Hotel
Booking Demand

Presented By :
Group 30-Section Medan
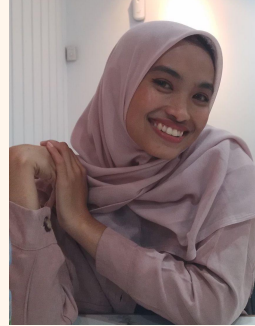
GROUP 30

Section Medan-Group 30

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Agenda

- Background and Business Overview
- Problem Statement
- Analysis Focus & Result
- Revenue
- ADR (Average Daily Rate)
- Total Booking
- Cancellation
- Insights and Recommendation

Background & Business Overview

- **Our business is growing** so much from 2016, we have **67% revenue increase** on Q2 2016

- **Our revenue always decline** by **35% - 36%** on Q4 from previous month based on 2015 and 2016 data

- Like revenue, **ADR Average** always **decline by 30% - 36%** on Q4 from previous month

- **Cancellation Rate** in the last two quartals **exceed 30%**, highest than any quartals from Q3 2015
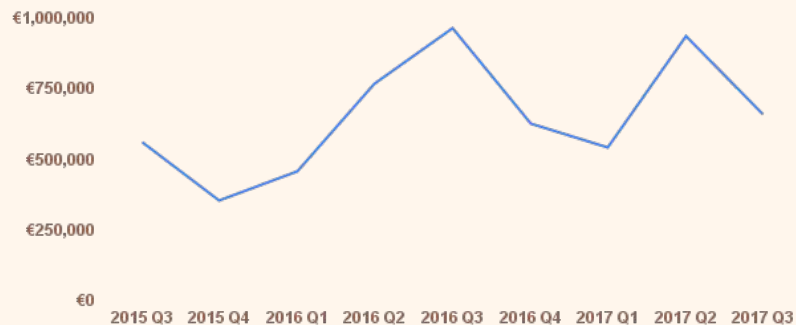
Objective:

How we can **prevent revenue decline on Q4 2017** from previous quartal by 15% ?

Total Revenue Overtime

Quartal	Total Booking	Total Cancel	Cancellation Rate	ADR Average	ADR Progress	Total Revenue	Revenue Progress
2015 Q3	6414	1493	23.28%	€113.81	0.00%	€560,142	0.00%
2015 Q4	5824	974	16.72%	€72.80	-36.03%	€356,469	-36.36%
2016 Q1	8053	1647	20.45%	€72.20	-0.83%	€459,910	29.02%
2016 Q2	10495	2720	25.92%	€102.27	41.64%	€770,591	67.55%
2016 Q3	10720	3212	29.96%	€130.21	27.33%	€966,640	25.44%
2016 Q4	9881	2817	28.51%	€90.21	-30.72%	€625,607	-35.28%
2017 Q1	9335	2439	26.13%	€80.80	-10.43%	€543,884	-13.06%
2017 Q2	11721	3784	32.28%	€121.25	50.06%	€937,354	72.34%
2017 Q3	7104	2411	33.94%	€144.02	18.78%	€661,775	-29.40%

