MINI CAPSTONE PROJECT

Data Analysis On Maven
Movies Database

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Objectives Of The Project:

- Analyze Monthly Rental Trends And Peak Rental Hours.

- Identify Most Rented Films And Popular Film Categories.

- Analyze Stores Rental Revenue And Staff Performance

Rental Trends ➡ Monthly Rental Trends

Objective: To Analyze the **monthly rental trends** over the available data period.

Sql Query:
SELECT date_format(rental_date, '%Y-%m') AS months,
COUNT(*) AS rental_count FROM rental
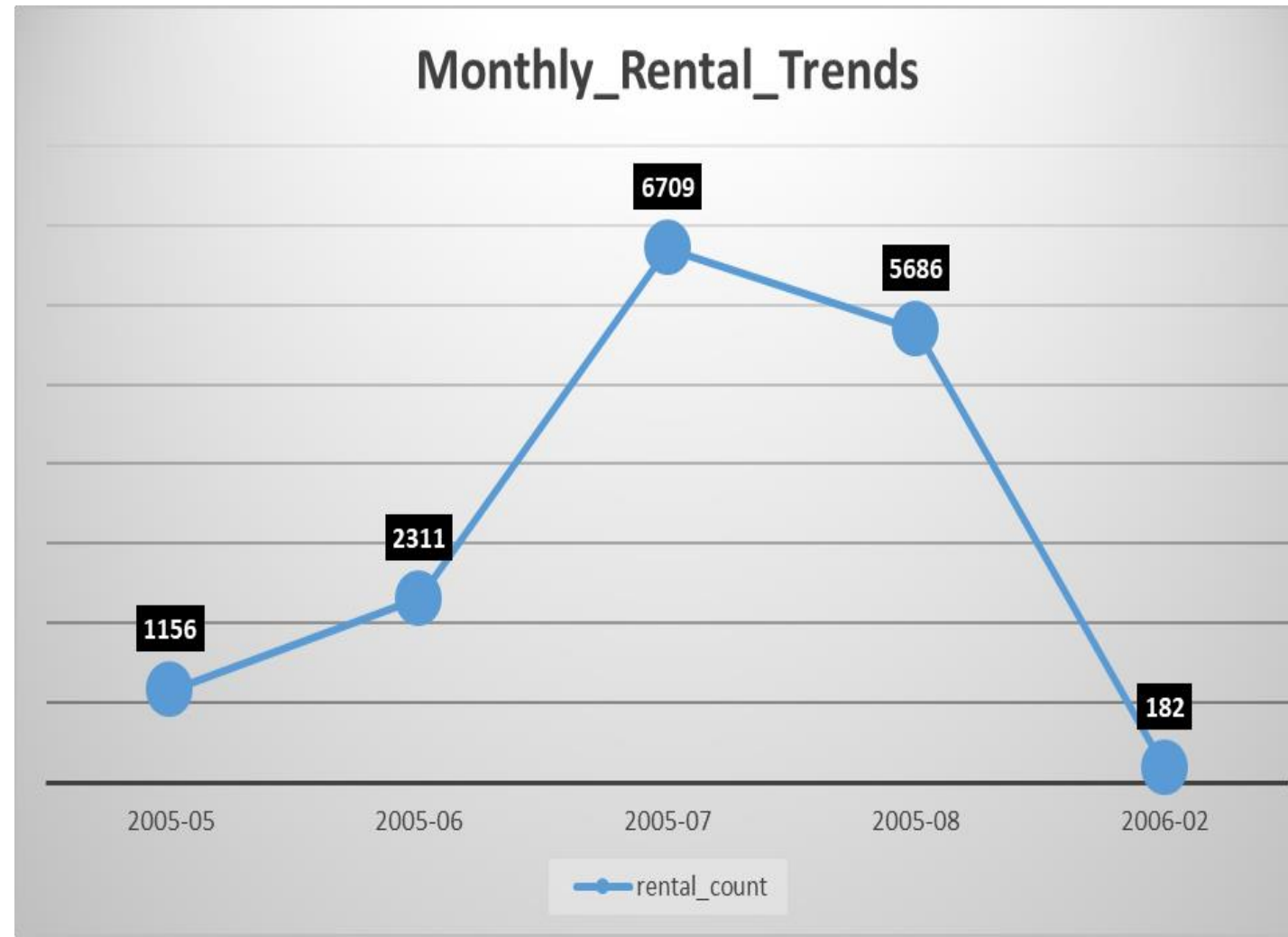GROUP BY months
ORDER BY months;

