10Alytics

Specialization: *Process Improvement*

Business Focus: *Retail and Consumers Goods industry*

Tool: *MS Excel*

BikeGear Solutions – Driving Sales Optimization Through Data-Driven Analysis

Project Learning Opportunities

- ❑ *Understand how a Business Analyst leverages Excel for regional, demographic, and seasonal sales insights.*
- ❑ *Learn how BAs support cross-functional teams in aligning marketing and inventory strategies with customer behavior.*
- ❑ *Gain hands-on exposure to deriving actionable business recommendations from structured Excel data.*

Tools and Technology to be Used

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Case Study Overview

Scenario Overview

Company: BikeGear Solutions (Retailer specializing in bike racks and cycling accessories across Canada, U.S., and Australia)

Challenge

- Leadership needs data to refine regional marketing strategies, understand target demographics, manage inventory, and forecast demand.
- Uncertainty around which regions, age groups, and product types are driving sales performance.
- Difficulty anticipating demand cycles, leading to stock issues and missed promotional opportunities.

Your Role:
As a Business Analyst, you've been tasked with performing a deep-dive Excel-based analysis to generate actionable insights from historical sales data.

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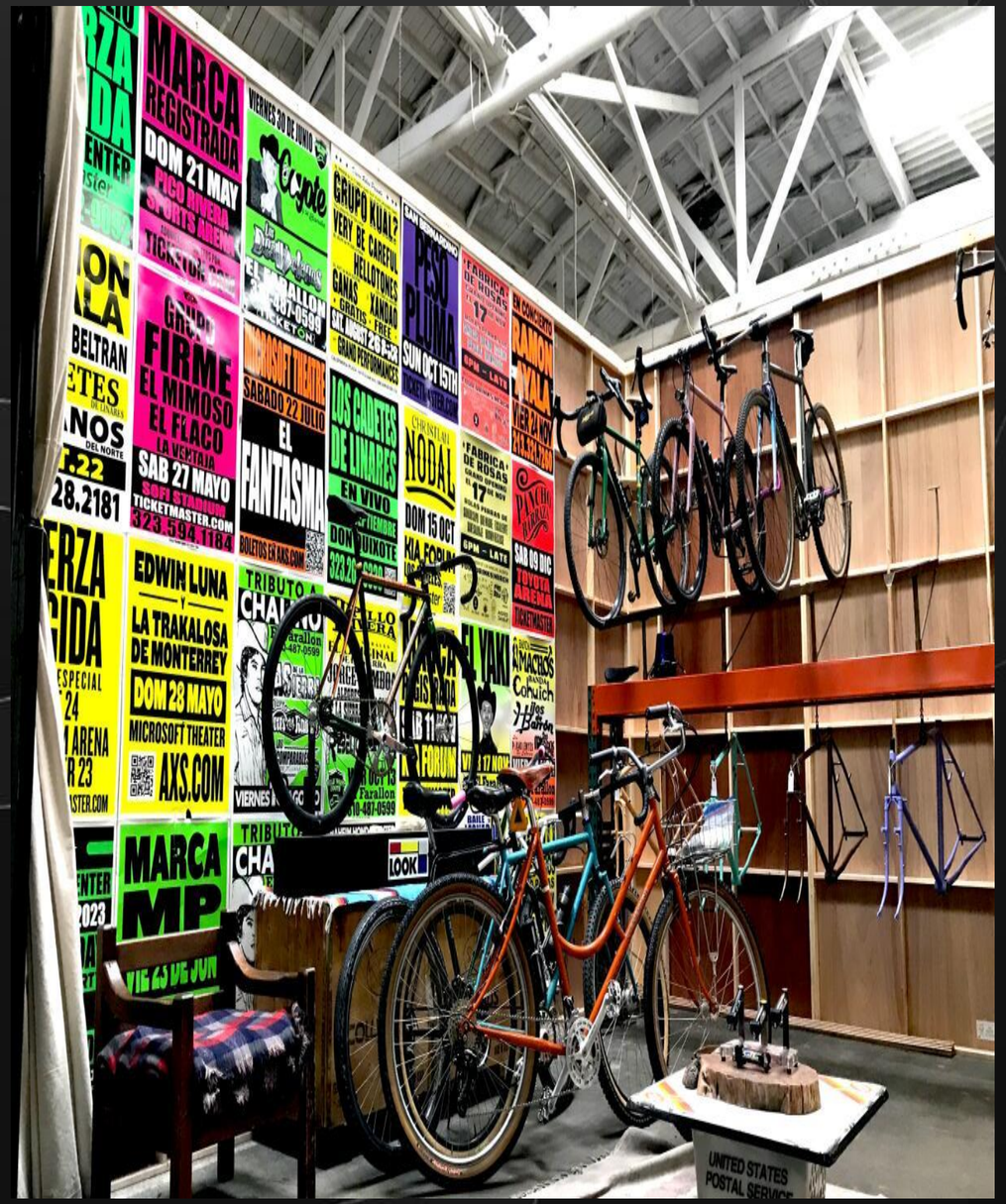

Case Study Overview

Problem Statement

BikeGear Solutions, a multinational retailer in the cycling accessories market, faces strategic blind spots in understanding its regional revenue performance, demographic appeal, product demand, and seasonal trends. Without a clear view of its highest-performing regions and product segments, the company risks misallocating resources and missing growth opportunities. Leadership is looking to your data analysis to drive smarter decisions around marketing, product focus, and inventory planning.

