ABC Call Volume

Trend Analysis

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Project
Description

The project looks at information from an insurance company's Customer Care team over 23 days. It includes details about the staff, how long calls last, and what happened during the calls. They're using smart computer tools like IVR, RPA, Predictive Analytics, and Intelligent Routing to make customers happier. Different people in the team help customers using phones and other ways. They're trying to bring in more customers and make them happy to help the business grow. Ads are super important for getting people interested and buying stuff. Smart thinking is used to figure out the best ways to advertise without spending too much money. The project is all about studying customer care info, checking out cool computer tools, learning about job opportunities, and seeing how ads help a business grow.

APPROACH

01

Data Collection

02

Data Preparation

03

Data Analysis

04

Visualisation

05

Result

06

Conclusion

Tech Stack

Microsoft Excel:
For Preparing Data, Analyzing Data
And Visualization

Excel Link: CLICK HERE!

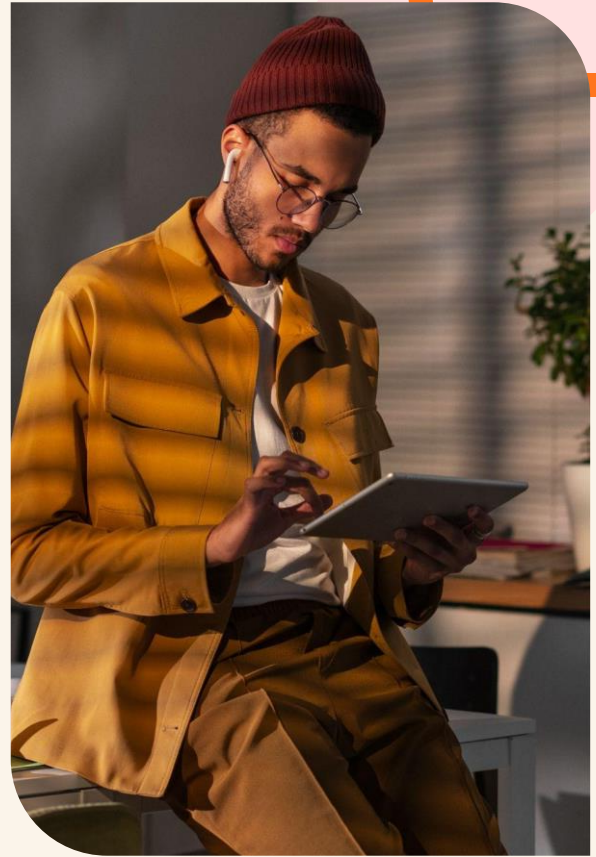**Average Call Duration**

Call Volume Analysis

Manpower Planning

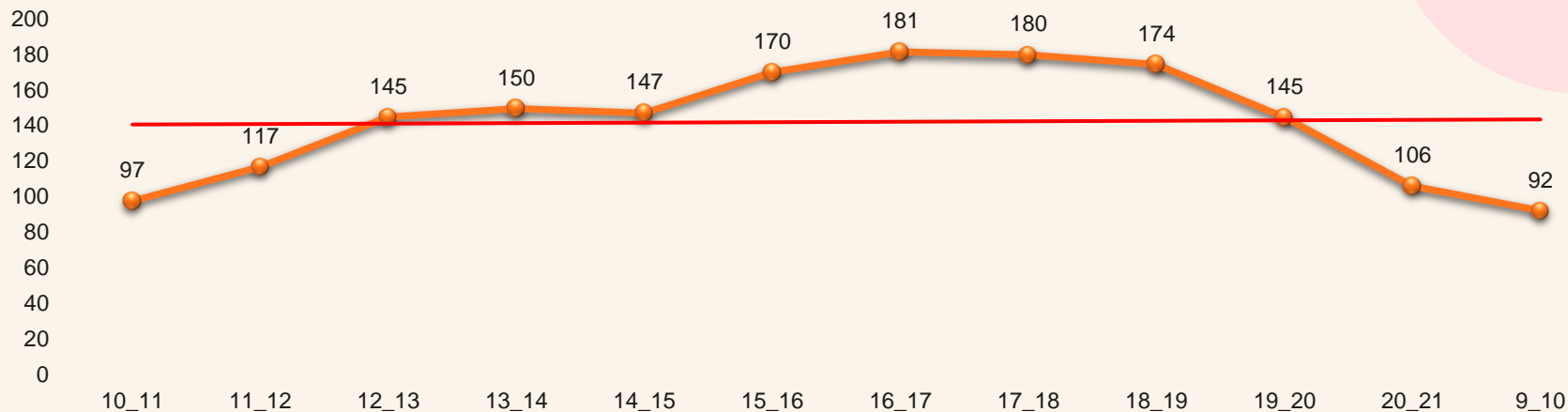**Night Shift Manpower Planning**

INSIGHTS

Average Call Duration

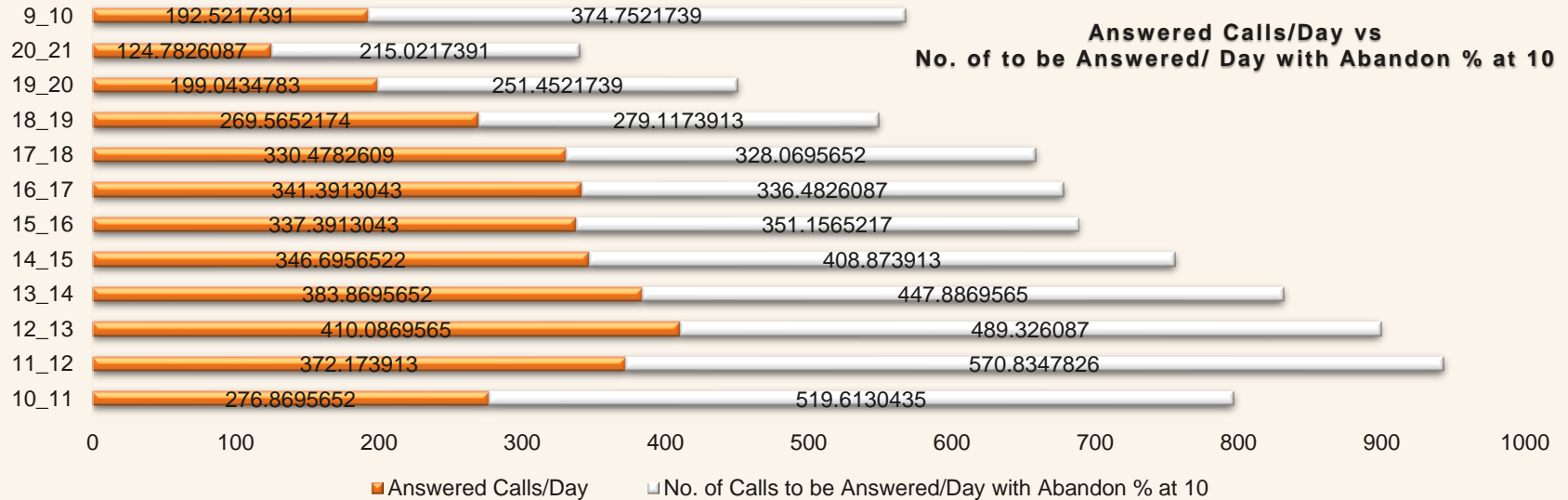|	10_11	11_12	12_13	13_14	14_15	15_16	16_17	17_18	18_19	19_20	20_21	9_10
Value	97	117	145	150	147	170	181	180	174	145	106	92

We looked at how long calls last during different times of the day. We found that, on average, calls answered by agents last about 198.6 seconds. We also saw that the longest calls happen between 10 am to 11 am and from 7 pm to 8 pm, while the shortest ones occur between 12 noon to 1 pm. This helps us know when it's busiest and quietest for handling calls during the day.

