Assessment Task 1: Problem Scoping
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Part 2c: Project Roles
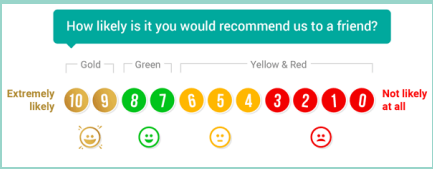
Project coordinator

Data scientists / analysts

Report writers and aggregators

Presenters - to develop and lead the client presentations

Software engineer (unfortunately no one in this team has this skillset)

Client-project team intermediary/Point of contact

Part 2a: Problem Scoping and Background Research

Nearly **70%** of consumers worldwide **spent more** with a company because of a history of **positive** customer experiences.

Source: American Express Customer Service Barometer, 2014

Problem Scope

Net Promoter Score (NPS) and First Call Resolution (FCR) are two of the primary metrics Vodafone Australia (Vodafone) uses to measure the level of customer satisfaction with their products and services.

NPS is a customer loyalty metric that asks customers how likely they are to recommend a product or service to others on a scale of 1 to 10, were 0 means not at all likely and 10 means definitely.

NPS respondents are divided into three groups: detractors (0 to 6), passives (7 and 8), and promoters (9 and 10). The overall NPS is the percentage of promoters minus the percentage of detractors expressed as an integer on a scale of -100 to +100.

FCR is simply a measure of the percentage of customer contracts that are resolved at first contact with the organisation.

Vodafone receives around 2,000 surveys every month, which contains a mix of categorical, numeric and free text data. However, whilst they understand how their customers feel, at the moment, they do not have a detailed understanding of why.

Without any appetite within the organisation at the moment for purchasing an OTS product, the customer care arm of Vodafone would like an open-source solution that can analyse the text data in their NPS surveys to uncover the top themes in each NPS class.

Client Organisation

Vodafone is one of the three main telecommunications providers in Australia (their competitors are Telstra and Optus) and offers mobile and fixed broadband services to customers, as well as selling mobile devices and tablets.

Vodafone has previously been known for its big data phone plans, contract flexibility and customer-first culture.

Vodafone merged with TPG Telecom in 2020 after a lengthy court battle with the ACCC.

Part 2e: Additional Information Acquired

The objectives/desired outcomes have not changed since Project 1.

The solution should ideally be able to be run on a monthly basis to capture changes in trends rather than less-relevant fluctuations.

The solution will be used by Vodafone's continuous improvement and operations teams to help hit the organisation's NPS and FCR KPI targets.

Part 2d: The Team

Nichola Christie
- long-term career in government data roles
- competent with several different programming lanaguages and BI platforms
- good at being able to create workable solutions to a problem
- good organisational/project management skills

Michael Couzens
- long-term career in Telstra ICT
- no programming experience until JCU's Master of Data Science
- comfortable managing senior-level stakeholders

Matthew Moore
- long-term career in ICT
- competent programmer but relatively new to Python (and R)

Daniel Evans
- easily able to build rapport with others
- worked on personal NLP data science projects for the past several years
- has a particular interest in text analytics

The Author
Key skills and professional experience
- long-term career in Federal Government central agencies so a lot of exposure to figuring out what decision-makers want to see
- experienceddata analyst and a large amount of recent experience with unstructured text data
- tertiary-level statistics education
- competent programmer (including Python) and user of BI platforms
- able to develop a working knowledge of new techniques and concepts fast

Preferred roles
- Data analyst/scientist
- Report writer and aggregator

Project Overview
MDS Project 008: Vodafone Net Promoter Text Analysis
Client organisation: Vodafone Australia

Key stakeholders:
- Dr Neil Fraser / Dr Mostafa Shaikh (JCU)
- Mr Adrian Cunningham (Head of Customer Care WFO, Platforms and Technology, Vodafone)

Part 2b: Processes and Methods of Data Science Consulting

How likely is it you would recommend us to a friend?

Planned Methods of Enquiry

Sentiment analysis, including aspect-based if possible
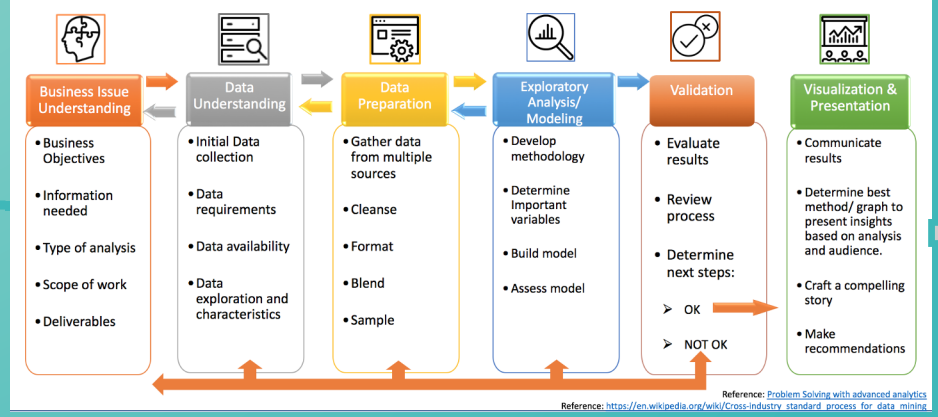
Survey metadata analysis

Possible verification of results/dataset enrichment with webscraped Vodafone reviews

Mix of descriptive, diagnostic and potentially predictive quantitative analytics

Topic and theme extraction using techniques such as topic modelling and noun chunking

Processes

Initiation Phase   Discovery Phase   Analysis Phase   Feedback Phase

Business Issue Understanding	Data Understanding	Data Preparation	Exploratory Analysis/ Modeling	Validation	Visualization & Presentation
• Business Objectives	• Initial Data collection	• Gather data from multiple sources	• Develop methodology	• Evaluate results	• Communicate results
• Information needed	• Data requirements	• Cleanse	• Determine Important variables	• Review process	• Determine best method/ graph to present insights based on analysis and audience.
• Type of analysis	• Data availability	• Format	• Build model	• Determine next steps:	• Craft a compelling story
• Scope of work	• Data exploration and characteristics	• Blend	• Assess model	➤ OK	• Make recommendations
• Deliverables		• Sample		➤ NOT OK	

Reference: Problem Solving with advanced analytics
Reference: https://en.wikipedia.org/wiki/Cross-industry_standard_process_for_data_mining

Client acceptance → E N D