Cereal Metrics Analysis Report

Introduction

This project aims to analyze a comprehensive dataset of breakfast cereals to extract meaningful insights regarding consumer ratings, nutritional content, and market trends. Using Tableau for visualization, we provide an interactive dashboard that enables dynamic exploration of the data.

Dataset Overview

The dataset includes information on 77 cereal brands, with the following attributes:

- **Name**: Cereal name
- **Manufacturer (mfr)**: The producer company
- **Type**: Classification as hot or cold cereal
- **Nutritional Information**:
    - Calories per serving
    - Protein content (g)
    - Fat content (g)
    - Sodium content (mg)
    - Fiber content (g)
    - Carbohydrate content (g)
    - Sugar content (g)
    - Potassium content (mg)
- **Vitamins and Minerals**: Percentage of the daily value
- **Shelf Location**: Store shelf (1, 2, or 3)
- **Serving Information**: Weight per serving (oz) and cups per serving
- **Rating**: Consumer rating

Project Objectives

The primary goals of this analysis are:

1. To identify the top-performing cereals based on consumer ratings.
2. To evaluate the nutritional content of various cereals.
3. To provide an interactive tool for users to explore and filter the dataset dynamically.

Key Performance Indicators (KPIs)

We selected the following KPIs to guide our analysis:

1. **Average Rating of All Cereals**: Measures overall consumer satisfaction.
2. **Total Number of Cereal Brands**: Indicates market variety.
3. **Highest Rated Cereal**: Identifies the top cereal based on ratings.
4. **Average Calories per Serving**: Provides a general understanding of the caloric content.

Data Analysis and Insights

1. Average Rating of All Cereals

The average rating across all cereals is **45.72**. This metric provides a baseline for consumer satisfaction levels.

2. Total Number of Cereal Brands

Our dataset comprises **77** different cereal brands, demonstrating the extensive variety available to consumers.

3. Highest Rated Cereal

The cereal with the highest rating is **All-Bran with Extra Fibre**, with a rating of **93.7**. Its high fibre content likely contributes to its high consumer satisfaction.

