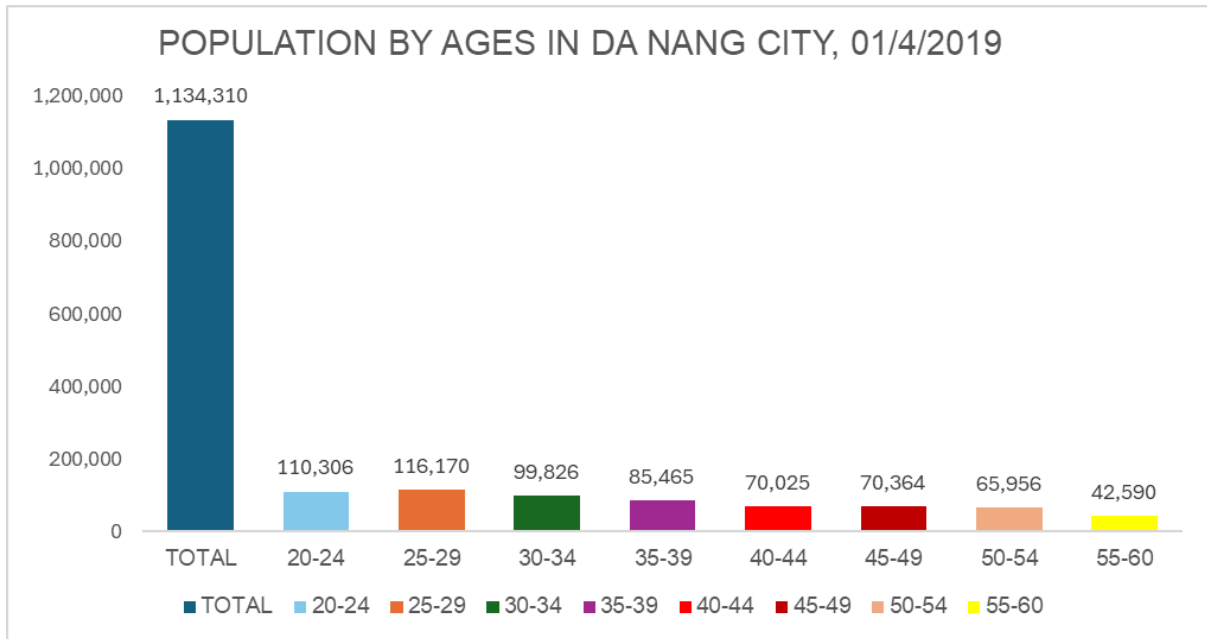


DATA ANALYTICS REPORT - Nhóm D5TA

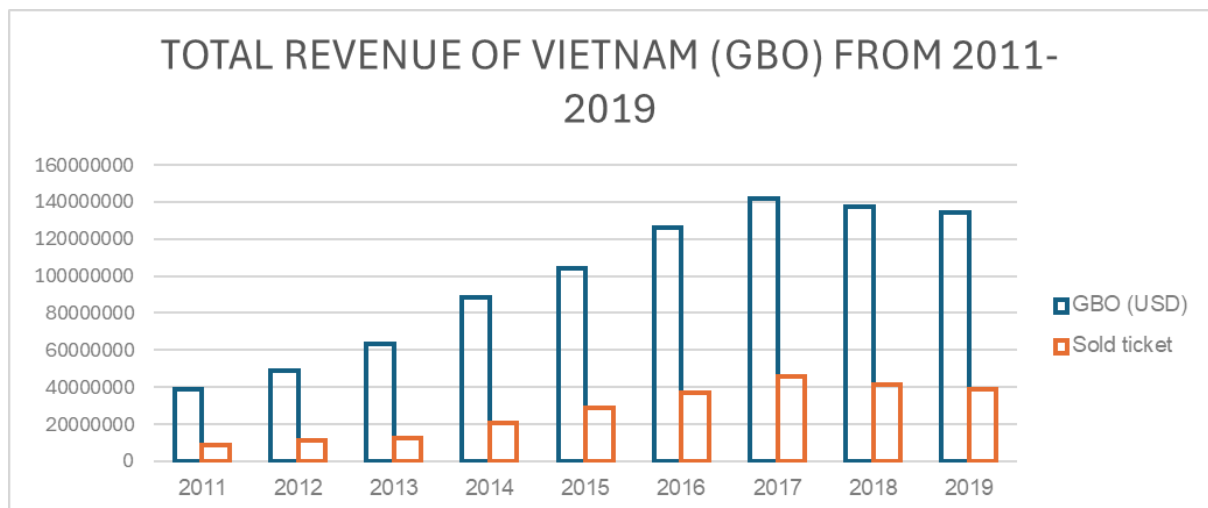
1. Analysis

1.1 External

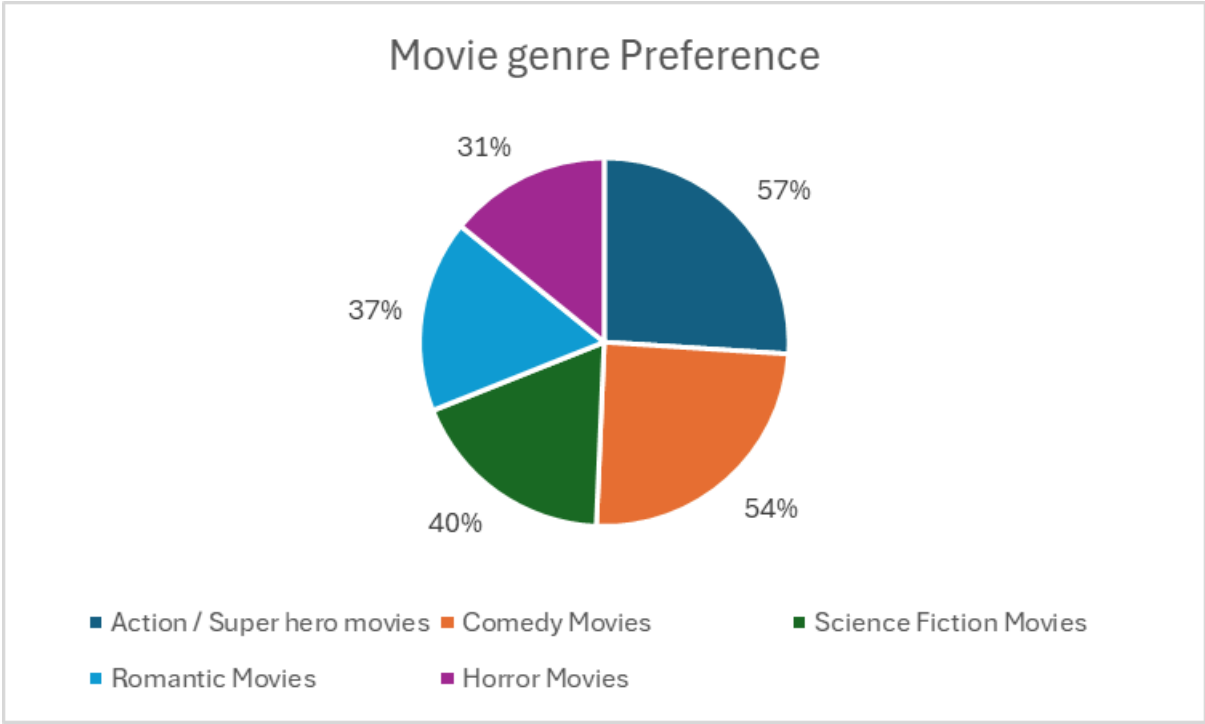
Of the 1,134,310 people in Da Nang city according to 2019 survey, 116,170 attendance which



