

# accomdation data analysis project

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# Data analysis project

## problem scenario:-

One of my friends told me that he has a business in hostel accommodation, but for the past two years, he has been facing serious losses. His debt has gone up to ₹10 lakh in the financial year 2023–24. He said he wants to run the business more successfully, generate revenue, and get out of debt.



- The tools we are using for this project are MS Excel and Power BI.
- This is a live project where data has been collected from the field.
- This is also my real-life experience with this project.

# introduction

In recent years, small and medium-sized hostel businesses have faced growing challenges in maintaining profitability due to increasing competition, rising costs, and shifting customer expectations. This project aims to assist a local hostel business that has faced severe financial difficulties, leading to a debt of ₹10 lakh in the financial year 2023–24.

The primary goal of this project is to leverage the power of **Microsoft Excel and Power BI** to analyze the business's performance and uncover insights that can drive recovery and growth. By working with available data such as occupancy rates, pricing structures, customer feedback, seasonal trends, and expense reports, this project will help identify key problem areas and new opportunities.

Using **Excel**, we will clean, organize, and prepare the data for analysis. Then, through **Power BI**, we will build dynamic dashboards and visualizations to better understand business trends and performance metrics. These insights will be used to make practical, data-driven recommendations to:

- Improve occupancy and revenue
- Optimize pricing strategies
- Control operational costs
- Enhance customer experience

This project demonstrates how small businesses can use simple but powerful tools like Excel and Power BI to make smarter decisions, increase profitability, and work toward becoming financially sustainable and debt-free.

For this project, we followed the data analysis steps: ask, prepare, process, analyze, share, and act.

# Ask phase

1. After 2 years, is it a profitable business?
2. Why did you take a loan (debt)?
3. What type of business is this? Are you renting houses, or do you own the properties?
4. How much rent do you charge each student?
5. In which financial year did you collect the first rent?
6. If it was profitable, how much money did you make each month?
7. Did students pay the rent on time?
8. What is the rent for each building?
9. What is the interest rate on the loan?
10. How did you start the business?
11. What assets should be bought in the beginning?
12. Do you also provide food?

## "Factors affecting the business."

There are three partners in the business:

1. The house owner
2. The business owner
3. The students who rented the bed.



# Business scenario

➤ There are three partners in the business:

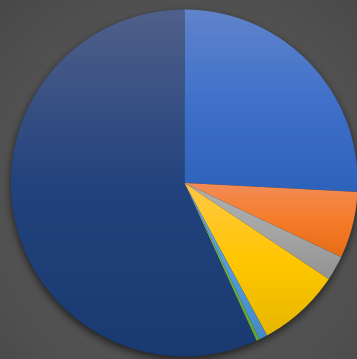
1. The house owner
2. The business owner
3. The student who rents a bed.

In this setup:

- 1) The house owner rents out the house to the business owner.
  - 2) The business owner manages the property and handles the students who rent beds.
  - 3) The students give their rent directly to the business owner.
- This scenario outlines a simple partnership where each party has a clear role in managing and benefiting from the rental property.

