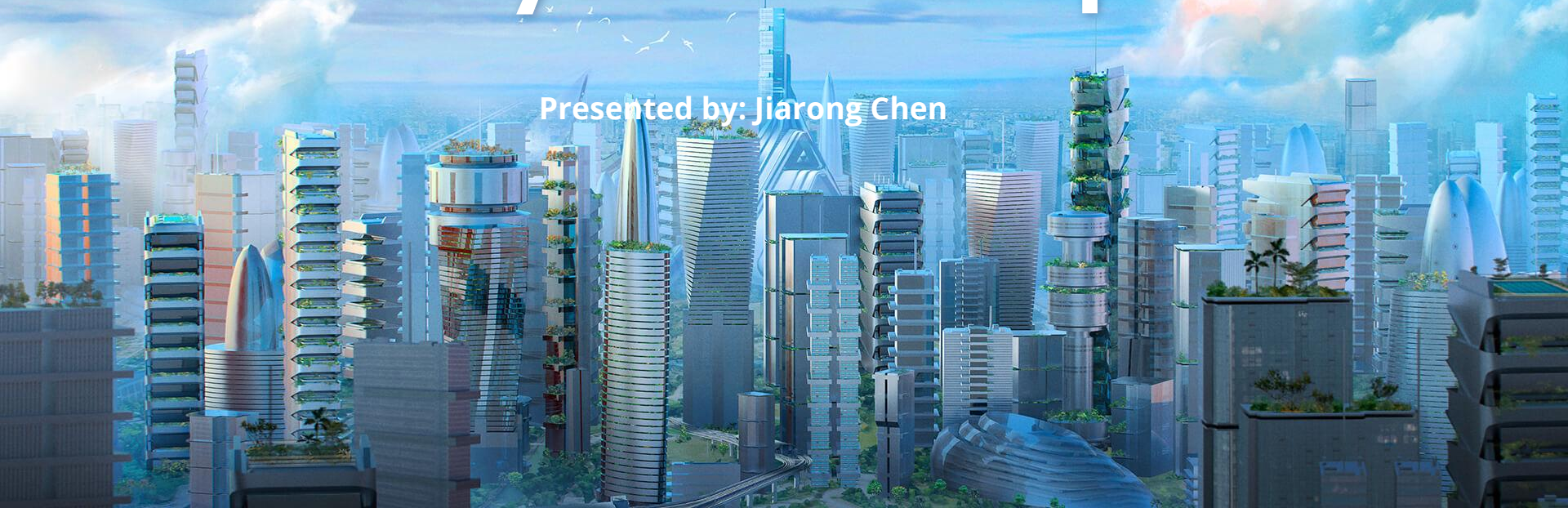


# Movie Market Analysis and Report

Presented by: Jiarong Chen



# Background

## Business problem

Microsoft sees all the big companies creating original video content, and they want to get in on the fun. They have decided to create a new movie studio, but the problem is they don't know anything about creating movies. They have hired you to help them **better understand the movie industry**. Your team is charged with exploring **what type of films are currently doing the best at the box office**. You must then translate those findings into actionable insights that the head of Microsoft's new movie studio can use to help decide what type of films to create

## My questions and plan

1. **Best Genre**
  - A best genre in Highest Mean Rating
  - A best genre in Highest Total Gross
  - Comparing and Summary
2. **Budget vs Total Grosses**
  - Are budgets and total grosses connected?
  - Which genre has the strongest relationship?
  - Which genre has the highest revenue?
3. **Best Runtime**
  - Find the most runtime range from top rating
  - Find the most runtime range from top revenue
  - Comparing and Summary





# 1. Best Genre

- a. Highest Rating
- b. Highest Gross
- c. Comparing and Summary

Top 10 Rating of Genres

Rating Mean

8

6

4

2

0

Short

News

Western

Biography

History

Documentary

Sport

Animation

Music

Sci-Fi

Genres

4

	genres	mean_rating
21	Short	8.800000
17	News	7.640460
25	Western	7.519219
4	Biography	7.475118
12	History	7.358504
7	Documentary	7.298120
22	Sport	7.291363
3	Animation	7.265119
14	Music	7.131506
20	Sci-Fi	7.120721

