

McDonald's Menu Nutritional Analysis

Date: 20-11-2024

Prepared by: Arpita Lenka



Introduction

Dive deep into the world of McDonald's with a thorough analysis of their dataset, covering nutritional content and providing valuable insights through menu items, giving good ideas to McDonald's customers and much more. This analysis aims to provide valuable insights into the strategies that make McDonald's a global leader in the fast-food industry.

Objectives of the report:

- Extracting meaningful information from McDonald's menu nutritional dataset
 - Performing exploratory data analysis to understand nutritional distribution and trends
 - Creating visualizations to present calorie count and nutrition facts
-

Extracting meaningful information from McDonald's menu nutritional dataset

The **McDonald's Dataset** which contains **260 menu items**, organized into **9 distinct food categories**. This data captures the nutritional values of the items, focusing on five key nutrients: **Calories, Protein, Carbohydrates, Sodium, and Dietary Fiber**, and excludes certain nutrients and daily value percentages for a more streamlined analysis. The serving sizes in the dataset are huge but can be understood into two types: ***Weight-based servings*** and ***Volume-based servings***.

Food categories:

- **Breakfast:** Breakfast items are rich in calories and protein but can also contain high levels of sodium and total fat, which are key to analyzing their overall health impact.
- **Beef & Pork:** Beef and pork menu items are high in protein, but they also have significant amounts of cholesterol and total fat, making these nutrients critical in evaluating their nutritional value.
- **Chicken & Fish:** These are excellent sources of protein while typically having lower fat levels than beef, but sodium and cholesterol content should be considered.
- **Salads:** Salads are typically lower in calories and rich in vitamins A and C, calcium, and dietary fiber, offering a lighter, nutrient-dense option on the menu.
- **Snacks & Sides:** These items often have high carbohydrate and sodium content, with some sides containing sugars that impact their nutritional assessment.
- **Desserts:** Desserts are generally high in sugars, calories, and fat, which are key nutrients to monitor when analyzing their effects on overall diet.
- **Beverages:** Many beverages contain high levels of sugars and calories, with some also contributing to daily sodium intake.
- **Coffee & Tea:** While low in calories, coffee and tea drinks can vary greatly in sugar and fat content depending on the added ingredients like cream and syrups.
- **Smoothies & Shakes:** Smoothies and shakes are typically high in sugars, total fat, and calories, making them a key focus when assessing indulgent menu options.

Each food category is analyzed for its nutritional benefits and concerns, helping McDonald's provide healthier options and improve menu quality.

Key Nutrients in McDonald's Menu Items

- **Calories:** Measure of energy provided by the food.
- **Calories from Fat:** Portion of total calories that come from fat content.
- **Total Fat:** The total amount of fat in the item.
- **Total Fat (% Daily Value):** Percentage of daily recommended fat intake in one serving.
- **Saturated Fat:** Type of fat that can raise cholesterol levels.
- **Saturated Fat (% Daily Value):** Contribution to the daily recommended limit for saturated fats.
- **Trans Fat:** Unhealthy fat that can increase the risk of heart disease.
- **Cholesterol:** A substance linked to heart health, present in animal products.
- **Cholesterol (% Daily Value):** How much of the daily recommended cholesterol the item contains.
- **Sodium:** Salt content, which can affect blood pressure.
- **Sodium (% Daily Value):** The percentage of the recommended daily salt intake in one serving.
- **Carbohydrates:** Main source of energy from sugars, starches, and fibers.
- **Carbohydrates (% Daily Value):** Contribution to the daily recommended intake of carbs.
- **Dietary Fiber:** Aids digestion and promotes a feeling of fullness.
- **Sugar:** Simple carbohydrates that can affect blood sugar levels.
- **Protein:** Essential for muscle building and repair.
- **Vitamin A (% Daily Value):** Contribution to daily vitamin A intake, important for vision and immune function.
- **Vitamin C (% Daily Value):** Supports immune health and skin repair.
- **Calcium (% Daily Value):** Essential for bone strength and health.
- **Iron (% Daily Value):** Supports the transport of oxygen in the blood.

Understanding these key nutrients allows McDonald's customers to make more informed decisions about their meals, helping them balance their diet and manage their health effectively. It helps organizations to enhance menu transparency but also support the development of healthier options preferences and promoting a more positive brand image focused on health and well-being.

Serving size:

Weight based serving:

These servings are measured in grams or ounces, providing a precise understanding of how much food is being consumed.

- **Big Mac: 8.0 oz (227 g)**
- **French Fries: Medium size: 4.1 oz (116 g)**

Volume-based serving sizes:

These servings are measured in fluid ounces or milliliters, often used for liquids or foods that can be poured or scooped.

