DEPI Online Store – Data Analysis Project Guide

This project simulates working as data analysts for “DEPI Online Store”. You will answer business-critical questions from the Board of Directors, using real e-commerce data. The workflow must include:

1. Analyzing the data available about the website performance using MySQL – through MySQL Workbench 8.40.
2. Building SQL view for each KPI required.
3. Power Query for importing and cleaning (if required) the database views
4. Power Pivot for building a star schema (if required),
5. Excel for visualization and storytelling.
6. A complete story narrative to be introduced to the board of directors in Power Point (or similar software).

# Project Objectives

- Build a clean, analyzable star schema from provided data.  
- Use SQL/Power Query to answer complex business questions.  
- Develop KPIs to measure business performance.  
- Create dashboards in Excel that address stakeholder needs.  
- Deliver a clear, investor-ready growth story.

# Stakeholders, KPIs, Tasks, and Expected Outputs

## CEO (Growth & Strategy)

* KPIs: Sessions, Orders, Revenue, Net Revenue, Conversion Rate, RPS, AOV
* Tasks: Aggregate sessions/orders, join orders to sessions, compute revenue & refunds
* Outputs: Trend charts (Sessions vs Orders), KPI cards (CVR, RPS, AOV), Waterfall (Revenue breakdown)

## CFO (Financial Health & Profitability)

* KPIs: Revenue, Gross Margin, AOV, Refund %, Incremental Test Gains
* Tasks: Analyze refunds, compute margins, evaluate A/B test gains
* Outputs: Revenue vs Net Revenue vs Margin chart, Refund % by Product, Test impact tables

## CMO (Marketing & Acquisition)

* KPIs: Sessions & Orders by Channel/Device, CVR, RPC, RPS, New vs Repeat Customers
* Tasks: Segment traffic by UTM and device, analyze new vs repeat, cross-sell impact
* Outputs: Orders by Channel chart, CVR trend by Device, Campaign ROI tables

## COO (Operations & Scalability)

* KPIs: Seasonality (monthly/weekly), Daily/Hourly traffic, Refund Rates by Product
* Tasks: Date-based aggregations, staff planning analysis, supplier quality check
* Outputs: Seasonality line charts, Heatmaps (sessions by hour/day), Refund rate bars

## Website Performance Manager

* KPIs: Top Pages, Entry Pages, Bounce Rates, Funnel Conversion %, A/B Test results
* Tasks: Identify entry pages, calculate bounce, build funnel, compare test groups
* Outputs: Funnel charts, Bounce Rate tables, A/B Test comparison visuals

## Head of Customer Experience

* KPIs: Repeat vs New Customers (sessions, orders, revenue), Loyalty metrics (days between visits)
* Tasks: Use repeat flag, calculate DATEDIFF, compare repeat vs new
* Outputs: Cohort charts, KPI cards (Repeat CVR), Refund rate comparison

## Head of Product

* KPIs: Orders, Revenue, Margin by Product, Clickthrough from /products, Conversion Funnels
* Tasks: Join orders with products, build product-level funnels, analyze cross-sell
* Outputs: Revenue trend lines, Conversion funnels per product, Cross-sell charts

## Investor Relations

* KPIs: Growth over 3 years, Efficiency gains, Channel diversification, Product portfolio impact
* Tasks: Consolidate results across directors, prepare executive story
* Outputs: Executive Dashboard, Growth Timeline, Incremental Gains waterfall, Channel Mix pie chart

# Deliverable Structure

- Excel: Build dashboards with the following tabs:  
 1. Executive Summary  
 2. Channel Analysis  
 3. Website Funnel & Tests  
 4. Product Portfolio  
 5. Customer Cohorts  
 6. Seasonality & Staffing  
 7. Investor Deck

- Create a complete story narrative in Power Point or similar software to tell the business story to the board of directors.

# Grading Rubric

1. Insight & Decisions (40%): Quality of recommendations, data-driven storytelling.  
2. Analysis Quality (25%): ERD diagram documented, SQL analysis properly and correctly done.  
3. Reproducibility (20%): Power Query steps documented, refresh works correctly.  
4. Communication (15%): Dashboard clarity, labeled visuals, executive-ready outputs.