Project Documentation – Group 1

# INFOSYS FOOD TRENDS 1. Introduction

# The Food Trends Project at Infosys is aimed at revolutionizing food services within the company. In today's fast-paced world, food choices are becoming more focused on health, sustainability, and convenience. This project utilizes AI and data analytics to understand food preferences, enhance dining experiences, and reduce food waste. By integrating technology with dining, this initiative aims to provide smarter, healthier food choices, tailored to employees' individual needs.

# 2. Problem Statement

In the current food service environment, many issues affect both the quality and sustainability of meals:

* **Food Waste**: Excess food is often prepared based on estimates, leading to waste and unnecessary costs.
* **Health and Nutrition**: Many individuals struggle to find meals that align with their specific health goals and dietary preferences.
* **Personalization Gaps**: Existing dining systems do not leverage personalized recommendations based on individual needs.
* **Limited Dietary Options**: Employees or customers often have limited food choices that cater to diverse dietary preferences.

# 3. Solution –

The **Food Trends** project offers a comprehensive solution to these problems through data analysis, AI-driven food recommendations, and personalized meal plans.

**Key Features:**

* **Personalized Menu Recommendations**: AI-based suggestions tailored to individual health goals and taste preferences.
* **Calorie and Nutritional Tracking**: Users can track their calorie intake and ensure they meet their daily nutritional requirements.
* **Dietary Preferences and Restrictions**: Custom menus catering to vegan, vegetarian, omnivore, pescatarian, and other dietary choices.
* **Dynamic Meal Suggestions**: Based on activity levels, providing options to align with energy needs.
* **AI-driven Demand Forecasting**: Reduces food waste by predicting meal demand more accurately.

# 4. Key Technologies Used

**1. Power BI:**

* Data Loading: The Food Trends Dataset was imported into Power BI for analysis and visualization. This allowed the team to create interactive reports based on real data.
* Data Cleaning: Power BI's built-in features were used to clean the data, including removing duplicates, handling missing values, and ensuring consistency. This ensured accurate visualizations and reports.
* Data Visualization: The dashboard uses various Power BI visualizations, including bar charts, pie charts, and line graphs to display key insights about food trends, employee feedback, and preferences.

**2. Purpose Behind Reports:**

* Food Preferences Report: This report visualizes the most popular food choices based on employee feedback. It helps identify which meals are preferred by employees, allowing for adjustments to menu offerings.
* Calorie and Nutritional Insights: A report displaying the calorie count and nutritional information of different meals. This was created to ensure that food options align with health goals and dietary preferences, promoting healthier eating habits.
* Food Waste Analysis: This report focuses on predicting food demand and comparing it to actual consumption, helping reduce food waste by identifying over-preparation and under-consumption trends.
* Employee Feedback Trends: Analyzing employee feedback collected from surveys and social media to understand satisfaction levels with the food options. This report is crucial for improving the quality and variety of food offered in the cafeteria.
* Dietary Preferences Report: This report segments the data based on different dietary needs (e.g., vegetarian, vegan, omnivore) to ensure that all employee preferences are met, promoting inclusivity in the food offerings.

**3. Filters and Slicers:**

* Interactive filters and slicers were added to the dashboard to allow users to customize their views and analyze specific categories, such as food type, dietary restrictions, and feedback ratings. This enhances user experience and enables a deeper dive into the data.

**4. Basic Data Processing:**

* Power BI was used to process the data, such as calculating averages, aggregating totals, and creating metrics that provide a snapshot of food consumption patterns and employee preferences.

# 5. Benefits for Infosys Employees and Cafeteria Services

Implementing the **Food Trends Project** brings several key benefits:

* **Personalized Dining Experience**: Catering to employees’ health goals, preferences, and dietary restrictions, making meals more personalized and enjoyable.
* **Reduced Food Waste**: By accurately predicting demand, food waste can be minimized, creating a more sustainable dining system.
* **Healthier Food Choices**: Providing employees with healthier, more balanced meal options based on their nutrition goals.
* **Sustainability and Eco-Friendly Practices**: The project aligns with Infosys' sustainability goals by reducing food waste and offering eco-friendly solutions.
* **Employee Well-being**: The project focuses on improving overall employee health and well-being through better meal options.

# 6. Use Case Scenarios

The **Food Trends Project** can be applied across multiple scenarios:

1. **Corporate Cafeterias**: Personalized meal suggestions and nutrition tracking for employees based on their dietary preferences and activity levels.
2. **University and Campus Dining**: Providing students with healthier meal options and the ability to track nutrition goals.
3. **Public Dining Spaces**: Implementing AI-driven meal recommendations and demand forecasting in various cafeterias to ensure sustainability and reduce waste.

