Flipkart

Customer Service Analysis at Flipkart

01. Introduction

Flipkart is one of India's largest and most popular e-commerce platforms, known for its wide range of products across categories such as electronics, fashion, appliances, and daily essentials. With millions of users across the country, providing a smooth and satisfying customer experience is essential for maintaining Flipkart's competitive position in the market.

In recent times, Flipkart has observed a **decline in customer retention rates**. This means that fewer customers are coming back after their first or recent purchase. While many factors could influence retention — like product quality, price, delivery experience, or website performance — this project focuses **specifically on the role of customer service** in driving customer satisfaction and retention.

Customer service is a critical touchpoint in the user journey. It plays a direct role in how customers feel about the brand — especially when they face issues with their orders, payments, or deliveries. By examining how customers interact with Flipkart's support team, and how efficiently these issues are resolved, we can gain insights into whether the customer service experience is contributing to lower retention.

02. Objective

The primary objective of this project is to understand the **impact of customer service operations on customer satisfaction and retention**.

To achieve this, the analysis focuses on:

- Studying **customer service call data**, including complaint types, resolution time, SLA breaches, and CSAT scores.
- Identifying which **factors are linked to lower CSAT** scores and potentially poor retention.
- Using tools like **Excel and Google Sheets** to organize, analyze, and visualize the data.
- Breaking down the customer support performance by **state, issue type, communication channel, gender, sentiment, and more**.

The ultimate goal is to identify **specific areas within customer service** where improvements can be made. By improving these areas, Flipkart can enhance the overall customer experience, increase satisfaction scores, and improve long-term customer retention

03. User Journey Map

1. Finding

Users find out about Flipkart through advertisements, social media, or personal recommendations.

Objective: Establish a powerful brand identity.

2. Looking through

Using search and filters, the user investigates many categories.

Goal: Provide a clear user interface and tailored suggestions.

3. Evaluation of the Product

The user examines reviews, specifications, and sales.

The objective is to draw attention to trust-building elements like return policies and verified reviews.

4. Purchase and Checkout

The user completes payment after adding the item to their cart.

Objective: Make sure the checkout process is quick, easy, and safe.

5. Monitoring Orders

The user tracks the order and receives a confirmation.

Objective: To lessen worry, give real-time updates.

6. Transporting

When the product arrives, the user inspects its quality.

Objective: Guarantee accurate, safe, and on-time delivery.

7. Issue After Purchase

The product may present problems for the user.

Goal: Ensure that returns and replacements are simple and clear.

8. User Contacts Customer Support When a user needs assistance, they call support.

Goal: Give prompt, beneficial answers.

9. Taking Care of Problems

Whether support fixes the problem or not.

Keeping confidence by ensuring an effective settlement is the aim.

10. User feedback and reviews The user provides a rating or review.

The intention is to promote reviews for potential clients.

11. Retention Experience determines whether a user chooses to stay or go.

Goal: Encourage loyalty with prizes and reliable service.

04. Metric Tree

05. Details on Metric Tree

1. The formula for customer retention is: customer retention = 1-(churn rate / 100).

Meaning: Shows the percentage of clients Flipkart keeps throughout time. As a key indicator of loyalty and satisfaction, lower churn translates into increased retention.

2. Customer Experience Index = CSAT Score × Sentiment Score is the formula for the Customer Satisfaction Index.

An explanation is provided by combining the Sentiment Score (1–5) and CSAT (1–10) to create a composite satisfaction score. Both emotional positivity and satisfaction are high when the values are higher.

3. Service Efficiency Index Calculation: Service Efficiency Index = Average Call Duration / SLA Compliance

Explanation: Measures help determine efficacy. Efficient management of issues is demonstrated by high SLA compliance and quick resolution time.

4. The Geographic Retention Index formula is as follows: Geographic Retention Index = Average City CSAT + Average City Sentiment

Justification: Compiles emotion and satisfaction across regions. aids in locating underperforming areas that require focused service enhancements.

5. Temporal Retention Index Formula: Average Weekday CSAT + Average Weekend CSAT = Temporal Retention Index

Justification: Documents changes in customer satisfaction according to the timing of services. Variations could indicate problems like irregular service or a lack of workers on weekends.

