Class 1: Intro to Marketing Analytics

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UCL School of Management

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Section 1

Module Overview

About Me

- I'm Wei! I hold a PhD in Quant Marketing from NUS (Singapore) and a Bachelor's in Finance from Fudan (Shanghai).
- I love musical instruments, video games, and food (bubble tea is my soul mate)!
- My research focuses on applying machine learning and causal inference to digital marketing problems. Consulting experience in retailing, ride-sharing, social media, and service platforms.

Weekly Arrangements

- Detailed weekly arrangements can be found in this link. Please bookmark it for easier reference.
- As I'm updating the materials each year to keep up with the latest trends in marketing analytics, lecture notes and pre-class preparation materials will be released on Moodle on Monday each week. It's very important to check Moodle each week before class to ensure you are well-prepared for the lecture and case study workshop.
- Each week, we have a 3-hour lecture on Wednesday, usually structured into 3 sessions
  - A brief ***quiz*** at the beginning of each class to review the previous week's most important content
  - A ***methodology*** session, in which we will learn a new data analytics tool
  - A ***case study*** session, to apply the newly learned analytics tool to a real-life business scenario

Assignments

- No exams; 3 **individual assignments**, which are similar to case studies in class, and you will apply what you've learned in class to solve real-life marketing analytics problems.
  - 1st assignment, 30% weight, 1500 words, due by Friday, Week 4
  - 2nd assignment, 30% weight, 1500 words, due by Friday, Week 8
  - 3rd assignment, 40% weight, 2000 words, due by Friday, Week 11
- How to submit?
  - The quarto answer sheets (qmd files) will be given to you with the YAML header set up.
  - Please ensure submissions are rendered into PDF (preferred) or Word format before submission.

Assignments (Cont.)

- **Word count** and **late submission** penalties will be applied by **BA admin**. For related queries and EC applications, please directly contact BA admin at mgmt.ba-admin@ucl.ac.uk.
- We have random second marking in place to ensure marking quality. **Re-marking is not allowed** by school policy. We will leave feedback comments to help you improve.

When You Have Questions

- We will use Microsoft Teams as the main communication channel for this course. Please join the team using this link, and subscribe to the "Announcements" channel to receive important updates.
- Since your questions are likely relevant for others, please post them in the corresponding channel (*Lecture Questions*, *R Questions*, and *Assignment Questions*) on Teams, so that everyone can benefit from the discussion. The teaching team will try to respond within 24 hours during weekdays.
- If you would like to have a one-on-one discussion, please book office hours with the teaching team
  - If you have questions about the course content or assignments, please book a slot with me here.
  - If you have questions about R coding, please book a slot with the TAs here.
  - For urgent matters, you can also email me at wei.miao@ucl.ac.uk.

Learning Outcomes

- Understand the four major steps of a typical marketing process: Situation Analysis (5Cs), Strategy (STP), Tactics (4Ps), and Profitability Analysis
- Apply the situation analysis (5Cs) to a real-life business

Section 2

What is Marketing?

What is Marketing?

When we say “marketing,” what comes to your mind?

Modern Company Structure & Role of Marketing

- Finance (finances a company's business activities)
- Accounting (records a company's past transactions)
- Operations (supply chain, manufacturing, inventory management)
- **Marketing** (directly deals with the consumer; value exchange and value realisation)

What is Marketing? The Official Definitions

- Kotler (1991): "Marketing is a social and managerial **process** by which individuals and groups obtain what they **want and need** through **creating**, **offering** and **exchanging** products of value with others."
- British Chartered Institute of Marketing (2000s): "Marketing is the **management process** responsible for **identifying, anticipating and satisfying** customers' requirements **profitably**."
- American Marketing Association (2017): "Marketing is the activity, set of institutions, and **processes** for creating, communicating, delivering, and **exchanging** offerings that have value for customers, clients, partners, and society at large."

What is Marketing? A Data-Driven Approach

Marketing *is a management* ***process*** *that* ***creates and exchanges values*** *for the company by selling the right products to the right* ***customers****. - Dr Wei Miao, 2025*

Section 3

Marketing Process

Marketing Process

- Successful marketing is achieved through a well-defined marketing process, which typically consists of four key steps: 5Cs, STP, 4Ps, and profitability analysis.

- We will go through the four steps using ***Uber***.

Situation Analysis: 5 C's

- The 5C analysis is a comprehensive framework that plays a pivotal role in marketing analytics by providing a holistic understanding of the **internal** and **external** factors that impact a business.