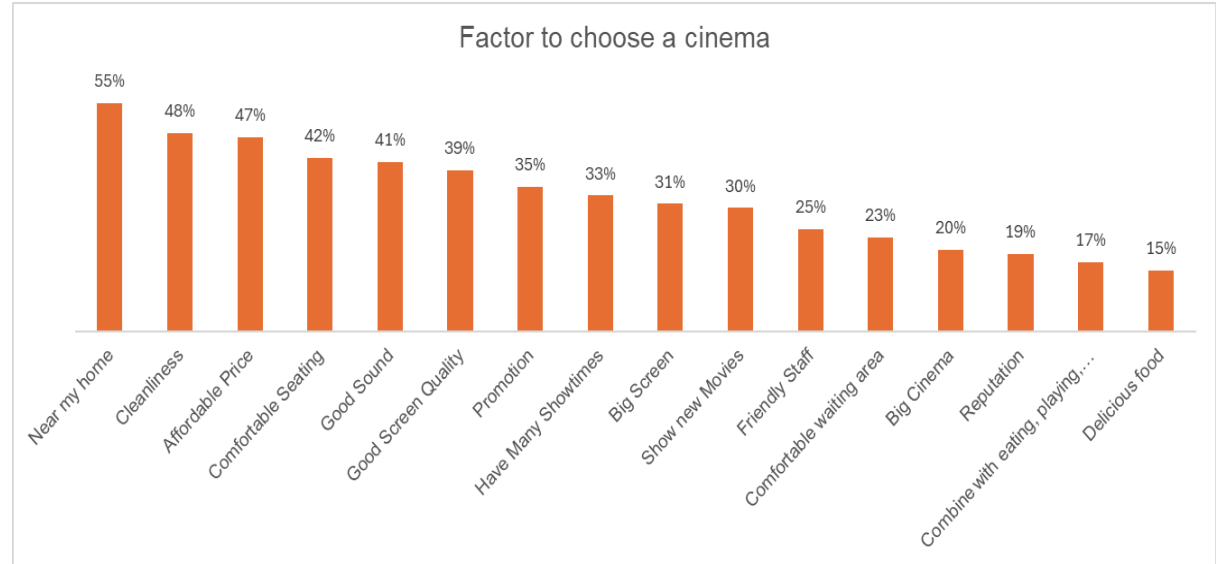
held 10% the most are in the 25-29 age group; the second come the 20-24 age attendance. This indicates the number of young people often spend times going to cinema daily. This leads to the growth rate of market revenue in Cinema.



According to the survey from 2011-2019, there was a increasing trend in going to cinema until 2017 saw a drop in both GBO and sold ticket. This could be explained by the digital apps rising like NETFLIX or Vicon which made attendance want spend less time in cinema.



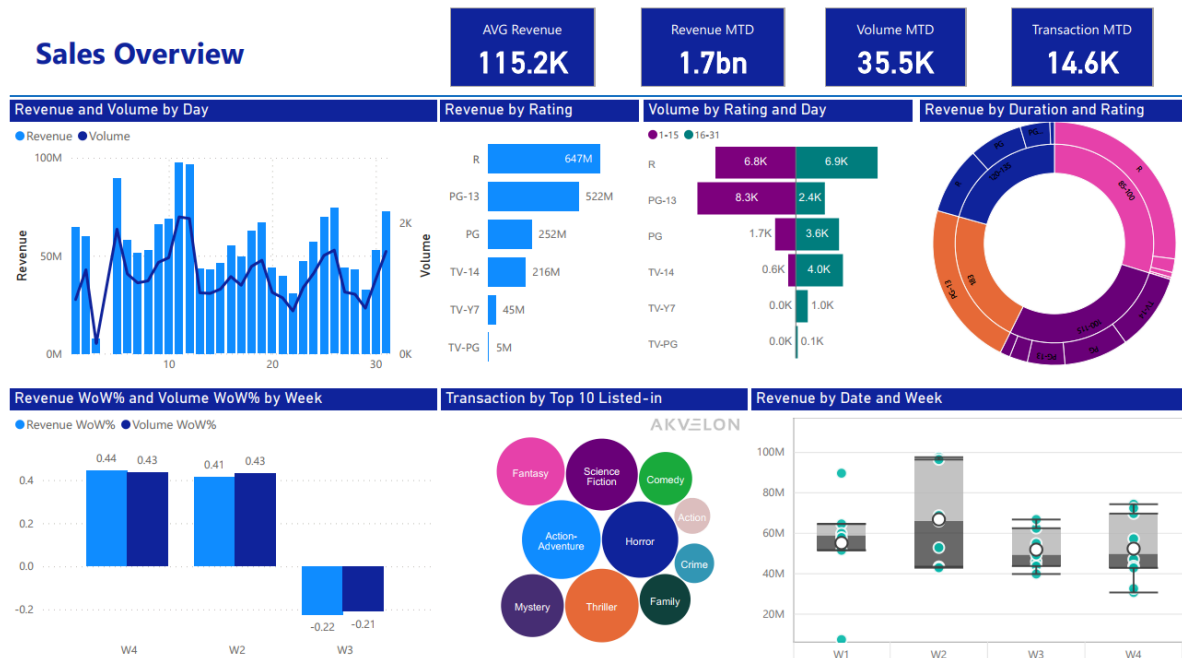
The Action/Super Hero movies accounted for 57% among the people for its entertainment and mix feelings. Then comes to 54% of Comedy movies. However the Horror movies reached below at 31%. This went to a strategical path to attract more attendance through good films released in 1 month in the upcoming seasonal weeks.