Problem statement

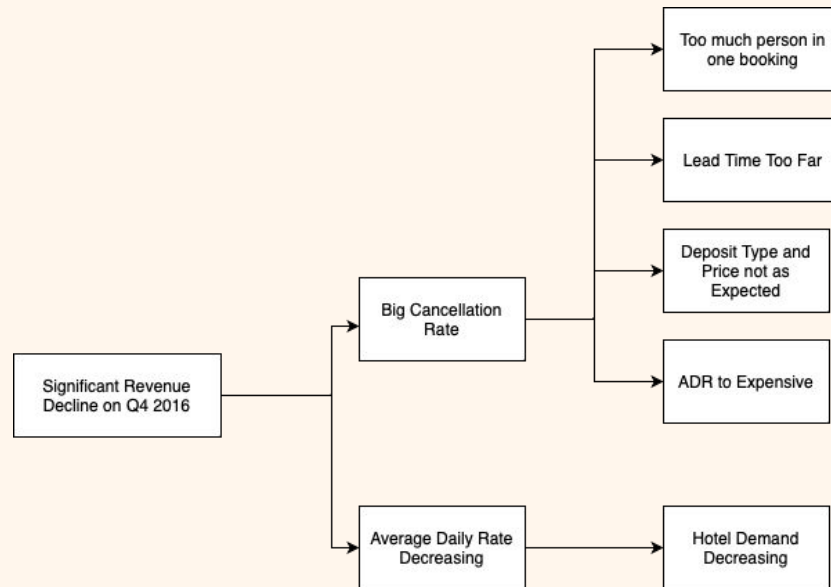| Situation	Problem	Solution
• Our revenue always declining on Q4 from previous quartal • In 2016 we have 4 months declining revenue streak by 10% - 27% in each month	• Booking cancellation rate always above 25% from Q1 2016 until now, and reaching highest rate at above 30% in the last two months • ADR Average always declining on Q4 by ±30% because of short of demand	• We need to decrease cancellation rate to 20% - 25% • Prevent ADR declining on Q4 above 15% from previous month

Analysis and Planning

Focus Analysis Data:

- **Revenue** : This metric really useful to tell us our financial and company condition overtime.
- **ADR** : This metric is one of the biggest influence of our revenue, by using this metric we can understand more about our revenue progression
- **Total Booking** : With this metric we can find how much customer and potential customers we can get
- **Cancellation** : The purpose of using this metric is to find out how much booking we lose because cancellation

Significant Revenue Decline on Q4 2016 → Big Cancellation Rate → Too much person in one booking; Lead Time Too Far; Deposit Type and Price not as Expected; ADR to Expensive

Significant Revenue Decline on Q4 2016 → Average Daily Rate Decreasing → Hotel Demand Decreasing

Methodology:

Business Understanding → Data Understanding → Data Preparation → EDA (Exploratory Data analysis) → Visualisation

Revenue

TOTAL REVENUE
€5,882,370.84

- Our **total revenue** from July 2015 to August 2017 is **€5,882,370.84**

- The data show that **revenue in quarter 4 will always decrease compared to the previous quarter**

Total Revenue Overtime
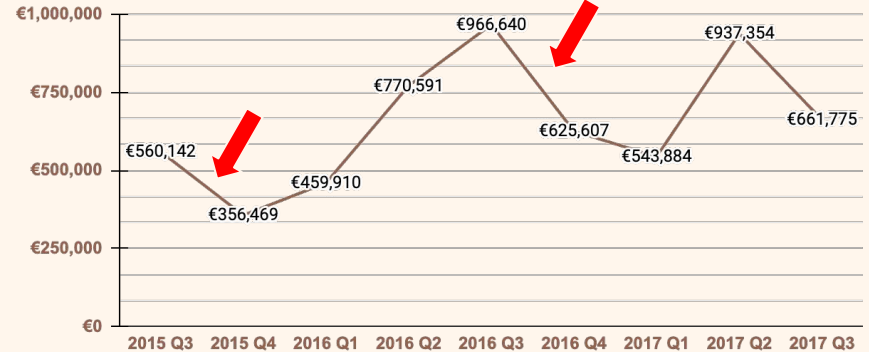
Revenue Overtime
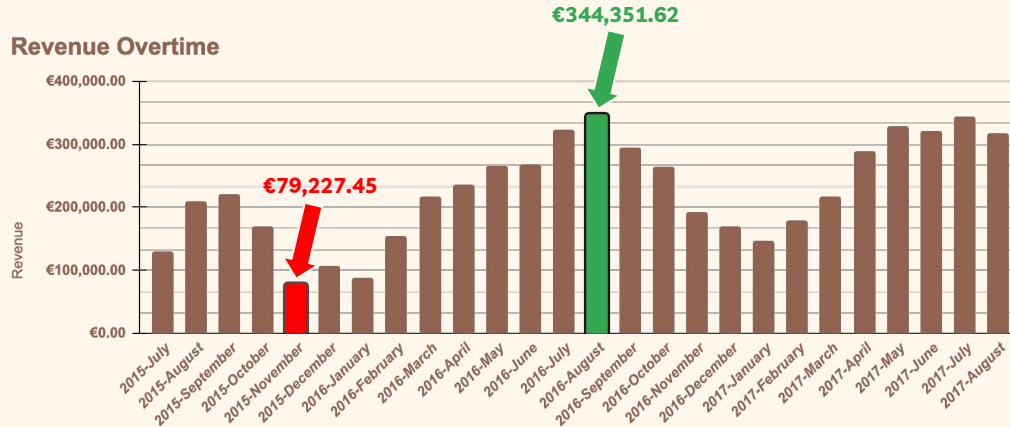
- **Highest Revenue** is **€344,351** on August 2016