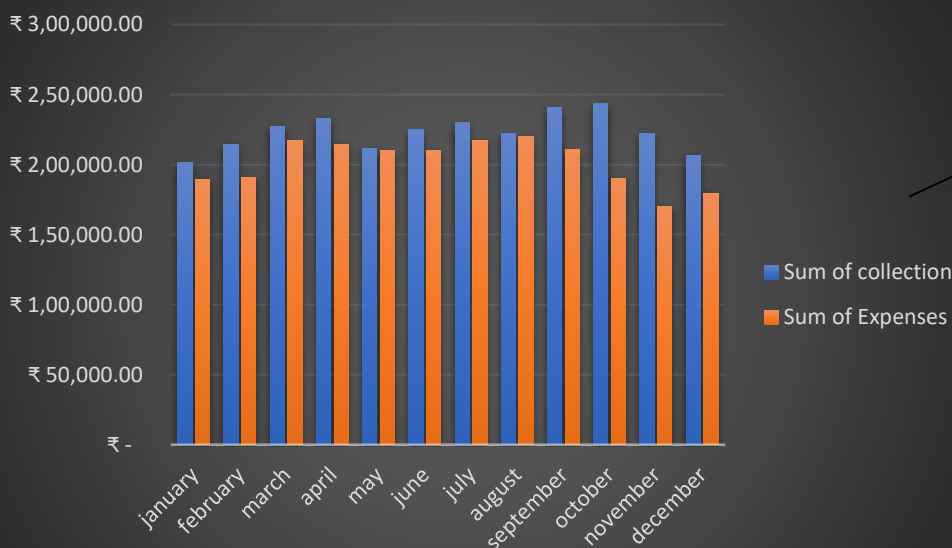
## Report of Business in 2022-23

expenses of business owner



■ house rent ■ electric bill ■ cleaner ■ cook  
■ bike expences ■ cleaner instrument ■ fooding expences

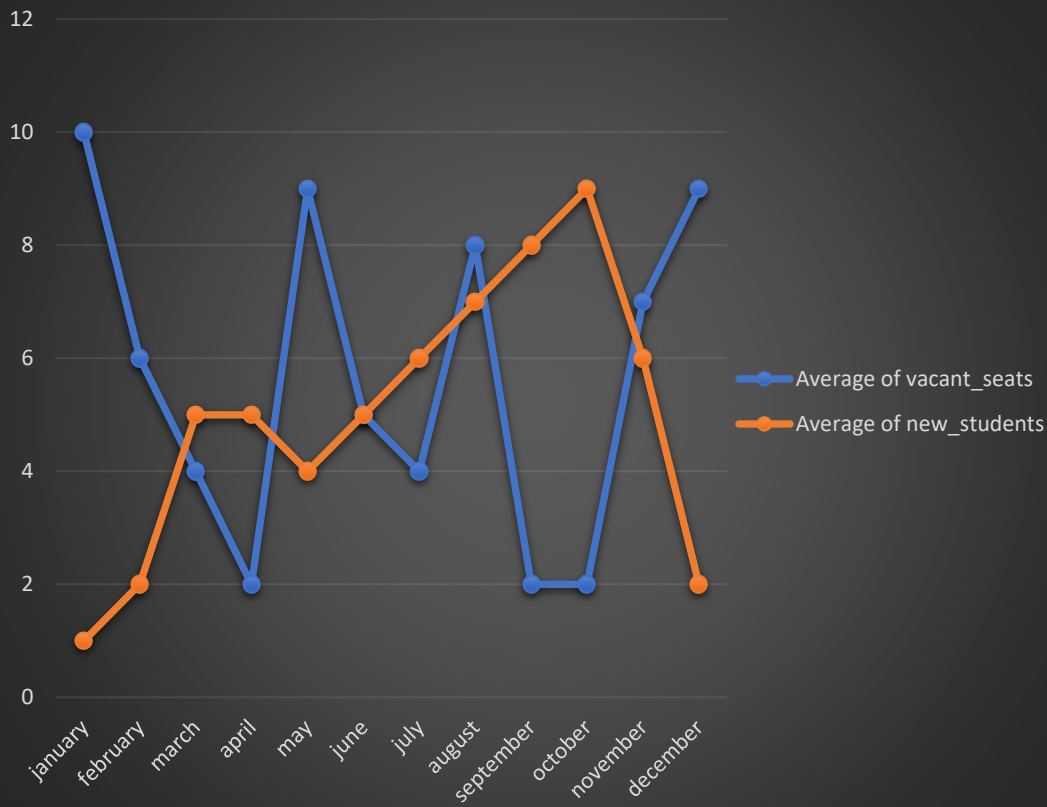
- This chart displays the business owner's expenses.
- Any stakeholder can understand the expenses involved.



➤ "This was a pivot chart."

