

October 14, 2024

Business Intelligence Report / EDA
Report

Aerofit Treadmill Buyer Profile and Data Analysis Report

Author: Khola Shams

A Comprehensive Analysis of Customer Insights
and Recommendations



Objective Of the Report

- Analyze customer demographics, purchasing behavior, and product performance.
- Derive actionable insights to guide marketing strategies and product development.

Khola Shams



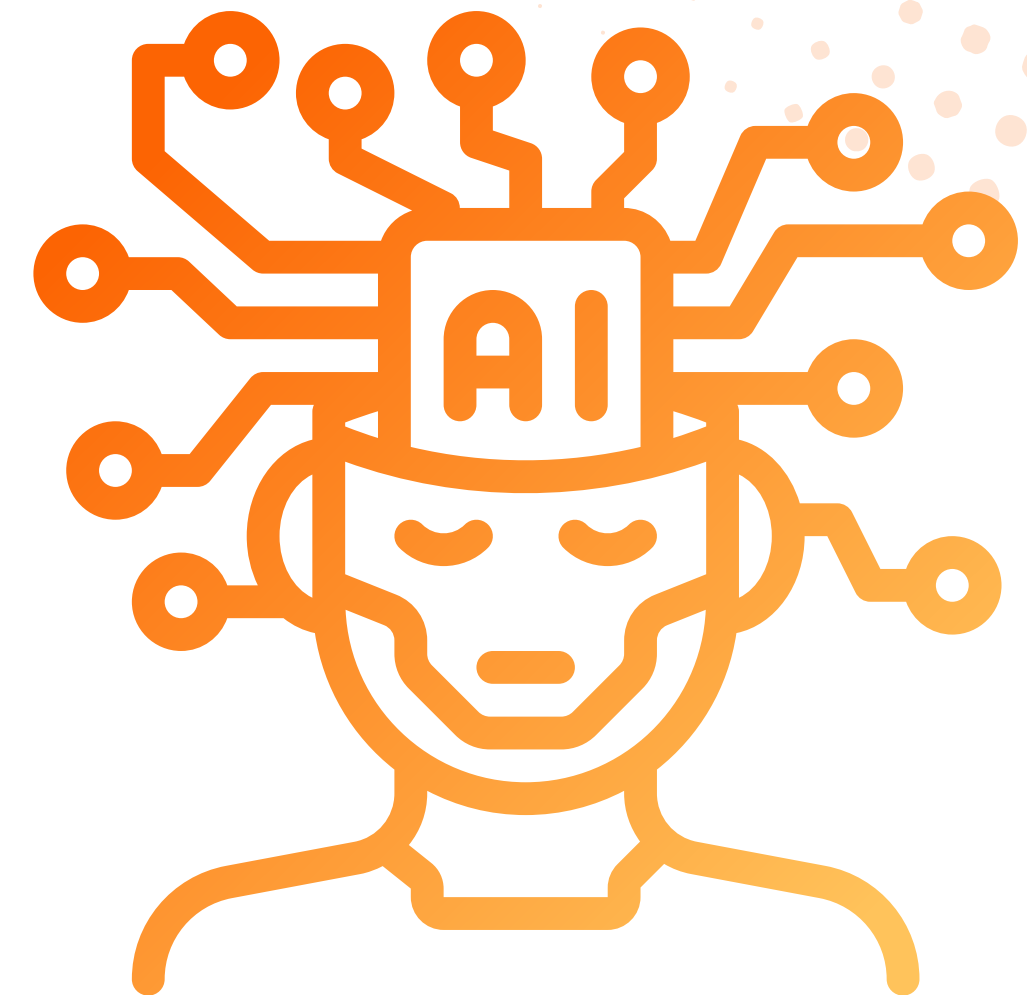


Project Details

- **Aim:** Identify characteristics of the target audience for Aerofit treadmills.
- **Product Portfolio:**
- **KP281:** Entry-level treadmill (\$1,500)
- **KP481:** Mid-level treadmill for runners (\$1,750)
- **KP781:** Advanced treadmill with premium features (\$2,500)

DATA DESCRIPTION

- **Dataset:** aerofit_treadmill_data.csv
- **Features:**
 - Product Type (KP281, KP481, KP781)
 - Age
 - Gender
 - Education
 - Marital Status
 - Usage (Weekly)
 - Fitness Level (1-5)
 - Income (Annual)
 - Expected Miles (Weekly)