Most attendance especially students and teenagers choose nearby home the most which held 55%. Next come to cleanliness of the cinema took 48%. Nevertheless, the delicious food such as popcorn or drinking water came the lowest at 15%. In order to gain revenue stream faster

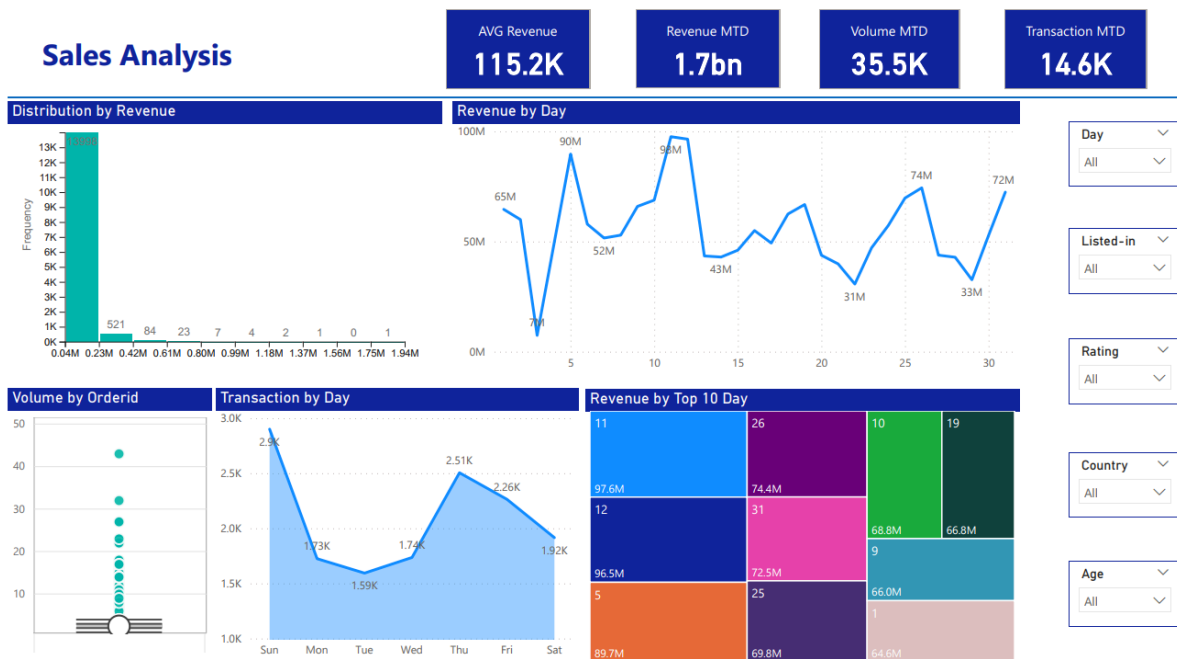
in the upcoming 6 months, the cinema should focus on building channels to gain the influences on the old and new attendance.

1.2 Internal



Sales Overview

The data indicated that the cinema experiences substantial variability in daily revenue and volume with notable peaks nearly 2K which could correspond to weekends or holidays when attendance was typically higher. The significant revenue contribution from R (647M) and PG-13 (522M) rated films suggested a customer base that favored mature content. However, there was a marked drop in revenue Week over Week (WoW) during the third week (-0.21 WoW%), which could signal a lack of compelling content or external factors affecting attendance. The genre breakdown showed a preference for Action-Adventure and Horror, which should inform future film selections. Finally, revenue variations by week could reflect the impact of new releases or marketing campaigns.



Sales Analysis

It suggested that nearly 14K's transactions were of lower value, with a high frequency of such transactions dominating the sales distribution. Daily revenue exhibited considerable variability, with certain days markedly outperforming others, which could correlate with specific events or movie releases. The transaction patterns and top-earning days identified provided valuable insights for the cinema to focus its marketing efforts and optimized scheduling to boost sales on potentially high-revenue days.



Film Analysis (Transaction)

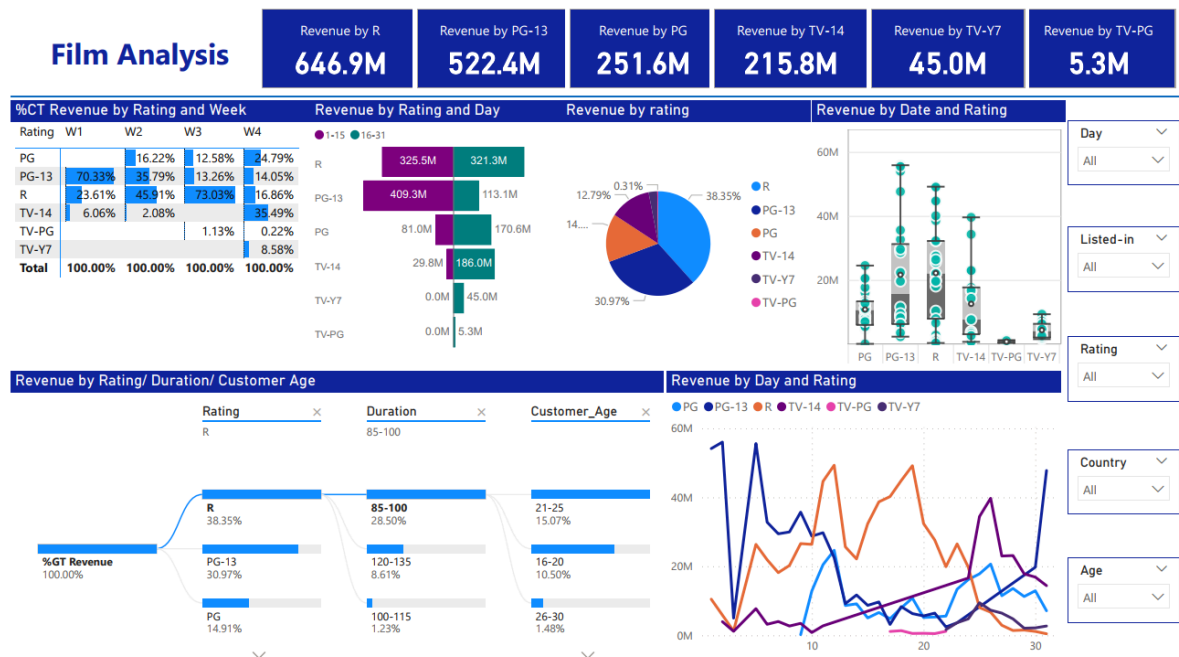
R-rated films dominated the transaction count, notably achieving 2.3K in week 3, indicating a strong audience preference for this category. It also illustrated that R-rated movies have the

highest transactions at 5.48K, which is significant compared to PG-13 and PG movies, suggesting a strategic opportunity for aligning promotions with these peaks to enhance revenue. In addition, "The Curse of La Llorona" movie leads with 3.7K transactions, hinting at its popularity.



Film Analysis (Volume)

The provided data on film performance revealed a strong weekly trend in audience preferences, with R-rated movies accounting for 73.71% of transactions in week 3, a significant increase from the 23.41% in week 1. This suggested a highly successful R-rated movie release in the third week. The genre analysis showed that Action-Adventure and Horror films were the most popular, with 15.28% and 14.36% of total sales, respectively, indicating a preference for high-intensity films. The daily volume trend by rating highlighted substantial variability, with peaks possibly indicating popular viewing days or successful movie debuts.



Film Analysis (Revenue)

R-rated movies contributed to 73.03% of the cinema's revenue in the third week, showcasing a significant spike in popularity or the release of a highly anticipated film. In contrast, PG-13 rated films, while contributing a substantial 35.79% in week 2, show a decline in week 3. The revenue distribution pie chart demonstrates that R-rated films lead the overall revenue share with 38.35%, with PG-13 films following at 30.97%. The line chart suggests a correlation between the days and movie ratings, with notable spikes in revenue, potentially reflecting the timing of new releases or successful marketing strategies. These insights could guide the cinema to allocate resources and marketing efforts effectively, particularly focusing on the robust performance of R-rated films and the timing of their releases.

