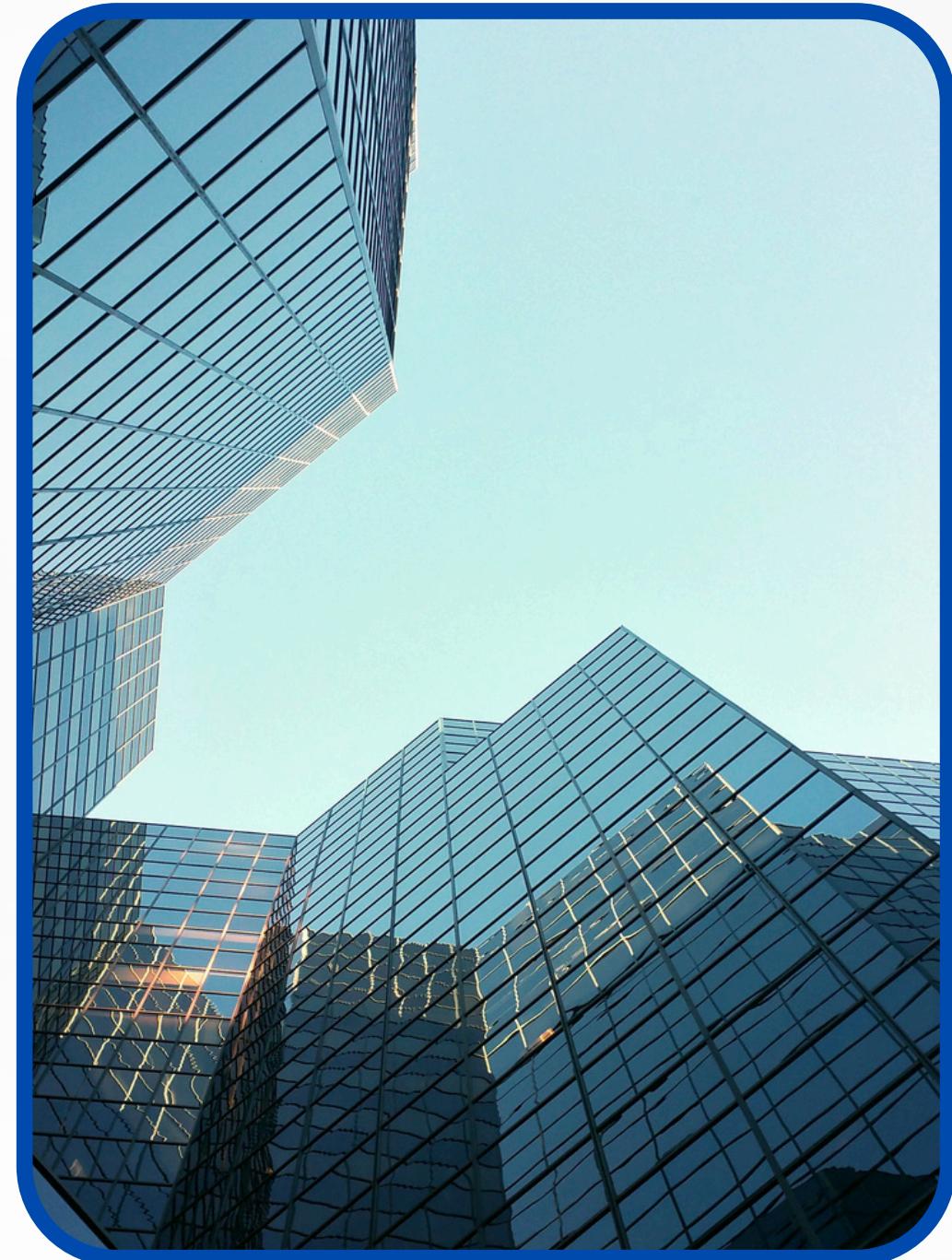


MULTI-PLATFORM E-COMMERCE ANALYTICS: SALES, PRICING, AND CUSTOMER BEHAVIOR

AGENDA

Project context and objectives
Data description and preparation
Data modeling and analytical measures
Dashboard overview
Key findings and insights
Business recommendations



