BUSINESS PRESENTATION

Optimizing Food Delivery Time Predictions with Machine Learning

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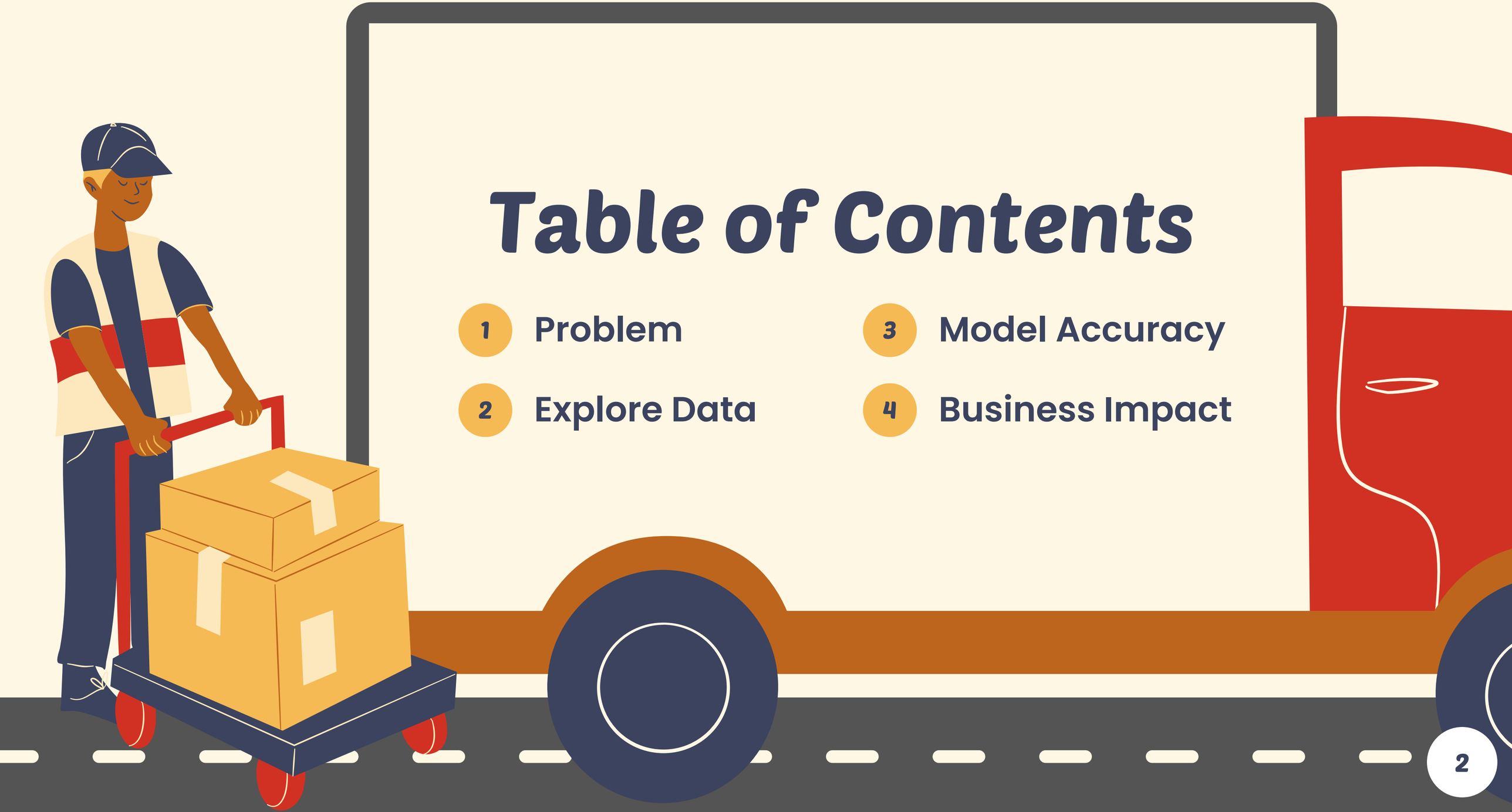
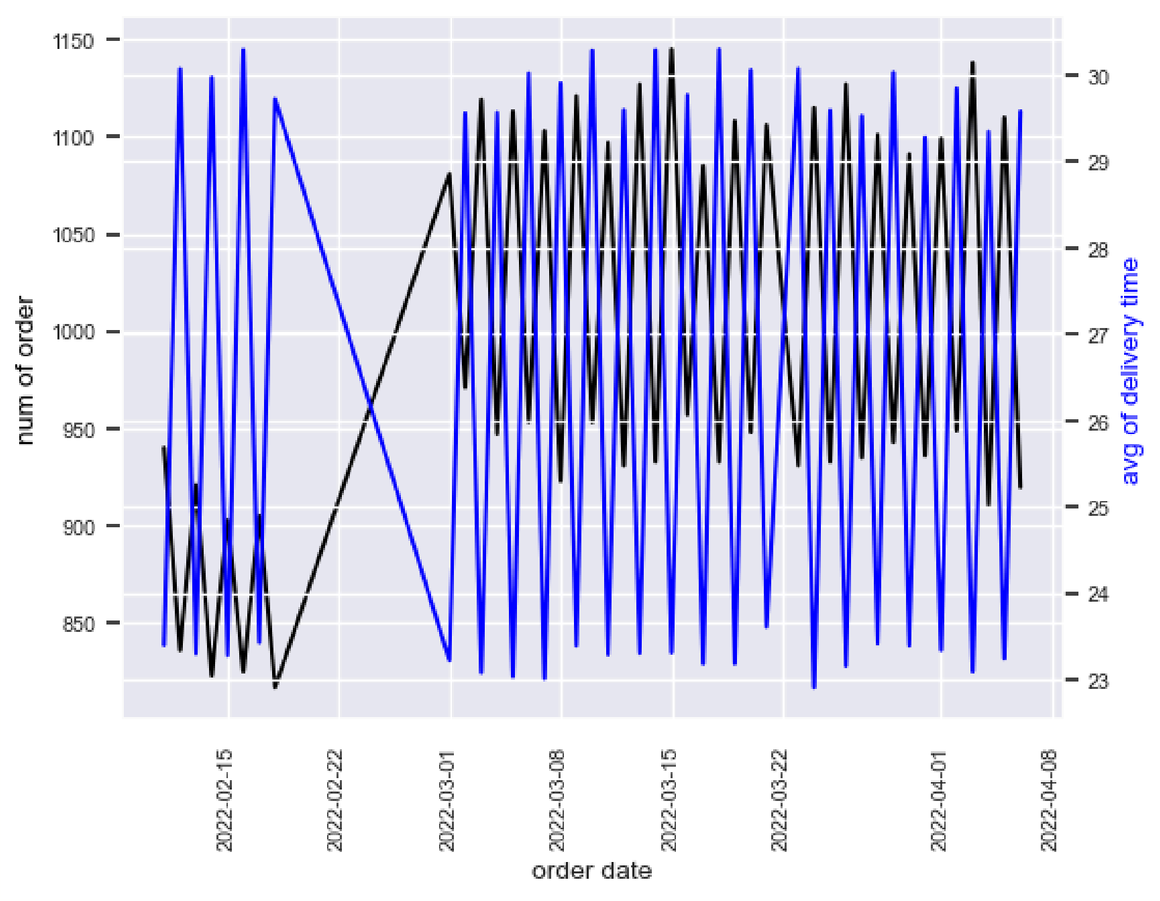