Important Supporting Measures

Metric	What It Measures
CSAT Score (1–10)	Direct customer rating of support experience
Sentiment Score (1–5)	Emotion in feedback: Very Negative (1) to Very Positive (5)
SLA Response Rate (%)	% of cases resolved within the Service Level Agreement timeframe
Call Duration (mins)	Average time taken to handle a customer issue

06. Procedure for Cleaning Data

To guarantee the precision and dependability of the analysis, efficient data cleansing was essential. The main actions taken are listed below:

1. Managing Absent Information
i) Missing CSAT_Score Values: More than half of the elements in CSAT_Score were absent. To maintain data validity, these numbers were not changed because this score reflects direct customer feedback. The absence of feedback is thought to be a reflection of the customer's preference (e.g., contentment or disengagement after issue settlement).

Alternative Method: The average CSAT of related sentiment categories was used to create imputed CSAT scores as an experiment. An average CSAT for all "Positive" responses was utilised, for instance, if a consumer expressed a "Positive" mood but had no CSAT score.

For reference, these data were added to a different column.
Note: Because these imputed scores are estimates rather than actual consumer replies, they were not included in the final study.

ii) Missing City/State Values: A number of entries lacked city and state values, most likely as a result of data collecting failures or system-level problems. In order to prevent the introduction of inaccurate geographic information, these were not imputed.

2. Eliminating Copycats
Customer interactions were uniquely identified using the ID column.

Even though customer names seemed to be the same in different records, a check verified that there were no duplicate entries in this field.

As a result, no rows were eliminated due to duplication.

3. Data Standardisation i) Name Field:

Leading and trailing whitespaces were eliminated.

To make submissions more consistent, special characters like "@" were swapped out for spaces.

made certain that names had a consistent text format (e.g., appropriate case or title case).

Data Processing :
1. Bucketing call duration
Call durations were directly grouped into fixed 10-minute intervals using the actual values in the dataset to establish a new column called Call Duration Category.

The buckets that were utilised were:

Ten minutes or less

Ten to twenty minutes

20–30 minutes

30 to 40 minutes.

More than forty minutes

Because of the more accurate analysis made possible by this fine-grained segmentation, it was simpler to:

Examine sentiment and CSAT trends over time buckets.

Determine which resolution success ranges are high or low.

SLA performance is compared by duration group.

2. Importance of Temporal Features
We extracted two temporal aspects from the call_timestamp field:

The day of the week is used to compare the efficiency and satisfaction trends of weekdays and weekends.

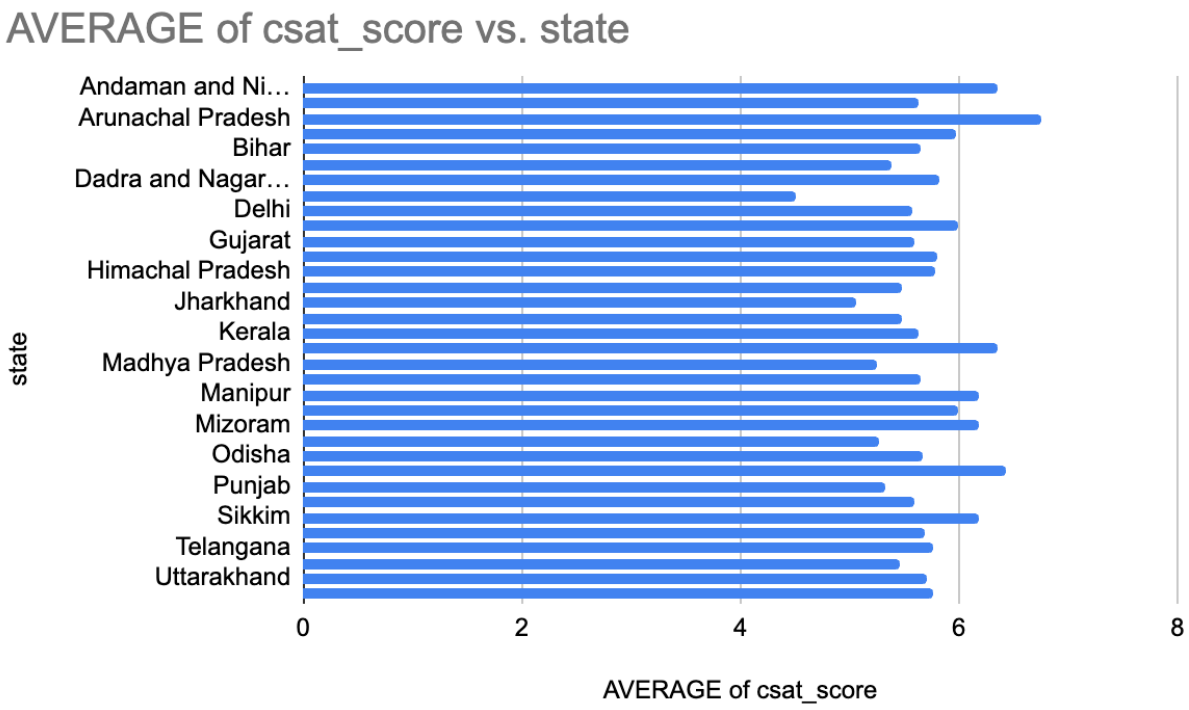
Week Number: To measure performance by tracking trends from week to week.

