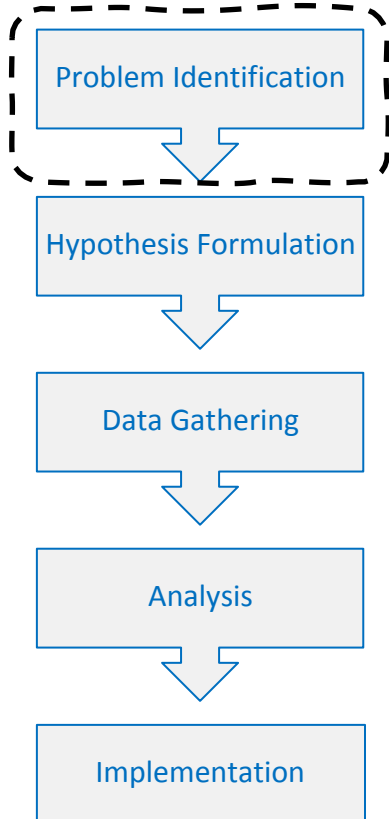# Introduction to Data Science and Business Analytics- Case Study Example

Case Study – Example – Xcite Apparels

Problem Identification

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Hypothesis Formulation

↓

Data Gathering

↓

Analysis

↓

Implementation

Background
- Xcite Apparels is a chain of apparel stores across US with presence in 150+ cities and over 200+ stores
- They have a Loyalty card based membership system in place which helps them gather a lot of data around their customer and their purchase behavior
- Customers are generally spoilt for choice with a variety of options (online & offline) in the market