PROJECT CONTEXT

E-COMMERCE INDUSTRY CONTEXT

Rapid growth of online platforms

Large volumes of transactional data

Need for data-driven decision-making



Main Challenge

Raw data is difficult to interpret without BI tools



BUSINESS PROBLEM & OBJECTIVES

BUSINESS PROBLEM

- Lack of centralized analytical view
- Difficulty comparing platforms, products, and regions
- Limited visibility on customer behavior

PROJECT OBJECTIVES

- Build a complete BI pipeline
- Analyze sales performance and customer behavior
- Provide interactive dashboards for decision-makers

DATA DESCRIPTION

DATASET CHARACTERISTICS

- More than 10,000 transactions
- Multi-platform e-commerce data

MAIN ATTRIBUTES

- Product, Category, Brand
- Price, Quantity, Total Amount
- Rating, Reviews
- City, Platform, Order Date, Order ID

DATA PREPARATION & ETL

MAIN STEPS

- Cleaning missing and invalid values
- Converting data types
- Removing duplicates
- Creating new analytical fields
- Exporting clean dataset to Power BI

TOOLS USED

- Python & Pandas

DATA MODELING

STAR SCHEMA DESIGN

Fact Table: FactSales

Dimension Tables:

- DimProduct
- DimPlatform
- DimCustomerLocation
- DimDate

RELATIONSHIPS

- Many-to-one relationships
- Dimension tables on the “one” side

ANALYTICAL MEASURES (DAX)

Main KPIs Created

- Total Sales
- Total Quantity Sold
- Number of Orders
- Average Order Value
- Average Rating
- Year-over-Year Growth
- Monthly Sales Trend
- Sales Share by Platform

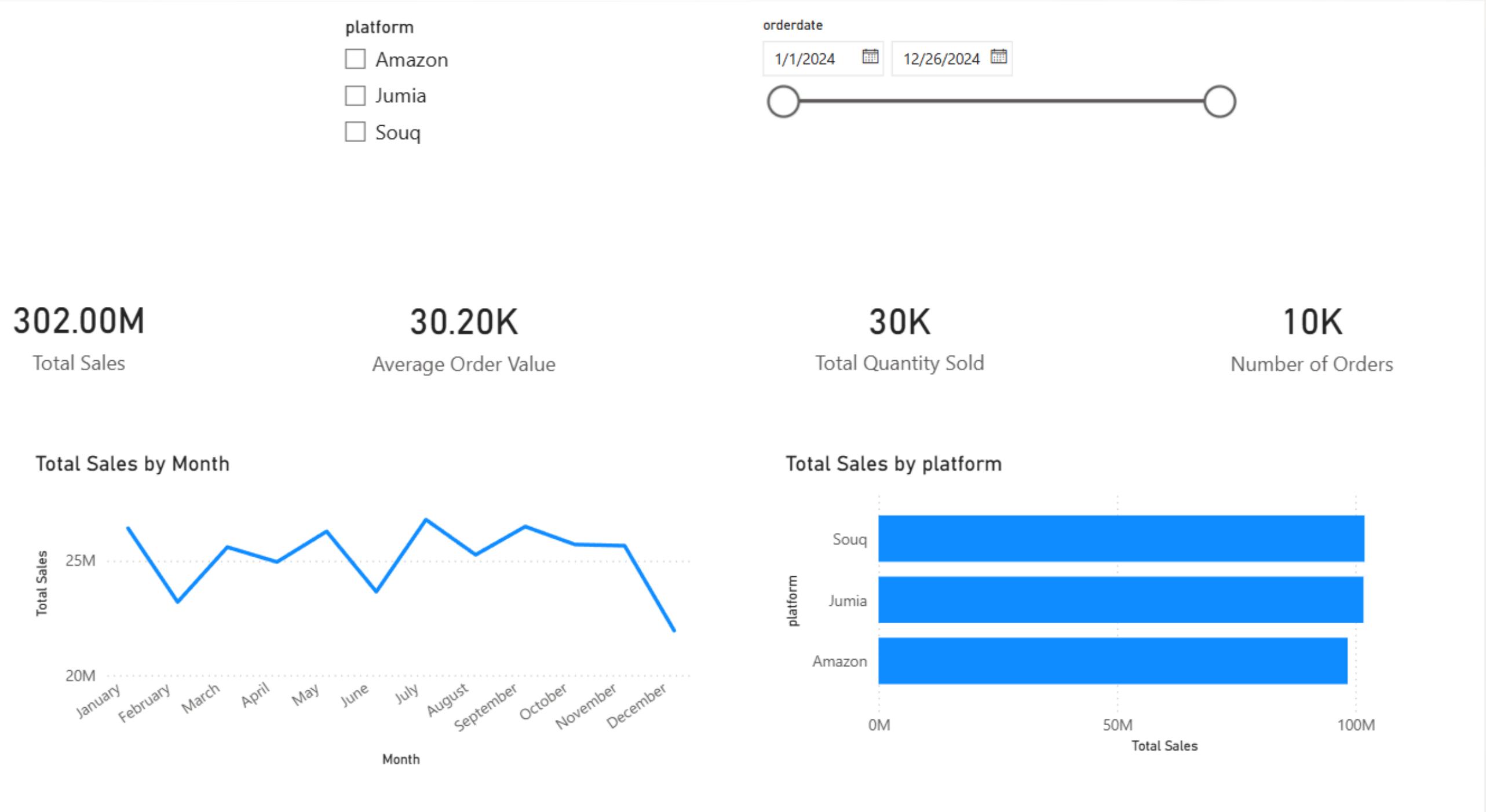
■	Average Order Value
■	Average Rating
brand	
category	
city	
■	Monthly Sales
■	Number of Orders
Σ	order_month
Σ	order_year
orderdate	
orderid	
platform	
Σ	price
product	
Σ	quantity
Σ	rating
Σ	recalculated_total
Σ	reviews
■	Sales
■	Sales Previous Year
■	Sales Share by Platform %
■	Sales YoY %
■	Total Quantity Sold
■	Total Sales
Σ	totalamount