1e8

Top 10 Total Gross of Genres from bom

# 284 million

Mean Total Gross

2.5  
2.0  
1.5  
1.0  
0.5  
0.0

Sci-Fi

Adventure

Animation

Action

Fantasy

Family

Comedy

Thriller

Sport

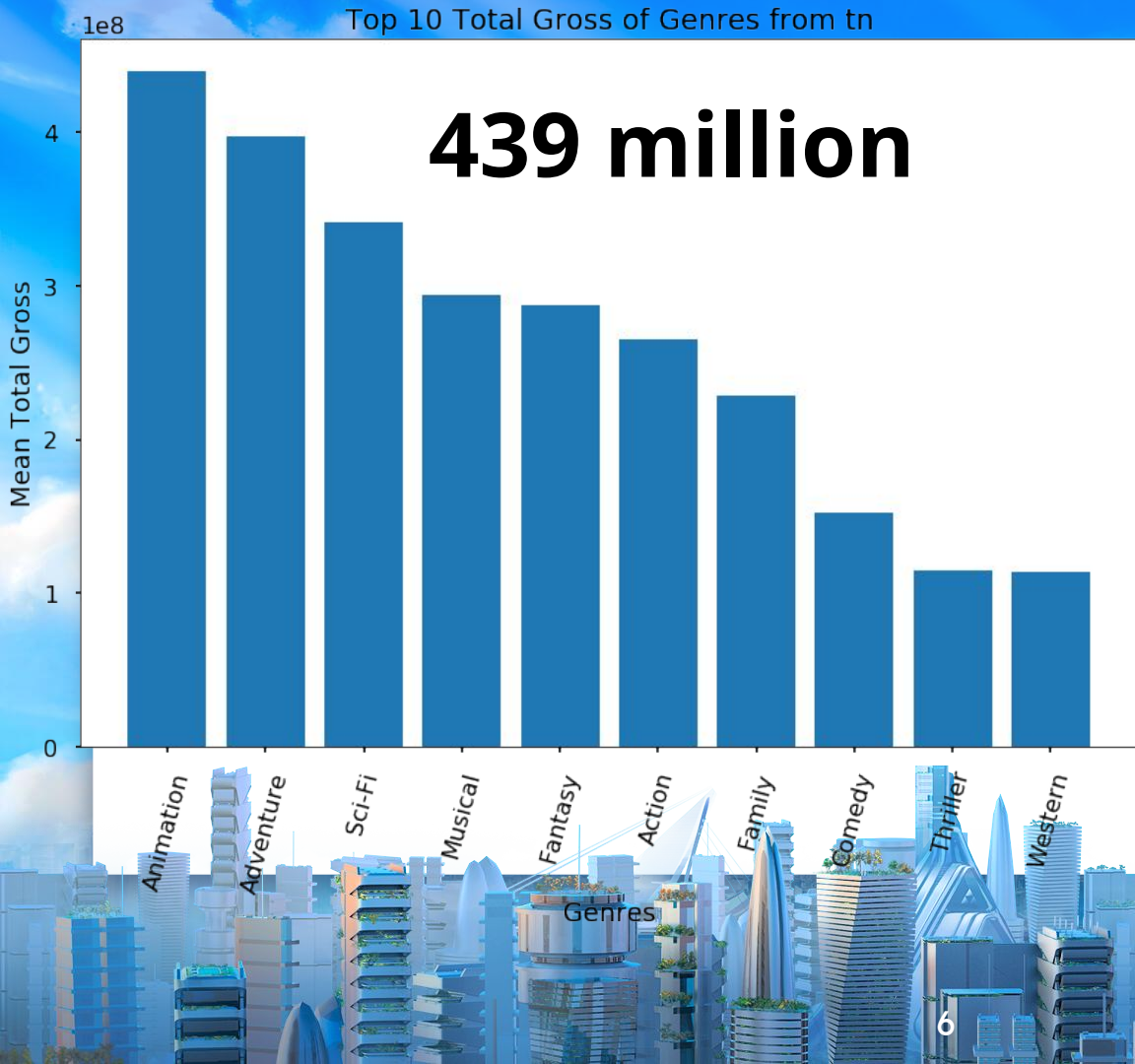
Musical

Genres

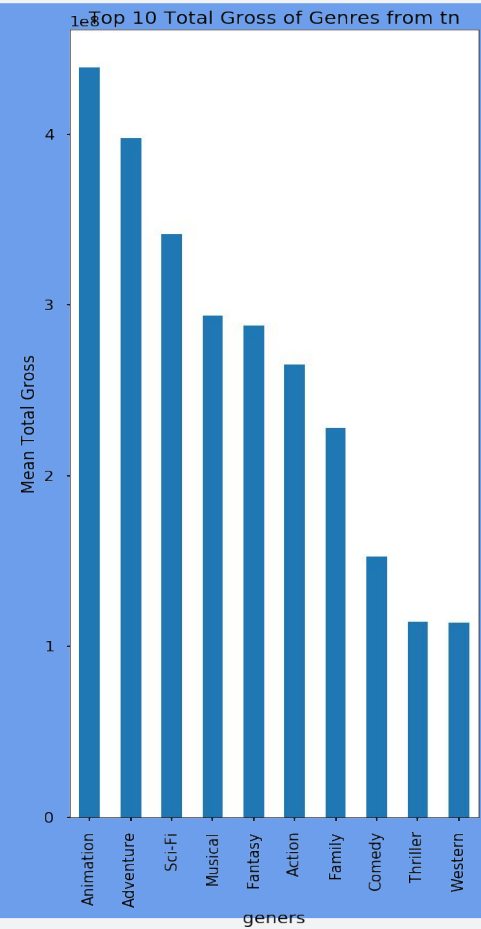
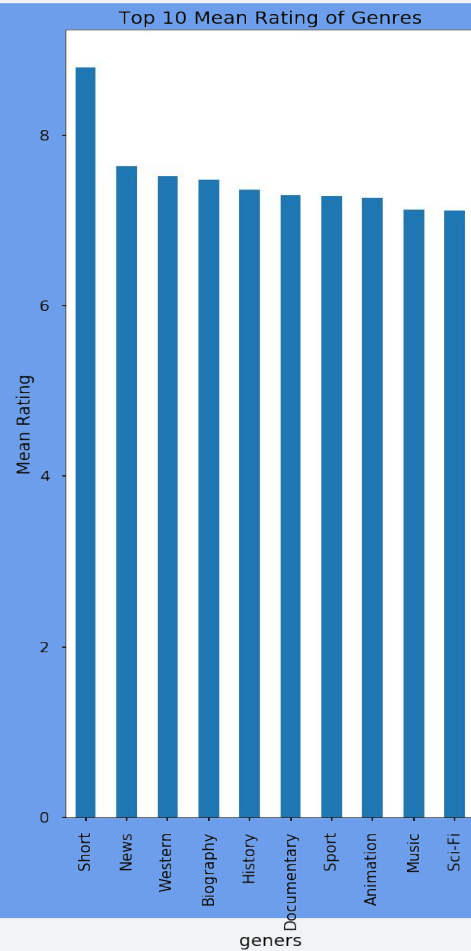