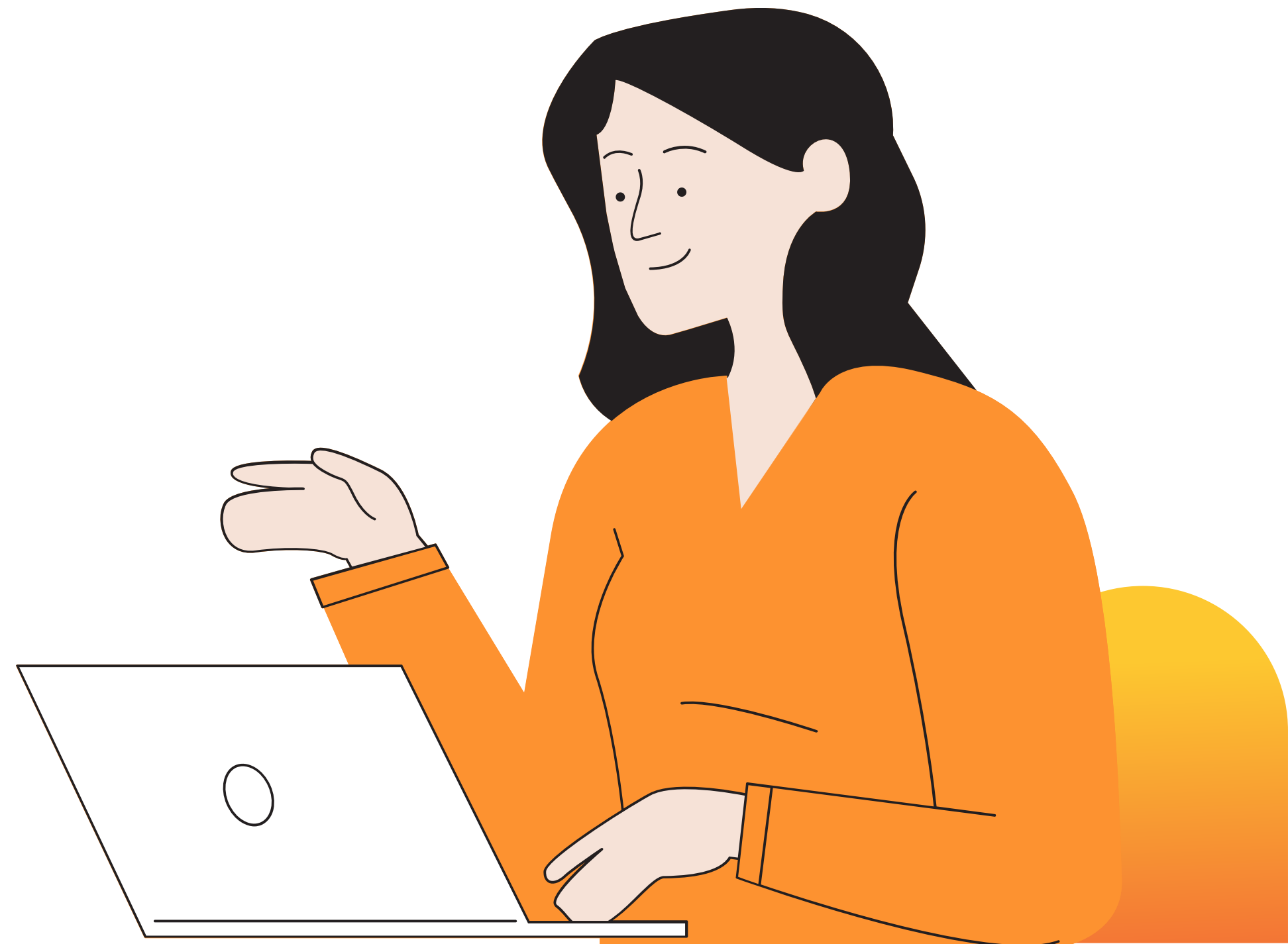


Data Exploration and Processing

- **Data Import and Overview:**
 - Use of pandas for analysis.
 - Shape and data types checked; missing values assessed.
- **Statistical Summary:**
 - **Categorical:** Gender, marital status, product types.
 - **Numerical:** Mean, median, standard deviation for age, income, usage, fitness, miles.