- **Beverage(child): 12 fl oz cup**
- **Jug size: 1 carton (236 ml)**

Objective:

The primary objective of this analysis is to explore trends in the nutritional content of McDonal'ds menu items. By examining key metrics such as **Calories, Fat, Cholesterol, Carbohydrates, Protein, Iron, Vitamins, Sodium, Dietary Fiber and Sugar** across various food categories, this report aims to uncover insights that can inform healthier meal choices, highlight nutritional imbalance and provide an in-depth understanding of the menu's overall nutritional profile. Additionally, it seeks to identify the healthiest and least healthy options available

Description of data analysis approach and methodology:

This analysis was conducted using Jupyter Notebook and Python libraries such as Pandas, NumPy, and Matplotlib for data manipulation and visualization. The following steps were taken:

1. Data Cleaning:

The dataset underwent rigorous examination, revealing zero missing values and a comprehensive understanding of its diverse data types, ensuring accurate analysis and informed insights

2. Exploratory Data Analysis (EDA):

- **Descriptive Statistics:** Key statistical measures were calculated, including count, mean, standard deviation (std), minimum (min), and percentiles (25%, 50%, 75%), as well as maximum (max). These values provided insights into the distribution of each nutritional factor across the dataset.
- **Outlier Detection:** The analysis revealed the presence of 154 outliers, which could distort averages. To better represent the dataset, the median (the central point of the data) was used as a more reliable measure of central tendency than the mean, especially in the presence of skewed data or extreme values.

3. Visualization:

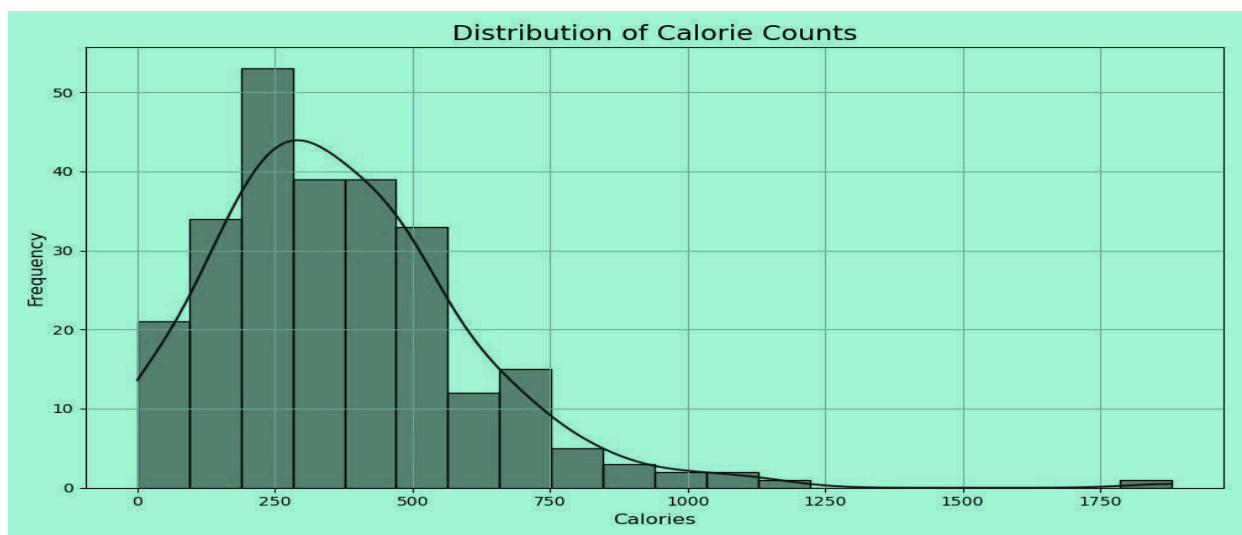
Various visualizations were created to display trends in nutritional content, such as box plots to highlight distribution and outliers, and bar charts for category-wise comparisons.