Call Volume Analysis

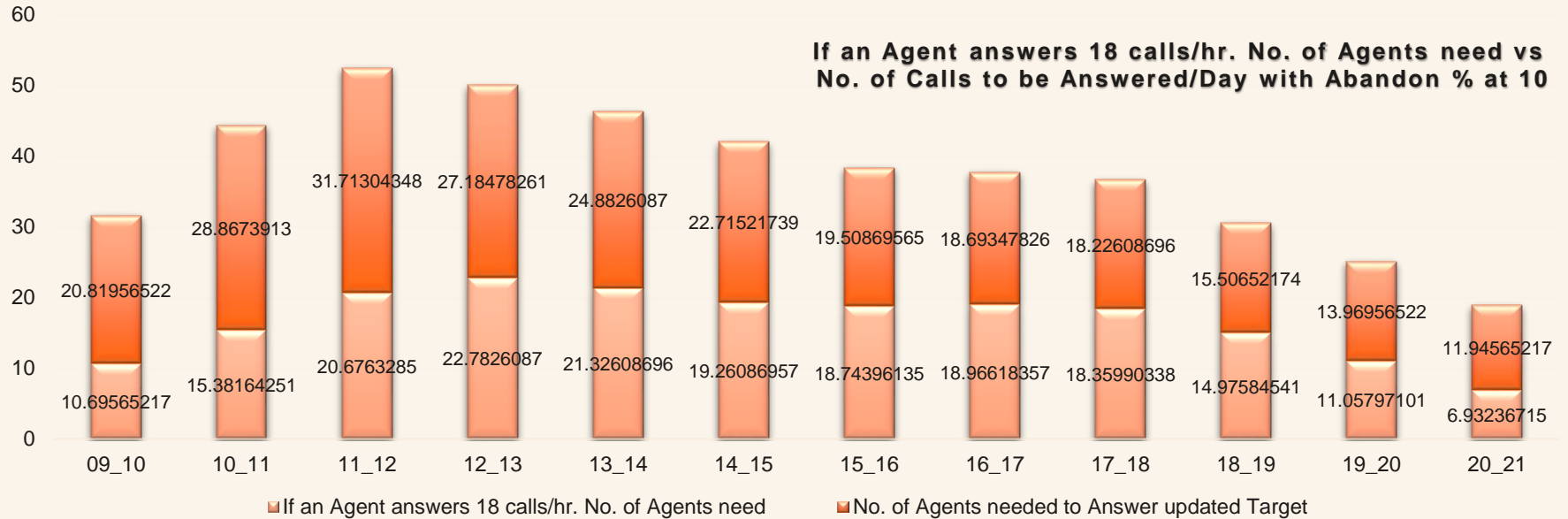**Count of Customer Phone No vs Count of Call Seconds**
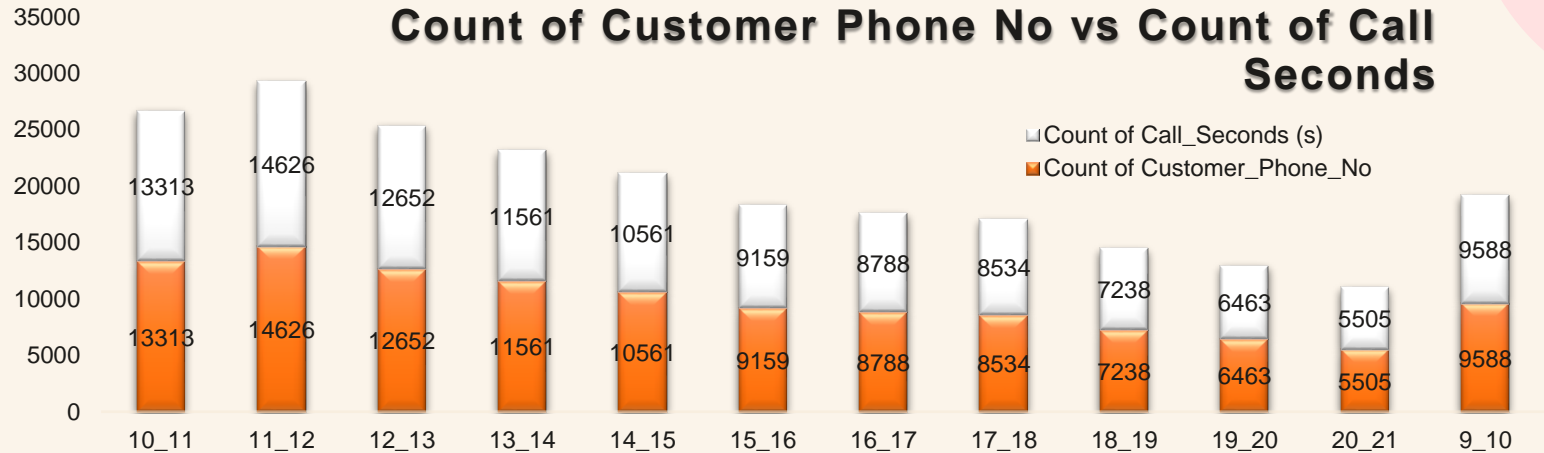
We checked when customers call throughout the day. Most calls happen between 11 am and 12 noon when customers are most engaged. But between 8 pm and 9 pm, there are fewer calls, maybe because it's dinner time or fewer staff are available. This helps companies know when to have more staff ready for calls to give better customer service.