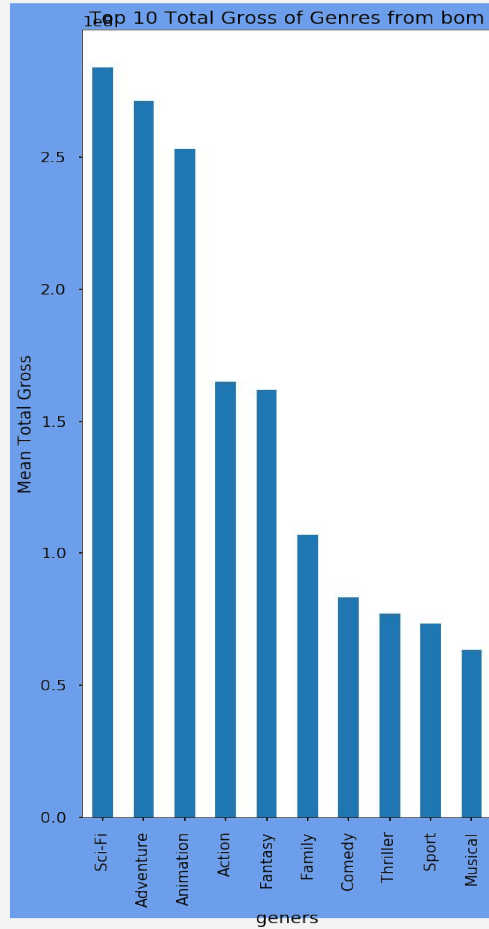
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	genres	mean_totgross
17	Sci-Fi	2.841010e+08
1	Adventure	2.712715e+08
2	Animation	2.531046e+08
0	Action	1.650091e+08
9	Fantasy	1.617202e+08
8	Family	1.070016e+08
4	Comedy	8.340298e+07
19	Thriller	7.703152e+07
18	Sport	7.327638e+07
13	Musical	6.345121e+07





