

IMDB MOVIE ANALYSIS

- **Project Description:-**

The purpose of this research is to extensively investigate the IMDB movie dataset. Our analysis will focus on numerous critical variables, including genres, runtime, language, directors, and budget. By analysing these variables, we want to better understand how they impact IMDB ratings and film financial performance.



ADVANCED EXCEL

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-: Approach :-

To achieve the project goals, we used a clear method:

- 1. Data Preparation:** We started by downloading the project's dataset, which includes information on movie titles, genres, durations, languages, directors, budgets, earnings, and IMDB scores. Then we cleaned the data and got it ready for analysis.
- 2. Data Analysis:** We used Excel from basics to advanced level to analyze the data and answer the project's questions. This involved manipulating the data to find relevant information, calculating statistics, and visualizing the relationships between different variables.
- 3. Report Generation:** We created a detailed report based on our analysis, which includes insights, visualizations, and statistical summaries.

-: Tech-Stack Used :-

For this project, the following tools were utilized:

1. MS Excel 2021:

- Used for data analysis.
- Excel's built-in functions, formulas and tools were crucial for performing calculations.
- Generated visualizations to illustrate data trends and patterns.
- Summarized the results effectively.

2. MS PowerPoint 2021:

- Created a presentation to showcase project insights.
- Ensured the information was presented in a clear and visually appealing format.

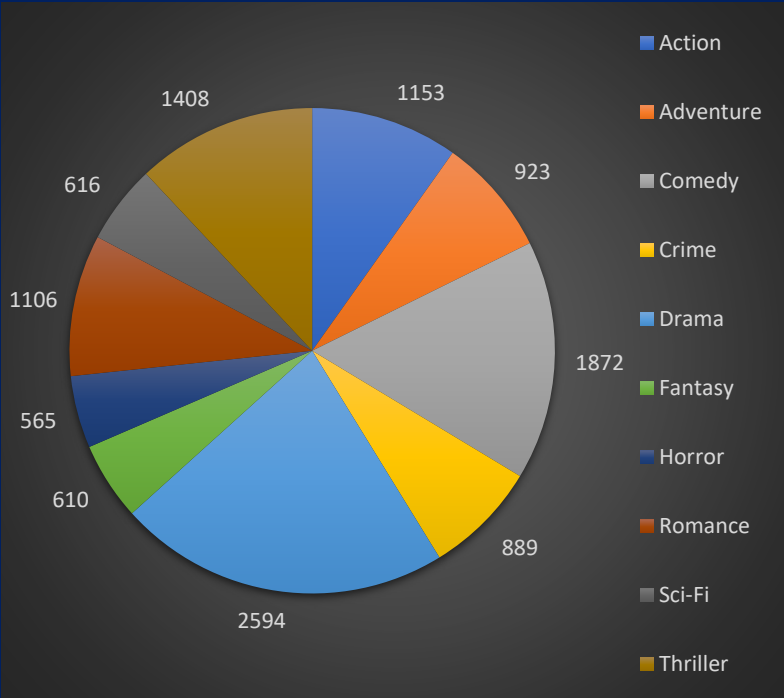
3. Google Drive:

- Saved the final report for easy access.
- Shared the report with others to facilitate collaboration and review.

Task 1 :- Movie Genre Analysis

- Top 10 Movie genres and their movie counts.

Genres	Counts
Action	1153
Adventure	923
Comedy	1872
Crime	889
Drama	2594
Fantasy	610
Horror	565
Romance	1106
Sci-Fi	616
Thriller	1408