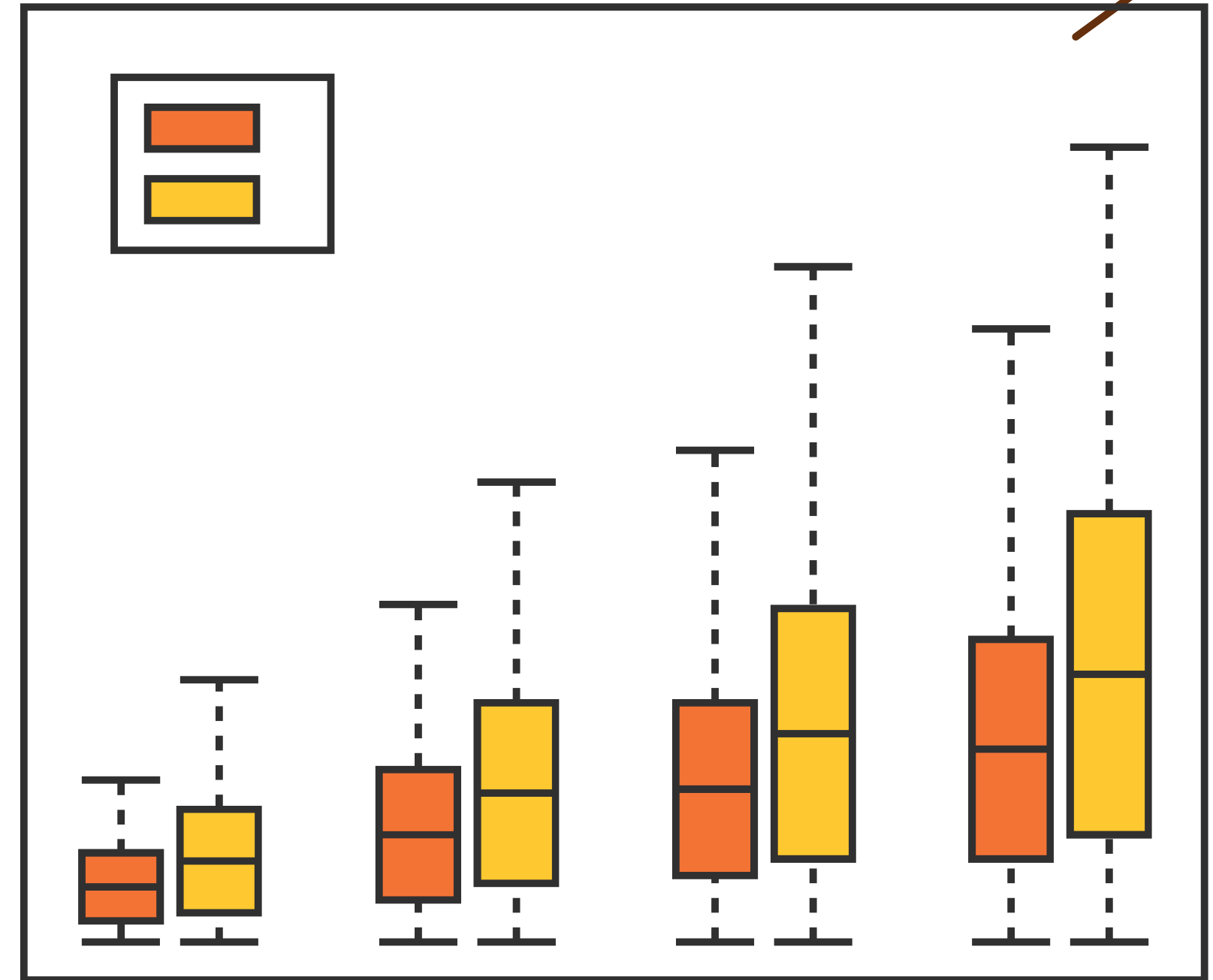
Non-Graphical Analysis

- **Value Counts:** Counts of unique values for categorical features.
- **Unique Attributes:** Listing of unique attributes per category.



Graphical Analysis - Univariate

- Numerical Features:
 - **Distribution Plots:** Age, income, usage.
 - **Count Plots:** Frequency of fitness levels and product types.
 - **Box Plots:** Spread and outliers.