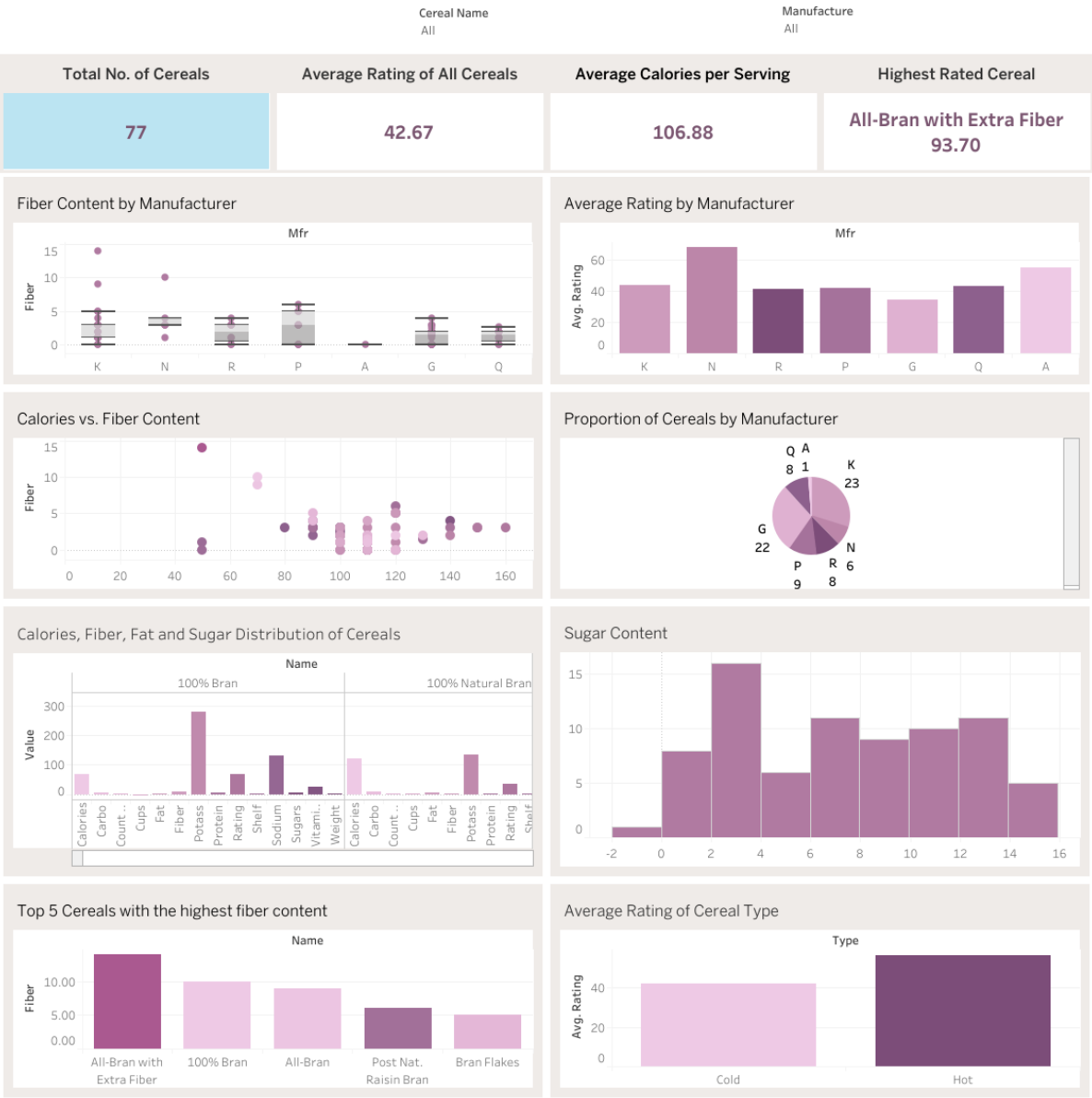### 4. Average Calories per Serving

The average calorie content per serving across all cereals is **106.88** calories. This information helps consumers make more informed dietary choices.

Interactive Dashboard

We have developed an interactive Tableau dashboard to facilitate the exploration of the cereal dataset. The dashboard includes:

- **Bar Charts**: Display ratings, calories, and other nutritional metrics.
- **Box Plot**: Display fibre content by manufacturer.
- **Pie Chart**: Display the proportion of cereals by manufacturer.
- **Scatter Plot**: Display calories versus fiber content of the cereal.
- **Filters**: Allow users to filter data by manufacturer and cereal brand.
- **KPIs**: Highlight key metrics like average rating and highest rated cereal.

Cereal Metrics Analysis

| Cereal Name | Manufacture |
| All | All |

Total No. of Cereals	Average Rating of All Cereals	Average Calories per Serving	Highest Rated Cereal
77	42.67	106.88	**All-Bran with Extra Fiber** **93.70**

Fiber Content by Manufacturer

Average Rating by Manufacturer

Calories vs. Fiber Content

Proportion of Cereals by Manufacturer

Calories, Fiber, Fat and Sugar Distribution of Cereals

Sugar Content

Top 5 Cereals with the highest fiber content

Average Rating of Cereal Type

Future Work

- **Expand Dataset**: Incorporate more cereal brands and nutritional information.
- **Consumer Preferences**: Analyze consumer preferences and trends over time.
- **Health Impact**: Study the health impacts of cereals with different nutritional profiles.

Conclusion

This cereal metrics analysis provides valuable insights into consumer ratings and nutritional content, helping consumers make informed decisions. With an average rating of 45.72 and All-Bran with Extra Fibre as the highest-rated cereal, we highlight the diverse options available in the cereal market. Understanding the average calories per serving aids in making health-conscious choices.