Bollywood Movie Performance Analysis

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Date: 2024-09-21

Project Overview

Business Problem:

A Bollywood production company aims to enhance its profitability by analyzing historical movie performance data. This analysis will focus on key factors such as genre performance, release timing, and star power to inform future film production and marketing strategies.

Objectives:

1.Analyze Genre Performance: Identify which movie genres generate the highest and lowest average revenue.

2.Evaluate Release Period Impact: Assess how different release periods influence movie revenue and profitability.

3.Franchise vs. Standalone Performance: Compare the financial performance of franchise movies versus standalone films.

4.Star Power vs. New Talent: Analyze the impact of established stars versus new talent on movie revenue.

5.Remakes vs. Original Movies: Examine the financial performance of remakes compared to original movies.

6.Budget vs. Revenue Analysis: Assess the relationship between production budgets and box office revenue.

Methodology

- **Data Source**: Bollywood Movie Dataset (sourced from Kaggle)

- **Tools**:
  - **MySQL**: For data extraction and analysis
  - **Power BI**: For creating visualizations and dashboards
  - **Excel**: For initial data checks

Tools Used

Dataset Overview

1.**Movie Name**: Title of the movie (e.g., *Golden Boys*).

2.**Release Period**: Timing of release (e.g., Normal).

3.**Remake**: Indicates if the movie is a remake (Yes/No).

4.**Franchise**: Part of a franchise (Yes/No).

5.**Genre**: Type of movie (e.g., Action, Comedy).

6.**New Actor**: Is the lead actor new? (Yes/No).

7.**New Director**: Is the director new? (Yes/No).

8.**New Music Director**: Is the music director new? (Yes/No).

9.**Lead Star**: Name of the lead actor.

10.**Director**: Name of the director.

11.**Music Director**: Name of the music director.

12.**Number of Screens**: Total screens for release.

13.**Revenue (INR)**: Total revenue earned (e.g., 5,000,000 INR).

14.**Budget (INR)**: Total production budget (e.g., 85,000 INR).

15.**Profit(INR) : (Revenue – Budget)**

	Field	Type	Null
▶	movie_name	text	YES
	release_period	text	YES
	is_remake	text	YES
	is_franchise	text	YES
	genre	text	YES
	new_actor	text	YES
	new_director	text	YES
	new_music_director	text	YES
	lead_star	text	YES
	director	text	YES
	music_director	text	YES
	no_of_screen	int	YES
	revenue_inr	int	YES
	budget_inr	int	YES
	profit	int	YES

Data Analysis

1. Revenue Performance by Genre
2. Impact of Release Period on Revenue
3. Franchise vs. Standalone Performance
4. Star Power vs. New Talent
5. Remakes vs. Original Movies
6. Budget vs. Revenue Analysis