Manpower Planning

Answered Calls/Day vs
No. of to be Answered/ Day with Abandon % at 10

Time Period	Answered Calls/Day	No. of Calls to be Answered/Day with Abandon % at 10
9_10	192.5217391	374.7521739
20_21	124.7826087	215.0217391
19_20	199.0434783	251.4521739
18_19	269.5652174	279.1173913
17_18	330.4782609	328.0695652
16_17	341.3913043	336.4826087
15_16	337.3913043	351.1565217
14_15	346.6956522	408.873913
13_14	383.8695652	447.8869565
12_13	410.0869565	489.326087
11_12	372.173913	570.8347826
10_11	276.8695652	519.6130435

■ Answered Calls/Day   ▫ No. of Calls to be Answered/Day with Abandon % at 10

We can see the difference between the current number of calls and the projected number of calls per day based on the updated Abandon Rate. From this comparison, we determine the required number of agents for each time period

Manpower Planning

If an Agent answers 18 calls/hr. No. of Agents need vs No. of Calls to be Answered/Day with Abandon % at 10

The bar chart shows the relationship between the number of calls to be answered per day and the number of agents needed to answer those calls, at different abandonment rates. The abandonment rate is the percentage of calls that are abandoned by the caller before being answered by an agent.

Night Shift Manpower Planning

## No. of Employees Needed for Night Shift
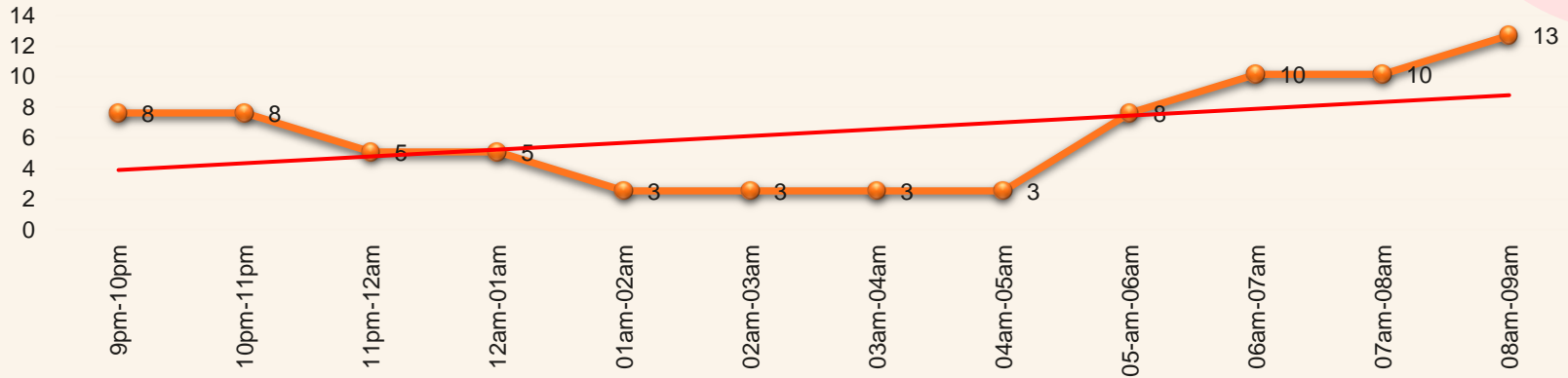
There appears to be a need for more staff between 9pm and midnight, with a steady requirement of 12 employees. Then, the staffing needs decrease throughout the night, reaching a low of 4 employees between 4 am and 5 am. There is a slight bump back up to 8 employees by 6 am and then down to 2 by 7 am.

Overall, the graph suggests that staffing needs are highest early in the night shift, then taper off as the night progresses.

Night Shift Manpower Planning

## No. of Agents needed to Answer updated Target
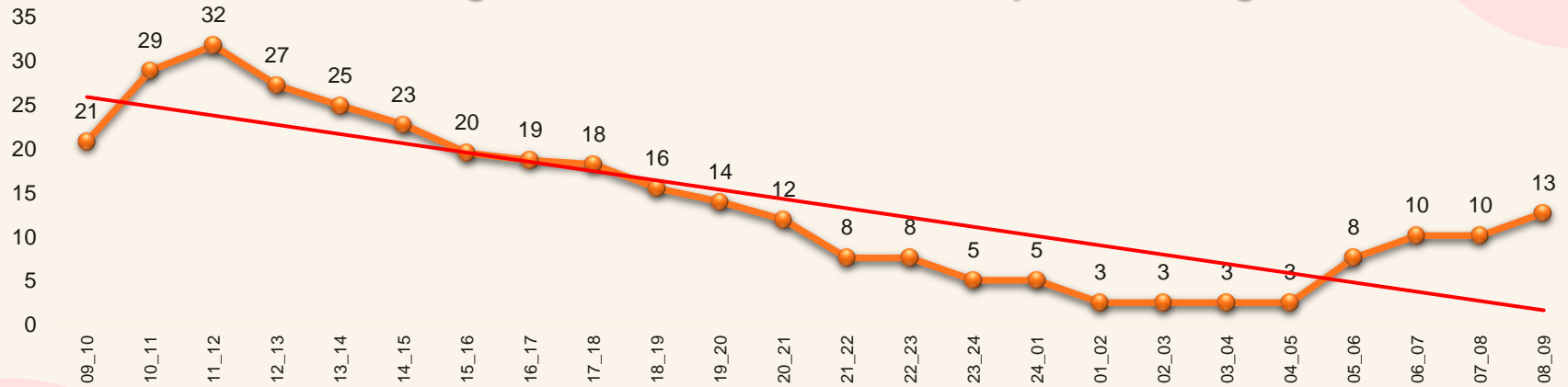
The graph shows a general downward trend in the number of agents needed. This could be due to a number of factors, such as increased efficiency of the agents, or a decrease in the number of calls or interactions requiring an agent response.