Observations:
- There is a significant increase in rentals **from june 2005 to july 2005 with 6709 rentals**, followed by slight decrese in august 2005, and february 2006 records the **least rentals with 182**.

Recommendations:
- Plan **marketing and promotional activities** around the high-demand periods.
- Collect and analyze **customer feedback** during the declining periods to identify areas for improvement.

Visualization

Monthly_Rental_Trends

Rental Trends ➤ Peak Rental Hours

Objective: To determine the **peak rental hours** in a day based on rental transactions.

Sql Query:

SELECT Hour(rental_date) AS rental_hours,
COUNT(*) AS rental_count
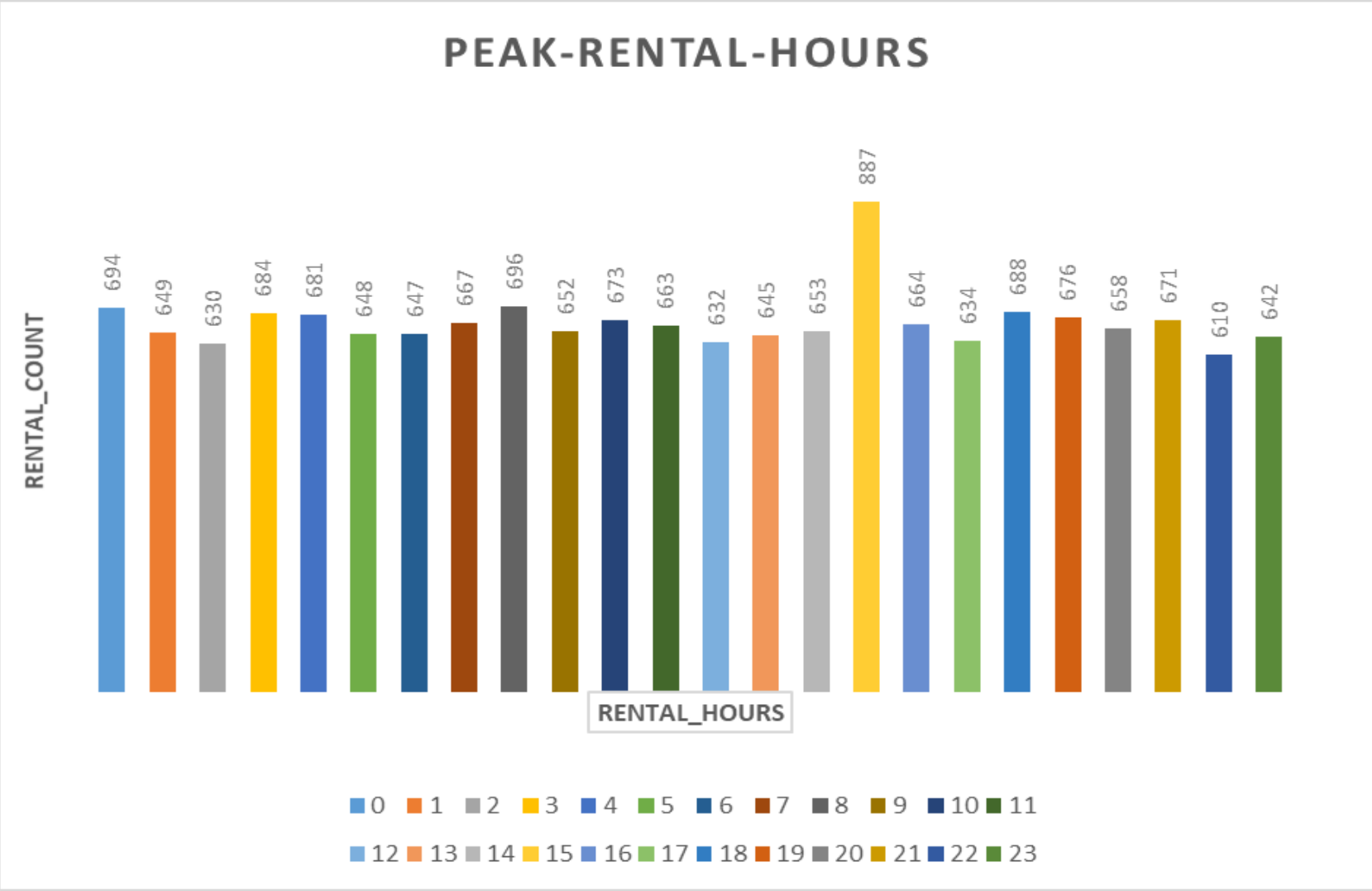FROM rental
GROUP BY rental_hours
ORDER BY rental_hours;