Exploratory Data Analysis (EDA)

The table below provides a comprehensive summary of key statistical values for the nutritional content of McDonald's menu items. It includes metrics such as the mean, which represents the average nutritional values, and the standard deviation, indicating the variability of these values across the dataset. Additionally, the table highlights the minimum and maximum values, which illustrate the range of nutrient content, and percentiles (25%, 50%, 75%) that help to understand the distribution patterns of each nutrient. This detailed overview offers valuable insights into the calorie content, fat levels, protein amounts, and other nutritional factors present in the menu, facilitating a better understanding of both central tendencies and outliers

Nutrients	count	mean	std	min	25%	50%	75%	max
Calories	260	368.3	240.3	0	210.0	340.0	500.0	1880.0
Calories From Fat	260	127.1	127.9	0	20.0	100.0	200.0	1060.0
Total Fat	260	14.2	14.2	0	2.4	11.0	22.3	118.0
Total Fat (% Daily value)	260	21.8	21.9	0	3.8	17.0	35.0	182.0
Saturated Fat	260	6.0	5.3	0	1.0	5.0	10.0	20.0
Saturated Fat (% Daily Value)	260	30.0	26.6	0	4.8	24.0	48.0	102.0
Trans Fat	260	0.2	0.4	0	0.0	0.0	0.0	2.5
Cholesterol	260	54.9	87.3	0	5.0	35.0	65.0	575.0
Cholesterol (% Daily Value)	260	18.4	29.1	0	2.0	11.0	21.3	192.0
Sodium	260	495.8	577.0	0	107.5	190.0	865.0	3600.0
Sodium (% Daily Value)	260	20.7	24.0	0	4.8	8.0	36.3	150.0
Carbohydrates	260	47.3	28.3	0	30.0	44.0	60.0	141.0
Carbohydrates (% Daily Value)	260	15.8	9.4	0	10.0	15.0	20.0	47.0
Dietary Fiber	260	1.6	1.6	0	0.0	1.0	3.0	7.0
Dietary Fiber (% Daily Value)	260	6.3	6.3	0	0.0	5.0	10.0	28.0
Sugars	260	29.4	28.7	0	5.8	17.5	48.0	128.0
Protein	260	13.3	11.4	0	4.0	12.0	19.0	87.0
Vitamin A (% Daily Value)	260	13.4	24.4	0	2.0	8.0	15.0	170.0
Vitamin C (% Daily Value)	260	8.5	26.3	0	0.0	0.0	4.0	240.0
Calcium (% Daily Value)	260	21.0	17.0	0	6.0	20.0	30.0	70.0
Iron (% Daily Value)	260	7.7	8.7	0	0.0	4.0	15.0	40.0

Analyzing the distribution of calorie counts across menu items.



The histogram shows the distribution of calorie counts in McDonald's menu items. Most items have between 200 and 500 calories, peaking around 250. As calories increase, the frequency drops significantly. The graph is right-skewed, with a few high-calorie outliers.

Category	Count of Menu Item	Centerpoint Calories
Beef & Pork	15	500
Beverages	27	100
Breakfast	42	470
Chicken & Fish	27	480
Coffee & Tea	95	270
Dessert	7	250
Salads	6	255
Smoothies & Shakes	28	540

Snacks & Sides	13	260
---------------------------	-----------	------------

The table provides an overview of various food categories from McDonald's menu, listing the number of items in each category and their centerpoint (median) calorie values. The **Coffee & Tea** category has the most items with 95, and a median calorie count of 270. **Breakfast** and **Chicken & Fish** categories have moderate counts, with 42 and 27 items respectively, and centerpoint calories around 470-480. On the higher end, **Smoothies & Shakes** have the highest median calories at 540, while **Beverages** and **Desserts** offer lower calorie options with centerpoints of 100 and 250 calories. **Salads** and **Snacks & Sides** offer lighter meals, with median calories around 255 and 260.

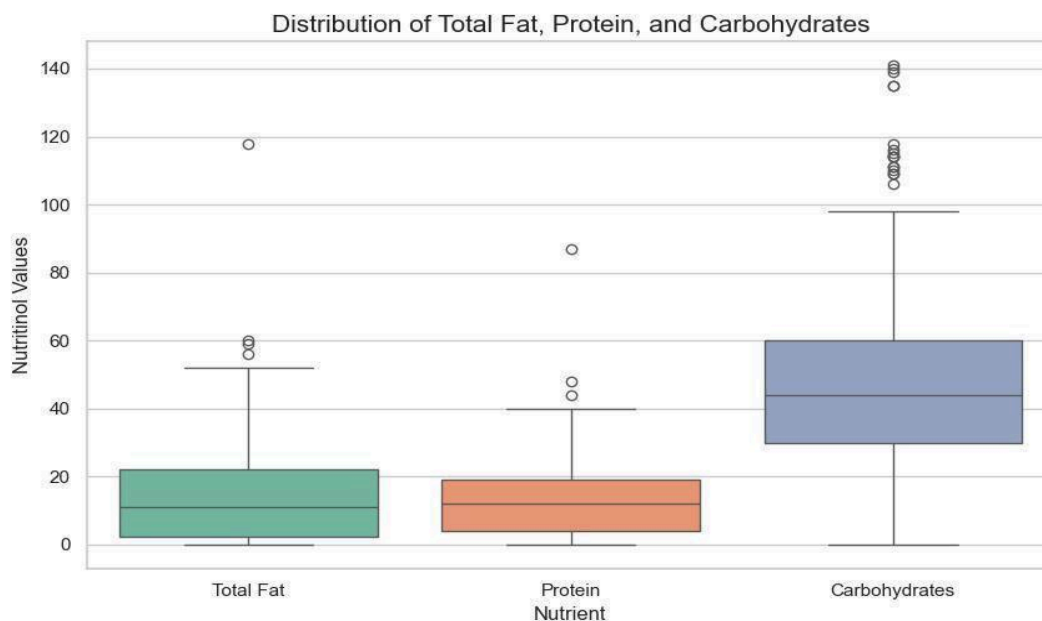
Exploring the nutritional content (e.g. fat, protein, carbohydrates) of different items by Category.