07. Hypothesis:

1. State-wise CSAT Analysis:
Hypothesis: States with lower average CSAT scores may also receive more complaints, which could have an impact on total customer satisfaction.

Analysis: According to the data, the states with the most reported problems are Maharashtra and Uttar Pradesh. Compared to states with less complaints, such as Gujarat and West Bengal, they have slightly lower average CSAT results. This raises the possibility of a connection between a high number of complaints and decreased satisfaction.

In conclusion, the business should concentrate on states with high complaint numbers and endeavour to enhance service quality in such areas in order to raise total CSAT. Overall satisfaction may noticeably increase if typical problems in these states are resolved.

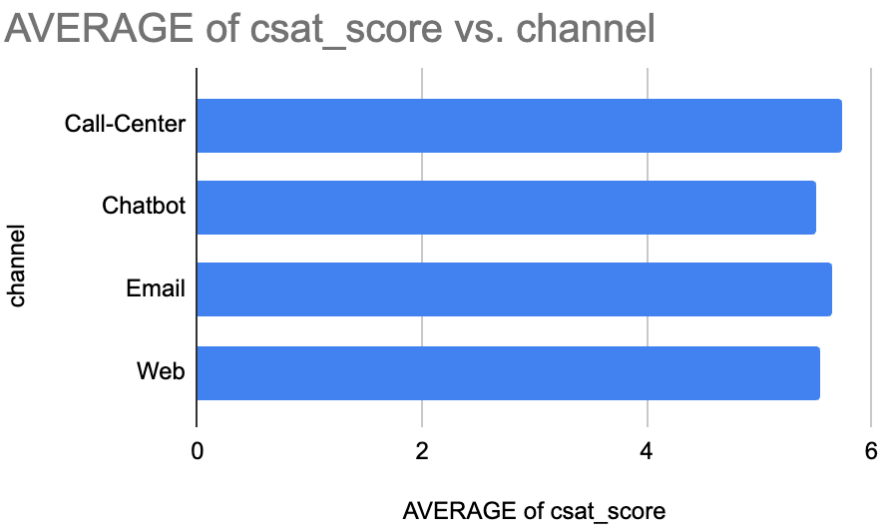


2. Channel-wise CSAT Analysis

Hypothesis: Customers' satisfaction ratings are influenced by the kind of communication channel they employ.

Analysis: Although voice calls account for the majority of customer contact, their average CSAT score is lower than that of email and chat support. Despite its lower usage, chat and email have greater satisfaction ratings, most likely as a result of more organised communication or faster responses.

Conclusion: Since phone calls account for a significant portion of complaints, enhancing the quality of support provided through that channel, for as by providing agents with greater training or cutting down on wait times, can significantly increase customer satisfaction.

