

From Data to Action: Leveraging Centralised Datasets for Effective Policy-Making in Nutrition Education

Ravi Lal Mohan¹, Ramya Rajaram², Shumone Ray³, Harmanpreet Kaur^{3&4}, Wanja Nyaga⁶

1. Data Analyst ,Technical Consultant, TNEI Services Ltd.
2. Deputy Lead, NNEdPro India and South-Asia Regional Network.
3. Executive Director, NNEdPro Global Institute for Food Nutrition and Health, Cambridge.
4. Assistant Dietitian, BPS Block, AIIMS, New Delhi.
5. Volunteer Operations & Academic Officer, NNEdPro.
6. Academic Officer, NNEdPro Global Institute for Food Nutrition and Health, Cambridge.

Background

The Mobile Teaching Kitchen (MTK) initiative empowers underserved communities in India to become nutrition advocates by addressing undernutrition and overnutrition through educational programs. These programs promote healthier behaviour's across diverse socioeconomic groups. Comprehensive data on demographics, anthropometrics, clinical information, and Knowledge, Attitudes, and Practices (KAP) metrics are essential for designing and evaluating these programs. Leveraging large datasets quickly is crucial for guiding policy decisions and assessing program effectiveness.

Methodology

To support MTK, a data warehouse is set up to simplify data management and analysis. It consolidates data from dietary intake surveys, electronic health records, and demographic sources, ensuring the data is cleaned, normalised, and securely stored [Figure].. By combining data from different sources, it improves analysis accuracy and supports better decision-making. Open-source tools like **Python** are used to process expenses and revenue sheets, for example, by automating data ingestion and performing data transformations. This setup supports queries on expense and revenue trends, such as total expenses per month and weekly expense patterns for specific item categories. The scheme(database structure), shown in the ER (Entity Relation) diagram below, is designed for easy querying and analysis, with results displayed on dashboard. The schema shows how data can be organized into tables for easier access for researchers.

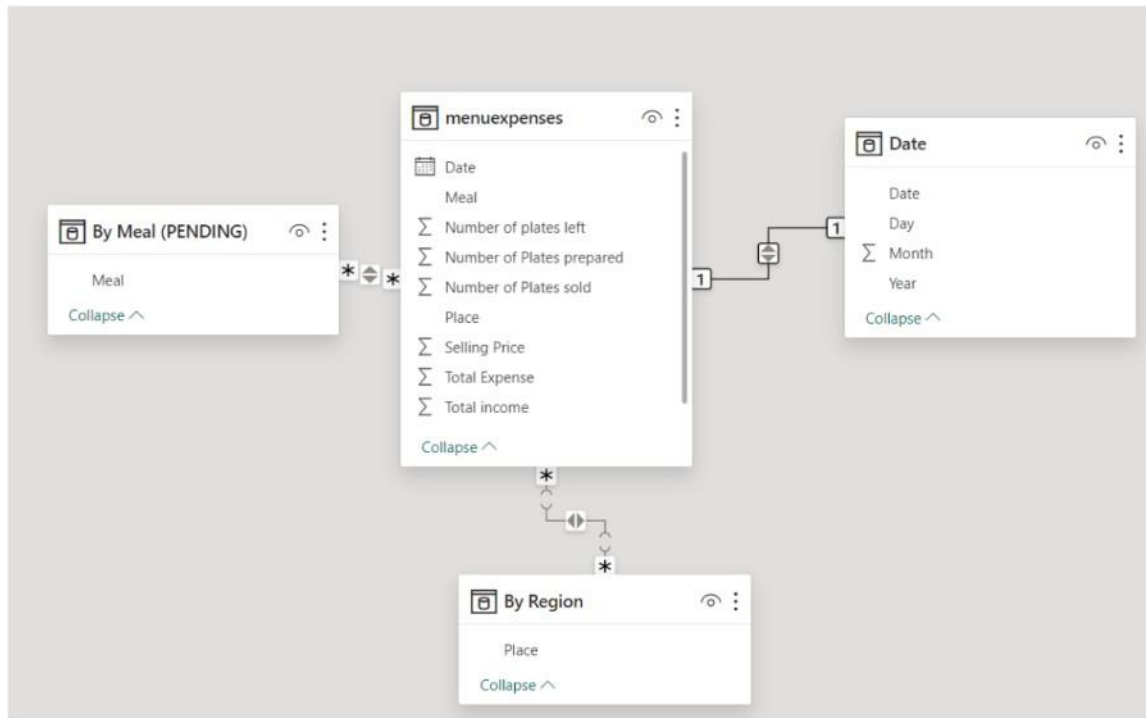
Results

The data warehouse centralises these datasets, making them readily accessible for analysis and visualisation. Key features include:

1. Automated processing of surveys and generation of summary statistics,
2. Standardisation and transformation of datasets for analysis,
3. Dashboards to highlight ongoing projects,
4. Query features to enable specific data retrieval for researchers.

Implications and Conclusion

The data warehouse enhances data access and sharing among stakeholders, increasing community engagement and transparency on MTK's impact. It enables real-time insights, automates data processing, and eases data consolidation tasks. By tracking MTK's progress, the warehouse provides valuable feedback for continuous programme improvement. Ultimately, this initiative aims to enhance community health outcomes by empowering individuals with the knowledge and tools to improve nutrition practices.



Block Diagram with Example Schema