Category	Count of Menu Item	Centerpoi nt Total Fat	Centerpoin t Protein	Centerpoint Carbohydrat es
Beef & Pork	15	26	24	41
Beverages	27	0	0	27
Breakfast	42	26	19	45
Chicken & Fish	27	21	27	44
Coffee & Tea	95	7	10	45
Dessert	7	8	2	32
Salads	6	8	24	21
Smoothies & Shakes	28	16	12	88
Snacks & Sides	13	11	6	30

The table summarizes McDonald's menu categories, showing median values for total fat,

protein, and carbohydrates. **Beef & Pork** items have the highest fat (26g) and significant

protein (24g). **Breakfast and Chicken & Fish** items also contain moderate fat and protein. **Smoothies & Shakes** have the highest carbohydrates (88g), while **Beverages and Desserts** are lighter, with minimal protein and fat. **Salads and Snacks & Sides** offer moderate carbohydrates with lower fat and protein content.



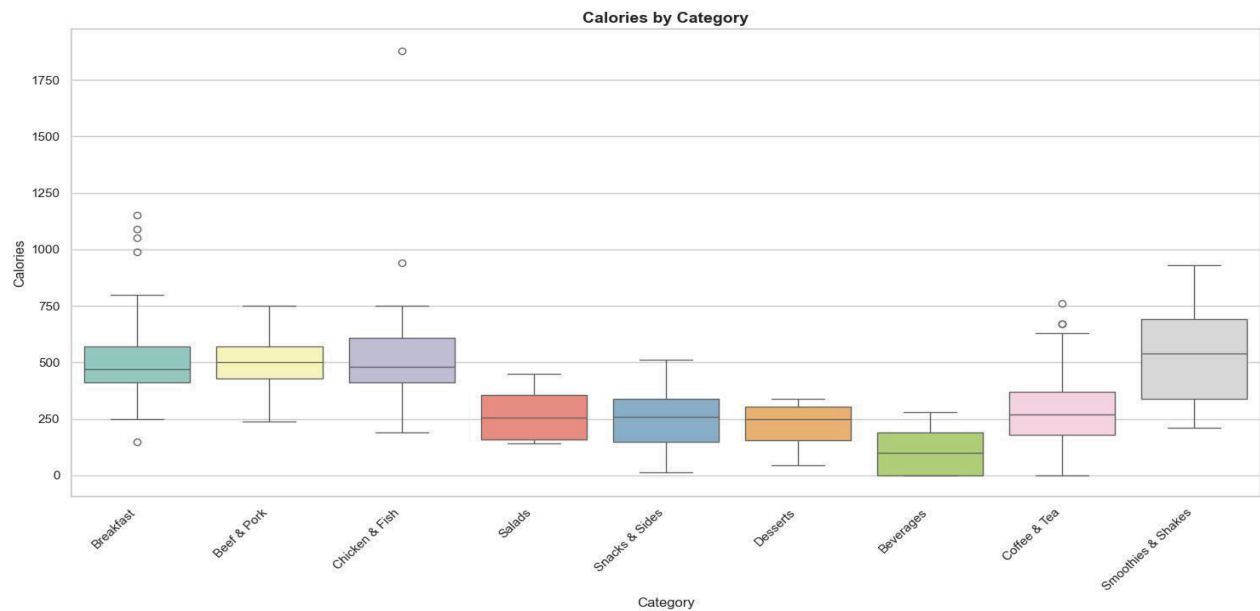
The table summarizes the nutritional content of McDonald's menu items, focusing on total fat, protein, and carbohydrates. On average, items contain **14.16g of fat, 13.33g of protein, and 47.34g of carbohydrates**. The range varies widely, with fat going from 0g to 118g, protein from 0g to 87g, and carbohydrates from 0g to 141g. Median values are 11g for fat, 12g for protein, and 44g for carbohydrates, providing insight into the

typical nutritional content of the menu.