- **Lowest Revenue** is **€79,227** on November 2015

- **Over 73%** is more than **€200k** revenue/month

ADR (Average Daily Rate)

Revenue - Average ADR Relationship
Higher ADR produce higher Revenue

- We can see that **ADR is the biggest influence** over our **revenue**

- Data show The bigger the ADR, the bigger the revenue we can get

- Our **highest ADR Average** is €148.86 and **ADR with highest Revenue** is €137.75
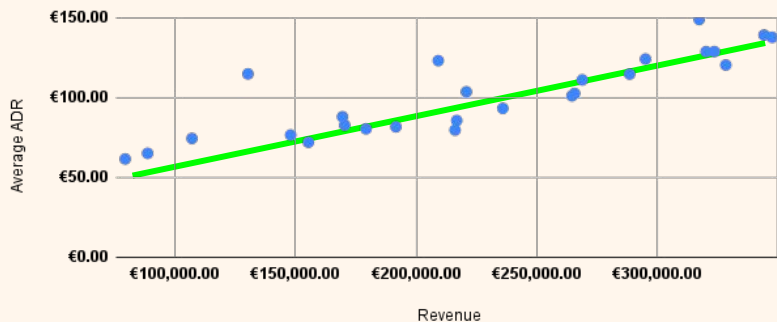
- Unfortunately like the revenue, **ADR always fall significantly** on **September to November**

- We believe that the **significant decline in ADR** is one of the biggest reasons our **revenue always falls in Q4**

Average ADR Overtime
Showing ADR Declining on Q4
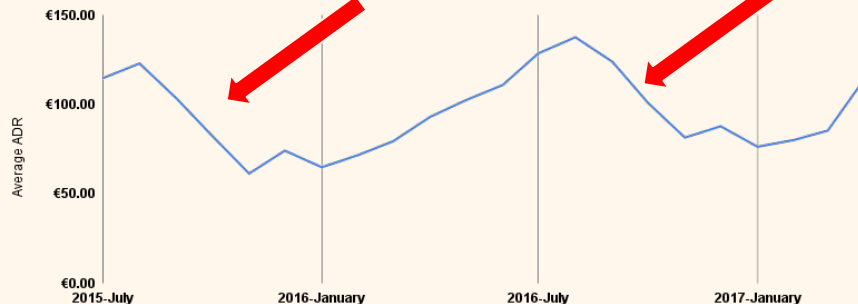
Total Booking

