1. Project Overview

The Irish Retail Analytics & Demand Forecasting Dashboard aims to consolidate sales, pricing, demand, and economic indicators into one unified reporting system for retail decision-makers. It is designed to support operational, pricing, supply chain, and financial teams.

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2. Business Problem

Current challenges include:

- Inconsistent, manual Excel reporting
- Lack of actionable visibility into demand patterns
- No clear segmentation of slow/high movers
- Pricing decisions made without elasticity data
- Promotions evaluated without uplift measurement
- No inflation-adjusted performance analysis
- Fragmented insights across teams

Retailers need a modern BI solution to centralise analytical capabilities.

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3. Project Scope

In Scope

- ETL using Power Query
- Star schema data model
- DAX calculations
- Four Power BI dashboard pages
- CPI integration
- BA documentation (BRD, user stories, requirements)

Out of Scope

- Real-time data streaming
- Machine learning forecasting
- POS integration
- Mobile application development

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4. Goals and Success Criteria

Goals:

- Unify retail data into a single analytical platform
- Provide accurate sales & demand insights
- Improve stock efficiency and pricing decisions

- Support leadership with economic context

Success Criteria:

- Dashboard loads < 5 seconds
- Stakeholders can answer 90% of core business questions
- User adoption by Ops, Pricing, Supply Chain, Finance
- Reduction in manual reporting

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5. Stakeholder Analysis

Stakeholder	Role	Needs
Retail Operations	Decision-makers	Sales, store insights, KPIs
Supply Chain	SMEs	Slow/high movers, rolling demand
Pricing Manager	SME	Price sensitivity, promo analysis
Category Manager	Planner	Promo uplift, category behaviour
Finance	Reviewer	Inflation-adjusted metrics
BI Manager	Governance	Model quality, usability
BA / Analyst	Builder	Requirements, documentation

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6. AS-IS Process (Current State)

- Sales data scattered across multiple reports
- No unified model connecting price, sales, and promotions
- Supply chain teams manually detect slow movers
- Pricing decisions lack elasticity insights
- Economic data never considered
- Teams use individual spreadsheets → no single source of truth

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7. TO-BE Process (Future State)

A unified BI system where:

- Sales, pricing, inventory, and CPI feed into one model
- Automated KPIs track real-time performance
- Demand patterns visible instantly
- Promo uplift and pricing effects quantified
- Inventory alerts proactively highlight risks
- Leadership gets inflation-adjusted performance

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8. Functional Requirements

FR1 — Sales Trends

System shall provide yearly, monthly, and daily trends.

FR2 — Rolling Demand

System shall calculate rolling 7-day and 30-day averages.

FR3 — Inventory Segmentation

System shall flag slow-moving and high-demand items.

FR4 — Pricing Analytics

System shall evaluate the relationship between price and units sold.

FR5 — Promotion Analysis

System shall measure uplift during promotional periods.

FR6 — CPI Integration

System shall adjust sales for inflation.

FR7 — Drilldowns

Dashboard must support drilldown by category, store, item.

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9. Non-Functional Requirements

- Performance: Dashboard loads <5 seconds
- Usability: Clear visuals, minimal clicks
- Scalability: Ability to add ML forecasting
- Security: Workspace-level access
- Accuracy: Data validated before model ingestion

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10. User Stories + Acceptance Criteria

US01 — View Sales KPIs

Acceptance:

- KPI cards visible
- Auto-updates with slicers

US02 — Identify Inventory Risks

Acceptance:

- Slow movers sorted ascending
- High movers sorted descending

US03 — Price Sensitivity

Acceptance:

- Scatter chart shows price vs units sold
- Category field enables comparison

US04 — Promo Uplift

Acceptance:

- Uplift measure displayed
- Spike indicators on timeline chart

US05 — Inflation Adjustment

Acceptance:

- Inflation-adjusted trend visual included

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11. Data Model Description

Fact Table:

- Fact_Sales: item_id, store_id, date, units_sold, revenue

Dimensions:

- calendar
- Item
- store
- price
- CPI
- RetailIndex

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12. Risks & Assumptions

Risks:

- CPI dataset has limited granularity
- Promotional data may not represent all types
- Store performance varies widely → interpretation risk

Assumptions:

- Stakeholders understand basic BI navigation
- Data reflects realistic retail behaviour
- Teams aligned on KPI definitions

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13. Glossary

- CPI: Consumer Price Index
- YOY: Year-over-year
- Elasticity: Sensitivity of demand to price
- Rolling Average: Moving trend for short-term smoothing
- Promo Uplift: Sales increase due to promotions