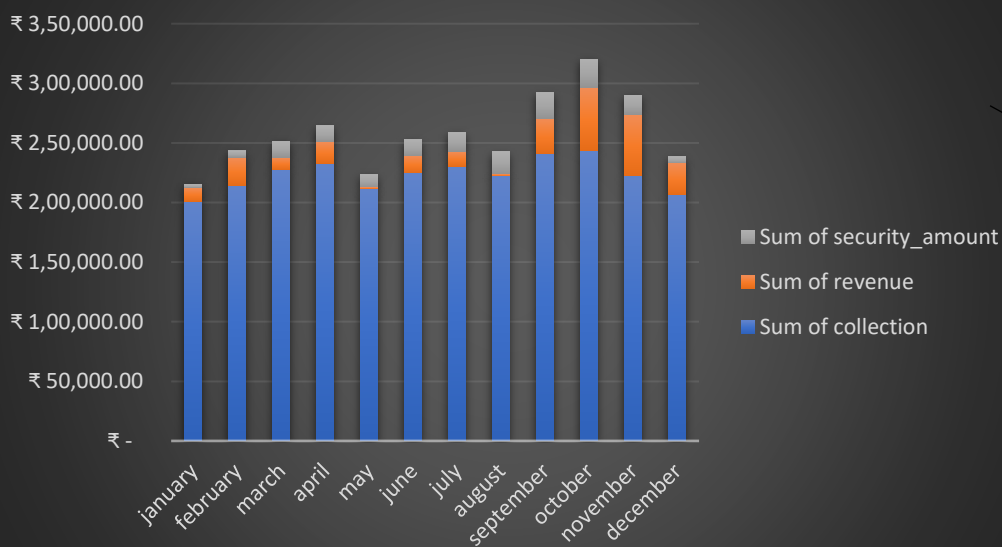
The bar graph shows the sum of expenses and the sum of collections as displayed in the chart."

➤ "This graph is intended to help stakeholders interpret the data more



➤ "The graph illustrates the monthly inflow and outflow of students in the hostel across Month 1 to Month 12 during the academic year 2022–2023."

➤ "The graph presents a comparative analysis of student inflow and outflow in the hostel from Month 1 to Month 12 during the academic year 2022–2023, highlighting the impact of incoming students on the number of those moving out."



➤ "This pie chart illustrates the impact of revenue on collections, as well as on the security amount."

➤ "You can gain deeper insights—such as how much revenue was generated and how much security was collected in a given month."

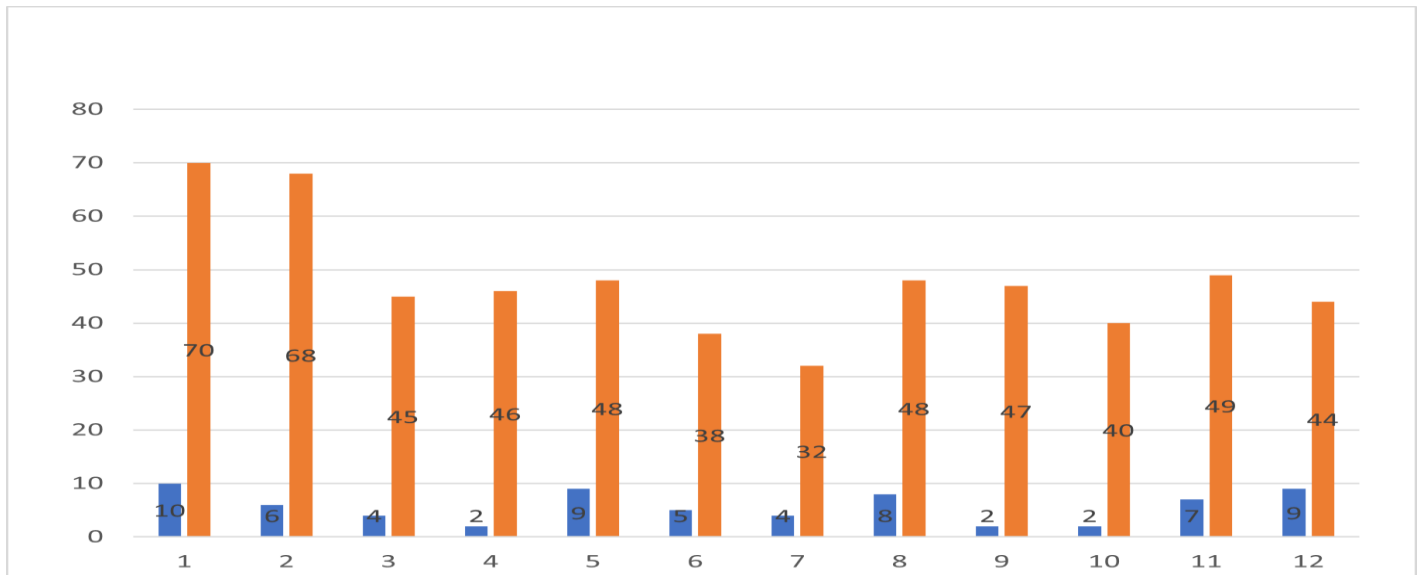
- "We uncovered remarkable insights from the 2022–23 dataset, revealing patterns that could shape future strategies."
- "Our analysis reveals how revenue was generated during the following year, as demonstrated by the dataset."
- "We now delve into the 2023–24 dataset to uncover the factors behind the business downturn and understand why losses are emerging this financial year."
- "So far, we've observed that student arrivals at the hostels align closely with the start of the admission season, typically around March and April."
- "This dataset also reveals that the amount set for students is relatively low compared to the rent charged and the expenses borne by the business owner, including electricity bills and other operational costs."
- "The hostel's strategic location also plays a vital role, making it easily accessible for students and thereby benefiting the business owner."
- "As student rent increases, the business owner also tends to offer more benefits and amenities, enhancing the overall value for students."