DASHBOARD 1: EXECUTIVE SUMMARY

High-level performance overview

Key Visuals

- Total Sales
- Total Quantity
- Number of Orders
- Sales Trend Over Time
- Sales by Platform



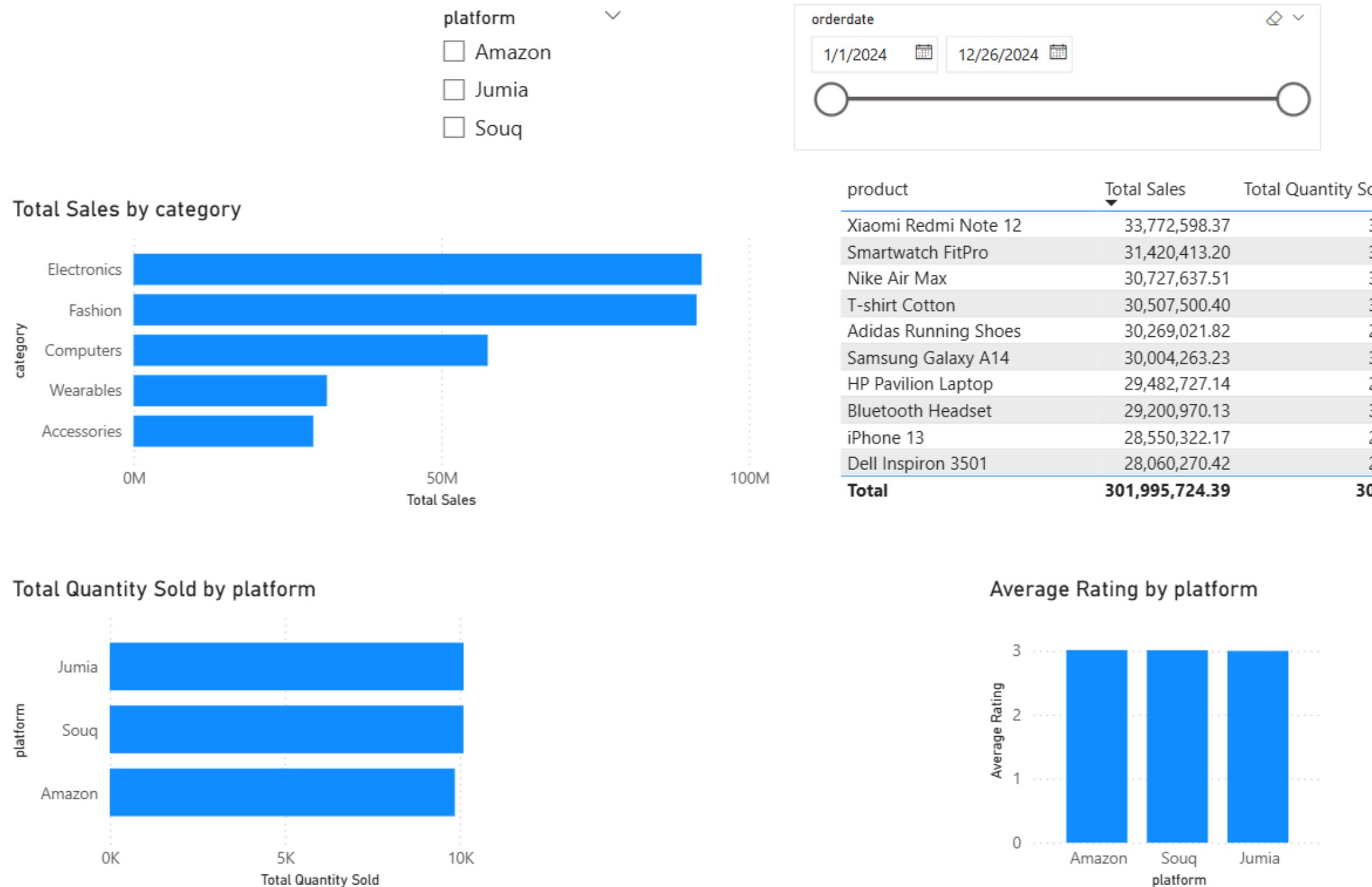
DASHBOARD 2: PRODUCT & CUSTOMER ANALYSIS

Focus Areas

- Sales by Category
- Top 10 Products
- Average Rating by Platform
- Units Sold by Platform