Table 1: Overview of 5C Analysis

Company	• Business model, goals and objectives of marketing • Strengths and weaknesses
Customers	• Who are the customers • Market size, segments
Competitors	• Direct/indirect/potential competitors • Strengths, weaknesses, opportunities, and threats (SWOT)
Collaborators	• Suppliers/distributors/alliances and partners
Climate	• PESTLE

Situation Analysis: Company

- **Company analysis** is all about looking inward. It's an assessment of your own business to figure out what you do well and where you could improve. The goal is to understand your own strengths and weaknesses from a marketing perspective.
    - **What is our business model?** Think about how your company makes money.
    - **What is our mission and what are our objectives?** What are we trying to achieve with our marketing efforts?
    - **What are our key strengths and weaknesses?** Do we have a strong brand reputation, superior product quality, or a highly skilled team? Are we lacking in budget, struggling with brand awareness, or behind on technology?

Discussion Question

- What is the business model of Uber? Does it directly provide transportation services? If not, who does?
- What are Uber's key strengths and weaknesses? (think about brand recognition, technology platform, global presence, pricing strategy, driver relations, past reputation issues, path to profitability)

Situation Analysis: Customer

- **Customer** is arguably the most important C in the 5C analysis. It's about understanding your customers and their needs.
  - **Who are our most valuable customers?** This involves creating detailed customer personas based on demographics (age, location), psychographics (lifestyle, values), and behaviour (purchase history).
  - **What motivates their buying decisions?** What needs or pain points does our product solve for them?

Discussion Question

- Who are Uber's customers? What are different segments of customers?
- What needs does Uber solve for these different groups?

Situation Analysis: Collaborators

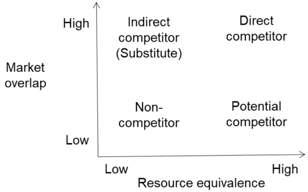
- **Collaborators** are entities that work with your company to help you deliver your product or service to the customer.
  - **Suppliers** provide the raw materials or components needed to produce your product.
  - **Distributors** help you get your product to the customer.
  - **Retailers** sell your product to the customer.

Discussion Question

- Who are the collaborators of Uber?

Situation Analysis: Competitors

- We tend to pay more attention to more salient direct competitors, but we should also consider indirect and potential competitors.[1]
    - Indirect competitors are companies that satisfy the same customer goals, even if they offer different products or services.
    - Potential competitors are those who might pose a competitive threat in the future; who possess equivalent resources that would allow them to enter the market



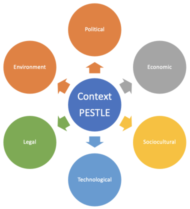
Discussion Question

- Who are Uber's competitors?

[1] Another useful tool for analysing competition is SWOT analysis. [after-class reading: SWOT analysis]

Situation Analysis: Context/Climate

- **Context/Climate analysis** is a strategic planning method used to assess major external factors that influence the market ecosystem, and is often referred to as **PESTLE analysis**.



- **Political**: Brexit
- **Economic**: Minimum wage, inflation, economy recession
- **Social**: Gig economy
- **Technological**: Big Data, mobile tech penetration
- **Legal**: GDPR, government regulations (BBC: partner or employee?)
- **Environmental**: sustainability, CSR

Discussion Question

- What social or cultural trends are affecting Uber? (e.g., the gig economy, environmental concerns about car usage, shift from ownership to "usership").

Strategy: STP

- Situation analysis is a critical input into marketing **strategy**, i.e., the sequential application of the processes of segmentation, targeting, and positioning.

Tactics: 4P's

- The marketing mix provides an implementation of your positioning. Segmentation is here applied at the tactical level, to optimally design the marketing mix or 4Ps.

Section 4

Marketing Analytics

Big Data Era

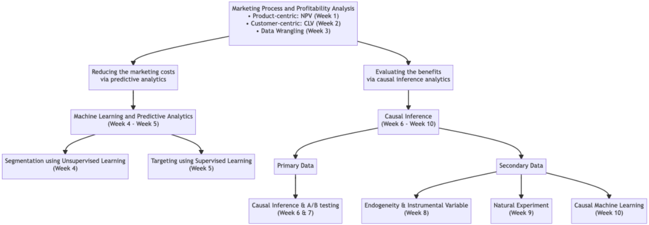
Firms now have access to enormously rich information trails of customers

- Demographic profiles (DoB, gender, ethnicity, income)
- Purchase history (recency, frequency, monetary value, spending behaviour)
- Online browsing and search history (browsing, click-through, add to cart, purchase)
- GPS data from mobile phones for offline store visits
- Social media (location, consumer preference, social network)

Our job as data analysts is to turn this data into insights and actions that can improve marketing effectiveness and profitability.

Our Roadmap

- Weeks 1-3: Marketing Process, Profitability Analysis, and Descriptive Analytics
  - Fundamental marketing concepts and R basics, which lay the foundation for the rest of the course
- Weeks 4-5: Machine Learning and Predictive Analytics
  - Use data-driven machine learning methods for customer segmentation and targeting
- Weeks 6-10: Causal Inference
  - Scientifically evaluate the effectiveness of marketing campaigns using causal inference



Unique Position of Marketing Analytics