1. Revenue Performance by Genre

1. *Objective:*
   Identify which movie genres generate the highest and lowest average revenue to inform decisions on future genre investments.
   - Calculate total and average revenue for each genre.
   - Rank genres based on profitability.
   - Identify high-performing and underperforming genres.

```
SELECT GENRE,
SUM(REVENUE_INR) AS TOTAL_REVENUE,
ROUND(AVG(REVENUE_INR) ,2) AS AVERAGE_REVENUE,
SUM(PROFIT) AS PROFIT,
RANK() OVER(ORDER BY SUM(PROFIT) DESC) AS RANKS
FROM BOLLYWOOD
GROUP BY GENRE;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

GENRE	TOTAL_REVENUE	AVERAGE_REVENUE	PROFIT	RANKS
fantasy	2595000000	199615384.62	1479443750	1
suspense	1162500000	38750000.00	543650000	2
animation	292500000	97500000.00	252600000	3
mythological	129000000	9214285.71	118807500	4
adult	308700000	3957692.31	-49427500	5
documentary	390000000	390000000.00	-259515000	6
horror	3768500000	71103773.58	-1372870000	7
masala	7090000000	709000000.00	-4917032500	8
rom__com	18545700000	197294680.85	-7049927500	9
thriller	33038500000	155841981.13	-8331024050	10
love_story	18809500000	143583969.47	-10065517188	11
action	30946750000	266782327.59	-11750986625	12
drama	63917075000	100815575.71	-17132371925	13
comedy	41950500000	148234982.33	-21517564500	14

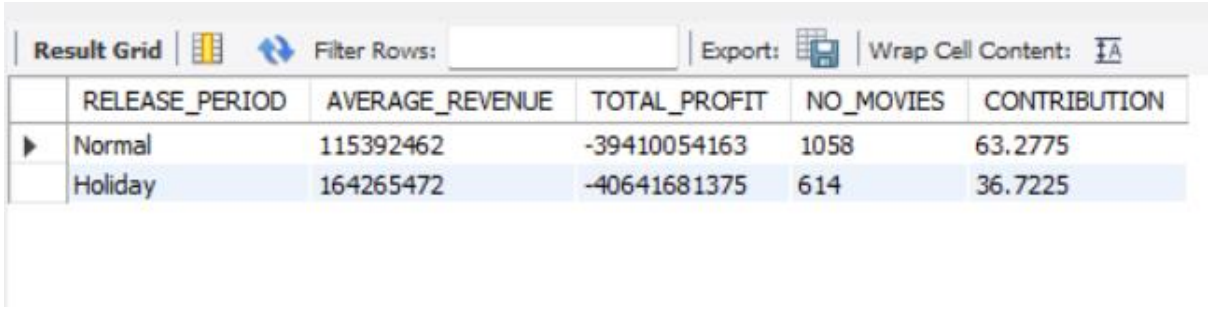
Insights: Fantasy, Animation, and Suspense genres are highly profitable, returning investment amounts to producers.

2. Impact of Release Period on Revenue

Objective:
Evaluate how different release periods, such as holiday seasons or regular periods, influence movie revenue. This will guide optimal release timing for maximizing box office revenue.

- Compare average revenue for holiday-released movies versus non-holiday releases.
- Provide insights on the best periods for movie releases to maximize profitability.

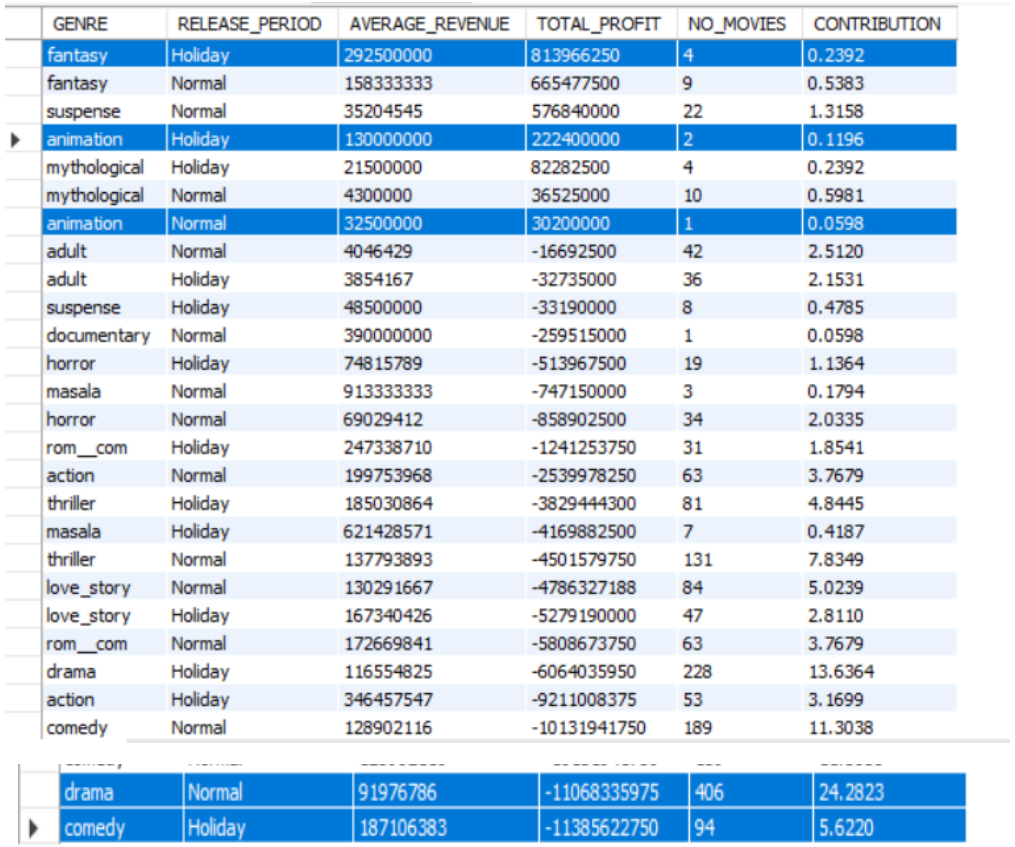
```
SELECT
RELEASE_PERIOD,
ROUND(AVG(REVENUE_INR)) AS AVERAGE_REVENUE,
SUM(PROFIT) AS TOTAL_PROFIT ,
COUNT(*) AS NO_MOVIES ,
(100 * COUNT(*) / (SELECT COUNT(*) FROM BOLLYWOOD)) AS CONTRIBUTION
FROM BOLLYWOOD
GROUP BY RELEASE_PERIOD;
```



RELEASE_PERIOD	AVERAGE_REVENUE	TOTAL_PROFIT	NO_MOVIES	CONTRIBUTION
Normal	115392462	-39410054163	1058	63.2775
Holiday	164265472	-40641681375	614	36.7225

Data Analysis Techniques