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Rationale for the Project

(What is the Importance of the project to the business)

1.

Customer Targeting

Supports targeted advertising and product design by identifying which age groups and demographics are driving sales..

2.

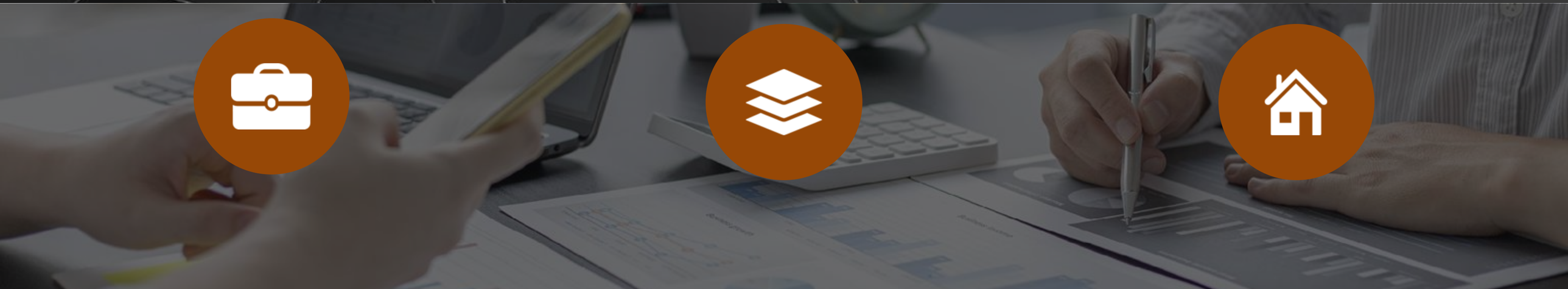
Revenue Optimization

Pinpoints top-performing regions, age segments, and product subcategories to focus promotional and pricing strategies.

3.

Operational Efficiency

Equips teams with evidence to reduce inventory waste and improve supply chain responsiveness across regions.



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Data Description

1. orders table

- **Purpose:** This table captures customer purchase transactions for physical products, including demographic details (age, gender), geographic location, product specifications, and basic sales metrics such as order quantity, unit cost, unit price, cost, revenue, and profit

- **Key Columns:**

  - Date: Full date of the transaction.
  - Day: Numeric day value of the transaction date.
  - Month: Name of the month when the order was placed.
  - Year: Four-digit year of the transaction.
  - Customer_Age: Age of the customer at the time of purchase.
  - Customer_Gender: Gender of the customer (e.g., M for Male, F for Female).
  - Country: Country where the customer is located.
  - State: State or province within the country.
  - Product_Category: High-level grouping of the product (e.g., Accessories).
  - Sub_Category: More specific classification of the product (e.g., Bike Racks).
  - Product: Name or model of the product purchased (e.g., Hitch Rack - 4-Bike).
  - Order_Quantity: Number of units ordered.
  - Unit_Cost: Cost to the business for one unit of the product.
  - Unit_Price: Selling price of one unit.
  - Profit: Earnings from the sale after subtracting cost.
  - Cost: Total cost of the transaction.
  - Revenue: Total income from the transaction.

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Project Workflow

STEP 1

Data Collection & Preparation

Import and clean sales transaction data, including region, product subcategories, dates, customer demographics, and profit figures.

STEP 2

Exploratory Data Analysis (EDA)

Use pivot tables, charts, and formulas in Excel to analyze trends in revenue, units sold, and profit by geography, age group, and time.

STEP 3

Insight Generation

Segment customers into age groups, compare regional performance, and assess subcategory sales volume to identify top-performing segments.

STEP 4

Reporting & Visualization

Create a dynamic Excel dashboard using pivot charts and slicers to visualize KPIs, sales trends, and category-level insights.

STEP 5

Recommendations

Deliver clear, data-driven recommendations on which regions to prioritize, which demographics to target, and how to plan for seasonal peaks.

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Business Questions & Dashboard Requirements

KPIs:

- **Total Revenue:** The total sales revenue generated.
- **Order Quantity:** The total number of units sold.
- **Total Profit:** The total profits gotten from sales.

Business Problems:

- **Revenue Distribution by Region:**
  Requirement: Analyze which countries or states generate the most revenue.
  Objective: Target specific regions for promotional campaigns to boost sales in high-revenue areas and identify underperforming regions for improvement.
- **Which age groups does our product mostly appeal to :**
  Requirement: Group the customers into age groups, eg. less than 25yrs as "Youth", 24-35yrs "Young Adult", more than 35yrs "Adult“ and then check which age group patronizes the most?
  Objective: Tailor marketing strategies to target specific age groups and genders, optimizing product appeal for the key demographic segments.
- **Product Popularity:**
  Requirement: Assess how different subcategories of products perform in terms of sales volume.
  Objective: Use insights to refine product offerings, adjust inventory, and promote best-selling items to maximize profit.
- **Sales Seasonality:**
  Requirement: Identify trends in sales across different times of the year and correlate them with external factors like holidays or cycling season.
  Objective: Plan inventory and marketing efforts according to seasonal peaks and troughs, ensuring sufficient stock during high-demand periods and reducing excess inventory during low-demand months.

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READY TO DELVE IN?