

# Exploratory Data Analysis and Business Insights

This presentation explores the process of conducting Exploratory Data Analysis (EDA) on a product dataset to generate actionable business insights.



# Data Exploration: Product Dataset

## Product Identifiers

The ProductID column uniquely identifies each product in the dataset.

## Product Categories

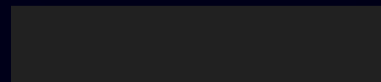
The Category column categorizes products based on their type, such as electronics, apparel, or home goods.

## Product Names

The ProductName column provides a descriptive name for each product.

## Product Pricing

The Price column lists the price of each product in US dollars.



# Distribution Analysis: Product Categories

## Popularity

Identify the most popular categories based on the number of products in each category.

## Target Market

Understand the focus of the business based on the distribution of product categories.

## Market Niche

Determine if there are any underserved categories with potential for growth.

## Product Category Distribution



# Price Point Analysis

## Average Price

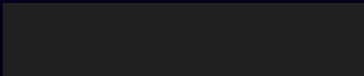
Calculate the average price of products to understand the overall price level.

## Price Range

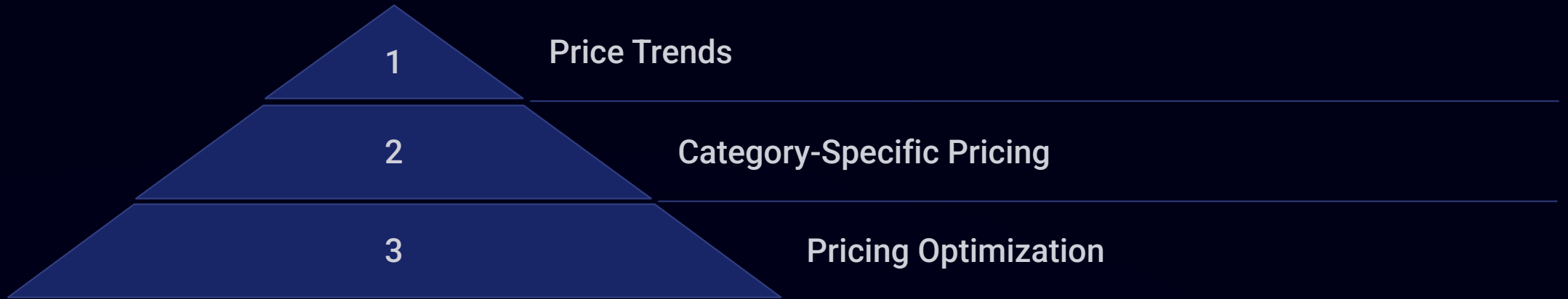
Analyze the distribution of prices to identify price clusters and price outliers.

## Pricing Strategy

Gain insights into the business's pricing strategy based on price distribution and customer segmentation.