```
-- LETS FIGURE OUT WHICH DAY AND WHAT KIND MOVIE GIVE PROFIT
SELECT
GENRE,
RELEASE_PERIOD,
ROUND(AVG(REVENUE_INR)) AS AVERAGE_REVENUE,
SUM(PROFIT) AS TOTAL_PROFIT ,
COUNT(*) AS NO_MOVIES ,
(100 * COUNT(*) / (SELECT COUNT(*) FROM BOLLYWOOD)) AS
CONTRIBUTION
FROM BOLLYWOOD
GROUP BY GENRE , RELEASE_PERIOD
ORDER BY TOTAL_PROFIT DESC;
```



GENRE	RELEASE_PERIOD	AVERAGE_REVENUE	TOTAL_PROFIT	NO_MOVIES	CONTRIBUTION
fantasy	Holiday	292500000	813966250	4	0.2392
fantasy	Normal	158333333	665477500	9	0.5383
suspense	Normal	35204545	576840000	22	1.3158
animation	Holiday	130000000	222400000	2	0.1196
mythological	Holiday	21500000	82282500	4	0.2392
mythological	Normal	4300000	36525000	10	0.5981
animation	Normal	32500000	30200000	1	0.0598
adult	Normal	4046429	-16692500	42	2.5120
adult	Holiday	3854167	-32735000	36	2.1531
suspense	Holiday	48500000	-33190000	8	0.4785
documentary	Normal	390000000	-259515000	1	0.0598
horror	Holiday	74815789	-513967500	19	1.1364
masala	Normal	913333333	-747150000	3	0.1794
horror	Normal	69029412	-858902500	34	2.0335
rom__com	Holiday	247338710	-1241253750	31	1.8541
action	Normal	199753968	-2539978250	63	3.7679
thriller	Holiday	185030864	-3829444300	81	4.8445
masala	Holiday	621428571	-4169882500	7	0.4187
thriller	Normal	137793893	-4501579750	131	7.8349
love_story	Normal	130291667	-4786327188	84	5.0239
love_story	Holiday	167340426	-5279190000	47	2.8110
rom__com	Normal	172669841	-5808673750	63	3.7679
drama	Holiday	116554825	-6064035950	228	13.6364
action	Holiday	346457547	-9211008375	53	3.1699
comedy	Normal	128902116	-10131941750	189	11.3038
drama	Normal	91976786	-11068335975	406	24.2823
comedy	Holiday	187106383	-11385622750	94	5.6220

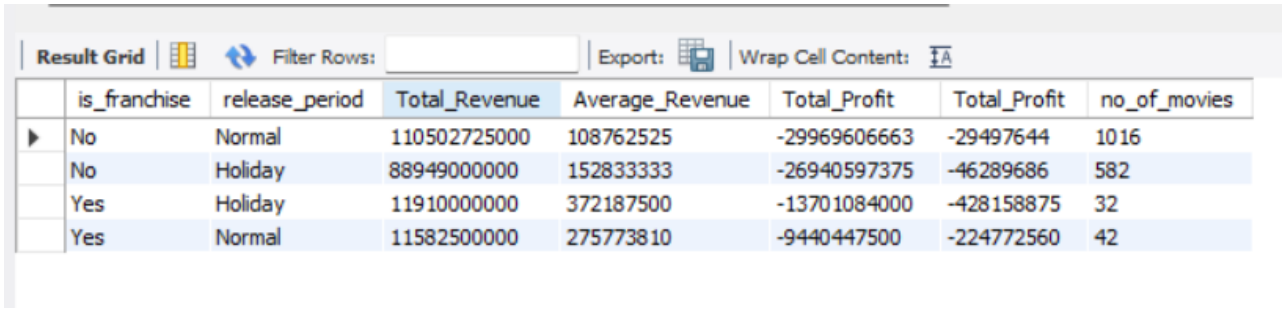
Insights: Drama movies are incurring significant losses (24%), while Animation and Fantasy movies yield higher profits.

3. Franchise vs. Standalone Movie Performance

Objective:
Compare the financial performance of franchise movies against standalone films to assess the benefits of producing sequels or franchise films.:

- Calculate the average revenue and profitability of franchise movies.
- Compare with standalone movies to measure financial impact.
- Identify trends or patterns that may justify investments in franchise films.