Total Booking - Revenue Relation
Higher booking rate produce higher revenue
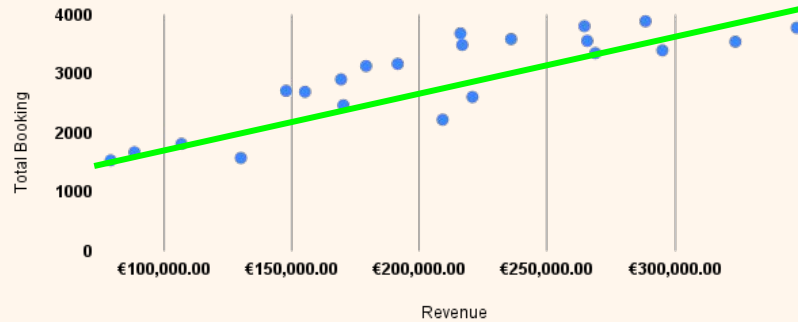
Total Booking & Total Canceled Overtime
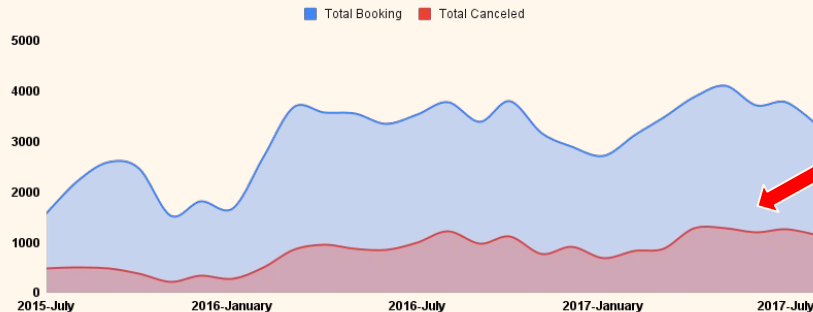
- We can see that **Total Booking is really affecting our revenue** growth

- Higher total booking will trigger **increase of ADR** too, and ADR is the biggest influence of revenue

- **Total booking decline** on Q4 2016 **not really significant** compare to our revenue decline on the same quartal

- Despite the high total booking, our **cancellation rate is considerably** high around 25% - 34%

- **Cancellation rate reach the highest** state on the last two quartal at 33% - 34%

Cancellation

ADR (Range) VS Cancellation Rate
Higher ADR trigger cancelation rate

- **Higher ADR** seems to trigger more cancelation rate (Top Left Chart)
- **Non Refund Deposit Type** have 90.69% cancelation rate (Bottom Left Chart)
- **Longer Lead Time** more likely to trigger more cancellation too, and cancellation become more stagnant after 18 days lead time. (Bottom Right Chart)

Deposit Type VS Cancellation Rate

Lead Time - Cancelation Rate Relation
Longer lead time produce higher cancelation rate