Insights into food categories by vital nutrients:

Exploring food categories with box plots and tables enables a deeper understanding of vital nutrient variations, supporting nutrition-focused analysis.

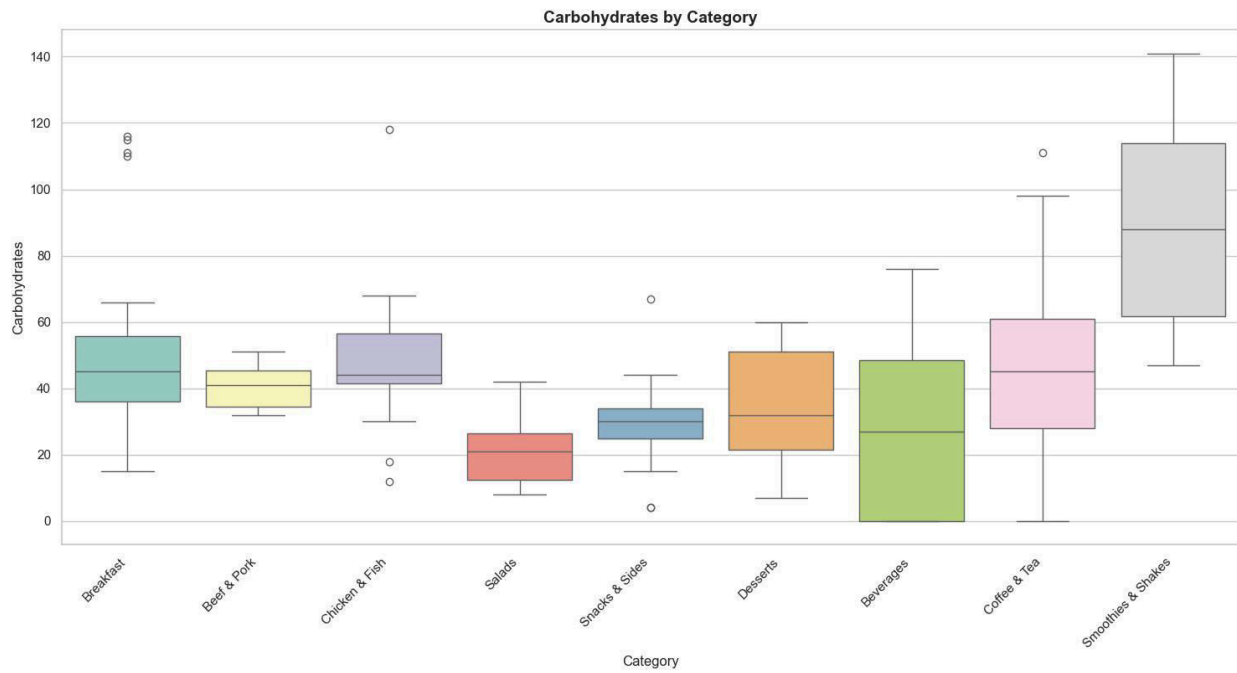
1. Calories Box plot



	Total Fat	Protein	Carbohydrate s
count	260	260	260
mean	14.16	13.33	47.34
std	14.21	11.43	28.25
min	0	0	0
25%	2.38	4.00	30.00
50%	11.00	12.00	44.00
75%	22.25	19.00	60.00
max	118.00	87.00	141.00