```
select
is_franchise,
release_period ,
sum(revenue_inr) as Total_Revenue ,
round(avg(revenue_inr)) as Average_Revenue ,
sum(profit) as Total_Profit ,
round(avg(profit)) as Total_Profit,
count(*) as no_of_movies
from bollywood
group by is_franchise ,  release_period;
```


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

is_franchise	release_period	Total_Revenue	Average_Revenue	Total_Profit	Total_Profit	no_of_movies
No	Normal	110502725000	108762525	-29969606663	-29497644	1016
No	Holiday	88949000000	152833333	-26940597375	-46289686	582
Yes	Holiday	11910000000	372187500	-13701084000	-428158875	32
Yes	Normal	11582500000	275773810	-9440447500	-224772560	42

4. Star Power vs. New Talent

Objective:
Analyze the impact of lead actors, directors, and music directors (established stars vs. new talent) on movie revenue.
Tasks:

- Compare the revenue of movies featuring established stars versus new talent.
- Assess the impact of experienced versus new directors and music directors on revenue generation.
- Provide insights into whether it's financially viable to invest in new talent.

```
select

(case when new_actor = 'Yes' then 'New_actor' else
'Experienced_Actor' end) as Actors,

(case when new_director ='Yes' then "New Director" else "Experienced
Director" end) as Directors,

(case when new_music_director ='Yes' then "New Music Director" else
"Experienced Music Director" end) as Music_Directos,

sum(revenue_inr) as revenue

from bollywood

group by Actors , Directors ,Music_Directos

order by revenue desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Actors	Directors	Music_Directos	revenue
Experienced_Actor	Experienced Director	Experienced Music Director	136339000000
Experienced_Actor	New Director	Experienced Music Director	38011000000
Experienced_Actor	Experienced Director	New Music Director	17114000000
Experienced_Actor	New Director	New Music Director	8877825000
New_actor	Experienced Director	Experienced Music Director	7562200000
New_actor	New Director	Experienced Music Director	7169200000
New_actor	New Director	New Music Director	4219000000
New_actor	Experienced Director	New Music Director	3652000000

Insights: Movies featuring experienced stars generate more revenue than those with new talent.

5. Remakes vs. Original Movies

Objective:
Examine the financial performance of remakes compared to original movies to determine whether remakes offer a profitable business model.:

- Calculate the total and average revenue for remakes and original movies.
- Compare the ROI of remakes versus original films.
- Identify patterns that indicate whether remakes or original content generate higher returns.

```
SELECT

(CASE WHEN  is_remake = 'No' Then "Original Movie"  else "Remake Movie" end) as Movie_Type,

sum(revenue_inr) as Total_Revenue_Generated,

avg(revenue_inr) as Average_Revenue_Generated,

((sum(revenue_inr) - sum(budget_inr))/ sum(budget_inr)) *100 as ROI

FROM

BOLLYWOOD

GROUP BY Movie_Type

order by Total_Revenue_Generated desc;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Movie_Type	Total_Revenue_Generated	Average_Revenue_Generated	ROI
Original Movie	200036725000	124711175.1870	-24.7422
Remake Movie	22907500000	336875000.0000	-38.4105

Insights: Original movies are more Revenue than remakes, with a lower **ROI loss**.

Data Analysis Techniques

6. Budget vs. Revenue Analysis

Objective:
Assess the relationship between the production budget and box office revenue. This will help in evaluating financial efficiency and ROI.:

- Calculate profit for each movie.
- Compute the ROI for each movie.

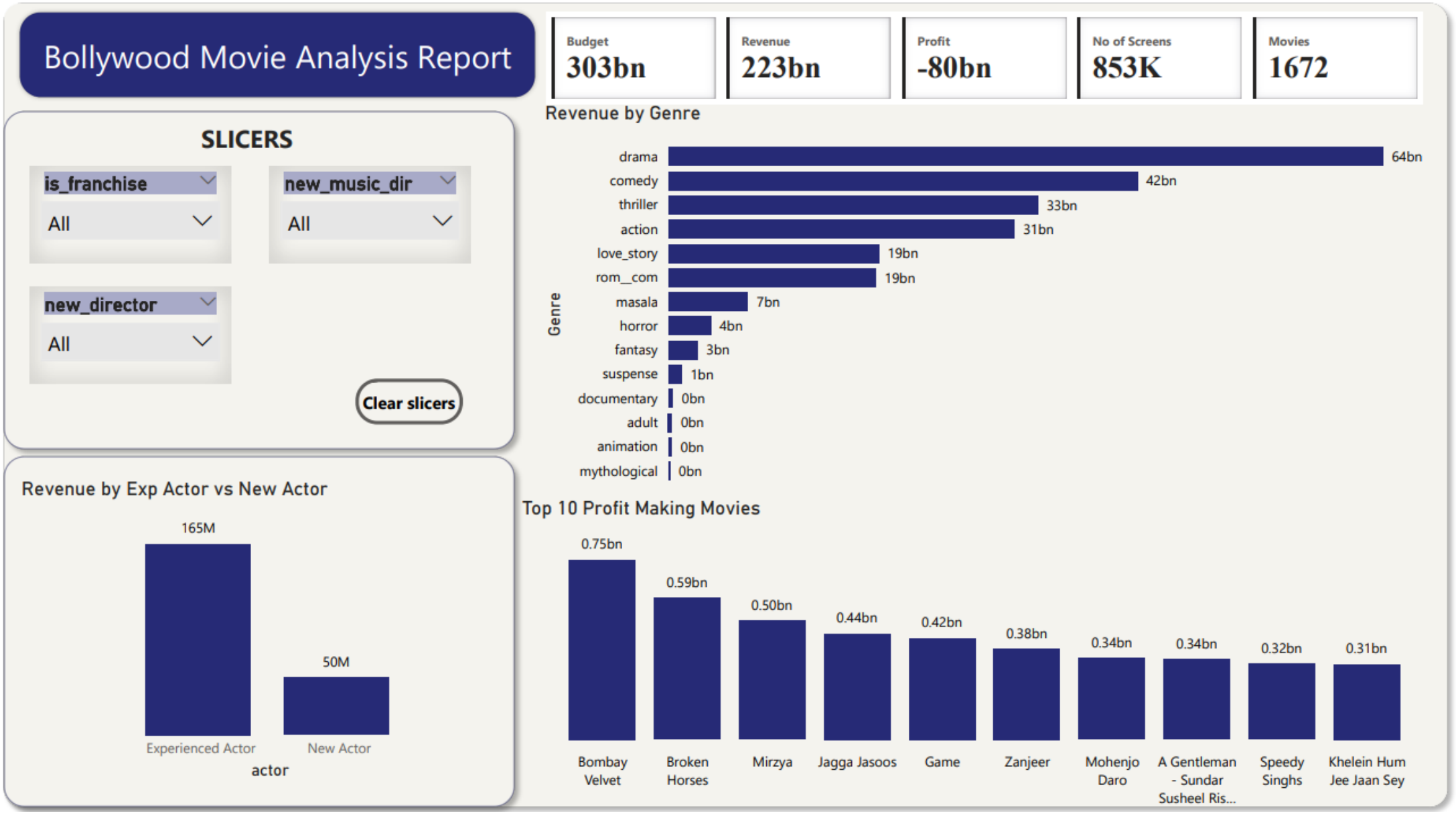
```
SELECT
MOVIE_NAME AS MOVIE,
Budget_inr as Budget,
Revenue_inr  as Revenue ,
PROFIT , -- (REVENUE_inr - BUDGET_INr)
concat(round(((SUM(REVENUE_INR) - SUM(BUDGET_INR))
/SUM(BUDGET_INR))*100 ,2),"%")AS ROI
from bollywood
group by MOVIE , Budget ,Revenue , PROFIT;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

