Project Title:

Food Brand Understand Customer Trends

Project Statement:

Customer feedback is a goldmine for innovation in the food industry. This project focuses on integrating feedback data from surveys, social media, and product reviews into Power BI to generate insights on customer satisfaction, recurring complaints, and emerging preferences. With the use of sentiment analysis and behavioral clustering, this project supports product, R&D, and marketing teams in making informed decisions.

Outcomes:

• Centralized view of customer sentiment across products and regions
• Visualization of most-liked and most-criticized product features
• Keyword and theme detection from unstructured feedback
• Customer segmentation by satisfaction, frequency, and preferences
• Regional patterns in preferences and complaints
• Actionable strategy recommendations for product innovation and campaigns
• AI-based review scoring and trend detection

Modules to be Implemented:

1. **Data Collection & Cleaning**
   • Import structured (survey) and unstructured (reviews/social) data
   • Clean text using tokenization, normalization, and deduplication
   • Create unified tables with user_id, product_id, sentiment_score

2. **Sentiment Analysis Module**
   - Use AI/NLP to classify feedback as positive, neutral, or negative
   - Visualize sentiment scores per product, feature, and region
   - DAX measures for positive feedback ratio, sentiment change over time

3. **Product Insights Module**
   - Compare product categories by average rating and sentiment
   - Visuals for taste, price, packaging, etc.
   - Correlation analysis between sales and feedback

4. **Customer Segmentation**
   - Identify behavioral personas: "Loyal Fans", "Critics", "Silent Users"
   - Cluster users based on rating frequency, sentiment, and product preferences
   - Filters for region, age, and purchase channel

5. **Strategy & Innovation Dashboard**
   - Identify trending keywords and emerging issues
   - Highlight opportunity areas for marketing and R&D
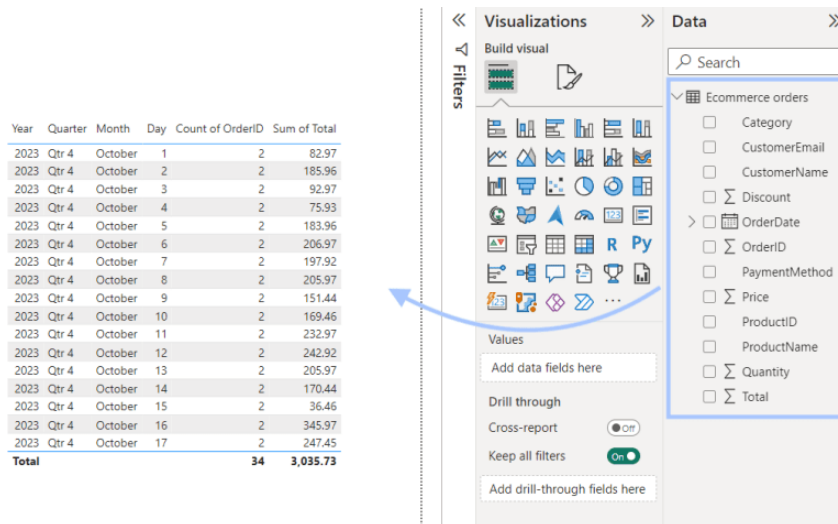   - Track sentiment before and after product launches

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Week-wise Module Implementation Plan with Deliverables

Week | Module | Deliverables
1–2 | Data Cleaning & Integration | Cleaned feedback data with structured schema
3–4 | Sentiment Analysis | Feedback classification and sentiment visuals
5–6 | Product Module | Performance dashboard by feature/category
7–8 | Segmentation | Behavioral personas and demographic splits
9–10 | Strategy Layer | Keyword insights, marketing dashboard

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Evaluation Criteria (Milestone-Based):

- **Milestone 1 (Week 2):**
  Data sources from surveys, social media, and reviews are cleaned, de-duplicated, and standardized. Unified data model with consistent keys (e.g., product_id, user_id) is validated for future transformations.

Year	Quarter	Month	Day	Count of OrderID	Sum of Total
2023	Qtr 4	October	1	2	82.97
2023	Qtr 4	October	2	2	185.96
2023	Qtr 4	October	3	2	92.97
2023	Qtr 4	October	4	2	75.93
2023	Qtr 4	October	5	2	183.96
2023	Qtr 4	October	6	2	206.97
2023	Qtr 4	October	7	2	197.92
2023	Qtr 4	October	8	2	205.97
2023	Qtr 4	October	9	2	151.44
2023	Qtr 4	October	10	2	169.46
2023	Qtr 4	October	11	2	232.97
2023	Qtr 4	October	12	2	242.92
2023	Qtr 4	October	13	2	205.97
2023	Qtr 4	October	14	2	170.44
2023	Qtr 4	October	15	2	36.46
2023	Qtr 4	October	16	2	345.97
2023	Qtr 4	October	17	2	247.45
Total				**34**	**3,035.73**

- **Milestone 2 (Week 4):**
  Sentiment analysis logic is implemented and verified. Dashboard includes overall sentiment trends and keyword-based feedback themes.


- **Milestone 3 (Week 6):**
  Product-level performance dashboards are implemented with category-level comparisons (e.g., taste, price, packaging). Cross-filtering and correlation with sentiment are functional.
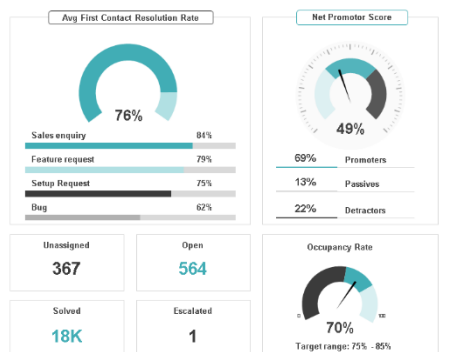
- **Milestone 4 (Week 8):**Segmentation logic based on sentiment behavior and frequency is operational. User personas are visualized across filters like region and age group.

- **Milestone 5 (Week 10):**
  Final strategy dashboard includes emerging trend keywords, sentiment shifts before/after campaigns, and data-driven recommendations. Project documentation and stakeholder-ready presentation are complete.
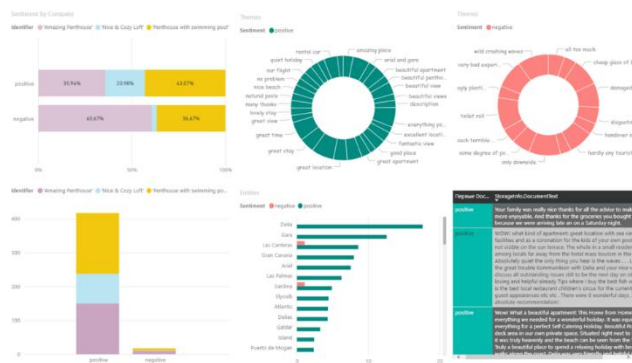
Architecture Diagram

- **Data Sources:** Survey forms, reviews, social data (CSV/API)
- **Transformation:** Power Query + optional Python (for NLP)
- **Semantic Model:** Customer, Product, Feedback, Time dimensions
- **Dashboard Layer:** Sentiment, Product, and Persona Dashboards