Functional Requirements Document

Project: 360° Dashboard – Adventure Works
Version: 1.0
Date: *(Current)*
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1. Introduction

1.1 Purpose of the Document

This Functional Requirements Document (FRD) defines all system needs for the development of a **360° Enterprise Dashboard** based on Adventure Works data. The objective is to provide a complete and unified view of the business: sales, customers, products, finance, marketing, logistics, and commercial performance.

1.2 Project Scope

The project covers the creation of an enterprise dashboard in Power BI that integrates multiple operational areas and enables strategic and tactical analysis. Users will be able to access segmented, filtered, comparative, historical, and predictive information.

2. System Overview

2.1 System Users

- **Executive Management** → 360° vision for key decision-making.

- **Finance Team** → profitability metrics, cost, margin, quotas.

- **Sales Team** → sales by territory, customer, channel, and product.

- **Marketing Team** → campaign effectiveness, promotions, customer behavior KPIs.

- **Operations & Logistics** → inventory, shipments, returns, lead times.

2.2 Available Data (Adventure Works)

The system uses real tables from the Adventure Works model:

- **Sales:** FactResellerSales, FactInternetSales

- **Customers:** DimCustomer, DimProspectiveBuyer

- **Products:** DimProduct, DimProductSubcategory, DimProductCategory

- **Date/Calendar:** DimDate

- **Geography:** DimSalesTerritory

- **Promotions:** DimPromotion

- **Currency/Rates:** FactCurrencyRate

- **Inventory & Movements:** FactProductInventory, FactProductCostHistory

- **Finance:** FactFinance

- **Surveys & Customer Perception:** FactSurveyResponse

- **HR / Internal Sales:** DimEmployee, FactSalesQuota

3. Functional Requirements

3.1 Global 360° View

The dashboard must display:

- Main KPIs: Revenue, Profit, Cost, Margin %, AOV, Retention.

- YOY and MOM comparisons and vs. target.

- Business status with traffic-light indicators (Green/Amber/Red).

- Global filters: date, region, channel, category, currency.

4. Dashboard Modules

4.1 Sales Module

FR-01 — Total Sales

The system must show:

- Total sales by period.

- Segmentation by channel (Internet, Resellers).

- Comparison with previous year.

FR-02 — Product Performance

Must allow:

- Sales by Product / Subcategory / Category.

- Top 10 / Bottom 10 ranking.

- Product margin.

FR-03 — Territory Analysis

The user will be able to see:

- Sales by country/state/territory.

- Interactive map.

- Comparison with assigned sales quota (FactSalesQuota).

FR-04 — Discounts & Promotions

The system must analyze:

- Promotion impact on sales.

- Discount % vs. conversion %.

- High-performing vs low-performing promotions.

4.2 Customer Module

FR-05 — Customer Segmentation

Include:

- Demographics (approx. age, gender, income).

- Marital status, number of children, education, occupation.

- Customer type (active, new, returning, lost).

FR-06 — Customer Lifetime Value

Based on:

- Number of purchases.

- Average ticket size.

- Customer tenure.

FR-07 — Behavior & Preferences

Based on:

- Preferred categories.

- Purchase method (reseller/online).

- Geographic area.

4.3 Finance Module

FR-08 — Profitability

Display:

- Revenue.

- Standard costs.

- Total product cost.

- Gross profit.

- Gross margin.

FR-09 — Budget Compliance

Compare:

- Actuals vs Budget (FactFinance).

- Variances by department/scenario.

4.4 Inventory & Operations Module

FR-10 — Inventory Status

Include:

- Current stock.

- Incoming / outgoing units (FactProductInventory).

- Low-stock alerts.

FR-11 — Delivery Times

Using Internet/Reseller Sales:

- Order date vs ship date vs delivery date.

- SLA compliance metrics.

4.5 Marketing Module

FR-12 — Campaign Performance

Based on promotions and sales:

- Before / during / after comparisons.

- Effectiveness by product / territory.

FR-13 — Surveys & Customer Perception

Using FactSurveyResponse:

- Satisfaction by category.

- Recommendation levels.

4.6 Currency & Rates Module

FR-14 — Exchange Rate Fluctuations (FactCurrencyRate)

Must allow:

- Daily rate visualization.

- Impact on international sales.

- Conversion to a single currency for global analysis.

5. Technical Requirements

TR-01 — Data Model

The model must follow:

- Star schema.

- 1:N relationships between dimensions and fact tables.

- Date table with calculated dates.

- Extensive use of DAX for KPIs.

TR-02 — Performance

- Use of aggregations.

- Minimized calculated columns.

- Optimized measures.

- Proper indexing in SQL for DirectQuery (if used).

TR-03 — Security

- RLS filters by territory, role, or department.

- User-level access management.

6. Non-Functional Requirements

NFR-01 — Usability

- Clean, organized, and accessible design.

- Page and button navigation.

NFR-02 — Maintainability

- DAX measure documentation.

- Metrics glossary.

- Data dictionary.

NFR-03 — Refresh

- Automatic daily or batch refresh.

- Option for manual refresh.

7. Final Deliverables

- Documented Power BI model (*.pbix*).

- Data dictionary.

- Entity-relationship diagrams.

- User manual.

- Final 360° Dashboard.

8. Approval

Role	Name	Signature	Date
Management			
Data Analysis	Fernando Rioseco		

IT