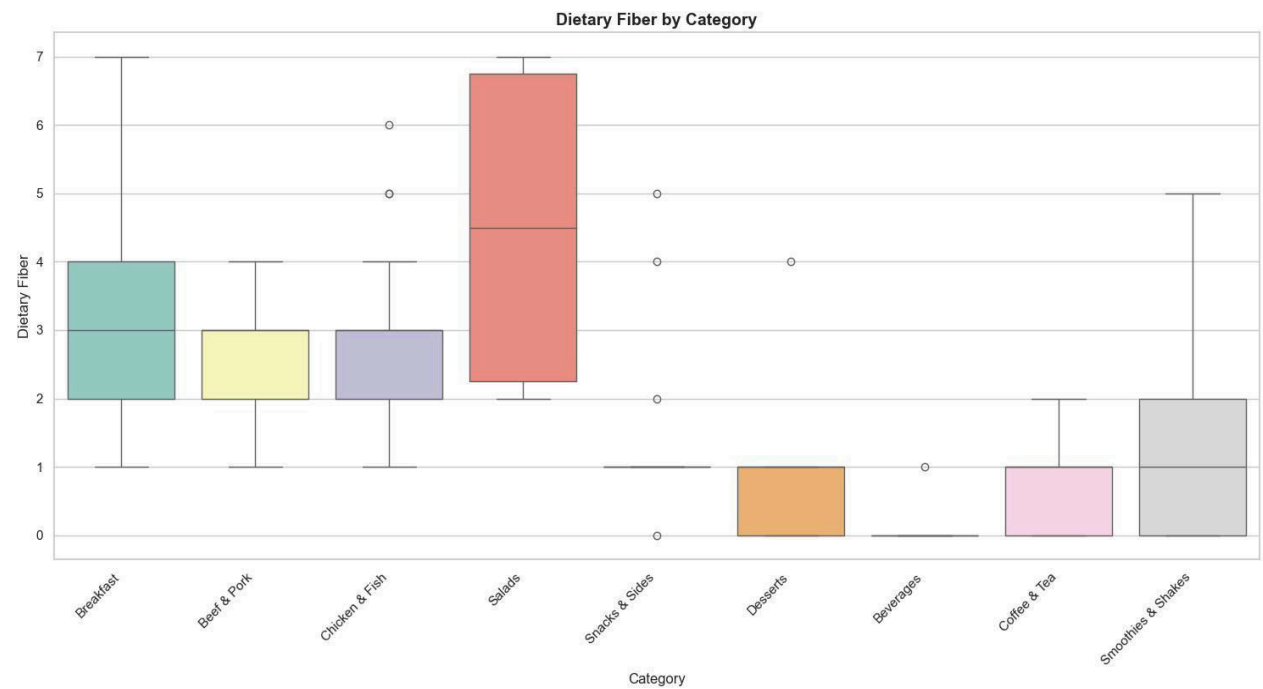
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	494.0	141.4	240.0	430.0	500.0	570.0	750.0
Beverage	27	113.7	99.2	0	0	100.0	190.0	280.0
BreakFast	42	526.7	221.8	150.0	410.0	470.0	570.0	1150.0
Chicken & Fish	27	553.0	306.5	190.0	410.0	480.0	610.0	1880.0
Coffee & Tea	95	283.9	157.8	0	180.0	270.0	370.0	760.0
Dessert	7	222.1	108.1	45.0	155.0	250.0	305.0	340.0
Salads	6	270.0	127.4	140.0	160.0	255.0	357.5	450.0
Smoothies & Shakes	28	531.4	230.9	210.0	337.5	540.0	692.5	930.0
Snacks & Slides	13	245.8	141.8	15.0	150.0	260.0	340.0	510.0

