Fittlyf Internship assessment

Full of insights and strategy!

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01 Funnel Sheet questions

This is the first phase of the assignment the following were performed:
- A function to generate Graphs based on KPIs and Time series.
- A function that would take the dataset and build three models:LSTM, SARIMA and MA.
- Checked the metrics to determine the most accurate model.
- Generated CSV of results.
- Performed EDA and presented insights.
- Used the most accurate model to predict the results.

Model chosen by me

I chose the SARIMA Model as it has the lowest error rate and I think it is the best for prediction for business problems of the company.

```
[130] # Getting the error metrics for SARIMA

      mape, mse = calculate_error_metrics(sarima_model)

      print("Mean Absolute Percentage Error (MAPE):", mape)
      print("Mean Squared Error (MSE):", mse)

      Mean Absolute Percentage Error (MAPE): 1.0326339956706214
      Mean Squared Error (MSE): 57324776334.51824
```

Insights gathered

We gathered the following insights from the dataset provided:

- The conversion rate is around 21% as LV5 customers are around 21% of the total.
- Region India,Customer Segment Clients and value type Actual generated the highest revenue in April 2020.
- Region India,Customer Segment Clients and value type Actual had the highest CAC ratio in 2020-21.
- Region India,Customer Segment Clients and value type Actual had the most number of clients.
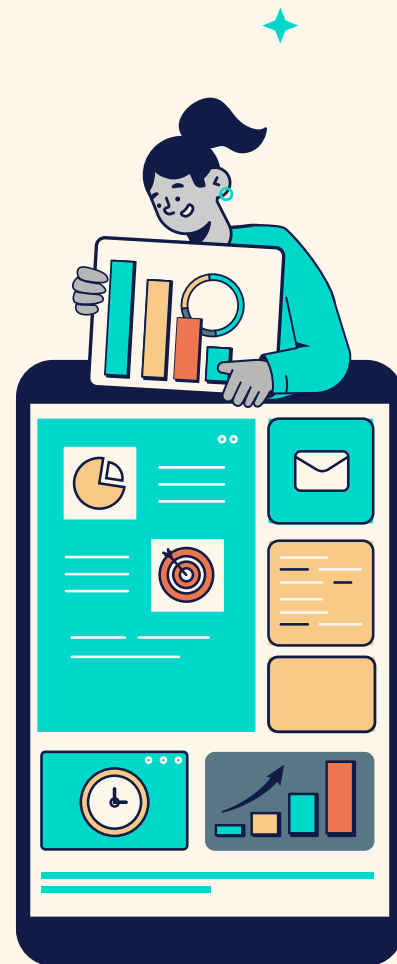
Answer to problem statement

Our data shows that it's cheapest to get new customers in Indore compared to other places. Plus, all regions have a perfect record of turning visitors into paying customers.

Now, our prediction is that we might earn less money in the next quarter everywhere. So, it's a smart idea to spend more of our budget in Indore. That way, we can save money on getting customers and still make a good profit, even if our earnings drop.