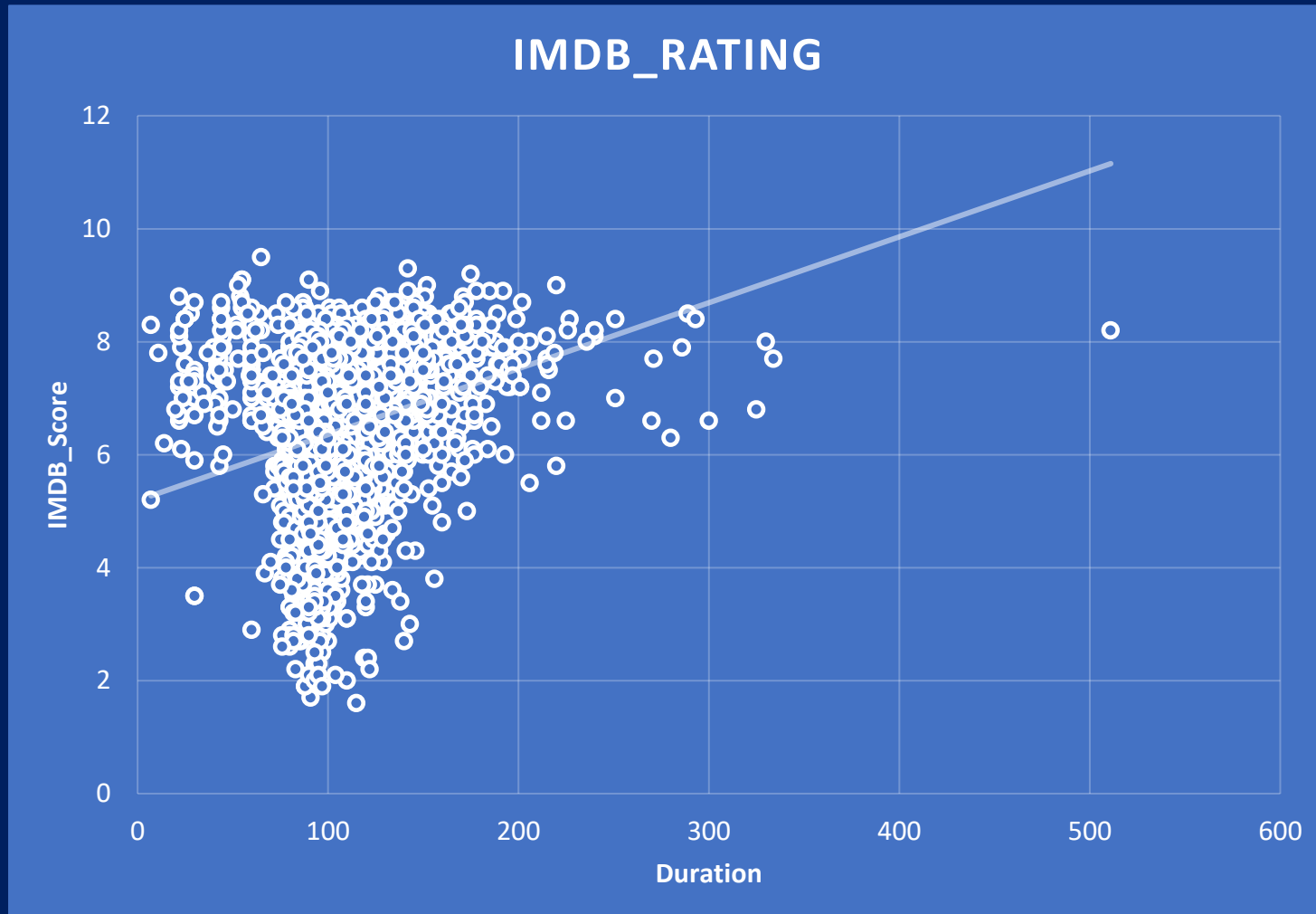
genres	Counts
Action	1153
Documentary	121
Adventure	923
Drama	2594
Animation	242
Comedy	1872
Mystery	500
Fantasy	610
Crime	889
Biography	293
Sci-Fi	616
Horror	565
Romance	1106
Thriller	1408
Game-Show	1
Family	546
Music	214
Western	97
Musical	132
Film-Noir	6
History	207
War	213
Sport	182
Reality-TV	2
Short	5
News	3

- All Movie genres and their movie counts.