- Multiple retailers are fighting over the customers 'share of wallet'
- Customers can switch preferences easily
- There is Limited shelf space in the store

Goal
- Xcite Store wants to understand the consumer shopping behavior to focus on the most promising segments

Key questions
- What are the different segments of customers?
- How to differentiate the offerings to different set of customers?
- What campaigns and promotions to run to target these segments?
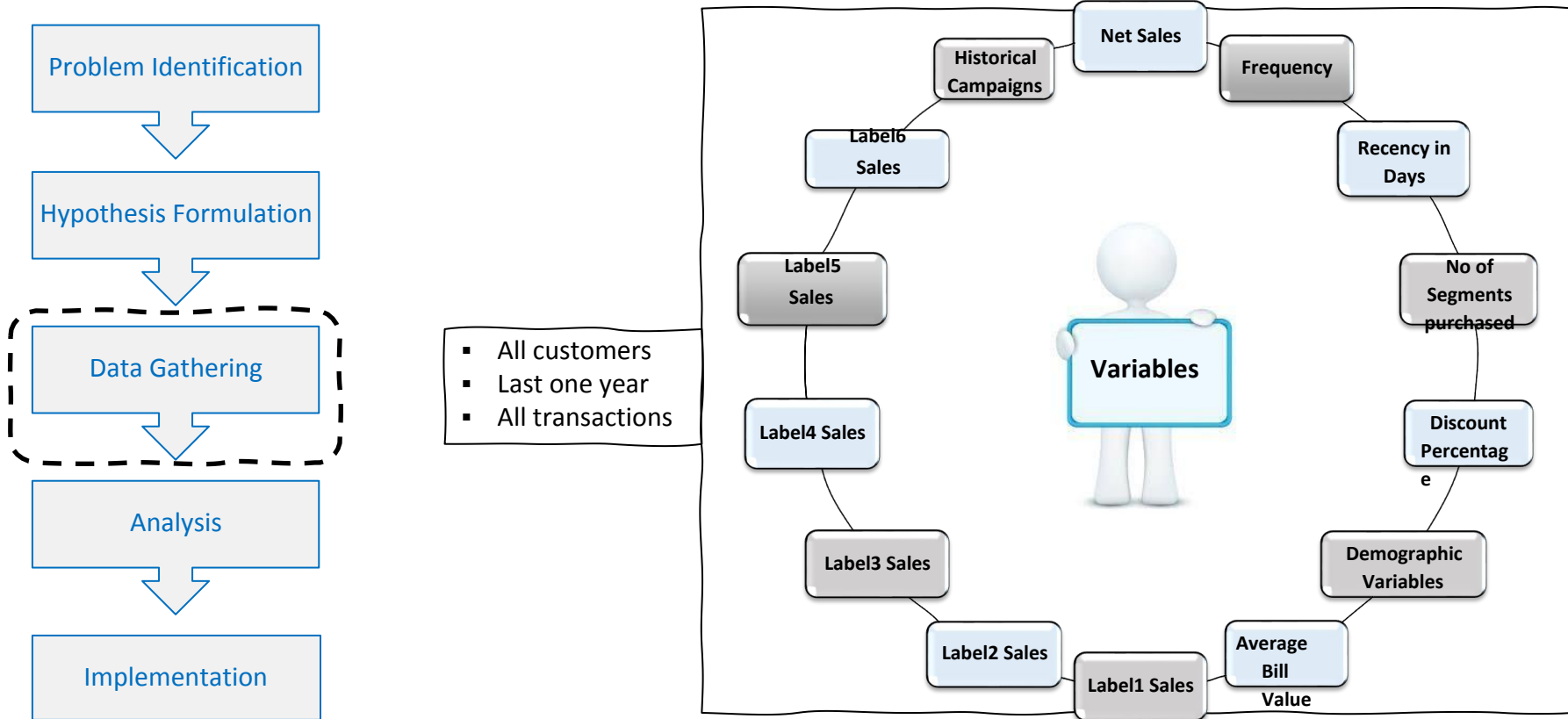
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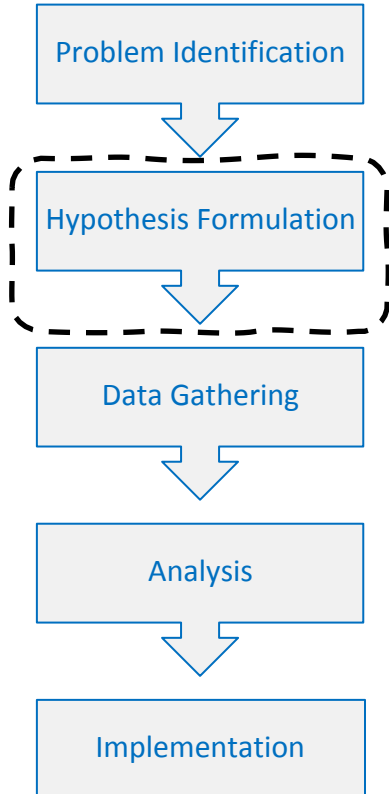
- Hypothesis is a proposal
- Will be validated in the analysis phase to generate insights