Results

1. Fewer calls come in during the evening, so the company can reduce the number of agents then.

2. They could hire 15 agents specifically for the night shift or move some daytime workers to nights.

3. Adjusting shifts, like having some agents work early and others late, can ensure enough staff during busy times.

4. Splitting the workforce into three shifts means there's always someone available to help customers.

5. Unusual data points were found during analysis, which might change the results if removed.

6. These insights help the company use staff more efficiently, improve customer service, and be available when customers need help.
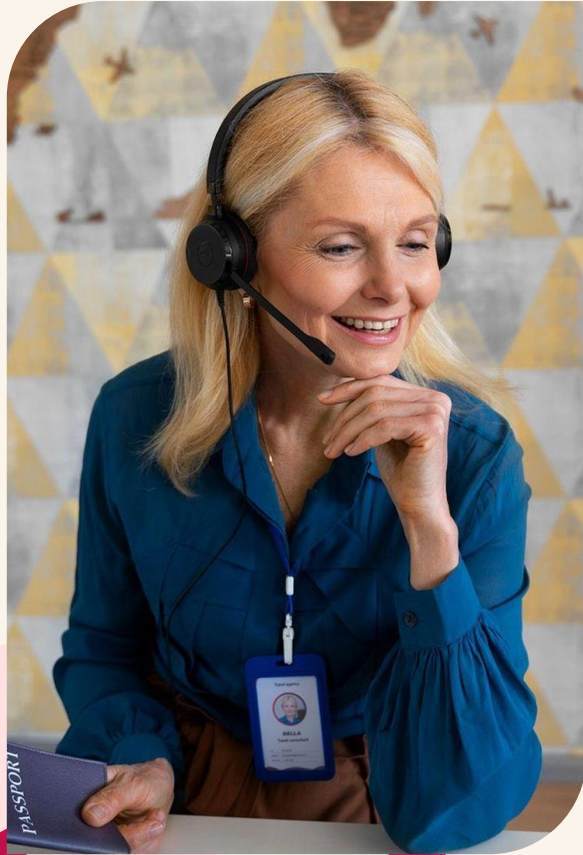
Conclusion

This project taught me some important things. First, forecasting, which means predicting what might happen in the future based on what's happening now. Then, problem-solving, which is finding solutions when things don't go as planned. Next, manpower management, which is about organizing and using staff efficiently to get things done. It was a tough project, but it helped me get better at using Excel and analyzing data. Now, I feel more comfortable working with Excel and looking at data to figure things out. Overall, it was challenging, but it made me learn and improve my skills.
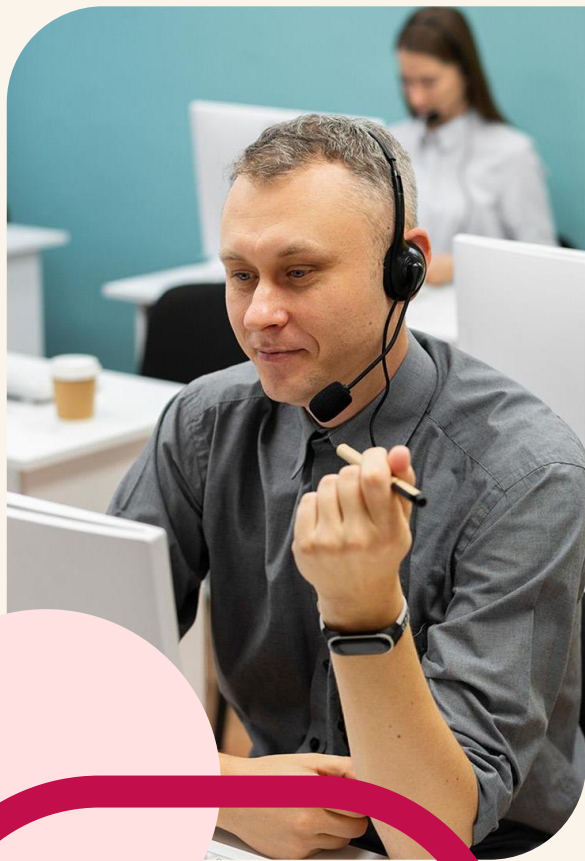
Thanks!

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