I ♠ innovation

CAPGEMINI x ACCOR
Data Project

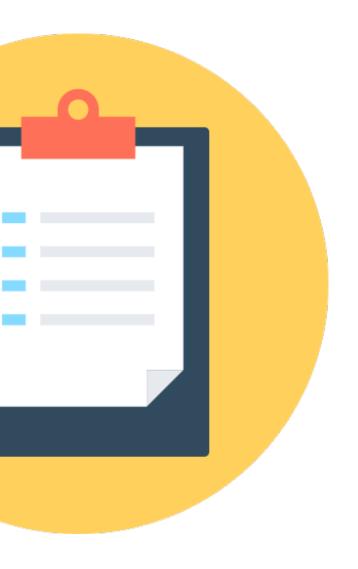Application of NLP techniques to the Bokan 39
hotel business case

Capgemini ♠ X ⧌ ACCOR

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Agenda

1. As-is & To-be Analysis

2. Scope

3. Methodology

4. KPIs

As-is & To-be Analysis

What are the current problematics affecting Bokan 39 what future opportunities are there ?

Accor faces multiple challenges that could be overcome thanks to an in-depth analysis of customers' post-Covid behavior…

As-Is / To-Be analysis of Accor's online presence

AS-IS

TO-BE

TARGETED CLIENTS

Wealthy Customers

+ **Higher** margins

+ **Word of mouth** reputation

- Lack of **price segmentation**

- Highly dependent on City's **financial activity**

Maintain

- **High standing** of the main restaurant offering

Improve

- Get inspired from French Michelin-star restaurants that also have a **"brasserie"** extension to **expand price segmentation**, using **price** and **reviews** data from the Tripadvisor scraping

Accor faces multiple challenges which could be overcome thanks to an in-depth analysis of customers post-Covid behavior...

AS-IS / TO-BE ANALYSIS OF ACCOR'S ONLINE PRESENCE

SECTOR	AS-IS	TO-BE

LOCATION DEPENDENCE

On-site dining only

+ Delivers a **unique experience** linked to the site

- Highly vulnerable to **Covid-19 lockdowns** and general restrictions

- Lack of flexibility due to limited target market → additional clients are **lost** and **food stock losses** cannot be hedged by selling on **online platforms**

Maintain

- A **more limited** on-site dining to account for a weakened restauration market

Improve

- Potentially launch a **delivery** and **click&collect** services based on the **NLP sentiment analysis** of the reviews

- **Rebrand the rooftop** for future events respecting Covid-19 health restrictions

Accor faces multiple challenges which could be overcome thanks to an in-depth analysis of customers post-COVID behavior...

As-Is / To-Be analysis of Accor's online presence

SECTOR	AS-IS	TO-BE
ONLINE PRESENCE	**Strong social media presence but limited website** + High number of Instagram followers - Website UX/UI is quite outdated and **lacks readability** - Instagram campaigns do not appear to **target a precise clientele**	**Maintain** • The **Instagram** presence **Improve** • Improve the **responsiveness** and **design** of the website • Expand Instagram campaigns by leveraging the tastes of **top Tripadvisor "influencers"**

... which will be performed with the help of state-of-the-art NLP techniques

DATA PIPELINE AND TOOLS WHICH WILL BE USED TO PERFORM THE ANALYSIS

Data Collection

Scrapy

- Data collection using a Scrapy spider
- 3 tables are generated in JSON format: restaurants, users & reviews
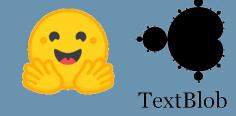
ETL

pandas

- ETL operations in pandas to preprocess the data
- Cleaning and lemmatizing user reviews using NLTK

Modeling

TextBlob

- NLP tokenization using Hugging Face
- Sentiment analysis using Text Blob or the integrated Hugging Face module

Business Implementation

Power BI

- Presentation of the most meaningful business insights
- Update of the current market state by analysing competitors

Scoping

What business challenges is Bokan 39 encountering and how could they be overcome ?