- Statistics to understand the impact of genre on movie ratings.

Data Manipulation	
Mean	557.692
Median	267.5
Max	2594
Min	1
Variance	396001
Std Dev	629.286

Task 2:- Distribution of movie durations and its impact on the IMDB score.



- Rating & duration distribution using Scatter Plot

- Rating stats

IMDB	
Average	6.44
Median	6.6
Std dev	1.12334

Duration	
Average	107.201
Median	103
Std dev	25.1949

- Duration stats

Task 3:- Distribution of top 10 movies based on their language.

- Most common languages used in movies

Languages	Total Movies
English	4704
French	73
Spanish	40
Hindi	28
Mandarin	26
German	19
Japanese	18
Italian	11
Cantonese	11
Russian	11

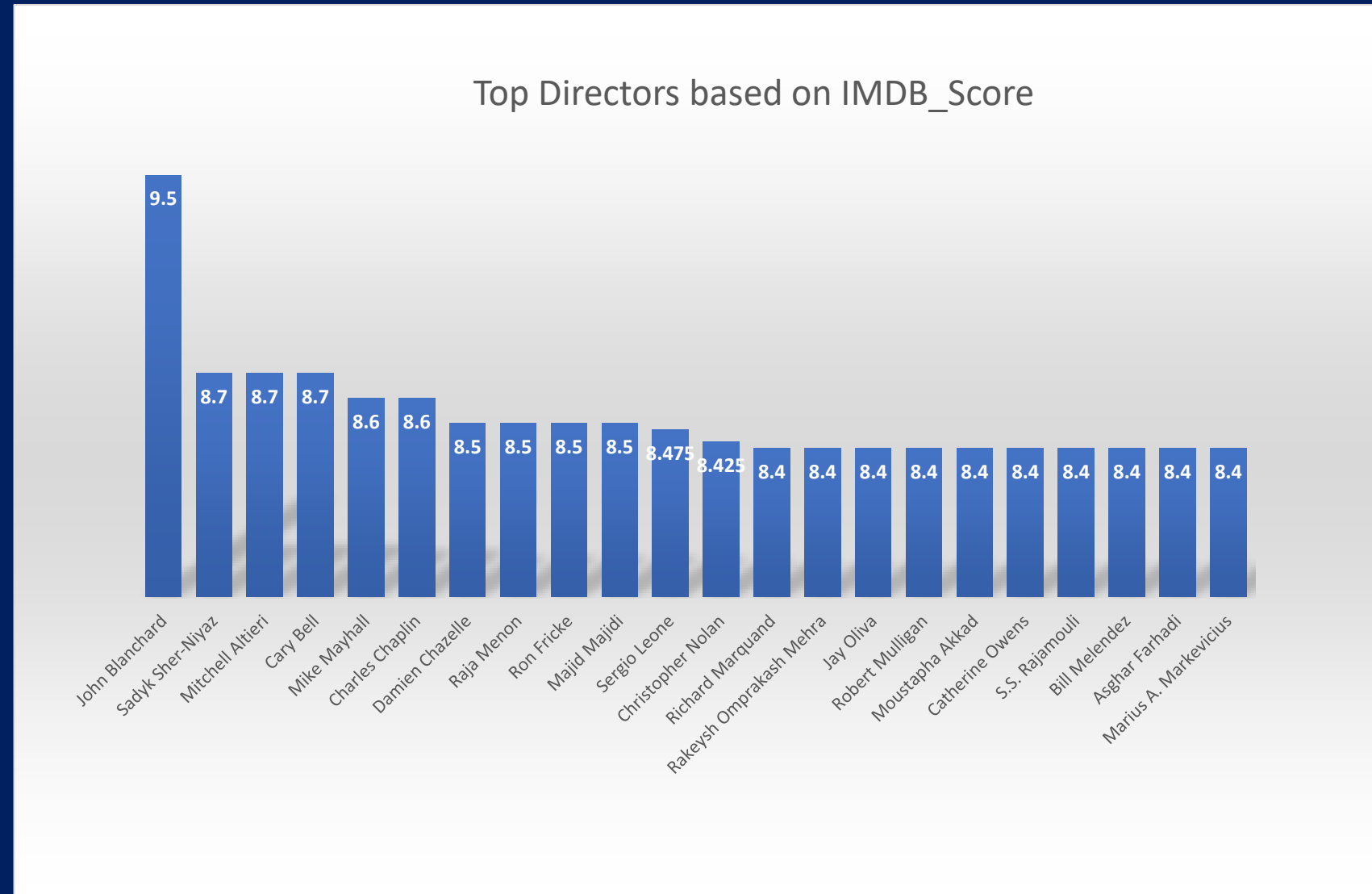
- Their impact on the IMDB score using descriptive statistics.