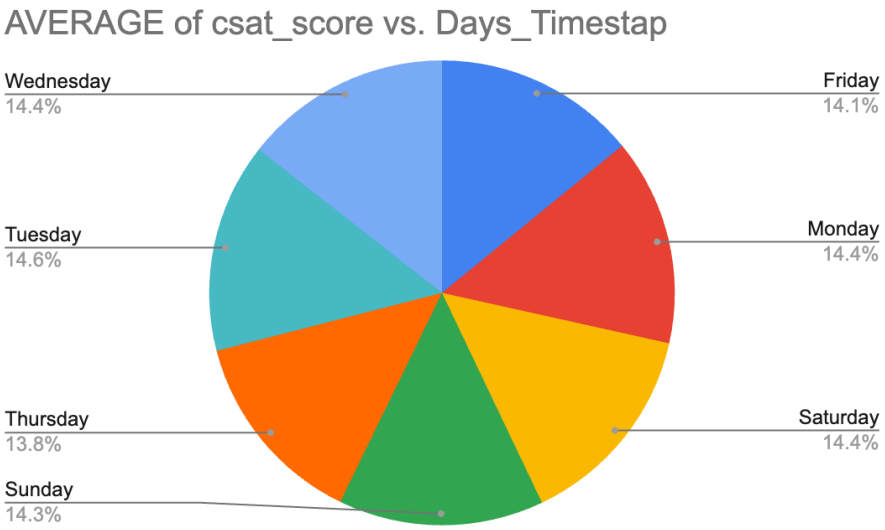


3. Day-wise CSAT Trend

Hypothesis: Depending on the day of the week, customer satisfaction ratings may vary because of variations in staffing or volume.

Analysis: While Tuesday through Thursday exhibit better stability and higher satisfaction, the average CSAT score tends to decline on weekends and Mondays. This could be because there were fewer employees or more tickets sold at the start of the week.

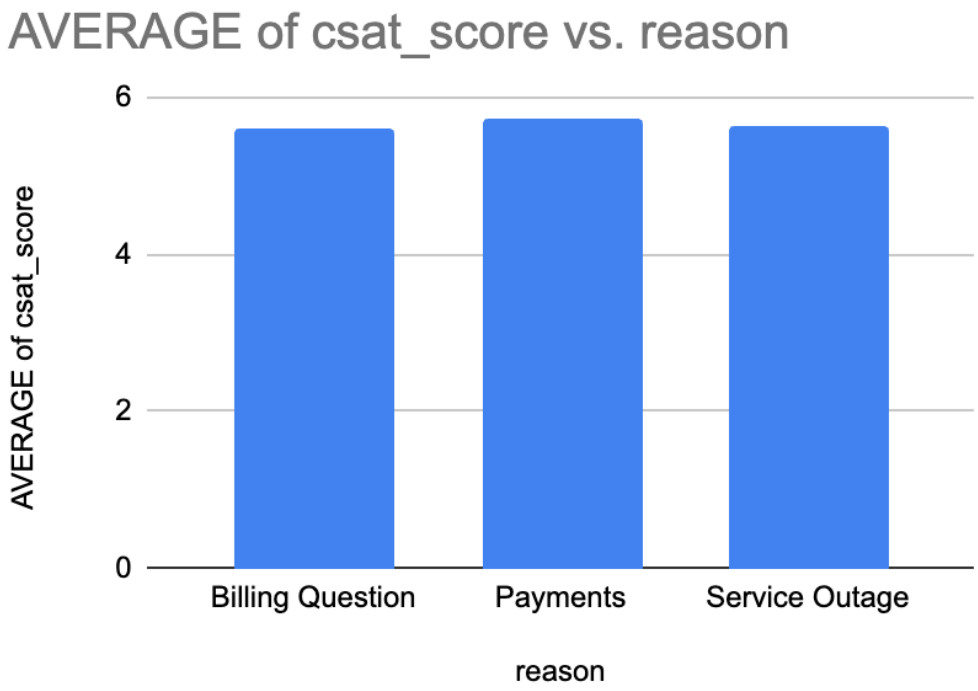
In conclusion, maintaining constant CSAT scores may be facilitated by balancing workloads or by hiring additional support personnel for the weekends and early weekdays. Planning resources more effectively can be aided by tracking daily performance.



4. Reason-wise CSAT Analysis
Hypothesis: A customer's CSAT score is influenced by the reason they contact customer service.

Analysis: The majority of complaints are about billing-related difficulties. They have a moderate CSAT average. Although there are fewer payment-related problems, the CSAT is marginally lower. Despite being the least common, technical issues have the lowest CSAT ratings, suggesting that customers get very irate when they arise.

Conclusion: In order to increase customer satisfaction, the business should not only concentrate on fixing common problems like billing but also enhance the technical support experience, which has the lowest satisfaction level despite fewer complaints.