2. Carbohydrates Box plot



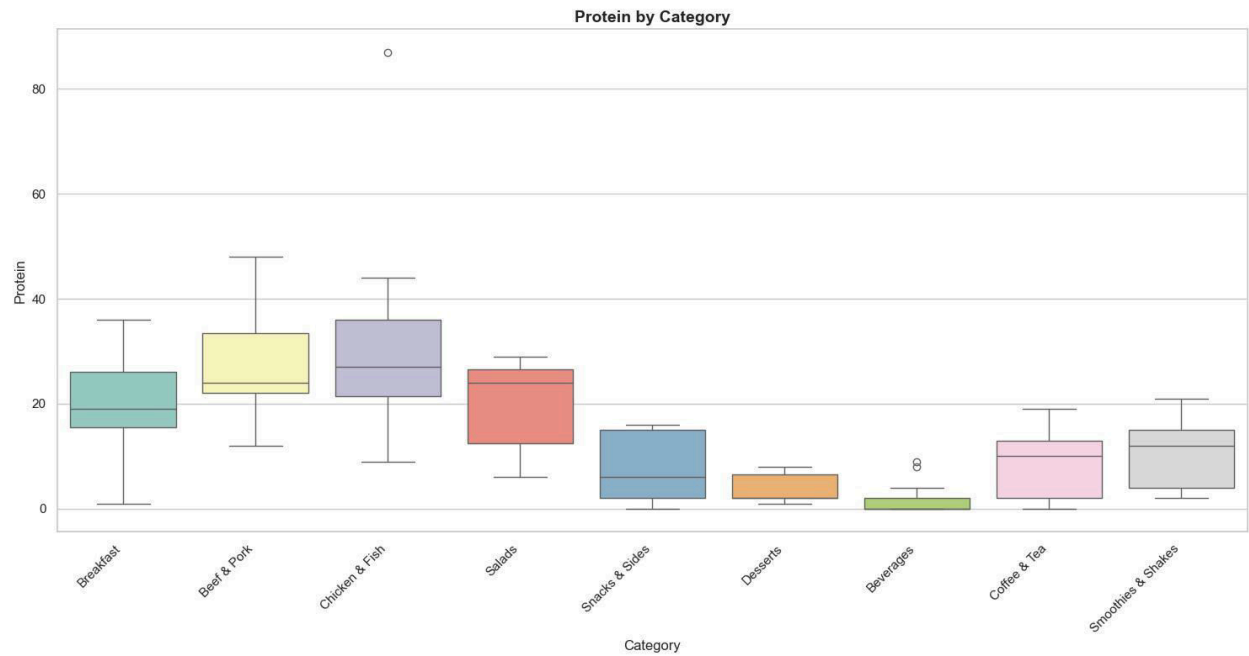
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	40.1	6.4	32.0	34.5	41.0	45.5	51.0
Beverage	27	28.8	26.1	0	0	27.0	48.5	76.0
BreakFast	42	49.8	23.4	15.0	36.0	45.0	55.8	116.0
Chicken & Fish	27	49.1	18.9	12.0	41.5	44.0	56.5	118.0
Coffee & Tea	95	44.5	23.6	0	28.0	45.0	61.0	111.0
Dessert	7	34.9	19.6	7.0	21.5	32.0	51.0	60.0
Salads	6	21.7	12.5	8.0	12.5	21.0	26.5	42.0
Smoothies & Shakes	28	90.4	30.9	47.0	61.8	88.0	114.0	141.0
Snacks & Slides	13	29.2	16.4	4.0	25.0	30.0	34.0	67.0

3.Dietary Fiber Box plot



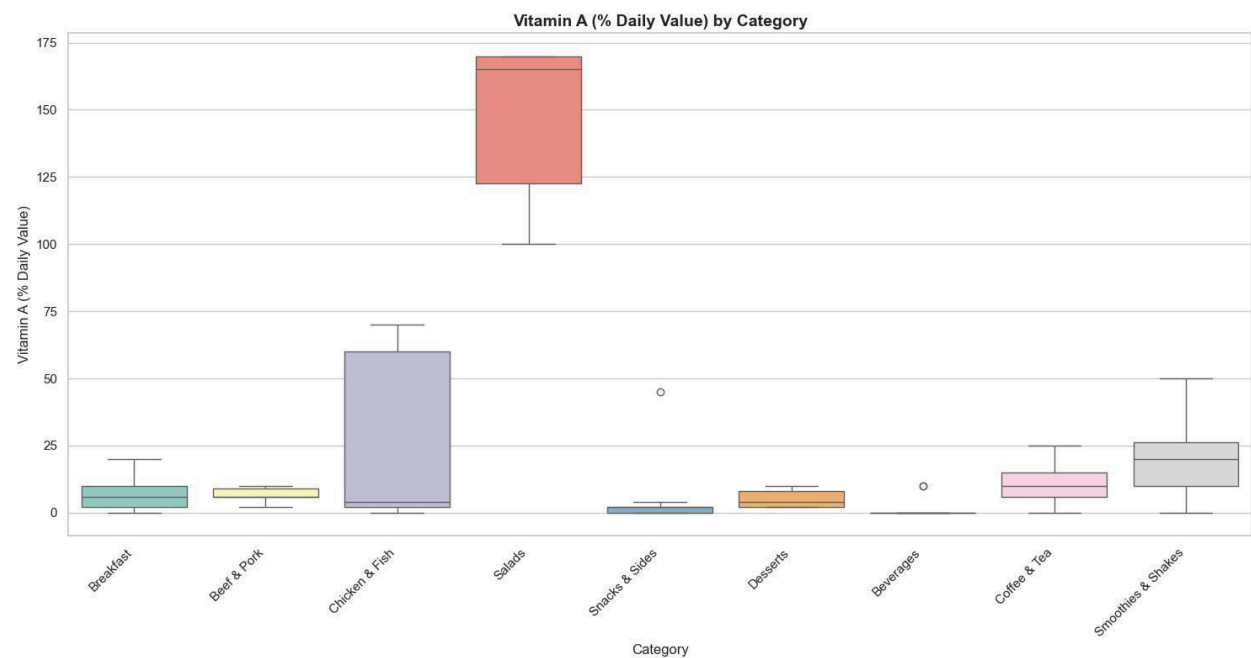
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	2.53	0.74	1.0	3.00	3.00	3.00	4.00
Beverage	27	0.03	0.19	0	0	0	0	1.00
BreakFast	42	3.26	1.39	1.0	2.00	3.00	4.00	7.00
Chicken & Fish	27	2.92	1.14	1.0	2.00	3.00	3.00	6.00
Coffee & Tea	95	0.77	0.62	0	0	1.00	1.00	2.00
Dessert	7	1.00	1.41	0	0	1.00	1.00	4.00
Salads	6	4.50	2.42	2.0	2.25	4.50	6.75	7.00
Smoothies & Shakes	28	1.46	1.40	0	0	1.00	2.00	5.00
Snacks & Slides	13	1.53	1.39	0	1.0	1.00	1.00	5.00

