

Business Framing



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Outline

- **Business Objectives**

- Business Problem
- Background
- Success Criteria

- **Assessing the Situation**

- Date Requirements, Assumptions, Limitations
- Risks & Contingencies

- **Plan**

- Timeline / Overview





Business Problem:

Increase in direct booking from airlines will bring about a huge loss to both ARC itself and the cooperated travel agencies.

Objective:

Forecast the direct booking from airlines during 2022 - 2024 to help ARC understand the big picture of post-covid air travel and come up with successful business strategies in advance.

Background

Stakeholders:

Accredited Travel Agencies



Airline Reporting Corporation



Participating Airlines



Background(Cont.)

History of the problem:

- ARC's mission is to accelerate growth for the air travel industry and thus knowing the upcoming situation for air travel is important.
- Furthermore, ARC's main revenue comes from processing fee between travel agencies and airlines when a ticket is booked or returned.
- An increasing trend in direct booking from airlines may significantly hinder ARC's profitability.



Background(Cont.)

Resources available:

Data:

ARC transaction data on snowflake



People:

Pat Ramos - Director of Pricing and Commercial Excellence

Chuck Thackston - Managing Director of Data Science and Research

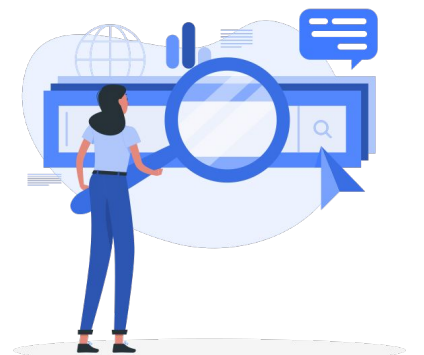


Information:

ARC official website: <https://www2.arccorp.com/>

ARC Twitter: <https://twitter.com/ARCTalk>

Wikipedia: https://en.wikipedia.org/wiki/Airlines_Reporting_Corporation



Success Criteria

- Incorporated external drivers successfully improve forecasting performance.
- Geographical or traveler segmentation leads to better forecasting performance.
- The adjustable model with respect to time.
- Minimize covid impact on forecasting performance.



Data Requirements

- **Internal:**

Issue year, issue week, carrier name, origin country, destination country, advanced purchased days, transaction type, trip type, cabin class, tickets count

- **External:**

Fuel price, covid policy, return to office rate



Assumptions

- Seasonality plays an important role in ticket amounts.
- Business and leisure travelers have different patterns.
- Covid policy within different countries influences ticket amounts.
- Fuel price affects leisure ticket amounts.
- Return to office rate affects business ticket amounts.

Data Constraints

01

No direct information to differentiate business and leisure travelers.

02

Post-covid data may not be enough for a two-year forecast.

03

141 million rows with hundreds of carriers and countries make it extremely hard to conduct a complete segmentation analysis in a timely manner without a paid big data platform.



Risk and Contingencies

- External drivers do not help improve forecasting performance.
 - Try other new drivers or transform drivers to better fit the ML model.
- Segmentations do not help improve forecasting performance.
 - Try other new segmentations or improve segmentation methods.
- Data for weekly forecasts are unprocessable in a timely manner.
 - Choose monthly forecasts or reduce the segmentation scope.



Plan

SEP

OCT

NOV

DEC

Business
Understanding

Business
Background

Business
Problem

Data Understanding

Collect External Data &
EDA

Collect Internal Data &
EDA

Data Preparation

Data Cleansing & Wrangling
Feature Engineering & Selection

Modeling

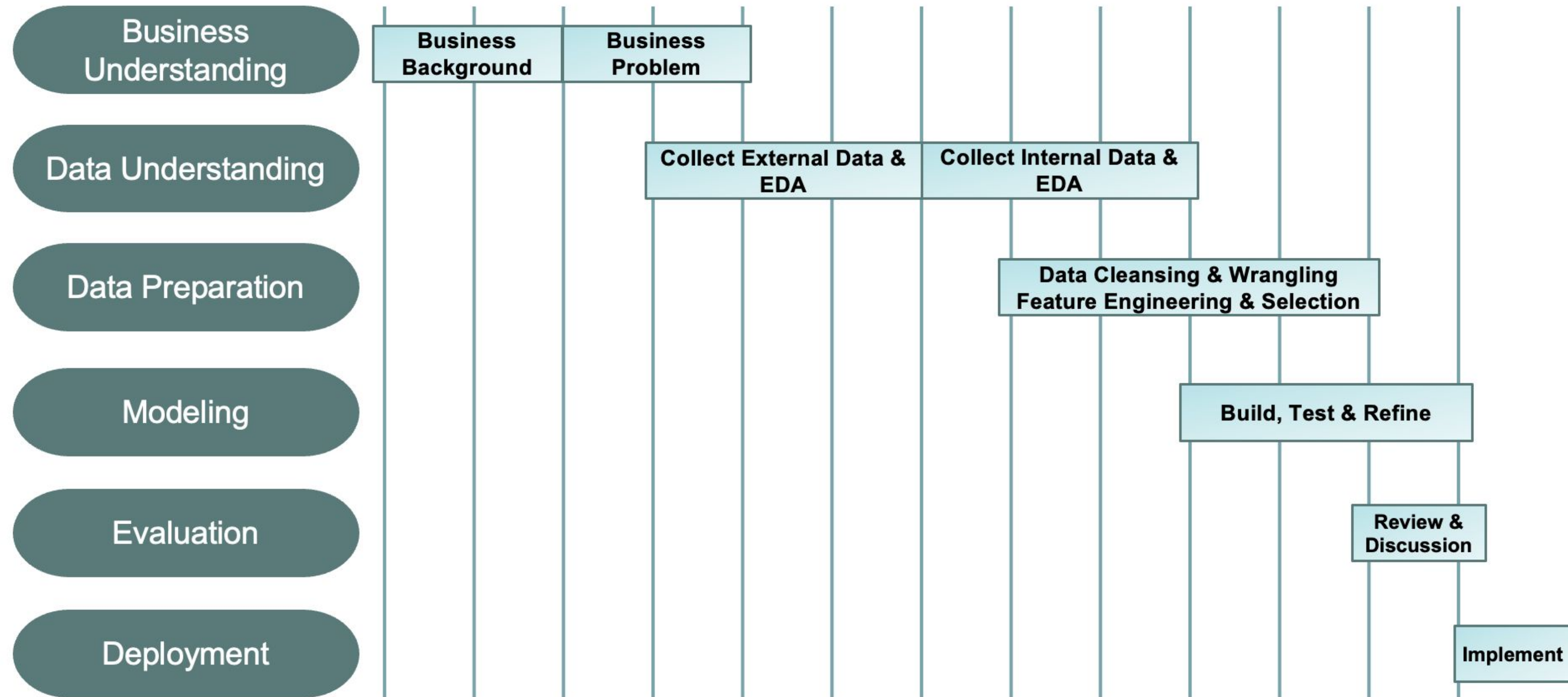
Build, Test & Refine

Evaluation

Review &
Discussion

Deployment

Implement



THANK YOU

The logo for ARC, featuring the letters 'A', 'R', and 'C' in a bold, blue, sans-serif font. The letters are contained within a white rectangular box.

ARC

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