	genres	mean_totgross
2	Animation	4.394062e+08
1	Adventure	3.976234e+08
17	Sci-Fi	3.416897e+08
13	Musical	2.940105e+08
9	Fantasy	2.879725e+08
0	Action	2.650756e+08
8	Family	2.281968e+08
4	Comedy	1.524296e+08
19	Thriller	1.146679e+08
21	Western	1.140367e+08



# Summary

## **Best Genres: Science Fiction and Animation**

**Science Fiction:**

**Rating: 7.120721**

**Total Gross from Bom: 284 million dollars**

**Total Gross from NT: 342 million dollars**

**Animation:**

**Rating: 7.265119**

**Total Gross from Bom: 253 million dollars**

**Total Gross from NT: 439 million dollars**

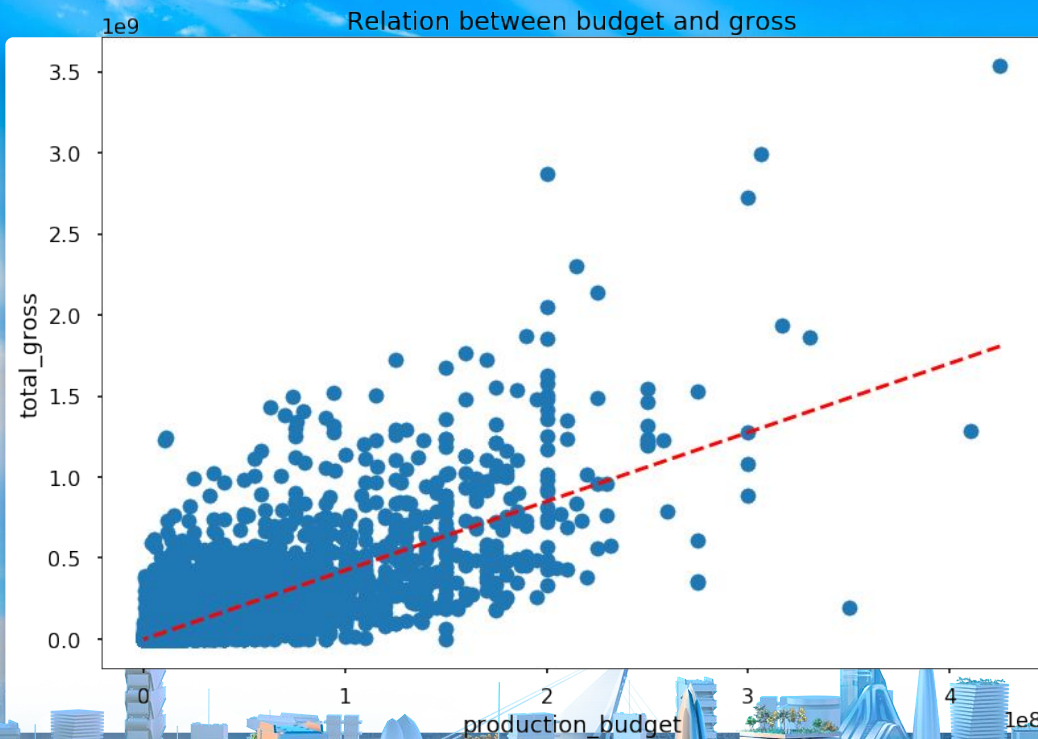


2.

## Budget vs Total Gross

- a. Are budgets and total gross connected?
- b. Which genre has the strongest relationship?
- c. Which genre has the highest revenue?