Language	Avg IMDB_score	Median of IMDB_score	Std dev of IMDB_score
English	8.4	6.6	1.12
French	8.3	6.6	1.12
Spanish	7.9	6.6	1.12
Hindi	7.8	6.6	1.12
Mandarin	7.6	6.6	1.12
German	7.6	6.6	1.12
Japanese	7.6	6.6	1.12
Russian	7.5	6.6	1.12
Italian	7.5	6.6	1.12
Cantonese	7.5	6.6	1.12

Task 4:- Director Analysis: Influence of directors on movie ratings.

- Top directors based on their average IMDB score

Directors	Average of imdb_score
John Blanchard	9.5
Sadyk Sher-Niyaz	8.7
Mitchell Altieri	8.7
Cary Bell	8.7
Mike Mayhall	8.6
Charles Chaplin	8.6
Damien Chazelle	8.5
Raja Menon	8.5
Ron Fricke	8.5
Majid Majidi	8.5
Sergio Leone	8.475
Christopher Nolan	8.425
Richard Marquand	8.4
Rakeysh Omprakash Mehra	8.4
Jay Oliva	8.4
Robert Mulligan	8.4
Moustapha Akkad	8.4
Catherine Owens	8.4
S.S. Rajamouli	8.4
Bill Melendez	8.4
Asghar Farhadi	8.4
Marius A. Markevicius	8.4



Task 5:- Budget Analysis: Explore the relationship between movie budgets and their financial success.

movie_title	gross	budget	Profit_Margin
Avatar	\$ 76,05,05,847.00	\$ 23,70,00,000.00	\$ 52,35,05,847.00
The Avengers	\$ 62,32,79,547.00	\$ 22,00,00,000.00	\$ 40,32,79,547.00
Titanic	\$ 65,86,72,302.00	\$ 20,00,00,000.00	\$ 45,86,72,302.00
Jurassic World	\$ 65,21,77,271.00	\$ 15,00,00,000.00	\$ 50,21,77,271.00
The Dark Knight	\$ 53,33,16,061.00	\$ 18,50,00,000.00	\$ 34,83,16,061.00
The Hunger Games: Catching Fire	\$ 42,46,45,577.00	\$ 13,00,00,000.00	\$ 29,46,45,577.00
Star Wars: Episode I - The Phantom Menace	\$ 47,45,44,677.00	\$ 11,50,00,000.00	\$ 35,95,44,677.00
Finding Nemo	\$ 38,08,38,870.00	\$ 9,40,00,000.00	\$ 28,68,38,870.00
The Lord of the Rings: The Return of the King	\$ 37,70,19,252.00	\$ 9,40,00,000.00	\$ 28,30,19,252.00
The Hunger Games	\$ 40,79,99,255.00	\$ 7,80,00,000.00	\$ 32,99,99,255.00
The Lion King	\$ 42,27,83,777.00	\$ 4,50,00,000.00	\$ 37,77,83,777.00
Despicable Me 2	\$ 36,80,49,635.00	\$ 7,60,00,000.00	\$ 29,20,49,635.00
Shrek 2	\$ 43,64,71,036.00	\$ 15,00,00,000.00	\$ 28,64,71,036.00
Jurassic Park	\$ 35,67,84,000.00	\$ 6,30,00,000.00	\$ 29,37,84,000.00
The Avengers	\$ 62,32,79,547.00	\$ 22,00,00,000.00	\$ 40,32,79,547.00
Deadpool	\$ 36,30,24,263.00	\$ 5,80,00,000.00	\$ 30,50,24,263.00
American Sniper	\$ 35,01,23,553.00	\$ 5,88,00,000.00	\$ 29,13,23,553.00
Star Wars: Episode VI - Return of the Jedi	\$ 30,91,25,409.00	\$ 3,25,00,000.00	\$ 27,66,25,409.00
Star Wars: Episode IV - A New Hope	\$ 46,09,35,665.00	\$ 1,10,00,000.00	\$ 44,99,35,665.00
E.T. the Extra-Terrestrial	\$ 43,49,49,459.00	\$ 1,05,00,000.00	\$ 42,44,49,459.00