1.3 Segment by RFM

How to segment customers

Step 1: Tính các chỉ số RFM từ bảng giao dịch của khách hàng

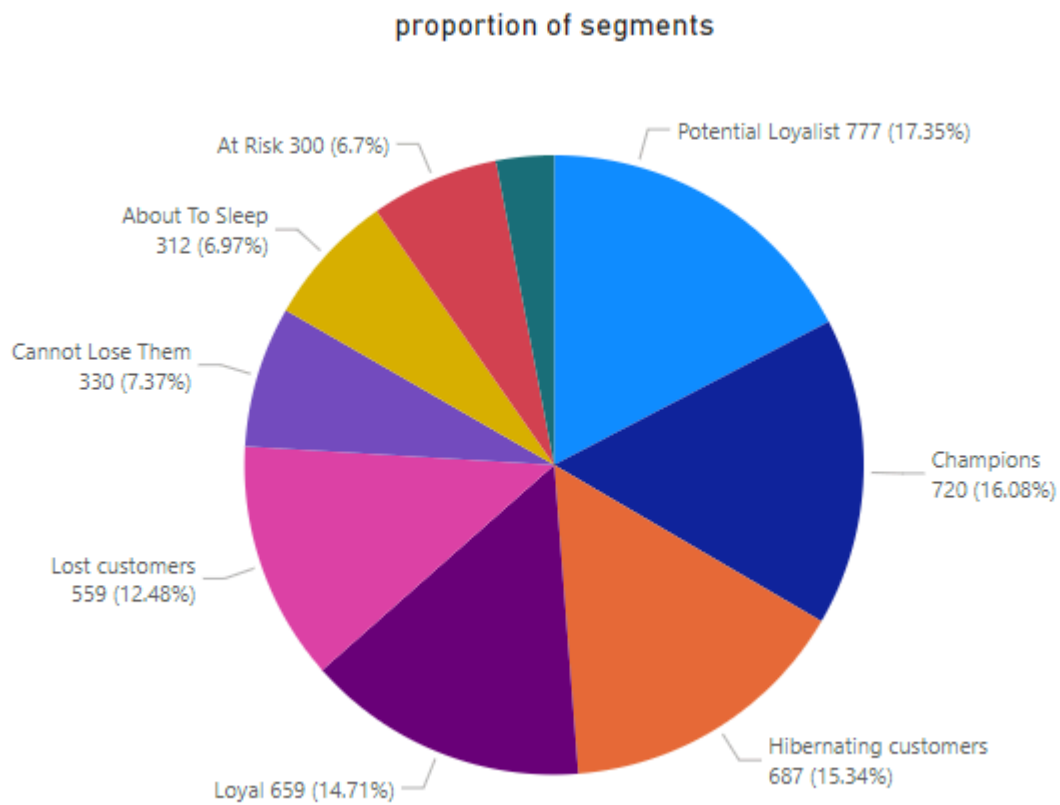
- + Recency (R) as days since last purchase
- + Frequency (F) as total number of transactions
- + Monetary (M) as total money spent

Step 2: Once we have RFM values from the purchase history, we assign a score from one to five to recency, frequency, and monetary values individually for each customer. Five is the best/highest value, and one is the lowest/worst value. A final RFM score is calculated simply by combining individual RFM score numbers. Scores range from 1 to 5 and are divided into quintiles.

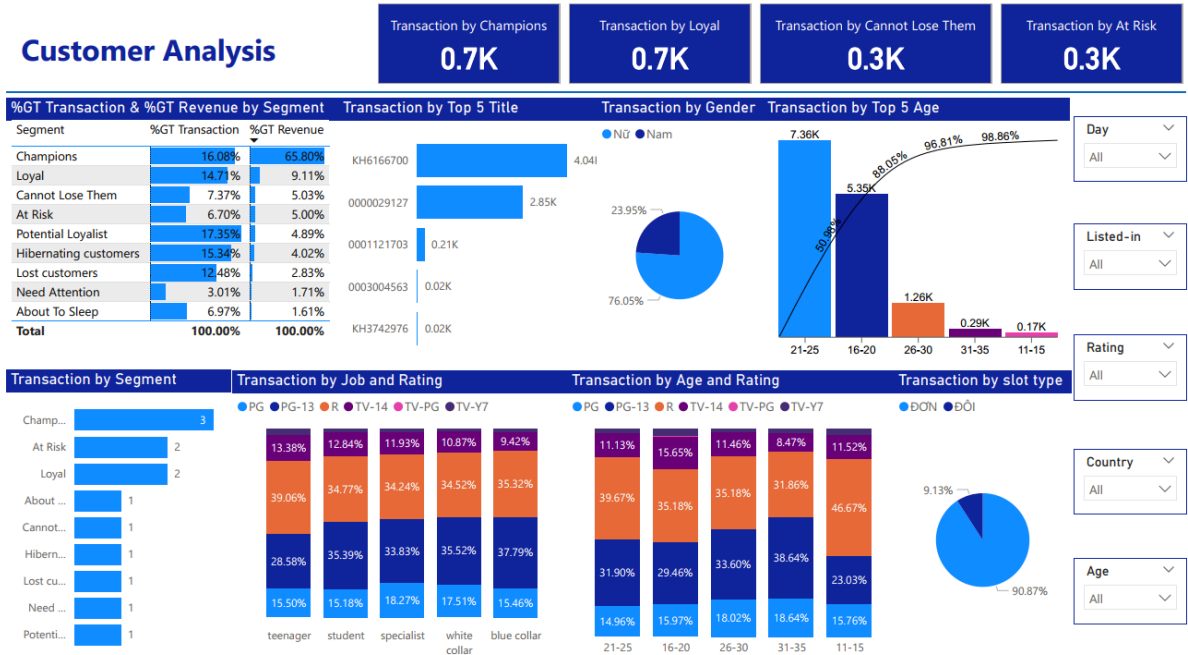
Step 3: For the overall RFM score, we simply combine the R, F, and M scores of the customer to create a three-digit number. Next we will classify them into appropriate segments.

customerid	Recency_va	Frequency_v	monetary_v	number_tick	R_score	F_score	M_score	RFM_overall	segment
0000000221.	3	3	315000	5	5	5	5	555	Champions
1002200	26	2	495000	11	1	5	5	155	Cannot Lose Them
1002951	25	2	270000	6	1	5	5	155	Cannot Lose Them
1002965	23	1	90000	1	2	1	2	212	Hibernating customers
1002972	5	1	180000	4	4	3	3	433	Potential Loyalist
1002978	0	3	270000	4	5	5	5	555	Champions
1002986	26	1	90000	1	1	1	1	111	Lost customers
1002987	12	2	180000	4	3	4	4	344	Loyal
1002989	29	1	90000	2	1	1	1	111	Lost customers
1003013	8	1	90000	2	4	3	2	432	Potential Loyalist

After calculation, we get the segments and density of each type.