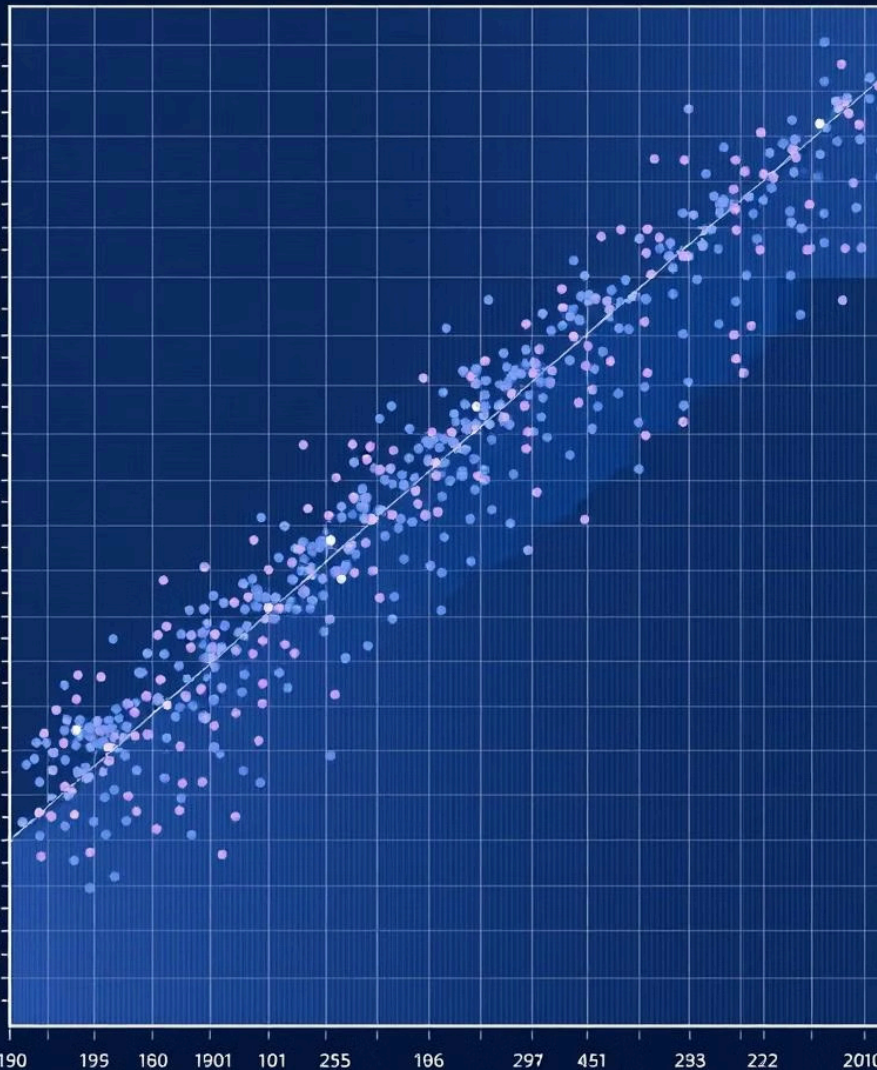


# Relationship Analysis: Category vs. Price



Investigate whether certain categories consistently have higher or lower prices than others.

# Correlation Matrox



# Correlation Analysis

## 1 Price Trends

Identify correlations between product characteristics and price.

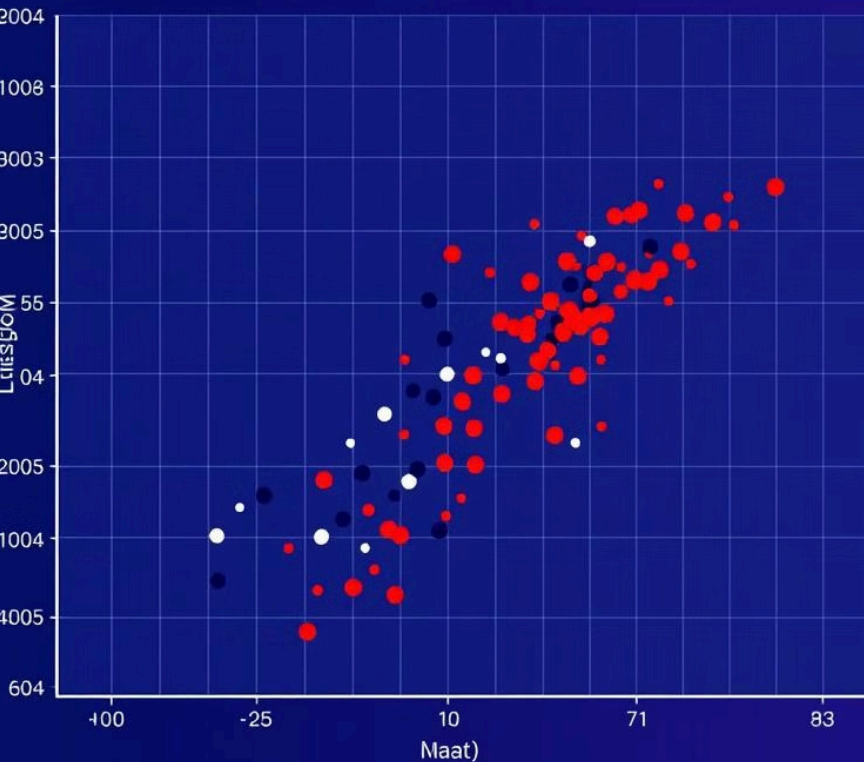
## 2 Category Influence

Determine if there are any strong correlations between product category and price.

### 3 Predictive Modeling

Utilize correlation insights to develop predictive models for pricing or customer behavior.

# Outlier Detection



# Outlier Detection



## Pricing Errors

Identify products with unusually high or low prices that might indicate data errors.



## Data Quality

Ensure data accuracy by addressing potential outliers and inconsistencies.



## Pricing Strategy

Analyze outliers to understand pricing exceptions and potential opportunities.

# Actionable Business Insights

1

## Target Audience

Prioritize product categories based on market demand and potential growth.

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2

## Pricing Strategy

Adjust pricing based on category trends and competitor analysis.

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3

## Product Development

Identify opportunities for new product development in underserved categories.



Thankyou