Graphical Analysis - Categorical

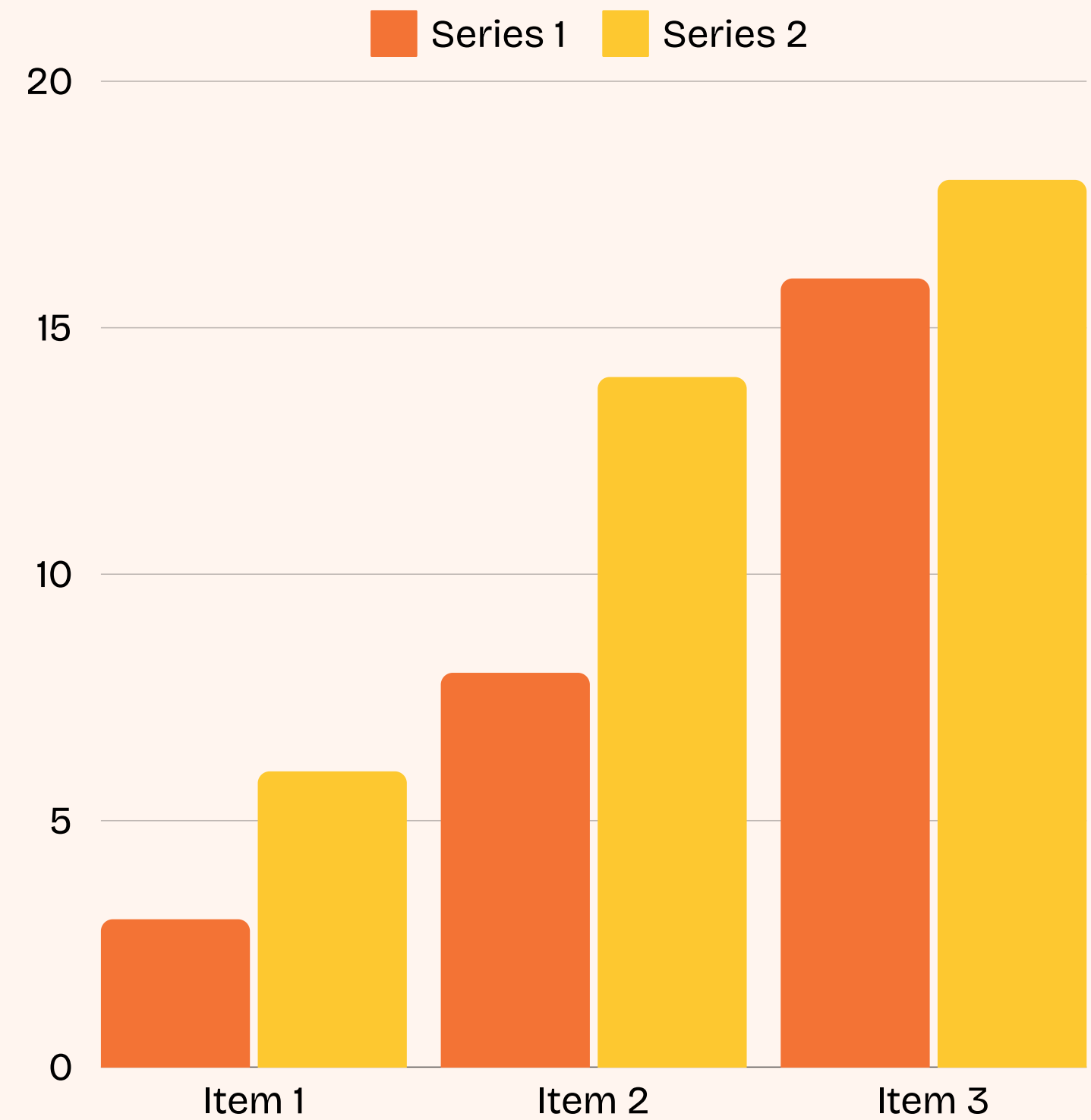
Count Plots:

- Gender distribution.
- Marital status.