This strategy is all about making our budget work best for us, and it's based on what our data and predictions are telling us
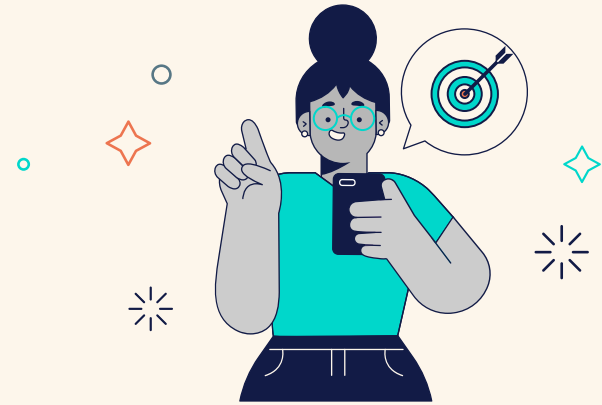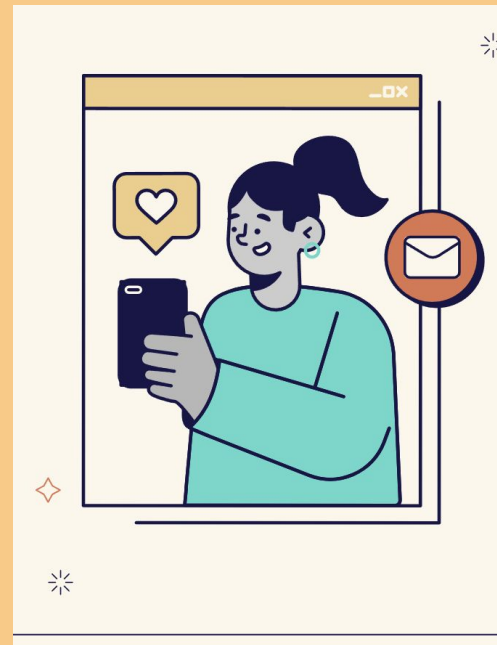
02 A/B Testing

In this phase of the assignment, we delve into A/B testing to determine the more effective color, essentially focusing on the campaign type that yields superior outcomes, specifically, a higher Click-Through Rate (CTR).

This section features three proficient functions that will automate the hypothesis testing process and make our life easier.

Also in this segment several business questions will be answered.

Insights gathered from A/B Testing

The required sample size has been achieved, which means we had ensured a reliable analysis.

The test is statistically significant at a 95% confidence level, indicating a difference in CTR between control and treatment groups in the overall dataset. So the colour of the button matters a lot.

The test for desktop and mobile users did not reach statistical significance, implying that changing the button color will not affect the CTR.
We must consider segment-specific strategies, as the impact of the button color change varies between desktop and mobile users.

We should also explore user behavior and preferences to optimize CTR for different segments.

The need of the hour is tailor made strategies for desktop and mobile users to enhance CTR for each segment.
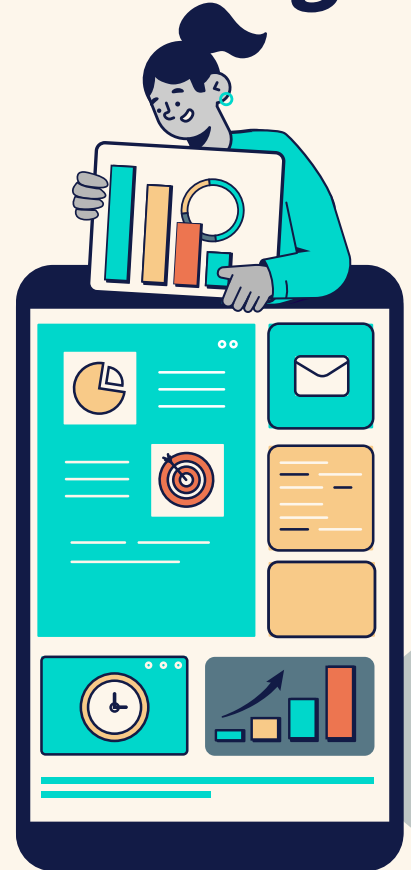
Why this internship is useful for me?

During my journey as a fresher stepping into the professional world, I am sincerely enthusiastic about how this Full-Time internship could be a game-changer for my career. It's not just about a job; it's about a golden opportunity. This internship opens the door to a world where I can transform my theoretical knowledge into practical wisdom. The chance to work with seasoned professionals as mentors is akin to having guiding stars in my career galaxy. I aspire to soak up their experience like a sponge.

This internship is going to be my golden ticket to a land of skill development, career progression, and opportunities. It's not just an internship; it's my stepping stone to a brighter tomorrow. The office culture, the deadlines, and the myriad of projects are all part of the adventure. As a fresher, I am ready to embrace the newness, grow, and contribute my bit to make a difference. This is my professional initiation, and I'm all set for the journey, one exciting day at a time.