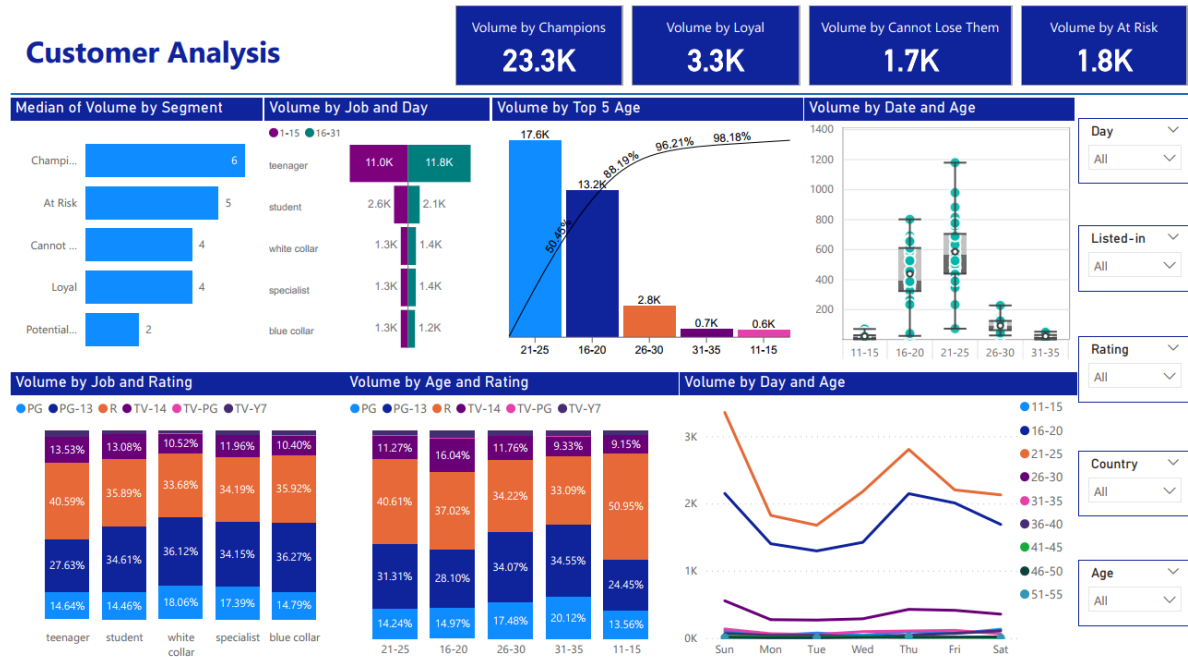


Customer Analysis



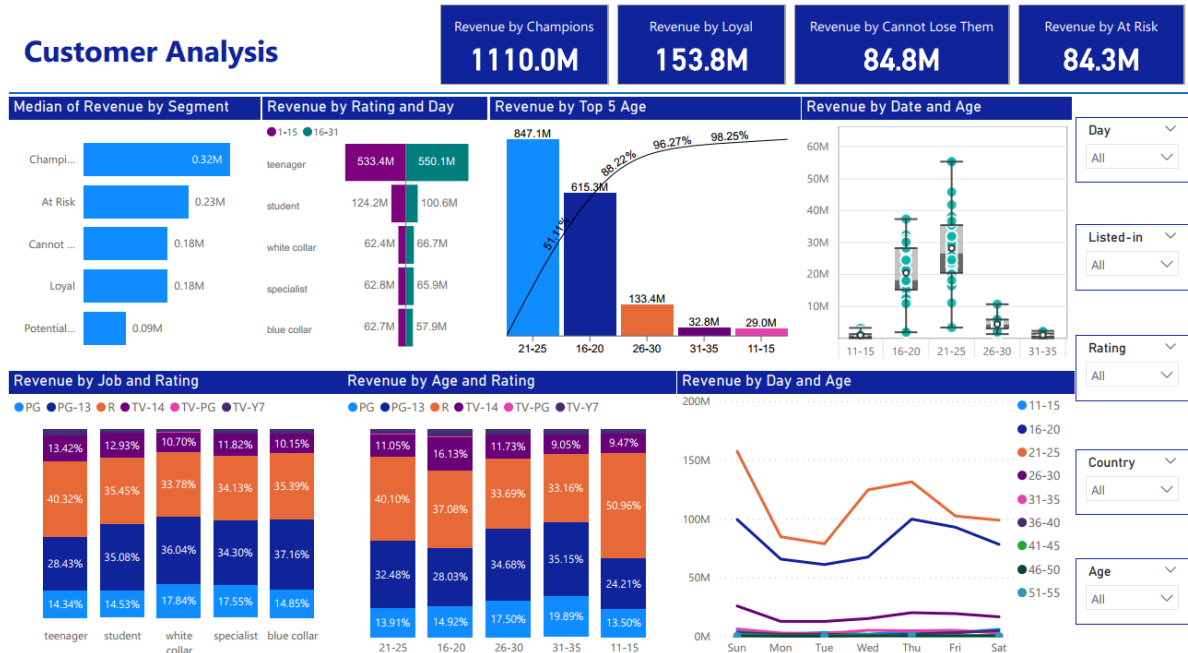
Customer Analysis (Transaction)

Customer Analysis



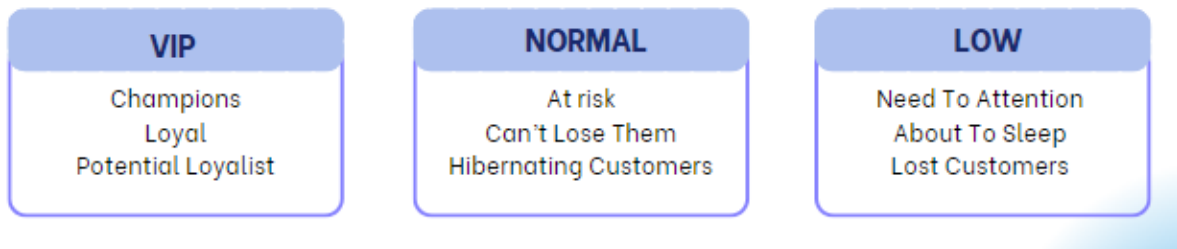
Customer Analysis (Volume)