Problem

Delivery time is a critical concern for customers. Uncertainty about when an order will arrive can cause unease and lead to complaints. To enhance customer satisfaction and encourage repeat purchases on our platform, it is essential to reduce this uncertainty. By accurately predicting the delivery time for each order, customers can better anticipate their deliveries, which will help in minimizing complaints and improving their overall experience.

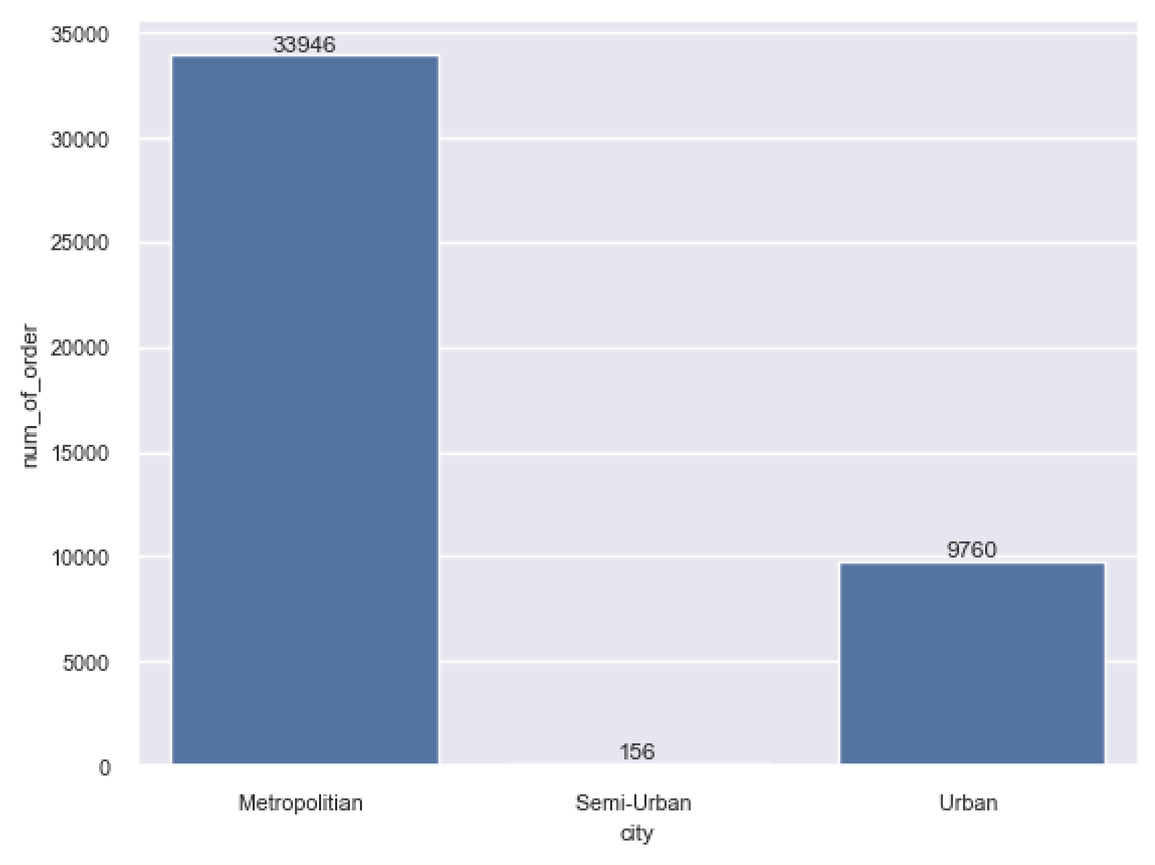
Sales



Explore Data

- There were no sales from February 19th to February 28th.
- Sales from March to early April were higher compared to February.
- The graph shows that when the average delivery times were shorter, we received more orders, and vice versa. Improving delivery times may lead to an increase in daily orders.

City



Explore Data

- Most orders are placed by people living in metropolitan areas.
- To handle the high volume of orders, improve delivery time and customer's overall experience, we can consider increasing the number of drivers in metropolitan areas.

Model Accuracy

Among the two model algorithms analyzed, the best model achieved the following accuracy:

82%

- This model is quite accurate in predicting the time required for food delivery.
- If there are 100 orders, considering various factors such as delivery person age, delivery person rating, weather conditions, traffic density, distance, type of vehicle, type of areas, it can be said that the delivery time for 82 orders were accurately predicted.

Business Impact

1 Reduce Cost

ASSUMPTION

- Let’s say we got 1000 orders per day.
- 40% of them complaint because it took too long, then it will be 400 customers.
- Let's consider that 1 customer receives compensation in the form of a 50% discount voucher, with a maximum limit of 25,000 IDR for their next purchase.
- It means the cost for voucher value will be 400*25,000 = **10 mio IDR**

Business Impact

1 Reduce Cost

PREDICT DELIVERY TIME

- Let’s say we got 1000 orders per day. 82% of the delivery time were predicted accurately.
- 18% of them complaint because it took too long, then it will be 180 customers.
- With the same compensation as before, the cost for voucher value will be 180*25,000 = **4.5 mio IDR**
- This model can reduce cost by approximately **55%**.

Business Impact

2 Increase Revenue

ASSUMPTION

- Let’s say we got 1000 orders per day.
- 40% of them disappointed and didn’t want to make another order on our platform.
- Assume that 1 customer repurchase an order of 40,000 IDR, then we will earn 60%*1000*40,000 = **24 mio IDR**

Business Impact

2 Increase Revenue

PREDICT DELIVERY TIME

- Let’s say we got 1000 orders per day. 82% of the delivery time were predicted accurately.
- 18% of them disappointed and didn’t want to make another order on our platform.
- Assume that 1 customer repurchase an order of 40,000 IDR, then we will earn 82%*1000*40,000 = **32.8 mio IDR**
- This model can increase revenue by approximately **37%**.

Conclusion

From this analysis, we have developed a predictive model that accurately estimates delivery time with an 82% accuracy rate. By leveraging this model, we can reduce complaints, optimize our delivery operations, enhance efficiency, and drive overall business growth. Ultimately, this will enable us to improve customers' satisfaction and potentially increase repeat orders.

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