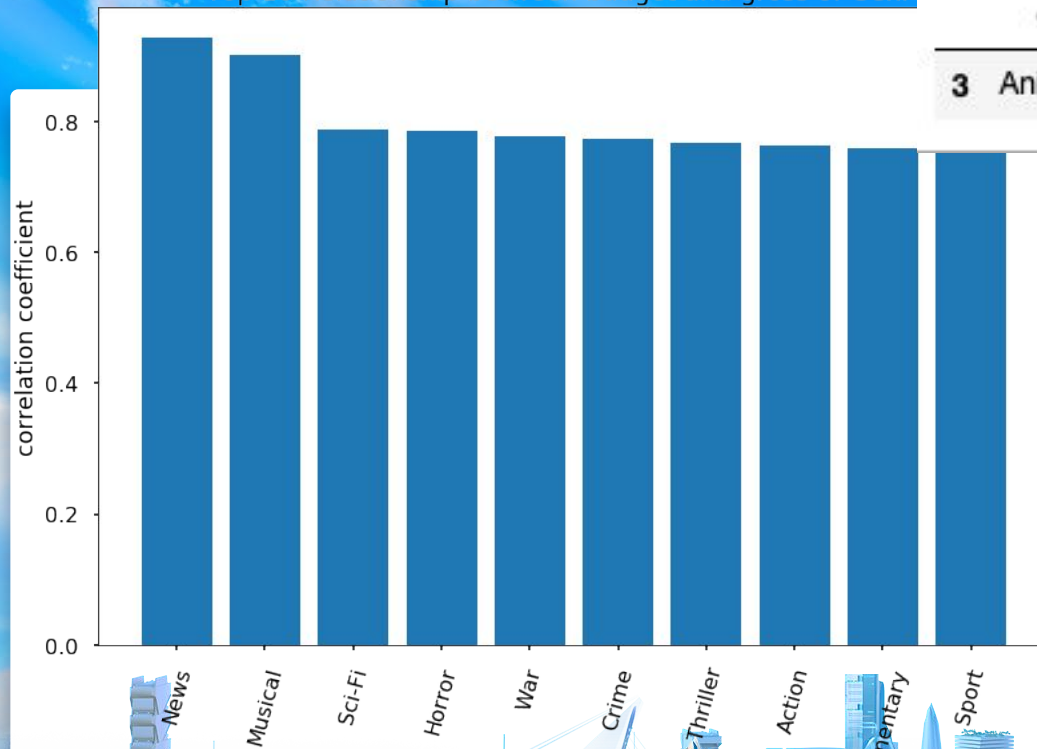


**correlation coefficient:  
0.74196702**





Top 10 Relationship between budget and gross of Genre

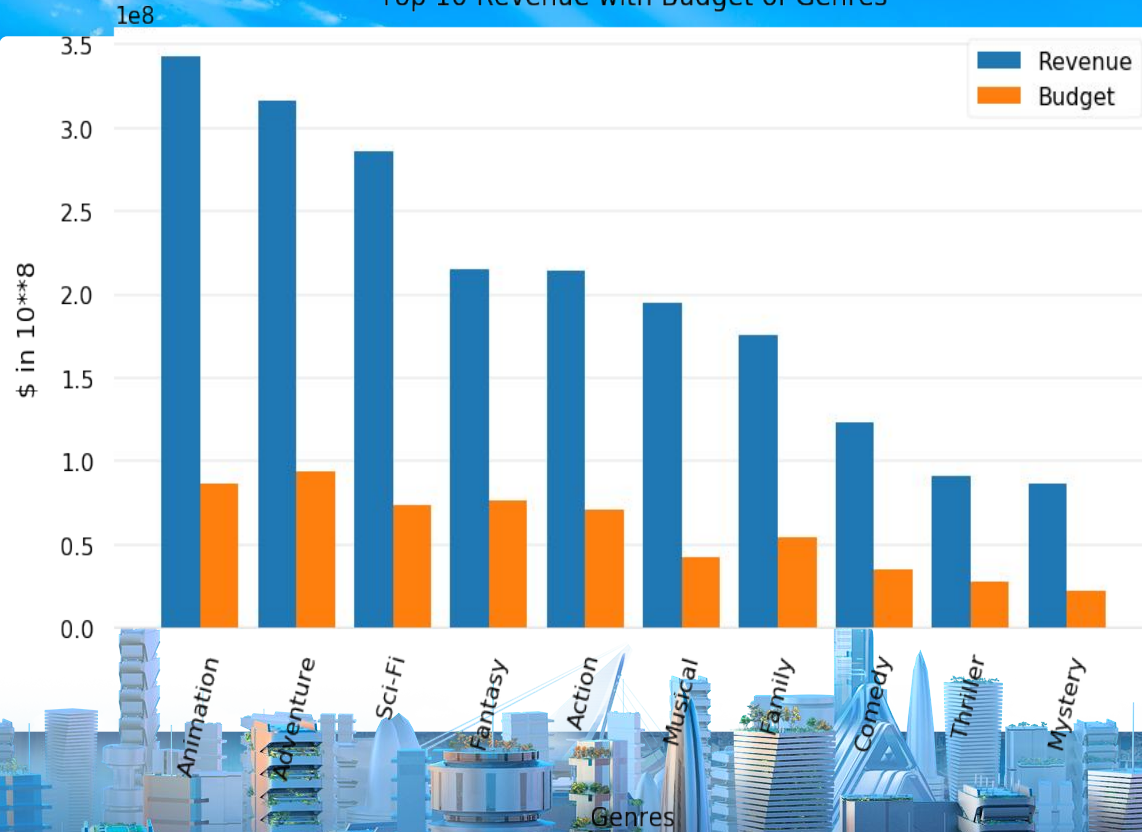


genres	corr
3 Animation	0.692486

	genres	corr
	News	0.928002
15	Musical	0.901655
20	Sci-Fi	0.786880
13	Horror	0.785489
25	War	0.777547
6	Crime	0.773461
24	Thriller	0.767988
0	Action	0.762663
7	Documentary	0.759246
22	Sport	0.755763



# Top 10 Revenue with Budget of Genres



	genres	revenue	budget
2	Animation	3.429938e+08	8.653679e+07
1	Adventure	3.163703e+08	9.395289e+07
17	Sci-Fi	2.857869e+08	7.390868e+07
9	Fantasy	2.153605e+08	7.650267e+07
0	Action	2.140184e+08	7.047052e+07
13	Musical	1.953371e+08	4.279333e+07
8	Family	1.761249e+08	5.398112e+07
4	Comedy	1.231741e+08	3.497973e+07
19	Thriller	9.073795e+07	2.775505e+07
14	Mystery	8.613043e+07	2.188758e+07



# TOP 10 Out of Pocket Movie

157 millions

	original_title	start_year	runtime_minutes	release_date	production_budget	domestic_gross	worldwide_gross	total_gross	count	revenue
