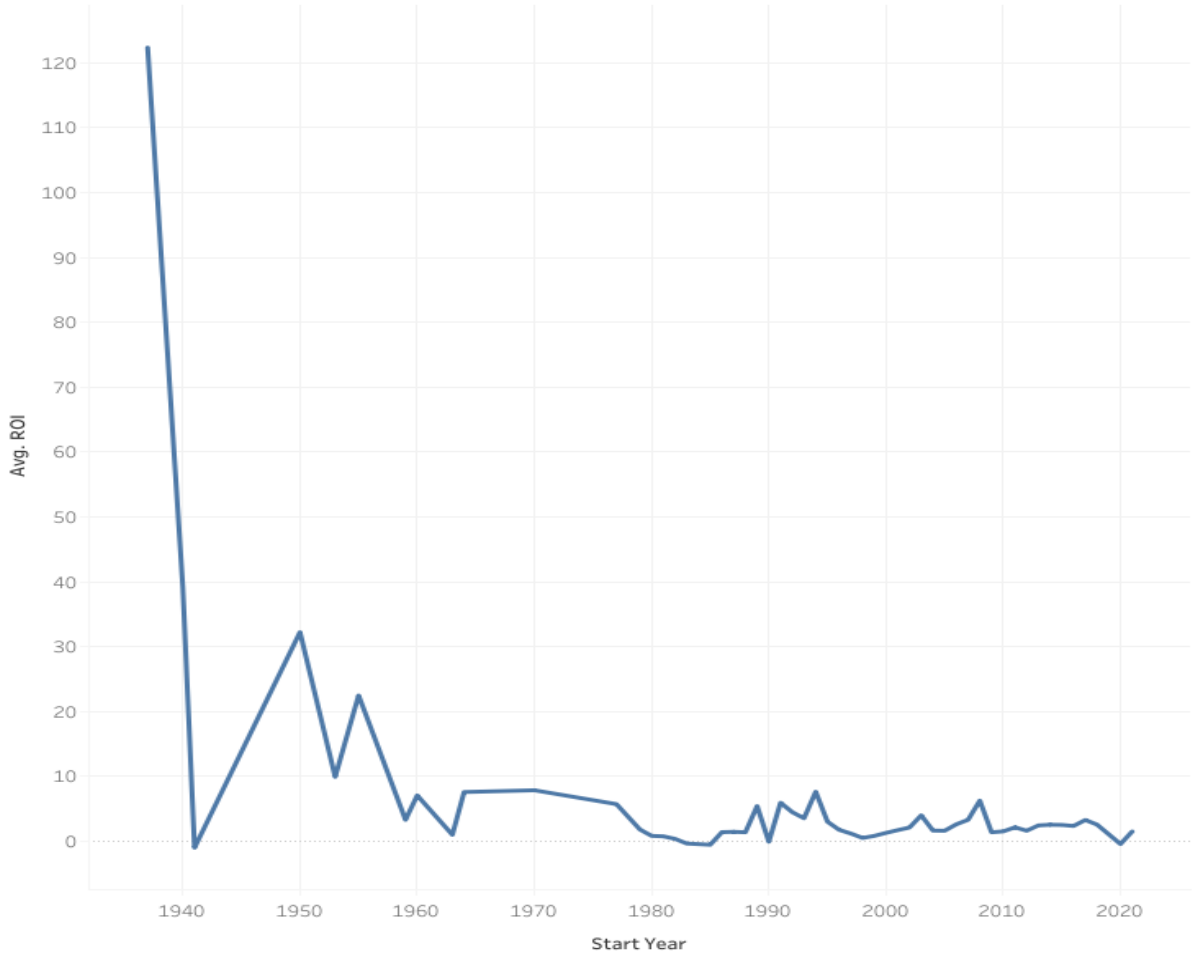


Analysis

Rev by Year of Release



ROI by Year of Release



Linear Regression

Decision Tree

Adaboost

KNN

Modeling

IMDB Score
Lasso Model

CV .396
RMSE .776

Wordlwide Revenue
Lasso Model

CV .396
RMSE .776

Our Predictions

Dr Strange in the Multiverse of Madness

IMDB Score: 6.63

Worldwide Revenue: $294, 513, 986

The Bob's Burgers Movie

IMDB Score: 6.37

Worldwide Revenue: $45,963,783

Additional Features & Next Steps

- Budget and Revenue Gaps
- Film Maker History Gaps
- Source Material / Original Authors
- Leading Characters / Supporting Characters / Villains
- Actor Track Records
- Special Effects
- Production Company / Distribution
- Marketing / Promotional Efforts and Budgets
- Easy to Use App