

Case Study Assessment

Title: E-Commerce Insights for a Telco Diversification Strategy Submission

Deadline: 7th November 2025

Business Context

Imagine, Hutch Sri Lanka's new online marketplace for broadband and mobile customers has shown promising traction. Management wants deeper analytical insights on revenue optimization, customer behavior, delivery performance, and product profitability across segments.

You are tasked with conducting an end-to-end data analysis using the provided Dataset and preparing a short analytical presentation with actionable business recommendations.

Assessment Objectives

This assessment measures:

1. **Analytical Thinking:** ability to structure problems and derive measurable insights
2. **Data Proficiency:** cleaning, transforming, and analyzing data effectively
3. **Visualization & Storytelling:** clarity of insight communication and visual design
4. **Business Acumen:** linking data findings to commercial and operational outcomes
5. **Predictive Thinking (Optional Bonus):** use of basic modeling or what-if analysis

Tasks and Marks Breakdown

Part 1 – Business Problem Definition (15 marks)

- Summarize Hutch's e-commerce business context in your own words.
- Define three analytical questions that address business goals (e.g., "Which product categories and regions contribute most to profit margins?").
- Specify expected KPIs and explain how findings could guide management actions.

Part 2 – Exploratory Data Analysis & Visualization (35 marks)

- Identify key sales, customers, and regional performance drivers.
- Compare profit margins, returns, and delivery performance by region and category.
- Examine discount-profit correlation and payment method trends.
- Create at least 5 visualizations, including at least one of the following:
 - Pareto chart or contribution plot
 - Customer segmentation heatmap
 - Profit vs. delivery time scatterplot
 - Geographic map for regional performance

Part 3 – Diagnostic & Predictive Insights (30 marks)

- Identify patterns leading to low profit or high return rates.
- Conduct at least one of:
 - Correlation / regression between discount, quantity, and profit_margin.
 - Clustering (e.g., k-means) to segment customers or regions.
 - Forecasting or what-if simulation (e.g., 10 % increase in discount).
- Interpret results with clear business implications.

Part 4 – Executive Storytelling & Recommendations (20 marks)

Prepare a concise 6–8-slide deck for management:

- Slide 1–2: Context and analytical questions
- Slide 3–6: Key visuals, insights, and diagnostics
- Slide 7–8: Strategic recommendations (e.g., pricing, logistics, marketing focus)

Part 5 – Bonus (up to 10 marks)

- Automate analysis using Python or Excel dashboard.
- Propose a ROI or churn-risk estimation metric.
- Include brief comments on data quality or system improvement suggestions.