Data Visualisation

Looker Studio Dashboard
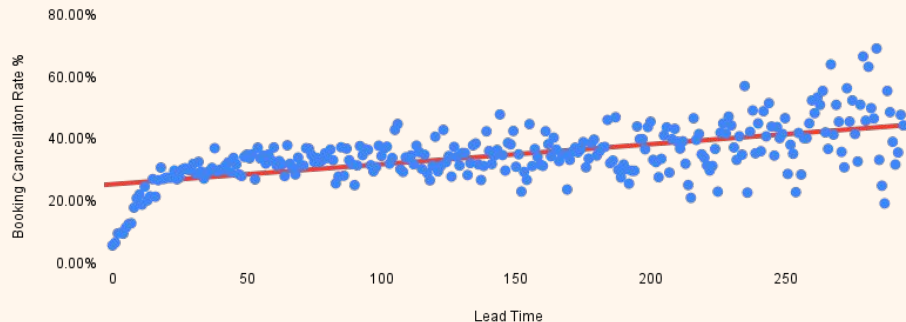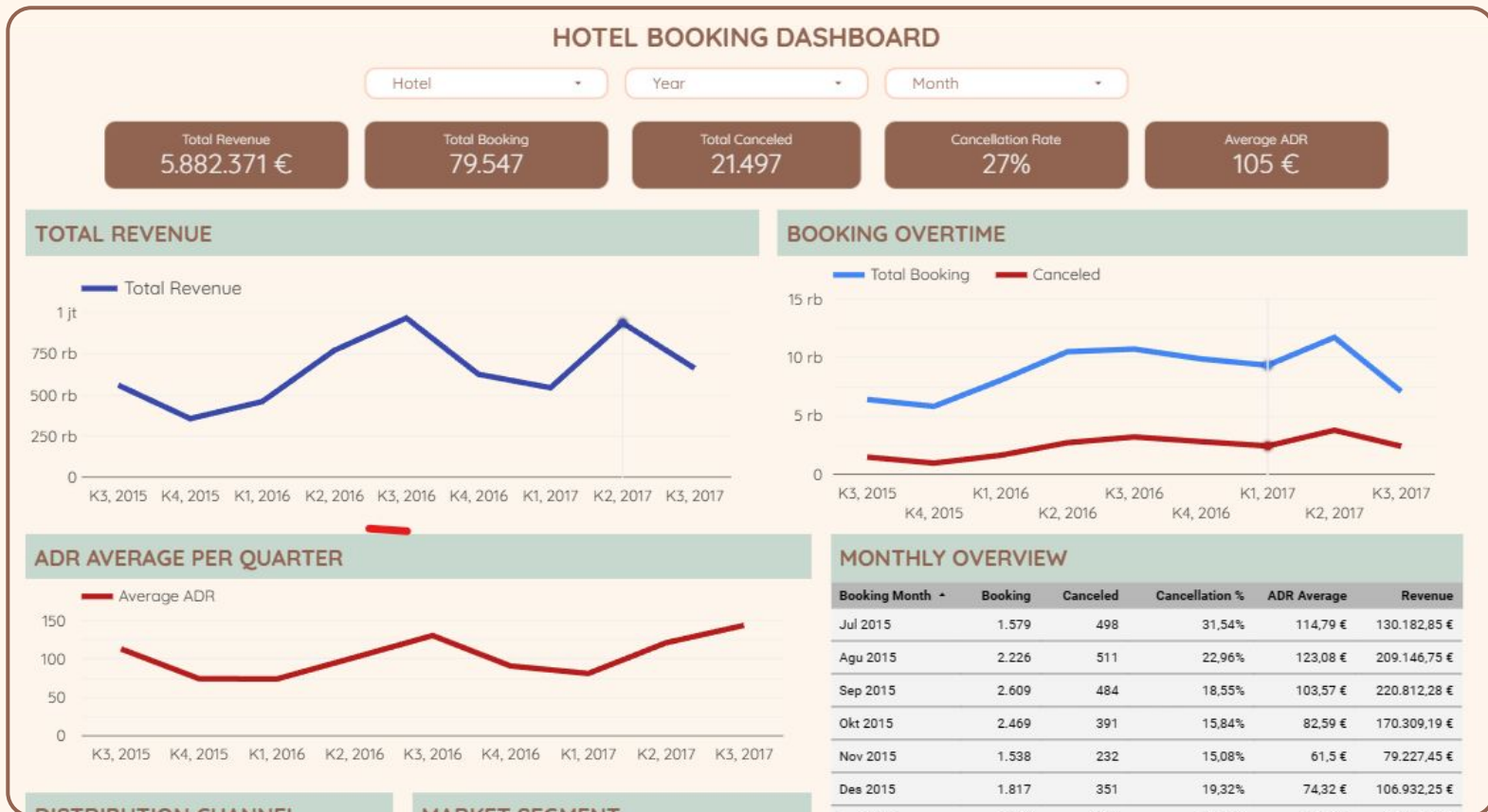
Insights and recommendations

Cancellation Rate Decreasing
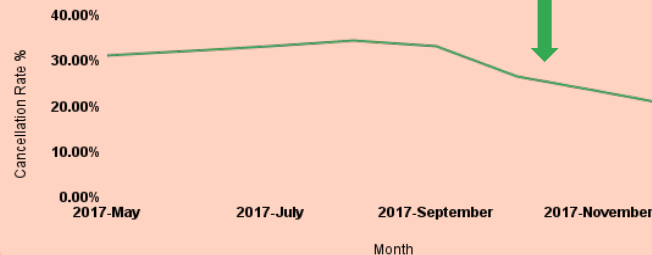
Decrease cancellation rate

- **Remove Non Refund deposit type** from our product to minimize cancellation rate

- Give **uncancelled Booking Discount or Promo** to trigger user retention and secure not cancelable booking

ADR Decline Rate Decreasing

Increase demand to stabilize ADR Average above €100

- Partner with local governments for **cultural festivals** or team up with concert producers/artists for citywide **music events**

- **Provide Coupons** to Checkout Customers to entice customers to stay at our hotel again

Appendix

Hotel Booking Datasets

Data Cleaning Syntax

Looker Dashboard

Thank You