"This narrative is drawn directly from the insights revealed in the dataset."

# Report of Business in 2023-24

- "In the 2023–24 financial year, the business owner expanded operations by adding four more hostels within the territory, marking a significant step in growth."
- "The business owner suffered significant losses during the 2023–24 financial year."

## Chart of vacant seats 2022-24



- This chart illustrates the rise in vacant seats during 2023–2024, primarily due to the addition of four new hostels. I believe this was a strategic misstep by the business owner, and the following points explain why this decision may have been flawed.

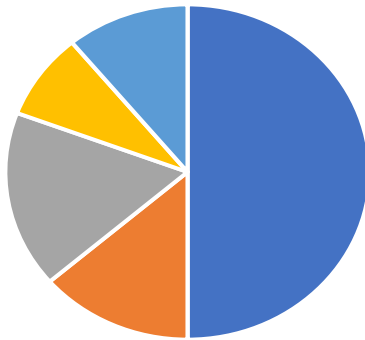
### 1. Factors Contributing to the Increase in Vacant Seats (2023–2024):

- Location Challenges:**  
The newly added hostels may be situated in less accessible or less desirable areas, making them less appealing to potential residents.
- Rising Competition:**  
A growing number of competitors in the student housing market has intensified the battle for occupancy, reducing the share of interested tenants.
- Limited Understanding of the Student Market:**  
The expansion may have been based on insufficient research into student preferences, affordability, and actual demand in the area.
- Lack of Differentiation or Unique Selling Points:**  
Without offering something distinct—such as better amenities, pricing, or community engagement—new hostels can fail to stand out.
- Hostel structure**



- According to real-time data, approximately 15,000 students are enrolled at FM University in Balasore, with an additional 800 students attending competitive exam coaching at Vanik. This brings the total number of students coming to Balasore to around 16,000.
- Balasore currently has over 120 private hostels, in addition to FM University's own on-campus hostel facilities. However, a significant portion of the student population is local or commutes from nearby areas using their own vehicles, reducing the overall demand for hostel accommodation.

student living



■ Total students ■ came from near by areas ■ university hostel  
■ private hostel ■ rented house

- This chart illustrates the various living preferences of students in Balasore, highlighting how they choose between on-campus hostels, private hostels, rented flats, and commuting from home also rented House.