Observations:
- The peak rental hour recorded at **15th hour with 887 rentals**.
- The least rental hour recorded at **22nd hour with 610 rentals**.

Recommendations:
- Make **more staffing available** during the peak hours.

Film Popularity ➤ Top 10 Most Rented Films

Objective: To identify **top 10 most rented films**.

Sql Query:
SELECT title, COUNT(*) AS rental_count
FROM film INNER JOIN inventory
ON film.film_id= inventory.film_id
INNER JOIN rental
ON inventory.inventory_id= rental.inventory_id
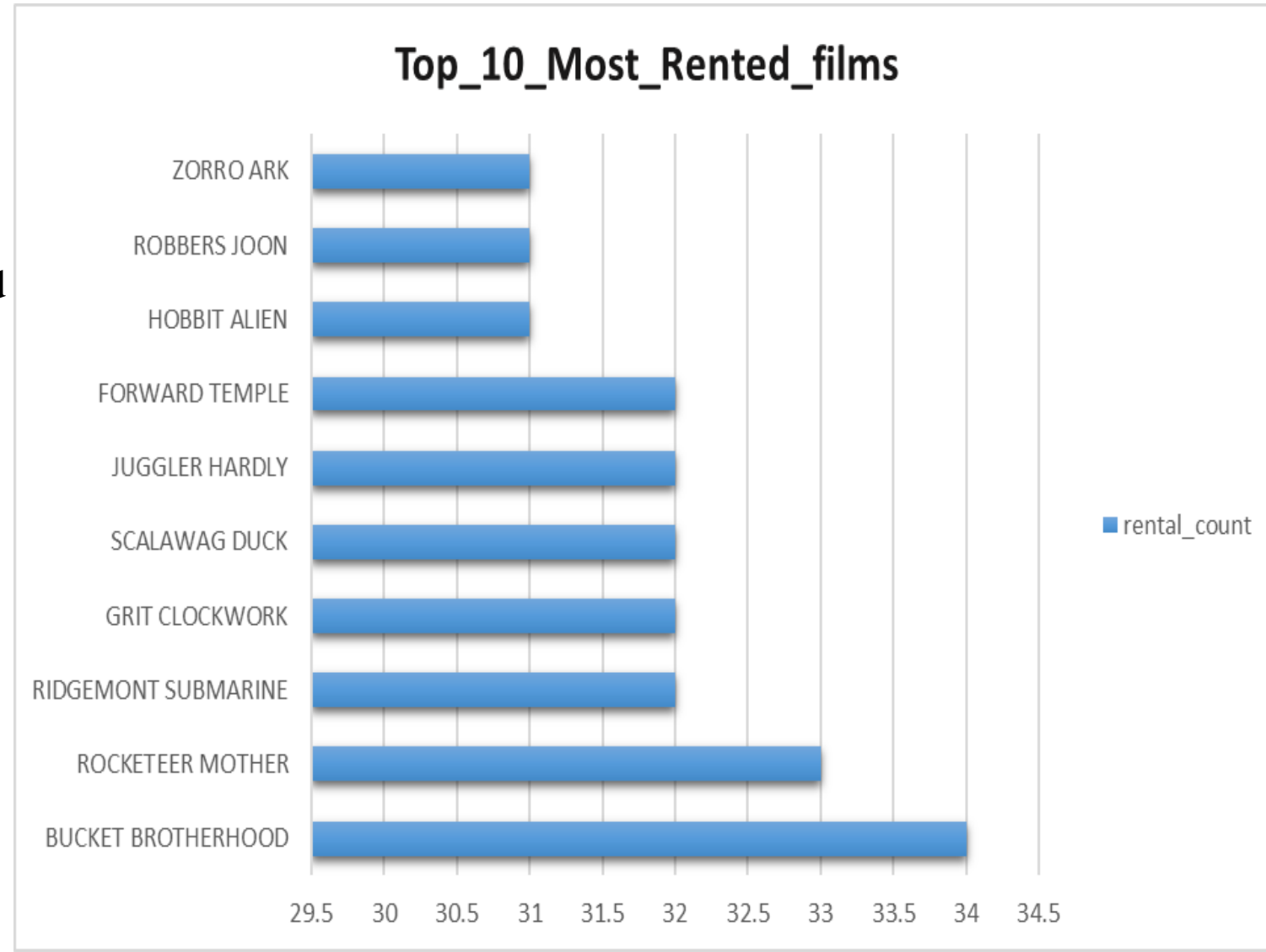GROUP BY title
ORDER BY rental_count desc
LIMIT 10 ;