tconst										
tt6565702	Dark Phoenix	2019	113.0	2019	350000000.0	42762350.0	149762350.0	192524700.0	1	-157475300.0
tt2283336	Men in Black: International	2019	115.0	2019	110000000.0	3100000.0	3100000.0	6200000.0	1	-103800000.0
tt5519340	Bright	2017	117.0	2017	90000000.0	0.0	0.0	0.0	1	-90000000.0
tt1305591	Mars Needs Moms	2011	88.0	2011	150000000.0	21392758.0	39549758.0	60942516.0	1	-89057484.0
tt7232438	Puen Tee Raluek	2017	114.0	2017	90000000.0	8224288.0	10551417.0	18775705.0	1	-71224295.0
tt4776998	The Promise	2016	133.0	2017	90000000.0	8224288.0	10551417.0	18775705.0	1	-71224295.0
tt1041804	The Nutcracker in 3D	2010	110.0	2010	90000000.0	195459.0	20466016.0	20661475.0	1	-69338525.0
tt4743226	Da hong zha	2018	120.0	2018	65000000.0	0.0	516279.0	516279.0	1	-64483721.0
tt2479478	The Ridiculous 6	2015	119.0	2015	60000000.0	0.0	0.0	0.0	1	-60000000.0
tt2428672	Midway	2013	85.0	2019	59500000.0	0.0	0.0	0.0	1	-59500000.0