Bivariate Analysis

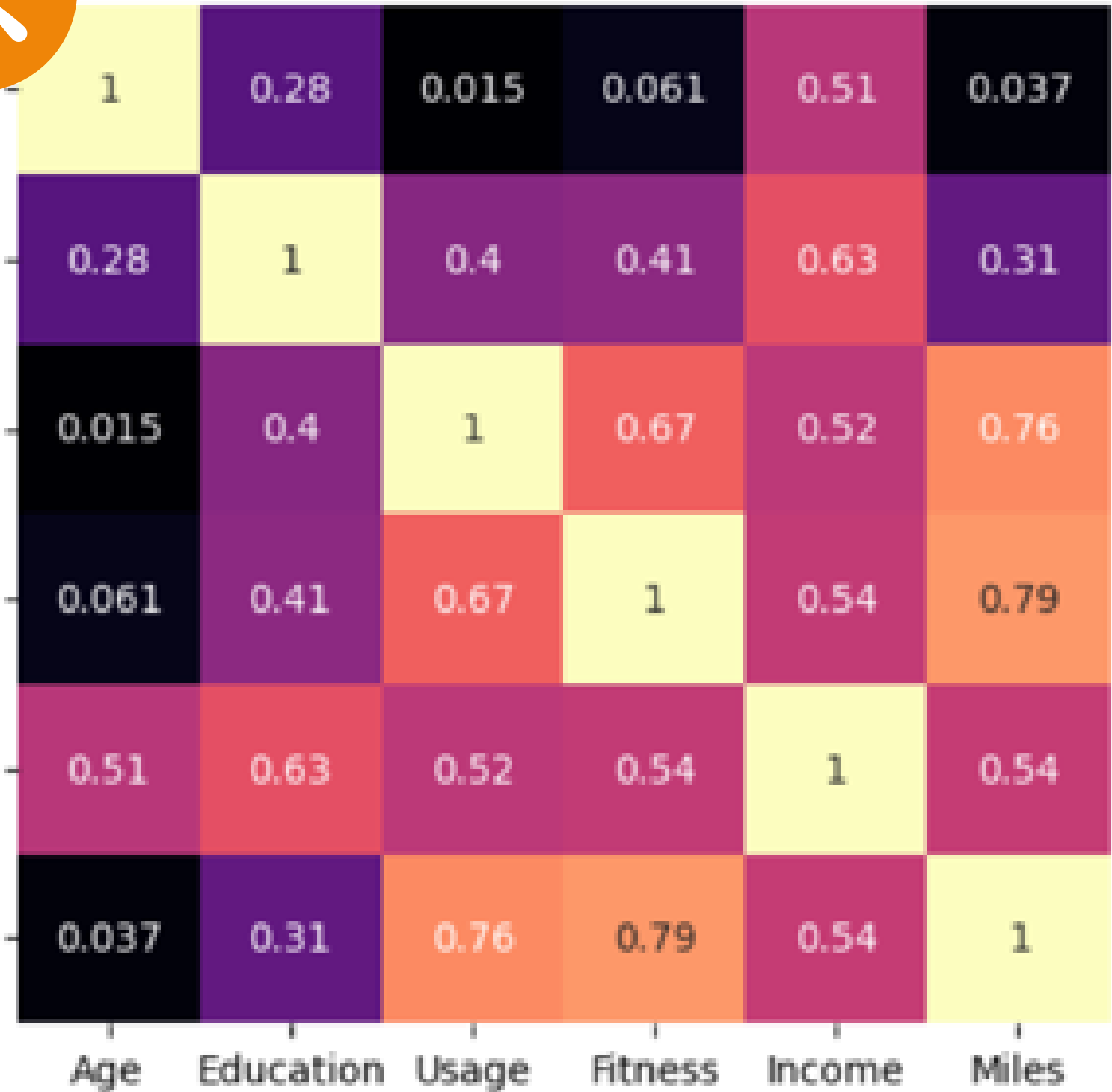
- Product vs. Gender:
- Product vs. Marital Status:
- Product vs. Age:



Correlation Analysis

Heatmap:

- Strength and direction of relationships among numerical features.



CUSTOMER DEMOGRAPHICS - GENDER DISTRIBUTION

- **Female Purchases:**
- KP781: 17.5% of total females.
- KP281: 50% female probability.

CUSTOMER DEMOGRAPHICS - AGE DISTRIBUTION

- Aged 20s to 30s:
- 37.22% of customers.

INCOME ANALYSIS

- **Low-Income Insights:**
- 46.11% of customers (Income \leq \$50,000) purchased a treadmill.

FITNESS LEVEL INSIGHTS

- **Fitness Level 5:**
- 93.55% purchased KP781.

MARITAL STATUS ANALYSIS

- **Partnered Customers:**
- 59.44% of total customers.



INSIGHTS AND RECOMMENDATIONS

TARGET AUDIENCE

Focus on male customers, especially partnered.

PRODUCT PORTFOLIO

Promote KP281 and KP481, explore new models.

PRICING STRATEGY

Assess pricing impacts and implement tiered pricing.

IDENTIFY REGIONS

Tailor campaigns to areas with high treadmill demand.



INSIGHTS AND RECOMMENDATIONS

HIGH-INCOME TARGETING

Health benefits and fitness marketing campaigns.

ENHANCE ENGAGEMENT

Loyalty programs and community challenges.

KP781 UPGRADES

Integrate new features for fitness enthusiasts.

CONTINUOUS MONITORING

Adapt strategies based on customer feedback and trends.

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Thank you