Roadmap

2 weeks

Scoping

- Defining the business objectives and the methodology to achieve them
- Identifying target market for COVID and post-COVID periods
- Establishing the most important KPIs to focus on during the lockdown to ensure business continuity
- Conceptualizing 'Bokan Klan' to stand out from the crowd

6 weeks

Data Analytics

- Identify business drivers
- Collecting and preprocessing data from Tripadvisor
- Extracting and hierarchizing the most relevant topics in the Londonian restaurant scene
- Understanding the overall sentiment of cutomers
- Monitoring competition performance

2 weeks

Delivery

- Delivering data product
- Selecting KPIs to prioritize and track based on data insights
- Formulating recommendations to revamp, rebrand and adapt the menu to new target market
- Selecting dishes based on customers' preferences
- 'Launching 'Bokan Klan' website

Objectives

Ensuring business operations during lockdown with new website concept

- Building a new website concept targeting a younger clientele '**Bokan Klan**'
- Creating a new and simplified menu for delivery
- Selling pre-bottled bundles of cocktails to bring the 'bar' experience to home

Understanding customers and Building online community

- Creating an e-shop within the new website to sell kitchen supplies and apparel to promote the 'Bokan Klan'
- Creating a music playlist to share with customers that reflects the Bokan atmosphere

Preparing for future opening to attract a larger scale of customers
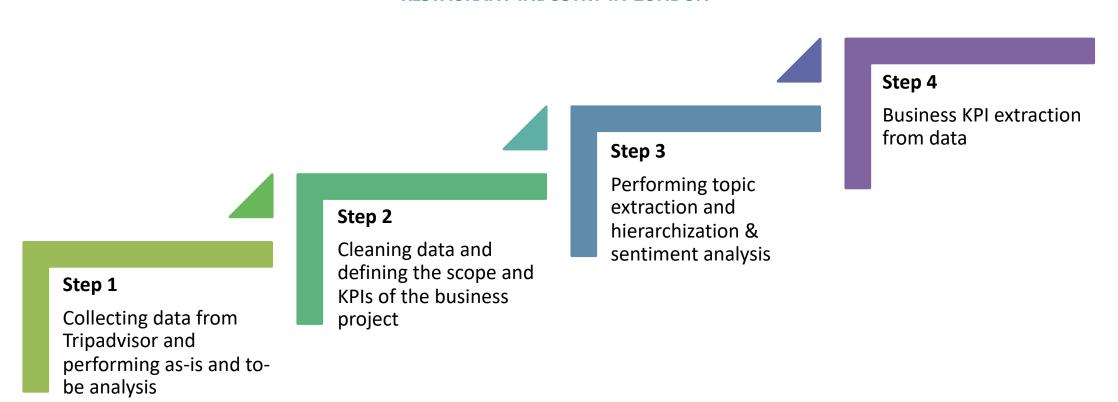
- Perform sentiment analysis to understand customers' tastes and preferences
- Perform topic extraction and hierarchization from Tripadvisor data to adapt to younger customers' tastes
- Generate insights regarding customers' ideals of the 'customer experience'

Methodology

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COLLECTING AND PERFORMING DATA ANALYTICS ON TRIPADVISOR DATA TO GENERATE MEANINGFUL INSIGHTS ABOUT THE RESTAURANT INDUSTRY IN LONDON

Step 1

Collecting data from Tripadvisor and performing as-is and to-be analysis

Step 2

Cleaning data and defining the scope and KPIs of the business project

Step 3

Performing topic extraction and hierarchization & sentiment analysis

Step 4

Business KPI extraction from data

KPIs

Social media & marketing	Customer experience	Kitchen Management	Staff Management	Profitability & Administration Management
• Build online community around the Bokan Klan website – *repeated visitor rate (%) by allowing users to create accounts* • Develop social media presence – *3 posts/week, Instagram stories of the cooks, cooking and cocktail masterclasses* • Track 'Bokan Klan' website traffic metrics - *clickthrough rate (%) for menu and e-shop* • Track social media and customer engagement metrics – *likes, comments, new followers, shares and engagement rate (%)* • Encourage engagement with competitions involving sharing dishes/cocktail making with #bokanklan hashtags..	• Operation 'bringing the restaurant & bar experience to customers' homes' – *e-shop selling pre-bottled sets of cocktails for home soirees* • Focus on speed, safety and hygiene to boost customer satisfaction by tracking metrics – *on-time delivery, number of sick employees, supply chain issues*	• Revamp and simplify menu aligned with new goals and prioritizing faster service and less costly dishes – *revenue by dish (£), evaluating competition menus with topic modeling* • Maintain low cost of goods sold by prioritizing simpler and quicker-to-make dishes requiring cheaper ingredients – *COGS (£)*	• Track staff compliance to hygiene and safety restrictions – *schedule tracking staff health, supplying individual sets hand sanitizers and masks for staff* • Track and support staff morale and engagement	• Track returning and new customers – *retention rate (%)* • Keep track of cash on hand – *Cash Flow (£)* • Launch promotions/bundles to boost sales through BokanKlan *Instagram* page and *newsletters*