No. of student in odisha

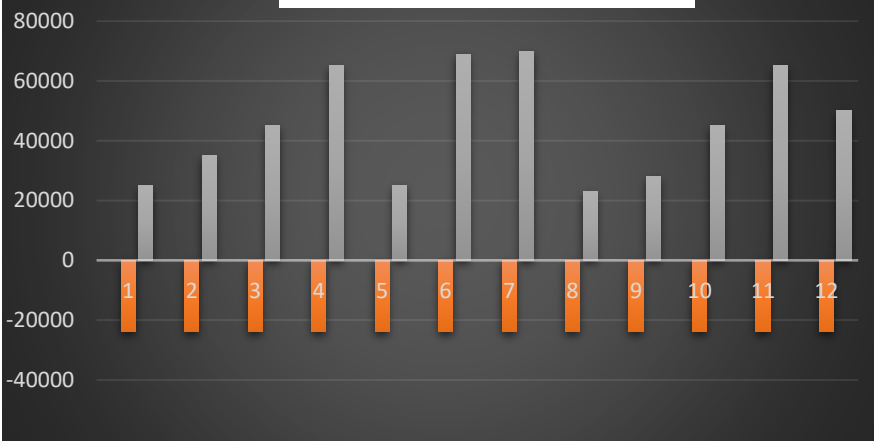


- "This chart shows that Odisha has a tremendous presence in the student market; it's a large market."
- "But we only conducted our analysis in the Balasore market."
- "But why do many students not prefer to stay in the hostel?"

- This was a large student market, but students do not prefer private hostels. There are many reasons why students choose to move."
- "Factors like the owner's behaviour, cleanliness, food quality, and price are very important for the business. That's why students nowadays prefer rented rooms and government hostels."
- "Security charges play a crucial role in this system. For example, if someone is asked to pay two months' rent in advance, it creates a sense of fear or hesitation. Because of this, students often prefer to rent rooms directly from private owners."
- Many students also want privacy, such as single or double rooms. However, many owners make promises to provide these rooms but fail to deliver, and the overall hostel structure is often not as expected."
- "Because of reasons like these, hostel business owners are unable to grow their businesses like other startups."

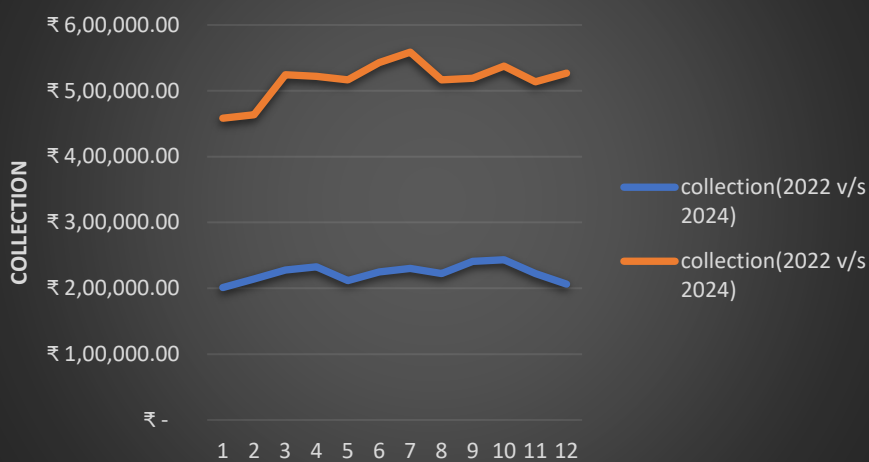


Revenue of 2022 v/s 2024



- We can see how revenue is declining in 2024. So, what are the reasons behind this? Let's discuss them below.
- "A massive loss occurred in the business during the year 2024."