- Top 20 movies with the highest profit margin.

- Most profitable movie- 'Avatar' [1st]

Movie with Highest Profit Margin

523505847

- Correlation coefficient between movie budgets and gross earnings

Correlation coefficient

0.102179454

-: Insights Summary :-

1. **Movie Genre Analysis:**

- Identified that Action, Adventure, Comedy, Crime, Drama, Fantasy, Horror, Romance, Science-Fiction and Thriller as the most common genres.
- Analyzed their impact on IMDB scores, with no significant genre showing a clear advantage in ratings.

2. **Movie Duration Analysis:**

- Movie durations ranged widely, from short films to epics.
- Found a weak correlation between movie duration and IMDB scores, suggesting that length alone doesn't significantly affect ratings.
- Slight indication that movies over 250 minutes may score between 6 and 8.5 on IMDB, with a trend suggesting longer movies might slightly improve scores.

3. **Language Analysis:**

- English was the dominant language, followed by French, Spanish, Hindi, Mandarin, German, Japanese, Italian, Cantonese, and Russian.
- Movies in non-English languages generally had slightly lower IMDB scores, hinting at possible audience biases.

4. **Director Analysis:**

- Highlighted top directors with high average IMDB scores, including John Blanchard, Sadyk Sher-Niyaz, Mitchell Altieri, Cary Bell, Mike Mayhall, Charles Chaplin, Damien Chazelle, Raja Menon, Ron Fricke, Majid Majidi, Sergio Leone, and Christopher Nolan.
- These directors consistently produced high-rated movies, indicating their strong influence on audience perception.

5. **Budget and Profit Analysis:**

- Examined the correlation between movie budgets and gross earnings, a correlation of 0.1021795 indicates a very weak positive relationship between movie budgets and gross earnings. In practical terms, this suggests that there is a slight tendency for higher-budget movies to earn more.
- Movies with budgets over \$200 million had a higher likelihood of achieving significant profit margins.

-: Project Conclusion :-

This project provided valuable insights into the factors influencing movie ratings and financial performance. By examining genres, durations, languages, directors, and budgets, we identified key trends and patterns that reveal audience preferences and industry dynamics. Our findings offer actionable recommendations for filmmakers, producers, and studios to enhance their production strategies and maximize audience appeal.

- Original dataset:- https://drive.google.com/file/d/1JAwSmX1JLDumdMh7jVdi3Szpuuz4HI_g/view?usp=sharing
- Cleaned datafile:- https://docs.google.com/spreadsheets/d/1vdqu33Ck9n_Efg_IBH0eKAGVpoZDkrsB/edit?usp=sharing&ouid=103027981944924775198&rtpof=true&sd=true
- Loom Video Presentation:- <https://www.loom.com/share/9dc12a9cf889447688abea7b5b011232?sid=4185c93c-27ac-4d7f-a355-a1dd670408c5>

THANK YOU