# Summary

**Strong Relationship: 0.74196702**

**Science Fiction:**

**Correlation Coefficient: 0.78688**

**Revenue: 286 million dollars**

**Budget: 74 million dollars**

**Animation:**

**Correlation Coefficient: 0.692486**

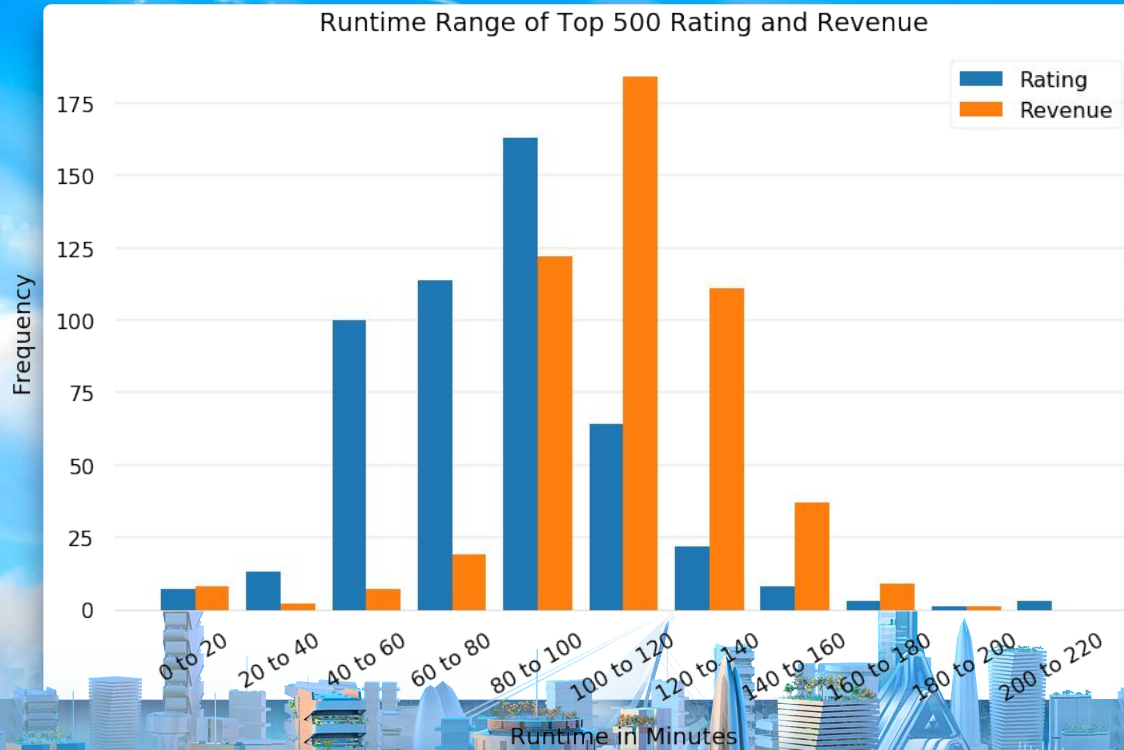
**Revenue: 343 million dollars**

**Budget: 86 million dollars**



# 3. Best Runtime

- a. The most runtime range from top rating movies
- b. The most runtime range from top revenue movies
- c. Comparing and Summary



	runtime_range	rating	revenue
0	0 to 20	7	8
1	20 to 40	13	2
2	40 to 60	100	7
3	60 to 80	114	19
4	80 to 100	163	122
5	100 to 120	64	184
6	120 to 140	22	111
7	140 to 160	8	37
8	160 to 180	3	9
9	180 to 200	1	1
10	200 to 220	3	0

# Summary

**80-100 mins:**

**rating: 163**

**Revenue: 122**

When watching funny movie alone



**100-120 mins:**

**rating: 64**

**Revenue: 184**

When watching funny movie with family





# Recommendation

## Genres

Conservative:

Genre: Science Fiction  
Budget: 74 million dollars  
Revenue: 286 million dollars



Radical:

Genre: Animation  
Budget: 86 million dollars  
Revenue: 343 million dollars

## Runtime

Prefer Rating:  
80-100 mins

Prefer Revenue:  
100-120 mins



## Congratulation!

You will make a good movie successfully!



# Future Work

If I have more time, I will dig the studio data.  
I will find the best studio by showing the average  
rating and average revenue of all their movies.





# Thank you!

**Any questions?**

You can find me at:

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<https://github.com/JRRRRRRR>