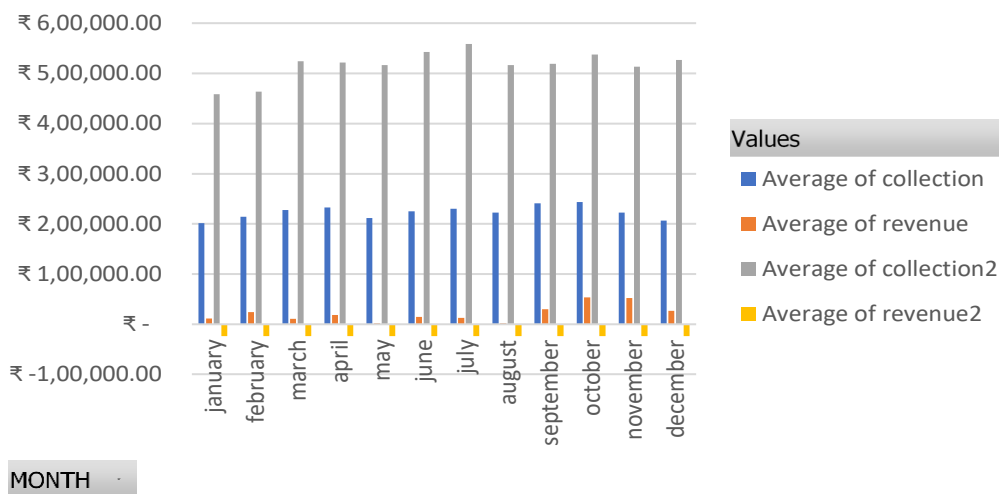
collection(2022 v/s 2024)



- "The collection grew significantly in recent years due to the increase in the number of hostels, as well as a rise in the number of students."
- The growth in collection does not necessarily mean that revenue is also increasing, as a massive amount was invested during this year."

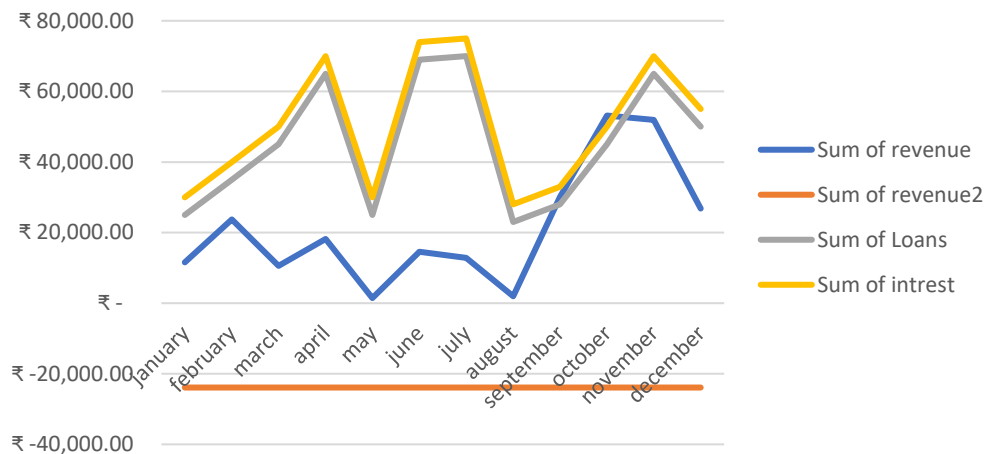
## Collection v/s revenue

Average of collection Average of revenue Average of collection2 Average of revenue2