Observations:
- **Bucket Brotherhood** tops with most rentals of **34**.

Recommendations:
- Maintain **higher inventory** for popular films.
- Analyze **best marketing strategy** to obtain more rentals for least rented films.

Visualization

Top_10_Most_Rented_films

Film Popularity ➤ Popular Film Categories

Objective: To determine which **film categories have the highest number of rentals**.

Sql Query:
SELECT name, COUNT(*) AS rental_count
FROM rental INNER JOIN inventory
ON rental.inventory_id= inventory.inventory_id
INNER JOIN film
ON inventory.film_id= film.film_id
INNER JOIN film_category
ON film.film_id= film_category.film_id
INNER JOIN category
ON film_category.category_id=category.category_id
GROUP BY name
ORDER BY rental_count DESC;

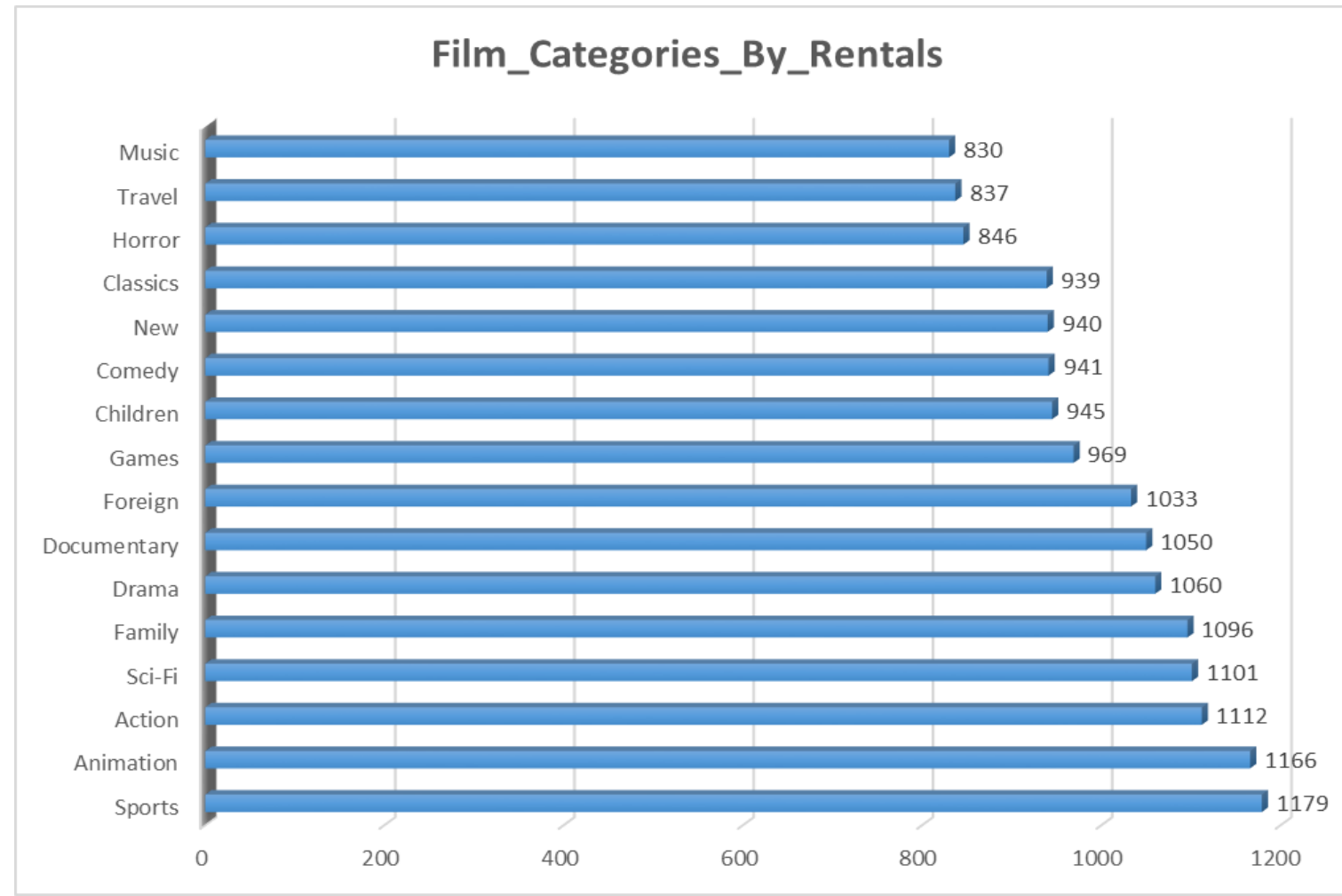**Visualization**

Film_Categories_By_Rentals

Category	Rentals
Music	830
Travel	837
Horror	846
Classics	939
New	940
Comedy	941
Children	945
Games	969
Foreign	1033
Documentary	1050
Drama	1060
Family	1096
Sci-Fi	1101
Action	1112
Animation	1166
Sports	1179

Observations:
- Highest number of rentals is noted for **sports category with 1179 rentals.**
- Least number of rentals is noted for **music category with only 830 rentals.**

Recommendations:
- **Expand more collection** for popular film Categories.

Store Performance ➡ Stores Rental Revenue

Objective: To identify **which store generates the highest rental revenue**.