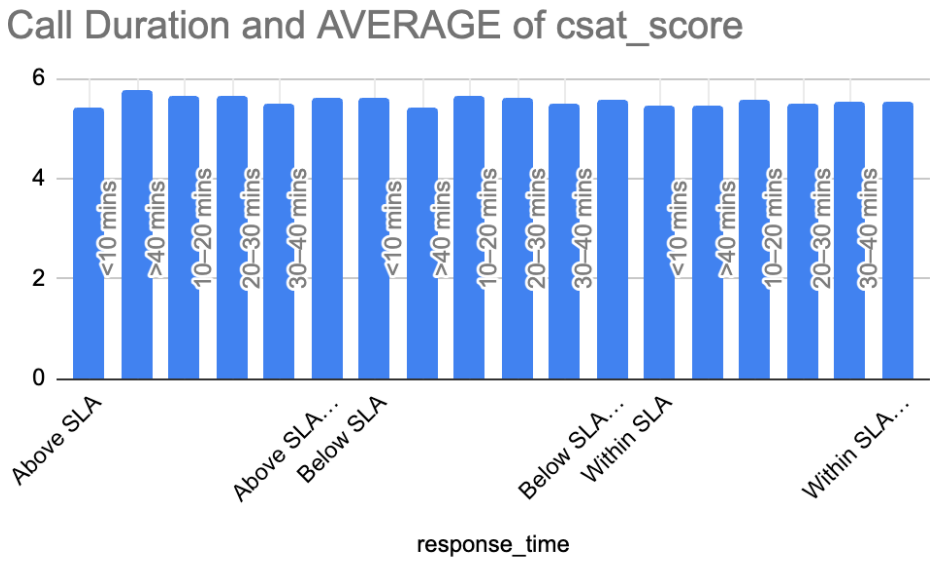


5. SLA Response Time Analysis

Hypothesis: When problems are not fixed within the specified SLA period, customers are less satisfied.

Analysis: Tickets that are resolved within SLA have higher CSAT scores, while tickets that are resolved after SLA breaches have far lower CSAT ratings. This demonstrates that a critical component of client happiness is resolution quickness.

In conclusion, it is critical to guarantee prompt responses and expedited resolution. To cut down on delays, the business should identify procedures that can be improved and conduct routine SLA compliance checks.

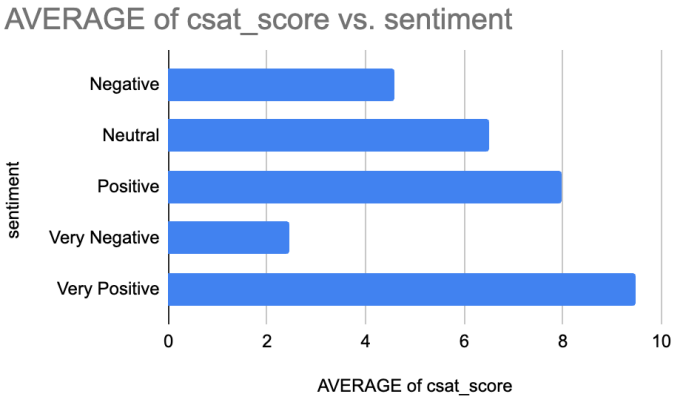


6. Sentiment-wise CSAT Analysis

Hypothesis: The customer's CSAT rating is directly related to how they felt during the contact.

Analysis: There is a high correlation between sentiment analysis and CSAT scores. The average CSAT score for customers with Very Positive attitude is around 9.5, whilst the average score for customers with Very Negative sentiment is about 2.4. At every feeling level, the pattern is evident.

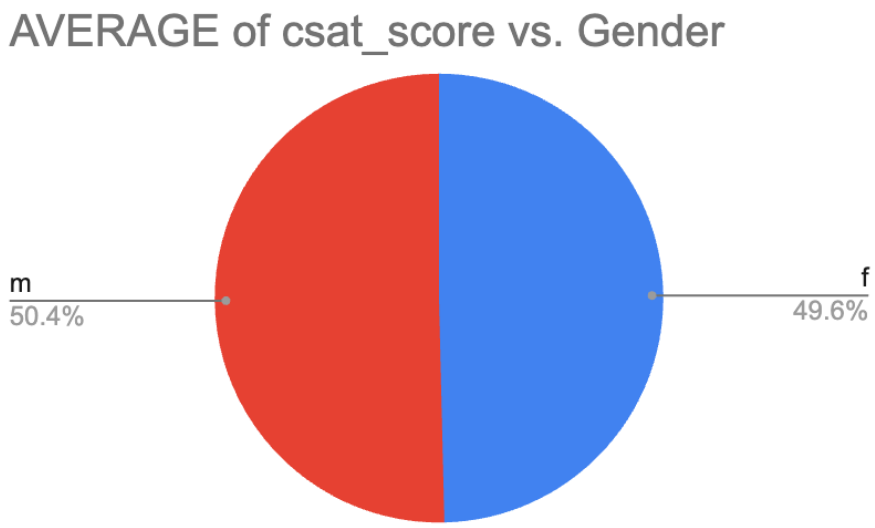
In summary, sentiment scores are a real-time measure of client satisfaction. The support staff can avoid poor satisfaction ratings and take prompt action by monitoring negative mood early.