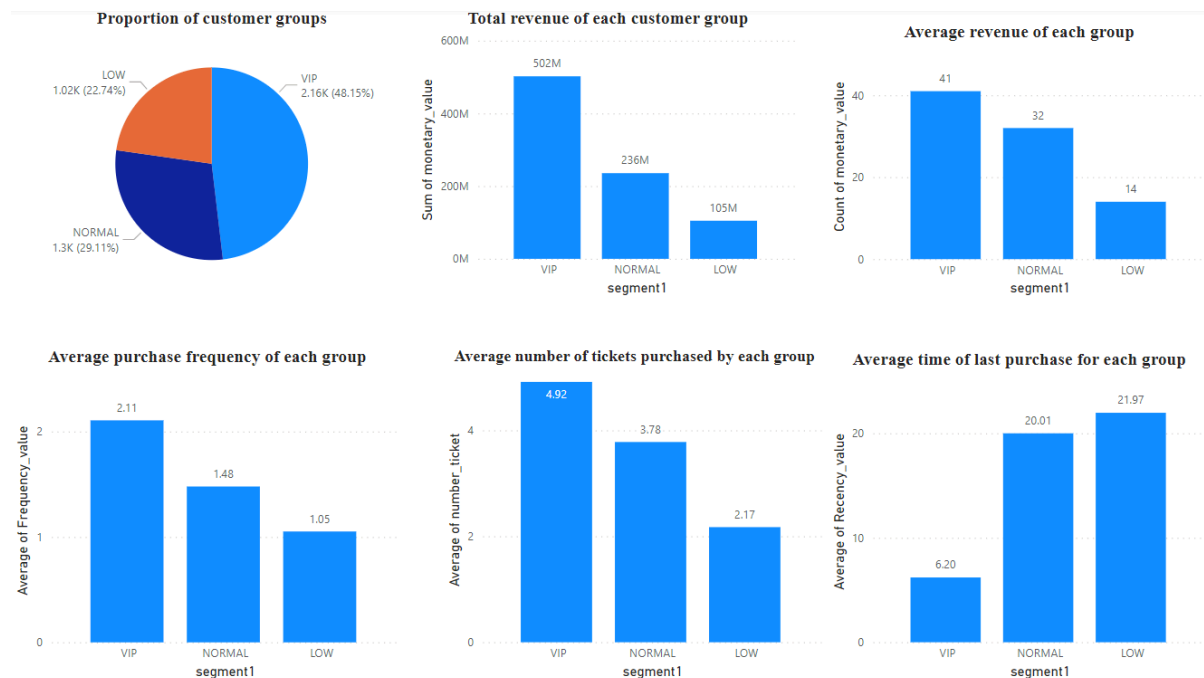
Customer Analysis



Customer Analysis (Revenue)

Besides, unlike Champions, customer segments are quite volatile on many criteria, so we cannot draw more conclusions to find out how to decide about them. Therefore, we will continue to group these segments into 3 large groups based on their individual trends to have accurate, unbiased conclusions. The 3 main groups will be VIP, NORMAL, and LOW.





After dividing into 3 main groups, we can see the uniformity in the trends of the groups. The VIP group leads in all aspects, this group accounts for the largest number of customers with 48.15%, equivalent to 2160 customers. Next is NORMAL, accounting for 29.11%, equivalent to 1,300 customers. and finally LOW accounts for 22.74%, equivalent to 1020 customers.

Regarding revenue, VIP accounts for 59.59%, equivalent to 502 million VND, and the average revenue of this group is 230 thousand VND. NORMAL accounts for 27.97%, equivalent to 236 million VND, and the average revenue of this group is 180 thousand VND. Finally, LOW, accounting for 12.44%, equivalent to 105 million VND, and the average revenue of this group is 100 thousand VND.

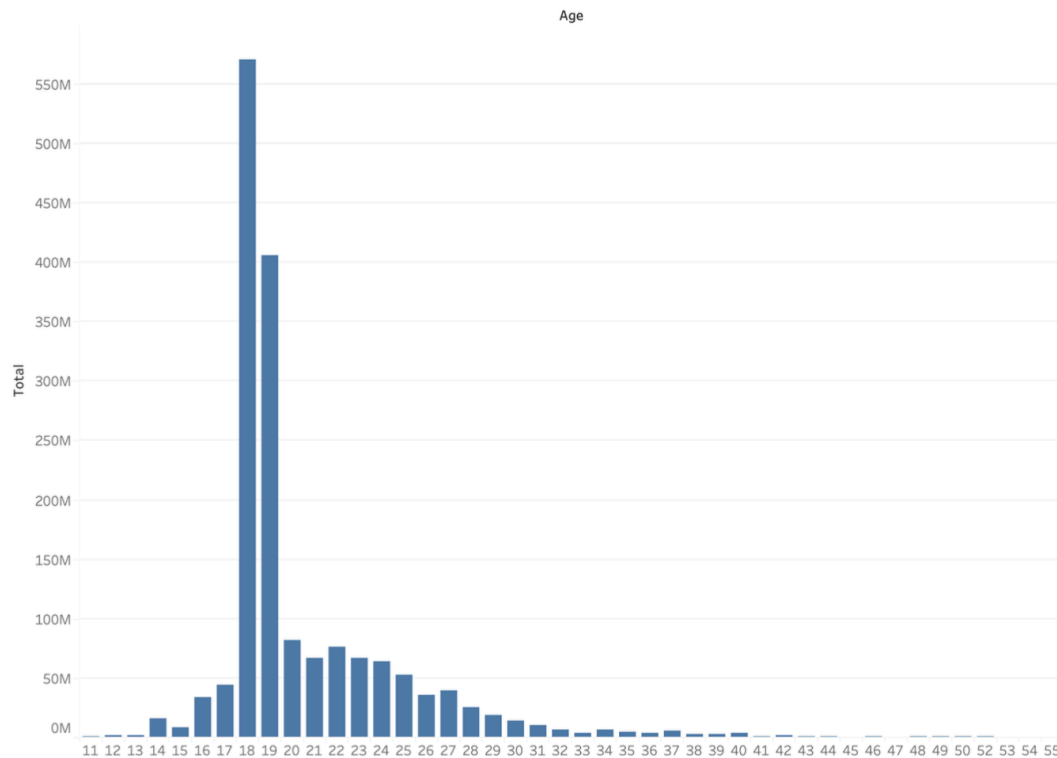
The VIP group also has the highest average purchase frequency of 2.11 times a month, buying 5 tickets a month and the average last purchase is 6.02 days. Next is NORMAL with the highest average purchase frequency of 1.48 times a month, buying 4 tickets a month and the average last purchase being 20.01 days. Finally, LOW has the highest average purchase frequency of 1.05 times per month, buying 2 tickets a month and the average last purchase is 21.97 days.

2. Diagnosis

Problems analysis:

Revenue by age

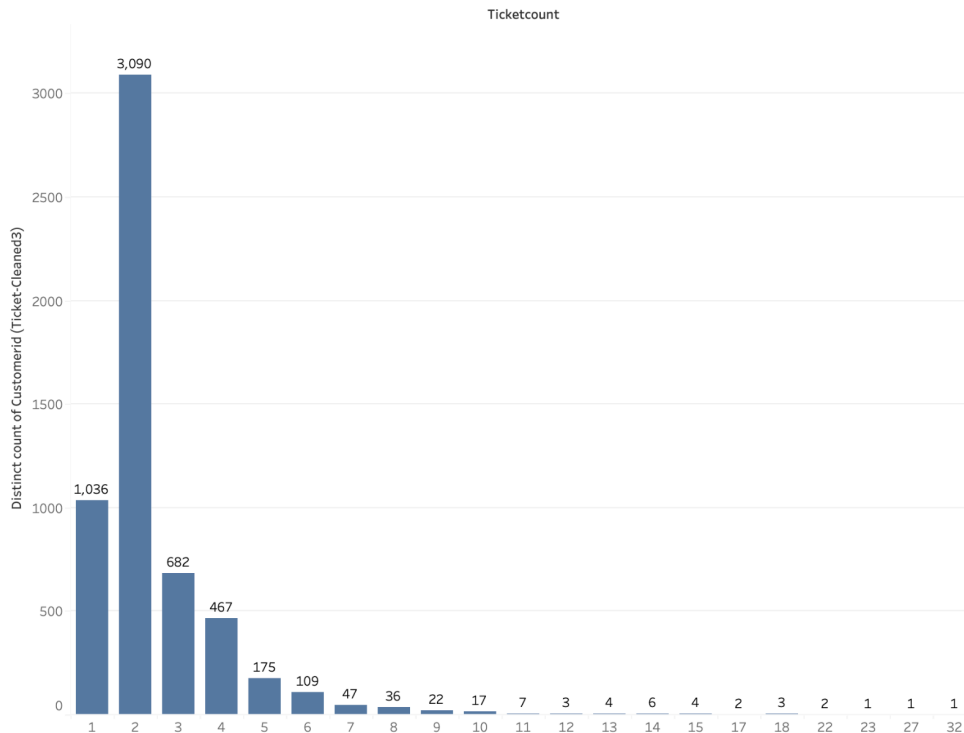
Revenue by age



The most notable observation is a very high peak at age 18, where the total revenue exceeds \$500 million. This is significantly higher than any other age group. The bars representing ages 11 to 17 show increasing revenue as age increases, peaking at 18, and then there is a sharp decline in revenue at age 19. Following the peak, the revenue by age generally decreases with increasing age, with a more gradual descent. There are some minor fluctuations, but the overall trend is downward.

The lowest revenue appears to be at the ages of 11 and 55, both of which are at or near \$0 million. The graph suggests that the age group of 18 is the most valuable in terms of revenue, while the youngest and oldest age groups represented contribute the least.

Ticket number per order

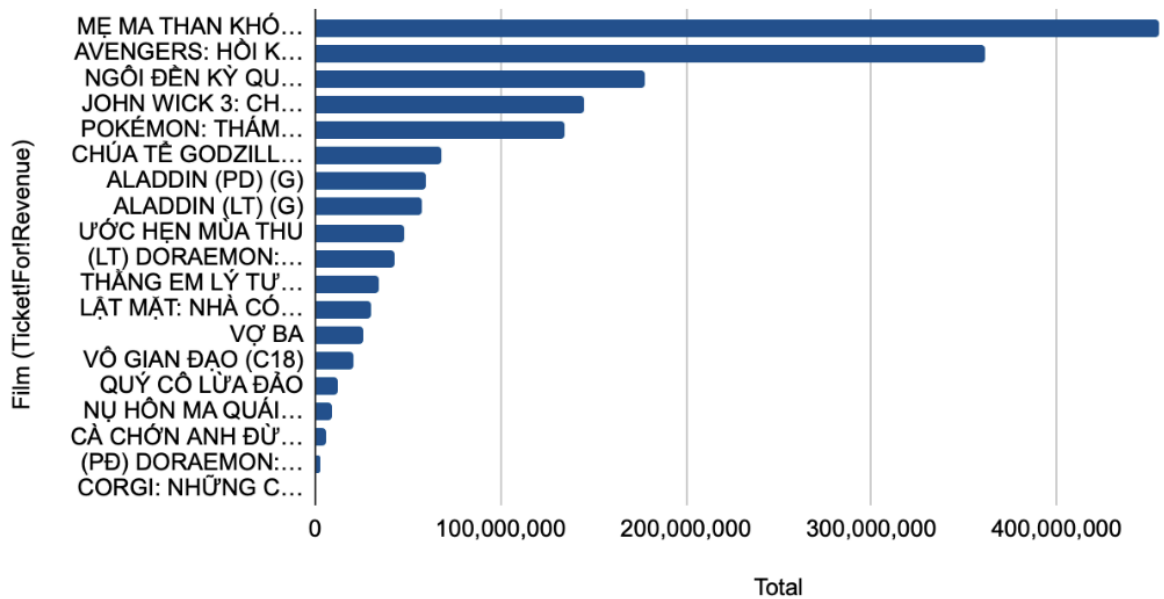


The bar heights represent the number of customers with that specific count of tickets. For example, the tallest bar is at the 1 ticket count, with 3,090 customers having only 1 ticket. The second bar, representing those with 2 tickets, is significantly shorter, with 1,036 customers. The number of customers decreases as the ticket count increases, indicating that fewer customers have higher numbers of tickets.

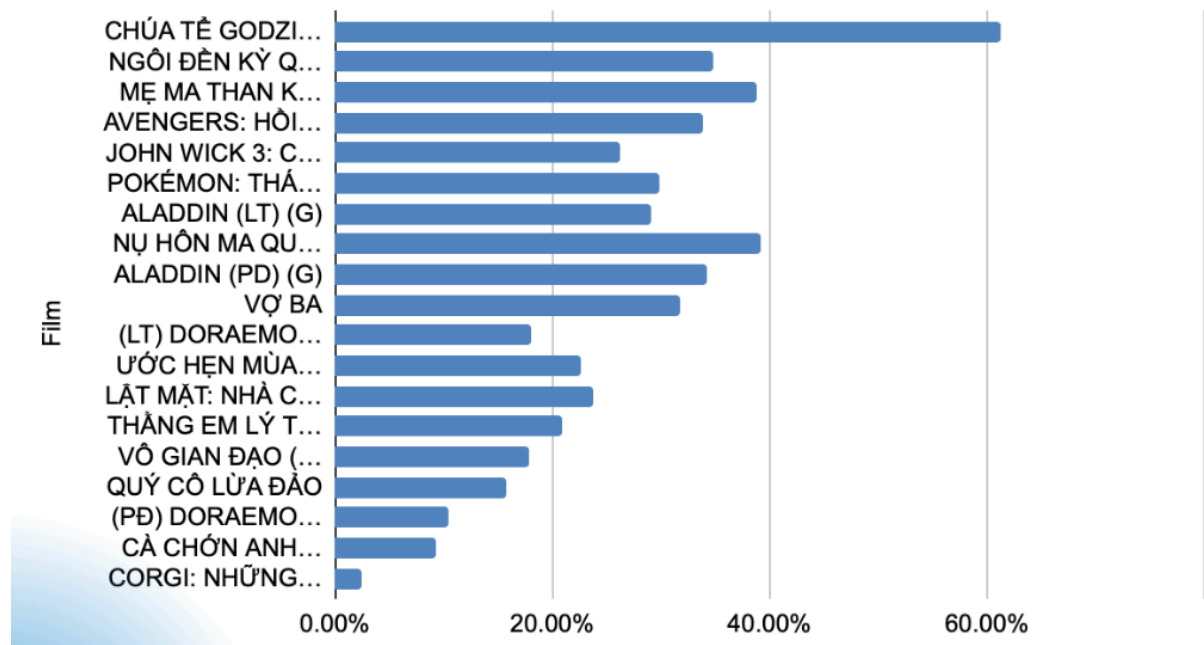
As the ticket count increases, the number of customers decreases dramatically, and it's notable that the counts are particularly low from 9 tickets onward. There are several ticket counts where only 1 customer falls into the category, specifically for the counts of 18, 22, 23, 27, and 32 tickets. The overall trend shows that the majority of customers have between 1 and 4 tickets, with a rapid decline in frequency for counts above 4.