Examples of hypotheses

- Customers who purchase Label 1 can be potential customers of Label 2
- Customers who buy women's labels are likely to have higher frequency of visits
- Customer who buy at lower price point will increase basket size if discounts are available

Case Study – Example – Xcite Apparels

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- All customers
- Last one year
- All transactions

Variables

- Net Sales
- Historical Campaigns
- Frequency
- Label6 Sales
- Recency in Days
- Label5 Sales
- No of Segments purchased
- Label4 Sales
- Discount Percentage
- Label3 Sales
- Demographic Variables
- Label2 Sales
- Label1 Sales
- Average Bill Value

Case Study – Example – Xcite Apparels
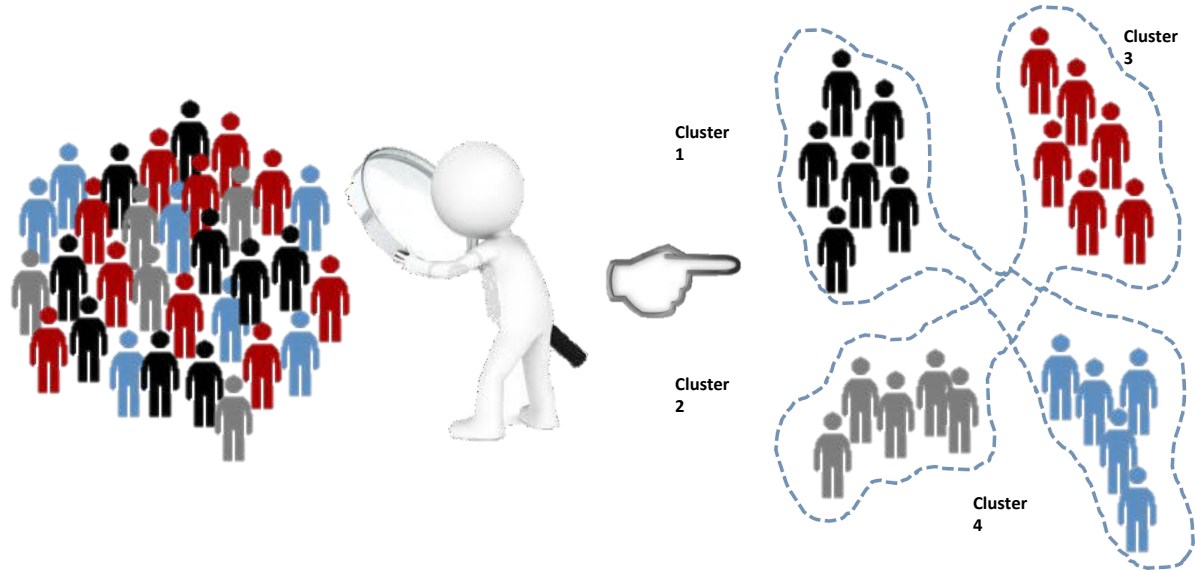
- Problem Identification
- Hypothesis Formulation
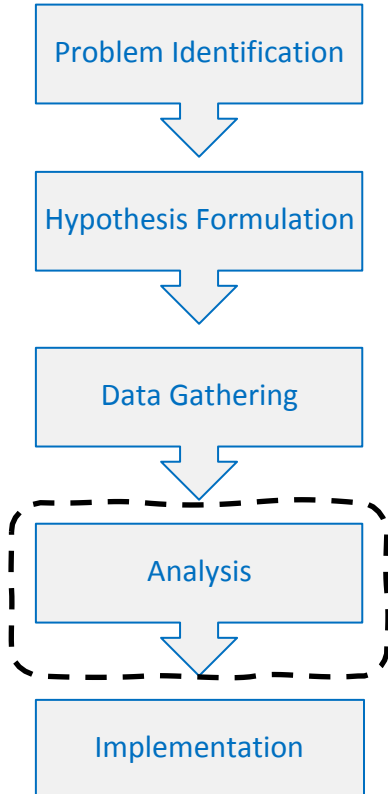- Data Gathering
- Analysis
- Implementation

- Exploratory data analysis to validate hypothesis – Are hypothesis backed by data?
- Cluster analysis to identify different segment of customers based on variables & learnings from EDA phase
- Identifying key drivers of sales in each of these segments

Cluster 1

Cluster 2

Cluster 3

Cluster 4

Case Study – Example – Xcite Apparels

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Implementation

- Exploratory data analysis to validate hypothesis – Are hypothesis backed by data?
- Cluster analysis to identify different segment of customers based on variables & learnings from EDA phase
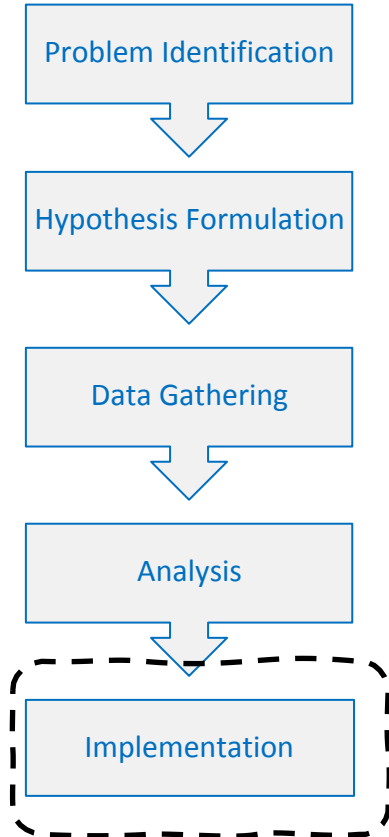- Identifying key drivers of sales in each of these segments

Customer Segment	% of Customer Base	% of Total Sales	Average Bill Value $	Average Frequency
Wolf of Mall Street	5%	34%	$800	10
Lazy Shoppers	20%	43%	$432	6
Mocking Birds	31%	19%	$250	3
Invisibles	42%	3%	$99	1

Case Study – Example – Xcite Apparels

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Wolf of Wall Street – Increase share of wallet
- High end labels in stores where they shop more
- Promotional campaigns with niche products

Lazy Shoppers – Promote new labels with discounts
- Ensure they get retained and shop with us each time
- Run campaigns with information on new arrivals in the stores

Mocking Birds – Increase bill value and/or frequency
- Cross sell different labels
- Update range of products in the stores they visit more in

Invisibles – Keep them engaged with strategic promotions on low price points
- Experiment to identify what are they not buying with us
- Keep them coming as they also spread brand awareness among masses

greatlearning
Power Ahead

Happy Learning !