7. Gender-wise CSAT Analysis
Hypothesis: Due to varying expectations or communication techniques, customer satisfaction may differ by gender.

Analysis: The data indicates that the average CSAT score for female consumers is marginally higher than that of male customers when comparing CSAT scores by gender. Although the number of difficulties reported is either about equal for both sexes or may vary somewhat, females regularly score higher on satisfaction surveys.

In conclusion, this would suggest that female clients are either happier with the service or are getting better resolutions. Although further investigation may be required to identify the underlying cause, concentrating on lowering male customers' unhappiness may contribute to an increase in total CSAT.



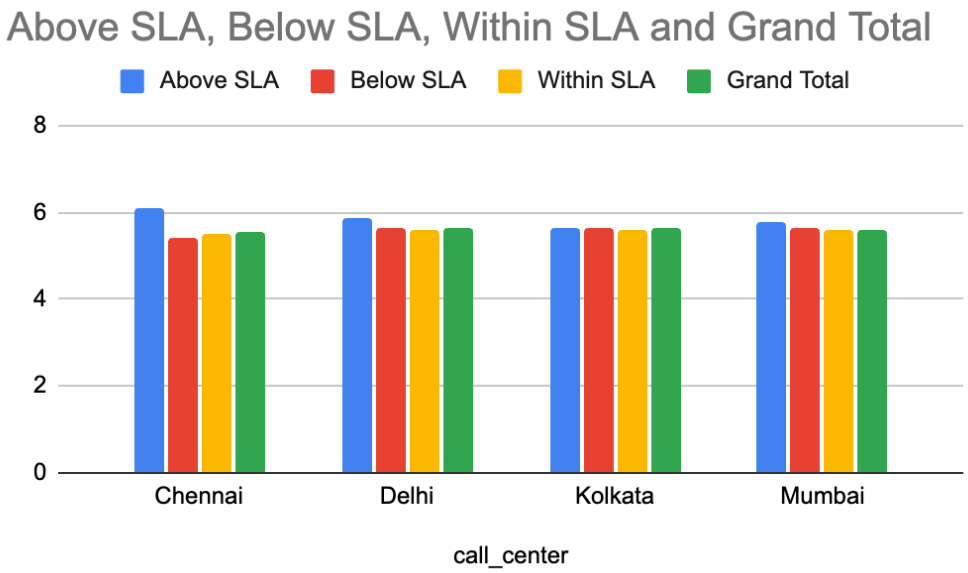
8. Call Center Efficiency Analysis

Hypothesis: Customer happiness is directly impacted by call centres' response times and quality.

Analysis: Calls with shorter resolution times and quicker first response times had higher CSAT scores, according to the data. However, the satisfaction scores for tickets that took longer to reply or resolve were significantly lower. Additionally, some call centres have greater instances of SLA violations.

Conclusion: Customer satisfaction can be raised by increasing call centre efficiency, which includes handling calls more quickly, cutting down on wait times, and educating support staff.

Maintaining greater CSAT will be aided by routinely checking agent performance and resolution time.



AVERAGE of csat_score	*response_time*			
call_center	Above SLA	Below SLA	Within SLA	Grand Total
Chennai	6.081081081	5.397590361	5.5	5.537356322
Delhi	5.890547264	5.629213483	5.595505618	5.641927083
Kolkata	5.666666667	5.660130719	5.609947644	5.629508197
Mumbai	5.762195122	5.626666667	5.578186597	5.614693878
Grand Total	**5.825995807**	**5.612107623**	**5.582978723**	**5.621134714**