Analyzing Walmart's Sales Data

This presentation delves into Walmart's sales data, revealing actionable insights to guide business decision-making processes. We will explore the data landscape, analyze key performance indicators, and predict future trends.

Overview of Walmart's Business and Data Landscape

Retail Giant

Walmart is a global retail giant with over 10,500 stores worldwide.

Diverse Products

Walmart offers a diverse range of products, including groceries, clothing, electronics, and home goods.

Data Ecosystem

Walmart generates vast amounts of data from various sources, including point-of-sale systems, customer loyalty programs, and online transactions.

Data Collection and Preprocessing Techniques

Data Extraction

Data is extracted from various sources using ETL (Extract, Transform, Load) processes.

Data Transformation

Data is transformed into a format suitable for analysis, including normalization and feature engineering.

1　　　　　**2**　　　　　**3**

Data Cleaning

Missing values are imputed, and inconsistencies are addressed to ensure data quality.

Exploratory Data Analysis (EDA) Methodology

1 Descriptive Statistics

Calculate summary statistics, such as mean, median, and standard deviation, to understand data characteristics.

2 Data Visualization

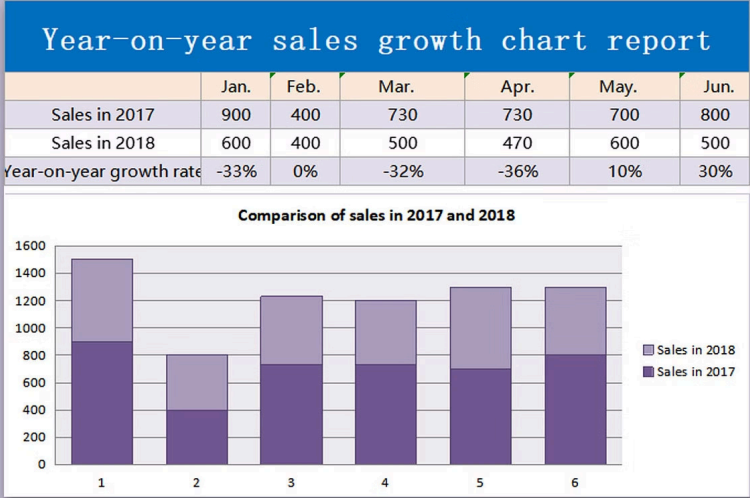Create visualizations like histograms, scatter plots, and box plots to identify patterns and trends.

3 Correlation Analysis

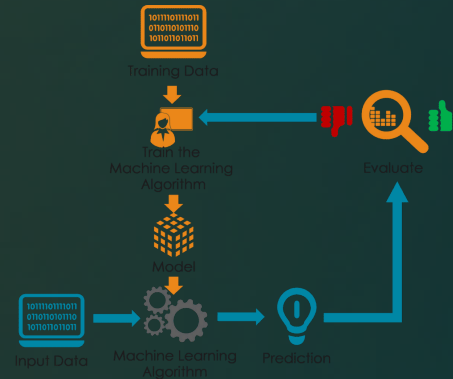Analyze relationships between variables to understand how they influence sales performance.

4 Outlier Detection

Identify and handle outliers to avoid distortions in analysis and model training.

Identifying Key Performance Indicators (KPIs)

Year-on-year sales growth chart report

	Jan.	Feb.	Mar.	Apr.	May.	Jun.
Sales in 2017	900	400	730	730	700	800
Sales in 2018	600	400	500	470	600	500
Year-on-year growth rate	-33%	0%	-32%	-36%	10%	30%

KPI	Description
Total Revenue	Overall sales generated by Walmart across all departments and locations.
Average Transaction Value	Average amount spent by customers per transaction.
Customer Acquisition Cost (CAC)	Cost incurred to acquire a new customer.
Customer Lifetime Value (CLTV)	Total revenue generated from a customer throughout their relationship with Walmart.

Training Data

Train the
Machine Learning
Algorithm

Evaluate

Model

Input Data

Machine Learning
Algorithm

Prediction

Predictive Modeling and Forecasting Strategies

Regression Models

Predict continuous variables, such as sales revenue, based on historical data and identified factors.

Time Series Analysis

Analyze data patterns over time to forecast future trends and seasonality.

Machine Learning Algorithms

Utilize advanced algorithms, such as neural networks, to predict complex relationships and improve forecasting accuracy.

Deriving Actionable Insights for Decision-Making

1

Product Performance

Identify best-selling and underperforming products to optimize inventory management and marketing efforts.

2

Pricing Strategies

Analyze price sensitivity and demand patterns to optimize pricing strategies and maximize revenue.

3

Customer Segmentation

Segment customers based on purchasing behavior and demographics to target marketing campaigns effectively.

Made with Gamma

Conclusion and Recommendations

Enhanced Decision-Making

Data-driven insights can support informed decision-making across various business functions.

Improved Operational Efficiency

Optimizing processes based on data analysis can improve operational efficiency and reduce costs.

Enhanced Customer Experience

Understanding customer preferences and behaviors can lead to improved customer satisfaction and loyalty.

Increased Revenue and Profitability

Data-driven strategies can drive increased revenue and profitability for Walmart.

SUCCESS CHART
INFOGRAPHIC

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TEAMWORK
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DIRECTION
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EFFICIENCY
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2019-2020   2021-2022   2023-2024   2025-2026