Product Requirements & Specification Document

Project Name

Trendly - E-commerce Sales Trends Visualizer

Description

Trendly is a Power BI dashboard designed for an e-commerce company to visualize sales trends, identify top products, and analyze customer segments. The dashboard will utilize imported SQL data and DAX calculations to provide actionable business insights.

1. Objectives

Objective	Description
Visualize Sales Trends	Display sales performance over time (daily, weekly, monthly)
Identify Top Products	Highlight best-selling products by revenue and quantity
Analyze Customer Segments	Segment customers by demographics and purchase behavior
Enable Data-Driven Decisions	Provide actionable insights for business growth

2. Stakeholders

Role	Responsibility
Product Owner	Requirements, acceptance, prioritization
BI Developer	Dashboard design, DAX, data modeling
Data Engineer	SQL data extraction, transformation
Business Users	Dashboard consumers, feedback

3. Functional Requirements

3.1 Data Integration

- Import sales, product, and customer data from SQL database
- Schedule daily data refresh

3.2 Dashboard Features

Feature	Description
Sales Trend Charts	Line/bar charts for sales over time (selectable periods)

Top Products	Table/bar chart of top products by sales and quantity
Customer Segmentation	Visuals for customer groups (e.g., by age, location, spend)
Filters/Slicers	Date range, product category, customer segment
KPIs	Total sales, average order value, customer count

3.3 Calculations (DAX)

- Total Sales: `SUM(Sales[Amount])`
- Average Order Value: `DIVIDE(SUM(Sales[Amount]), COUNTROWS(Sales))`
- Top N Products: `TOPN(10, Products, [Total Sales], DESC)`
- Customer Segments: Group by demographic fields (e.g., age, location)

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4. Non-Functional Requirements

Requirement	Specification
Performance	Dashboard loads within 5 seconds
Security	Role-based access (read-only for business users)
Usability	Intuitive layout, responsive design
Data Freshness	Data updated daily

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5. Data Model Overview

Table	Key Fields	Relationships
Sales	SaleID, Date, ProductID, CustomerID, Amount	Links to Products, Customers
Products	ProductID, Name, Category	Linked to Sales
Customers	CustomerID, Name, Age, Location	Linked to Sales

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6. User Stories

As a…	I want to…	So that…
Business User	View sales trends over time	I can identify growth patterns
Business User	See top-selling products	I can optimize inventory
Business User	Analyze customer segments	I can target marketing efforts

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7. Acceptance Criteria

- Dashboard displays accurate, up-to-date sales, product, and customer data
- Users can filter data by date, product category, and customer segment

- Top products and customer segments are clearly visualized
- All KPIs and charts update dynamically with filters

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8. Technical Specifications

Area	Specification
Platform	Power BI Desktop/Service
Data Source	SQL Server (import mode)
Data Refresh	Scheduled daily refresh
Calculations	DAX
Security	Power BI row-level security (if needed)

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9. Deliverables

- Power BI dashboard file (.pbix)
- Data model documentation
- User guide (1-page quick start)
- Deployment instructions

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10. Timeline

Phase	Duration
Requirements & Design	1 week
Data Integration	1 week
Dashboard Build	1 week
Testing & Feedback	1 week
Deployment	1 week

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11. Risks & Mitigations

Risk	Mitigation
Data quality issues	Validate data during import
Performance bottlenecks	Optimize DAX, limit visuals
Access/security gaps	Implement Power BI security features

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12. Out of Scope

- Real-time data streaming
- Predictive analytics or ML features
- Integration with external BI tools

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13. Appendix

Example DAX Calculation

```
Total Sales = SUM(Sales[Amount])
Top Products = TOPN(10, Products, [Total Sales], DESC)
```

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