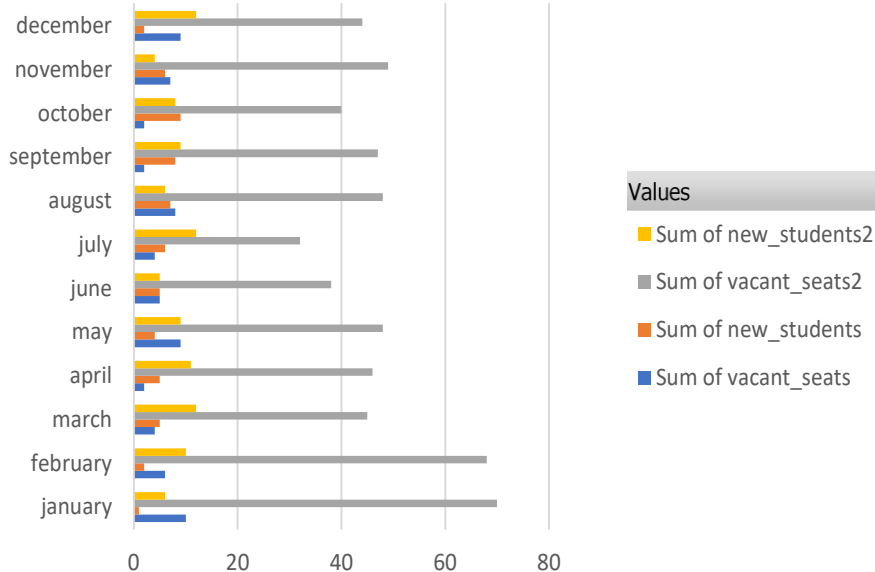
- This graph shows how collection and revenue were affected during these years."
- "Only the number of collections is increasing, but not the revenue, which is the most important outcome of any hard work. Due to vacant hostels, a massive decline in revenue is ongoing."

# Revenue v/s loans



- "While revenue has been increasing, the loan amount has also been rising over the years, along with interest rates. As a result, the business experienced a massive loss in 2024."
- "The businessman took loans at a low interest rate."

Sum of vacant\_seats Sum of new\_students Sum of vacant\_seats2 Sum of new\_students2



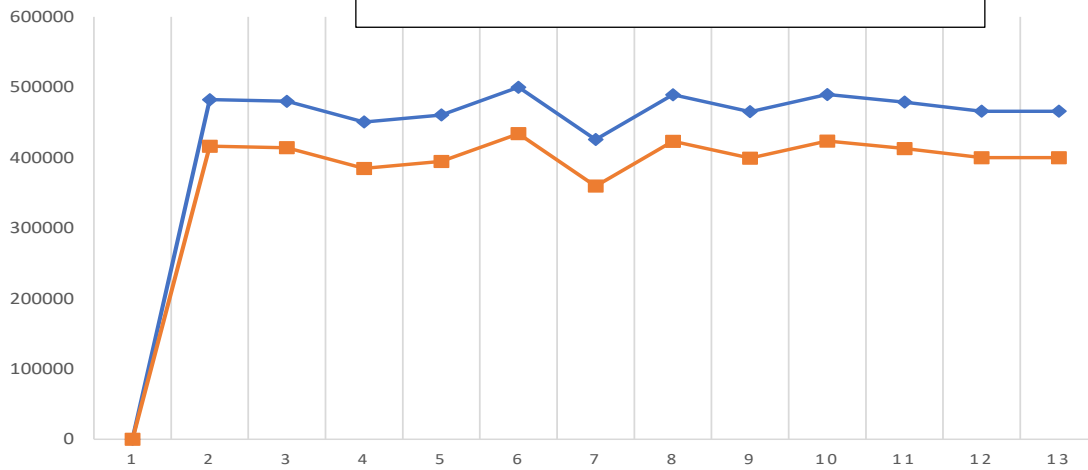
- "Look at how the number of vacant seats has been increasing over the years. Because of this, the business owner took out a loan, which turned out to be a major mistake."
- "The business should focus on filling the vacant seats; otherwise, the loan amount and interest will

## Steps that can be taken by a business owner.

- "According to the dataset, we have found some key insights that should be implemented in the business."
- "The businessman should increase the rent for single and double rooms, as these are the first choices for students seeking privacy."
- "This could affect both revenue and collections."
- The business owner should make some crucial decisions, such as leaving the house and continuing the business as it was in the past, as the house construction is not up to standard."
- "The rent charged by the business owner to the students is very different from the rent of the house."
- A deal can be made with the property owners based on the number of students currently staying in the hostel—for example, paying rent according to occupancy. This would reduce the business owner's risk and provide more financial comfort. However, there is a chance that competitors could overtake the business. Still, this is not limited to just one territory, as the plan is to expand into a larger franchise."