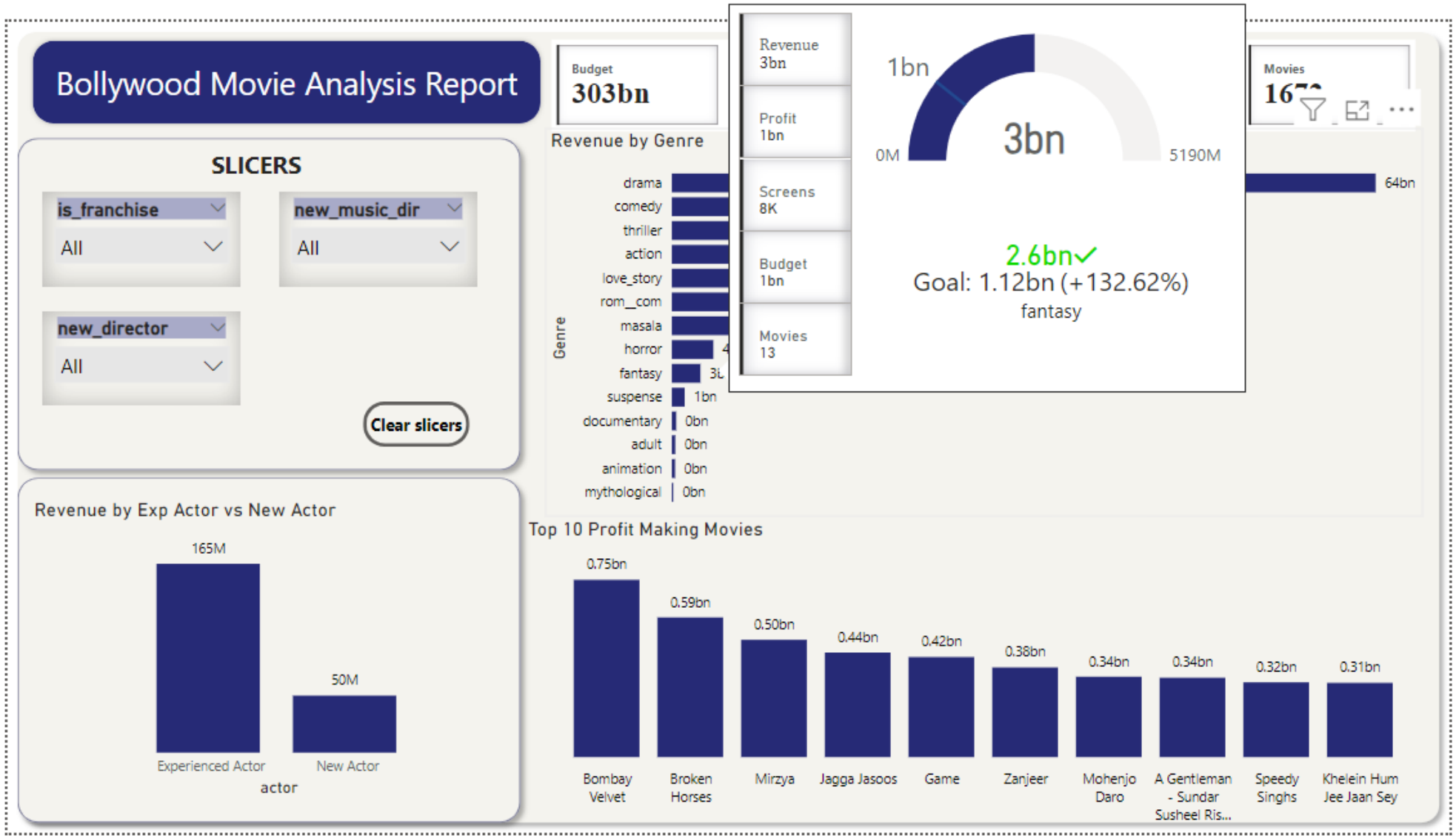
MOVIE	Budget	Revenue	PROFIT	ROI
Golden Boys	85000	5000000	4915000	5782.35%
Kaccha Limboo	825000	15000000	14175000	1718.18%
Not A Love Story	56700000	75000000	18300000	32.28%
Qaidi Band	4500000	210000000	205500000	4566.67%
Chaatwali	1075000	1000000	-75000	-6.98%
Shuttlecock Boys	170000	5000000	4830000	2841.18%
Dirty Marriage	35000	1500000	1465000	4185.71%
Future To Bright Hai Ji	825000	15000000	14175000	1718.18%
Ghajini	1945820000	520000000	-1425820000	-73.28%
Taare Zameen Par	875785000	180000000	-695785000	-79.45%
Mangal Pandey - The...	525785000	370000000	-155785000	-29.63%

Insights: Evaluates financial efficiency and highlights areas for improvement in production budgeting.

Power BI Dashboard



Power BI Dashboard



Thank You