SHOPIFY SALES & CUSTOMER ANALYSIS
Power BI Project Documentation

1. Project Overview

To provide a consolidated, interactive view of Shopify business performance including sales, orders, customers, revenue trends, geographic distribution, and key KPIs for decision-making.

This dashboard enables:

- Monitoring overall sales performance
- Identifying top products and regions
- Tracking customer behaviour
- Analysing trends over time

2. Tools & Technologies

• Power BI Desktop
• Power Query Editor
• DAX (Data Analysis Expressions)
• Shopify Sales & Customer Data

3. Project Methodology

The project follows a structured BI development lifecycle: Requirement Gathering → Data Walkthrough → Data Cleaning & Quality Checks → Data Modeling → DAX Calculations → Dashboard Development → Drill-through Configuration → Insights Generation.

4. Business Requirements

Primary Objective

To analyze **Shopify sales data in Power BI** and uncover insights related to:

- Transaction performance

- Customer purchase behaviour

- Retention and long-term customer value

The dashboard supports **data-driven decision-making** for sales, marketing, and operations teams.

5. KPI Framework

Transaction Performance KPIs:

KPI	Description
Net Sales	Total revenue generated before tax
Total Quantity	Total number of products sold
Net Average Order Value	Average revenue per transaction (excluding tax)

Customer Purchase Behavior KPIs:

KPI	Description
Total Customers	Unique customers who placed orders
Single Order Customers	Customers with exactly one order
Repeat Customers	Customers with more than one order

Retention & Value KPIs:

KPI	Description
Lifetime Value (LTV)	Total revenue generated by a customer
Repeat Rate	% of customers placing repeat orders
Purchase Frequency	Average number of orders per customer

6. Dashboard Architecture

Regional Overview

Province-Level Filled Map

- Displays performance by **province/state**

- Colour saturation driven by selected KPI

- Dynamic interaction with slicers and measure selector

Insight:

- Identifies high- and low-performing regions instantly

- Supports region-specific business strategies

City-Level Bubble / Density Map

- Shows city-wise concentration of sales/customers

- Bubble size or heat intensity driven by selected KPI

- Tooltip includes:

  - Net Sales

- Quantity
- Total Customers
- Repeat Customers

Insight:

- Helps optimize logistics and marketing reach

City-Level Bar Chart

- Displays top-performing cities
- Sorted in descending order by selected KPI

Insight:

- Highlights cities contributing maximum value
- Supports location-based campaigns

Sales Trend Analysis

Area Chart – Trend by Day

- Displays daily trend for selected KPI

Insight:

- Identifies spikes due to promotions or campaigns
- Helps monitor short-term performance changes

Bar chart - Trend by Hour

- Displays activity from 0–23 hours

Insight:

- Identifies peak purchasing hours

- Useful for:

  - Marketing campaign timing

  - Customer support planning

  - Flash sales optimization

Gateway & Product Analysis

Payment Gateway Analysis

- Identifies most and least used payment methods

Insights:

- Reveals customer payment preferences

- Helps optimize checkout options

- Detects dependency on specific gateways

Product Type Analysis

- Compares revenue and order volume by product type

Insights:

- Identifies top-performing product categories

- Reveals underperforming categories

- Supports pricing and assortment decisions

7. Drill-Through Implementation

Drill-through functionality connects both dashboards, allowing users to navigate from summary visuals to detailed records using contextual filters such as Product Type, Region, Date, Customer ID, and Payment Gateway.

8. Visuals & Analytical Components

• KPI Cards for executive monitoring
• Area & Line Charts for time trends
• Bar Charts for top cities, products, and gateways
• Filled and Bubble Maps for geographic analysis
• Detailed tables for validation and drill-through analysis

9. Key Business Insights

Revenue Health: With $4.18M in net sales and a high AOV of $562, the business is performing well, driven by premium product sales.

Customer Base: Nearly half of customers are repeat buyers, showing solid loyalty and retention. However, there's room to increase purchase frequency beyond the current 1.68.

Product Mix: Footwear dominates; expanding into complementary categories (jackets, accessories) could balance revenue streams.

Upsell Potential: High AOV suggests customers are willing to spend — bundling or premium product lines could further lift sales.

10. Conclusion

A two-level Power BI dashboard on Shopify data to analyze sales performance, customer behavior, and retention. Power BI was used for interactive reporting, Power Query for data cleaning, and DAX for calculating KPIs like Net Sales, AOV (Average Order Value), Repeat Customers, and LTV (Life Time Value). The executive dashboard provides high-level insights, while drill-through enables detailed transaction-level analysis. Maps and trend visuals help identify regional patterns and peak activity periods. Overall, the solution enables faster, data-driven decision-making with high confidence in the metrics.