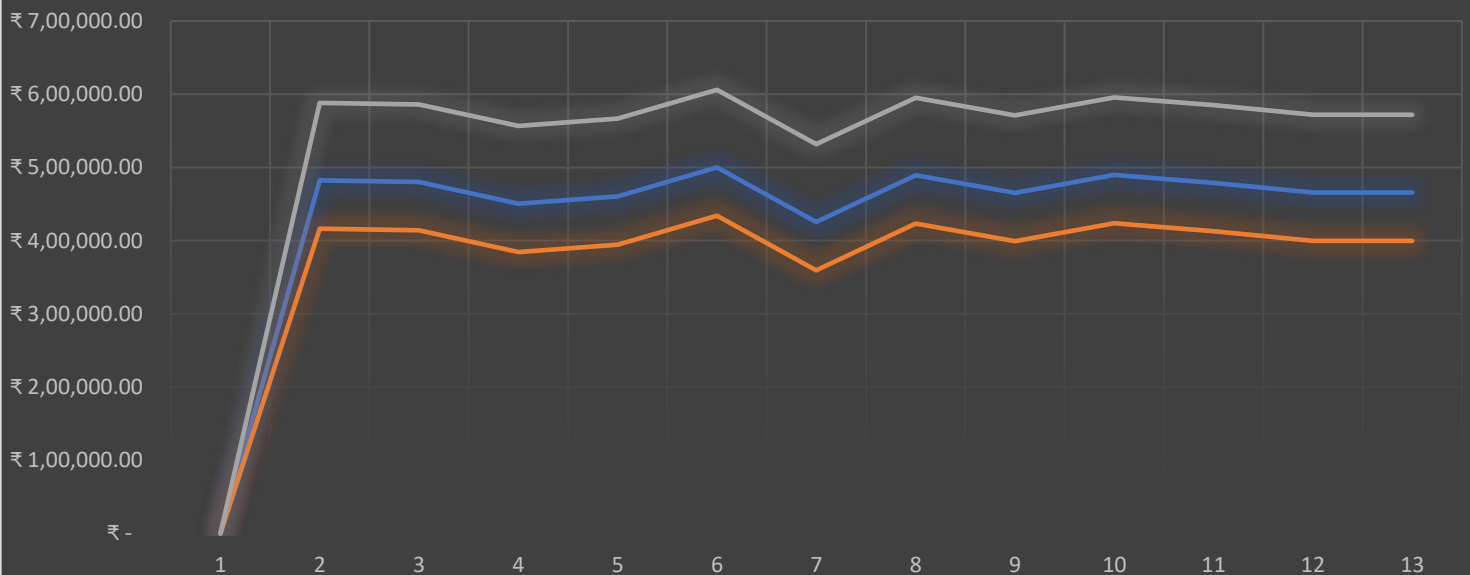
- "The businessman offers a new item every week. It's important to choose the house wisely—preferably with more single rooms and lower rent."
- "During the academic months, the businessman should conduct marketing campaigns. This would greatly help students learn about the hostel facilities and encourage them to visit the hostel."
- "Having a better attendant will help the businessman reach his goals more easily."
- "What would happen if we left the hostel?"

Amounts after deducted loss amount



- Following the deduction, the graph should display reduced expenses, provided that the revenue is also accurately reflected

## Case-2:-if all student fill in the hostel 4



- There are two options that a business owner should consider. One is to take the risk and fill up the hostel. However, this comes with several challenges: the house may not be organized in a way that students prefer, the rent is too high compared to what students can afford, and the owner has priced it above the market rate.
- I always tend to be biased toward what we're currently doing, rather than expecting too much from the future. So, the final decision is that we are leaving the hostel, which will also reduce the loan amount.
- We should go with what we have and increase the student rent around March. If some students leave due to the higher price, it can be adjusted by bringing in new students at the updated rate.
- We can also take loans from sources with low interest rates, which could be a game changer.
- Last but not least, we keep an eye on everything so the owner is aware of all operations, including canteen management and other details.

## sources

- Thanks to SS Hostel for providing the tremendous data for this analysis.
- Also gave the outer source the data .



All data link is given in this excel file and check out.

# Thank you

Soumya Arora