Rows F and G are popular purchases: G09, G10, F09, F10 are popular seats

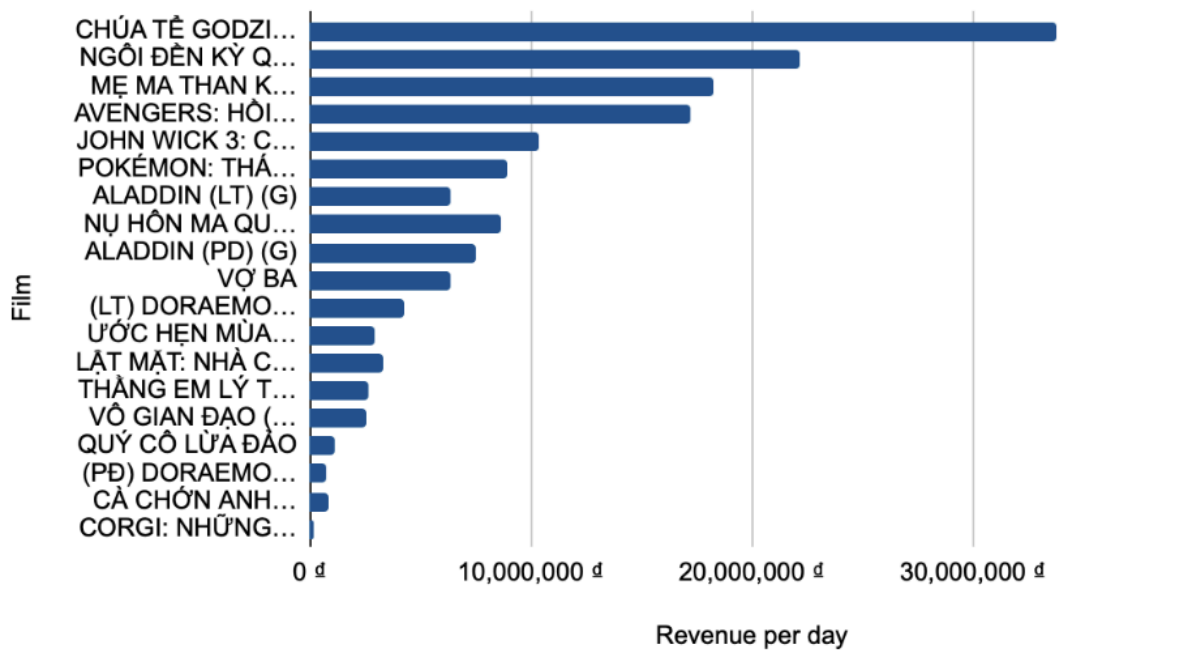
Total vs Film (Ticket!For!Revenue)



Revenue per day and Average fill rate per room

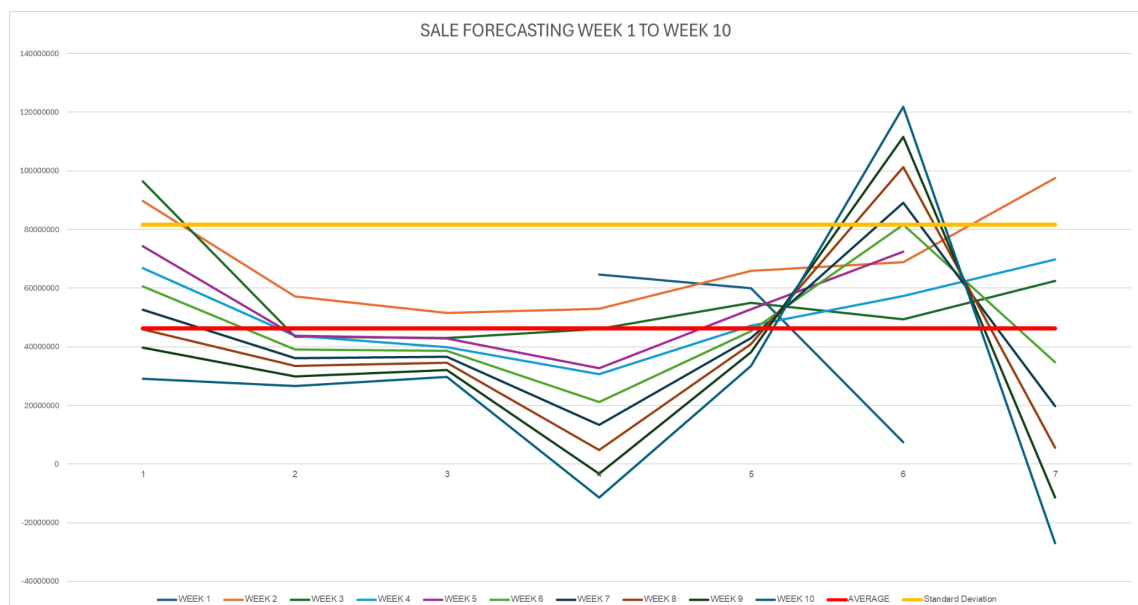


Revenue per day vs Film



Mẹ ma than khóc, Avengers and Ngôi đền kỳ quái have largest revenue, But Chúa tể Godzilla had the highest fill rate and revenue per day. Therefore, increasing profitability, the fill rate and revenue per day are two indicators we need to focus on to lower the vacancy and increase efficiency.

3. Predictive



The cinema must enhance order growth, weekly sales are estimated to reach growth rate 0.53% in 5 weeks. Based on giving data without seasonal or periodic component, the strategies which are recommended may increase the profitability of the cinema further over

120 millions dong in 5 weeks upcoming. In the most optimistic scenario, the maximum expected of the ticket sales can be achieved over 120 million dong in week 10 . However, the possible of reaching up the possibly over 100 million dong by providing good customer services.

4. Solution & Recommendations

- **Solutions**

We develop business strategies focused on market penetration. It is divided into five main sections, each with a different color and content.

PROBLEMS/SITUATION: We identify that customers aged 18 and 19 contribute most to the revenue. There is also mention of a "higher fill rate generate generate the higher," which seems like a typographical error but implies that higher fill rates are associated with higher revenue. Additionally, the largest number of tickets per order is two, there is high vacancy in A rows, and the business has a high fixed cost nature.

STRATEGIES: "Lower the vacancy and increase efficiency."

EXECUTION: We target teenagers, especially those aged 18 and 19, and couples who purchase two tickets per order, offering them exclusive vouchers and discounts. There's also a mention of price discrimination based on the location in the cinema.

IMPACTS: The intended impacts of these strategies are to increase revenue by 10% and profit by 15%, as well as to increase market share.

5. Conclusion

If this business wants to boost the growth of new and old customers in order to increase revenue in the next two months, then it needs to implement the proposed strategies to increase the number of tickets sold at each showdate and revenue will rise sharply every day.