Sql Query:
SELECT store.store_id AS store,
SUM(payment.amount) AS total_revenue
FROM payment INNER JOIN rental
ON payment.rental_id=rental.rental_id
INNER JOIN inventory
ON rental.inventory_id=inventory.inventory_id
INNER JOIN store
ON inventory.store_id=store.store_id
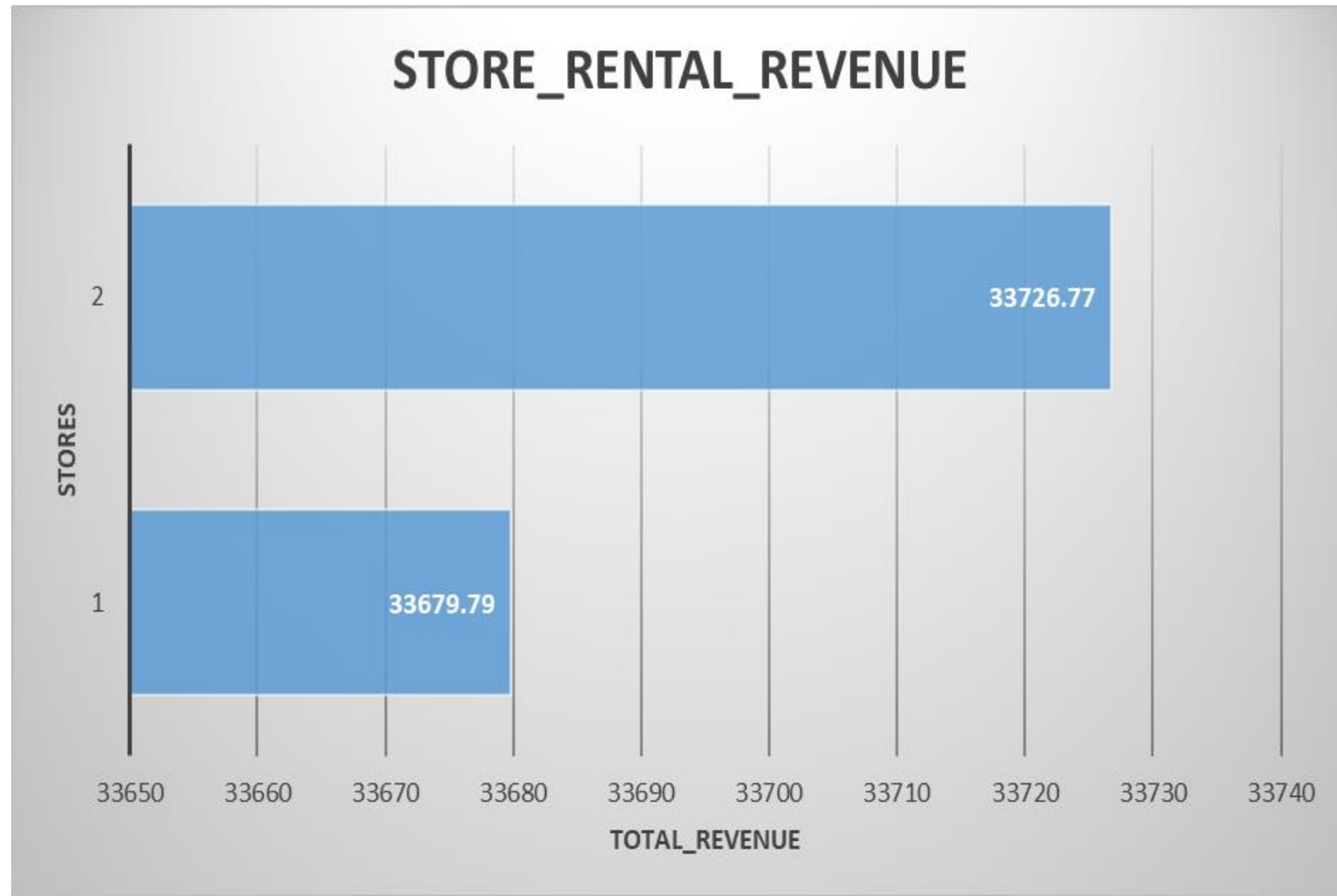GROUP BY store
ORDER BY total_revenue;

Observations:
- **Store 2** makes **highest rental revenue** with **33726.77**
- **Store 1** makes rental revenue of **33679.79**

Recommendations:
- Make more collections available for the stores and collect customer feedback for the stores to obtain more revenue.

Visualization

Store Performance ➔ Staff Performance

Objective: To determine the **distribution of rentals by staff members to assess performance.**

Sql Query:

SELECT

CONCAT(first_name,space(1),last_name) AS staff,
COUNT(*) AS rental_count
FROM staff INNER JOIN rental
ON staff.staff_id= rental.staff_id
GROUP BY staff
ORDER BY rental_count Desc;