Value

- Identify best products and categories
- Compare customer satisfaction



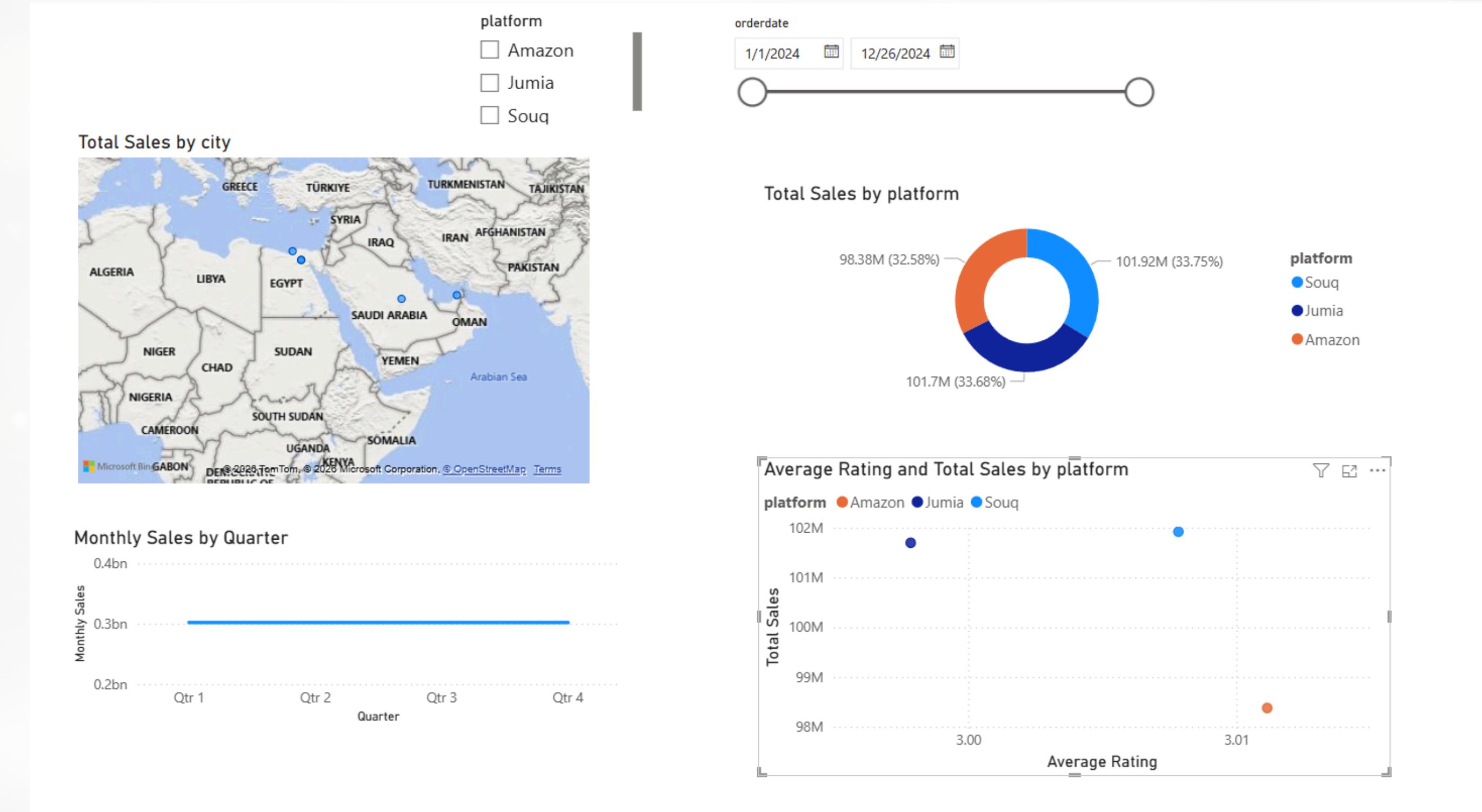
DASHBOARD 3: GEOGRAPHIC & ADVANCED INSIGHTS

Main Insights

- Sales by City (Map)
- Sales Share by Platform
- Monthly Sales Trend
- Sales vs Customer Rating

Value

- Geographic performance analysis
- Market share visualization



KEY FINDINGS

Sales performance varies significantly across e-commerce platforms, indicating unequal market penetration and customer engagement levels. This disparity suggests differences in platform reach, user trust, operational efficiency, and marketing effectiveness. Platforms with higher sales volumes also tend to show higher order frequencies, indicating stronger customer retention and engagement.

A limited number of product categories and products generate a disproportionate share of total revenue. This finding indicates that business performance is heavily dependent on a narrow product portfolio, making product selection and inventory management critical success factors.

Customer ratings differ by platform, suggesting variations in service quality, delivery performance, or customer experience, as reflected in differences in average ratings and review volumes. Platforms with higher average ratings generally achieve better sales performance, suggesting a positive relationship between customer satisfaction and revenue generation.

KEY FINDINGS

Conversely, platforms with lower ratings may face challenges related to service quality, delivery reliability, or postpurchase support, which can negatively impact customer trust and repeat purchases.

Geographic analysis shows sales concentration in specific cities, highlighting uneven regional demand. This uneven distribution suggests differences in market maturity, purchasing power, logistics infrastructure, or platform penetration across regions.

Monthly sales trends reveal seasonal patterns, with peaks during specific periods of the year. These patterns demonstrate that sales performance is not static and must be managed dynamically through forecasting and adaptive planning.

BUSINESS RECOMMENDATIONS

- 1** Focus investment on high-performing platforms
- 2** Optimize product portfolio using top-performing categories
- 3** Improve customer experience on lower-rated platforms
- 4** Adopt city-specific marketing strategies
- 5** Leverage seasonal trends for promotions
- 6** Use customer ratings as a performance KPI
- 7** Standardize pricing strategies across platforms





THANK YOU