## 7. Conclusion

The **Food Trends Project** at Infosys is a cutting-edge initiative that uses AI and data analytics to transform how food services are delivered. By offering personalized meal recommendations, tracking nutrition, and reducing food waste, the project not only enhances the dining experience but also contributes to a healthier, more sustainable workplace environment. With future plans to expand to all Infosys campuses and integrate mobile solutions, the project is poised to improve employee satisfaction and promote overall well-being.

Data Dictionary

1. **Dataset Overview**

**Dataset:** Food\_Trends\_Dataset.xlsx **Sheet:** Food\_and\_Nutrition **Records:** 1698

**Fields:** 19

1. **Field-Level Data Dictionary**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Description | Range / Categories | Example |
| Ages | Integer | Age of the individual (years). | 18 – 79 | 25 |
| Gender | Categorical | Gender of the individual. | Male, Female | Male |
| Height | Integer | Height in centimeters (cm). | 150 – 200 | 180 |
| Weight | Integer | Weight in kilograms (kg). | 48 – 119 | 80 |
| Activity Level | Categorical | Physical activity level category. | Sedentary, Lightly Active, Moderately Active, Very Active | Moderately Active |
| Dietary Preference | Categorical | Type of dietary lifestyle. | Omnivore, Vegetarian, Vegan | Vegetarian |
| Daily Calorie Target | Integer | Recommended daily calorie intake (kcal). | 1200 – 4364 | 2000 |
| Protein | Integer | Daily protein intake (g). | 50 – 327 | 120 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sugar | Float | Daily sugar intake (g). | 60 – 218 | 125 |
| Sodium | Float | Daily sodium intake (g). | 10 – 65.4 | 24 |
| Calories | Integer | Actual daily calories consumed (kcal). | 990 – 4357 | 2020 |
| Carbohydrates | Integer | Daily carbohydrate intake (g). | 120 – 436 | 250 |
| Fiber | Float | Daily fiber intake (g). | 14.4 – 52.3 | 30 |
| Fat | Integer | Daily fat intake (g). | 30 – 145 | 60 |
| Breakfast Suggestion | String | Recommended breakfast meal. | Text | Oatmeal with berries and nuts |
| Lunch Suggestion | String | Recommended lunch meal. | Text | Grilled chicken salad |
| Dinner Suggestion | String | Recommended dinner meal. | Text | Salmon with roasted vegetables |
| Snack Suggestion | String | Recommended snack. | Text | Greek yogurt with fruit |
| Disease | Categorical | Health condition(s) linked to dietary needs. | Weight Gain, Hypertension, Heart Disease | Weight Gain, Hypertension |

1. **Summary Statistics (Numeric Fields)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Variable | Count | Mean | Std Dev | Min | 25% | Median | 75% | Max |
| Ages | 1698 | 43.96 | 15.92 | 18.00 | 30.00 | 42.00 | 57.00 | 79.00 |
| Height | 1698 | 174.13 | 13.42 | 150.00 | 163.25 | 174.00 | 185.00 | 200.00 |
| Weight | 1698 | 78.06 | 16.95 | 48.00 | 64.00 | 78.00 | 91.00 | 119.00 |
| Daily Calorie Target | 1698 | 2275.17 | 558.81 | 1200.00 | 1800.00 | 2200.00 | 2689.00 | 4364.00 |
| Protein | 1698 | 139.90 | 53.33 | 50.00 | 100.00 | 136.00 | 174.00 | 327.00 |
| Sugar | 1698 | 126.19 | 34.94 | 60.00 | 100.00 | 124.00 | 150.00 | 218.00 |
| Sodium | 1698 | 27.98 | 10.67 | 10.00 | 20.00 | 27.20 | 34.80 | 65.40 |
| Calories | 1698 | 2196.44 | 571.09 | 990.00 | 1770.25 | 2146.00 | 2549.75 | 4357.00 |
| Carbohydrates | 1698 | 252.39 | 69.88 | 120.00 | 200.00 | 248.00 | 300.00 | 436.00 |
| Fiber | 1698 | 30.29 | 8.39 | 14.40 | 24.00 | 29.76 | 36.00 | 52.32 |
| Fat | 1698 | 69.70 | 21.43 | 30.00 | 52.00 | 69.00 | 85.00 | 145.00 |

1. **Data Quality & Integrity Notes**
   * **Completeness:** No nulls detected in dataset.
   * **Consistency:** All numeric variables fall within expected physiological ranges.
   * **Categorial Integrity:** Gender, Activity Level, and Dietary Preference limited to predefined categories.
   * **Granularity:** Each row = one individual’s profile (demographics, nutrition,

recommendations, disease).