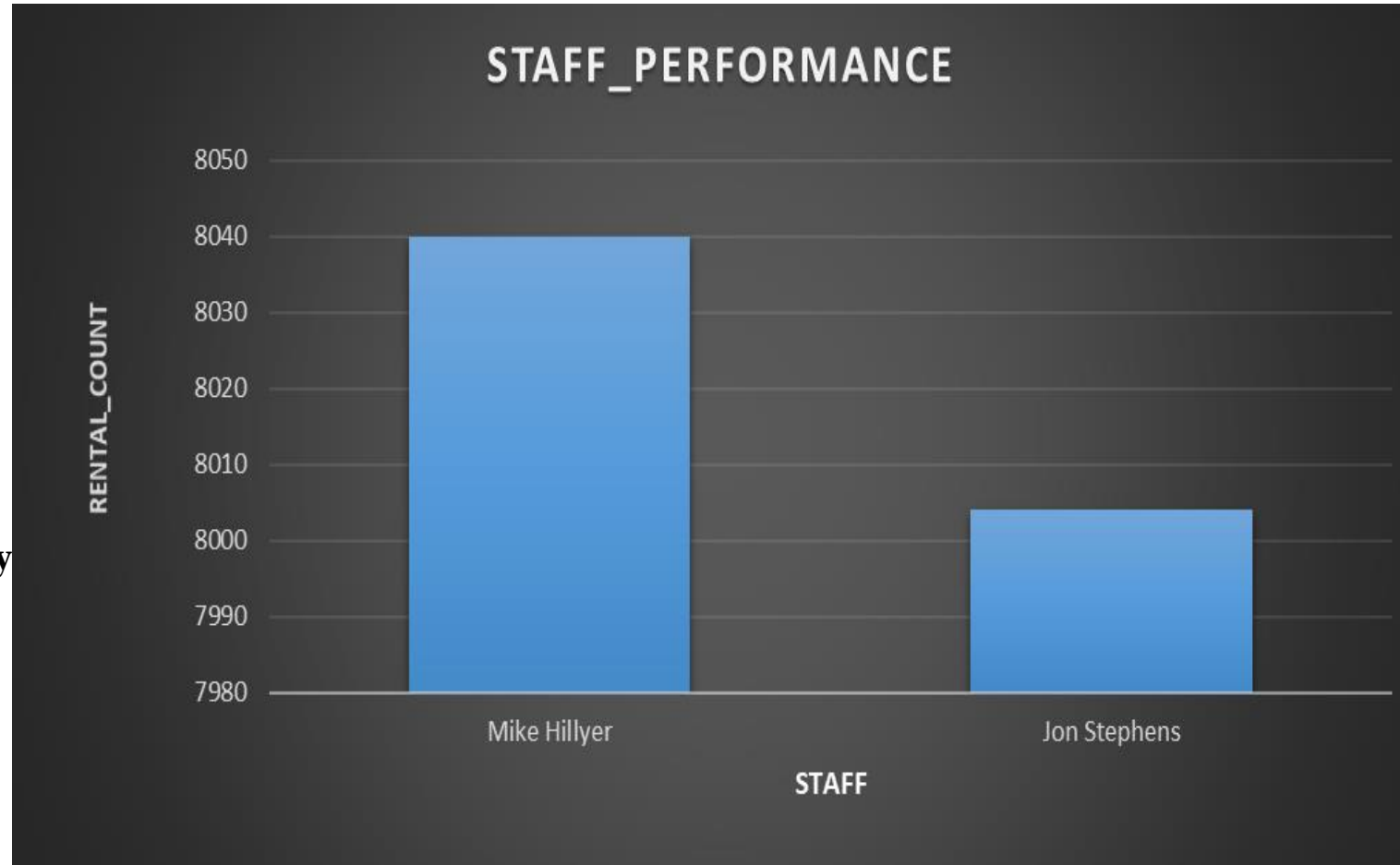**Observations:**

• From the observations **Mike Hillyer performs better** compared to Jon Stephens.

Recommendations:

• Provide **more bonus** for the staff members to boost motivation and to work **more effectively** to **generate more revenue.**

Visualization

Conclusion :

- Focus on high-demand periods and popular films/categories to maximize rentals.

- Regularly collect and analyze feedback to identify improvement areas, especially during low-demand periods.

- Ensure sufficient staffing during peak hours and incentivize staff to improve performance.

- Maintain higher inventory levels for popular films and expand collections in high- demand Categories.