4. Protein Box Plot:



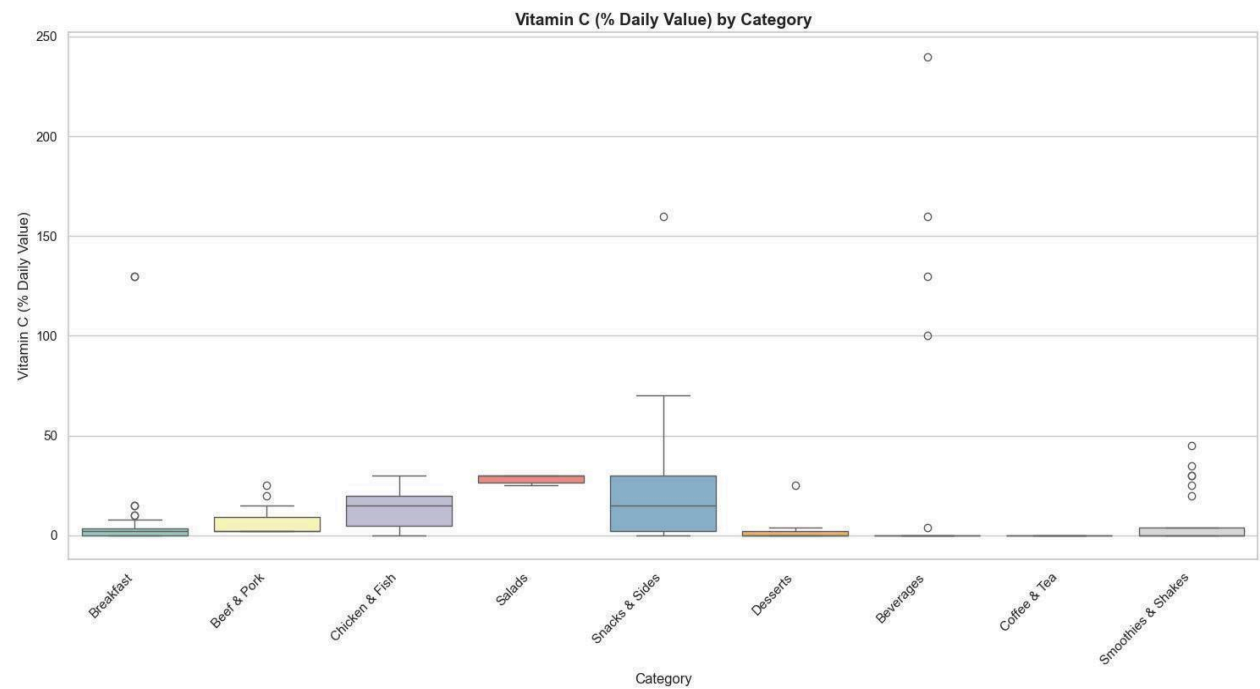
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	27.33	9.57	12.00	22.00	24.00	33.50	48.00
Beverage	27	1.33	2.44	0	0	0	2.00	9.00
BreakFast	42	19.85	8.78	1.00	15.50	19.00	26.00	36.00
Chicken & Fish	27	29.11	14.76	9.00	21.50	27.00	36.00	87.00
Coffee & Tea	95	8.86	5.51	0	2.0	10.00	13.00	19.00
Dessert	7	4.00	2.88	1.00	2.0	2.00	6.50	8.00
Salads	6	19.83	9.80	6.00	12.50	24.00	26.50	29.00
Smoothies & Shakes	28	10.85	6.13	2.0	4.0	12.00	15.00	21.00
Snacks & Slides	13	8.38	6.73	0	2.0	6.00	15.00	16.00

5. Vitamin A (% Daily Value)



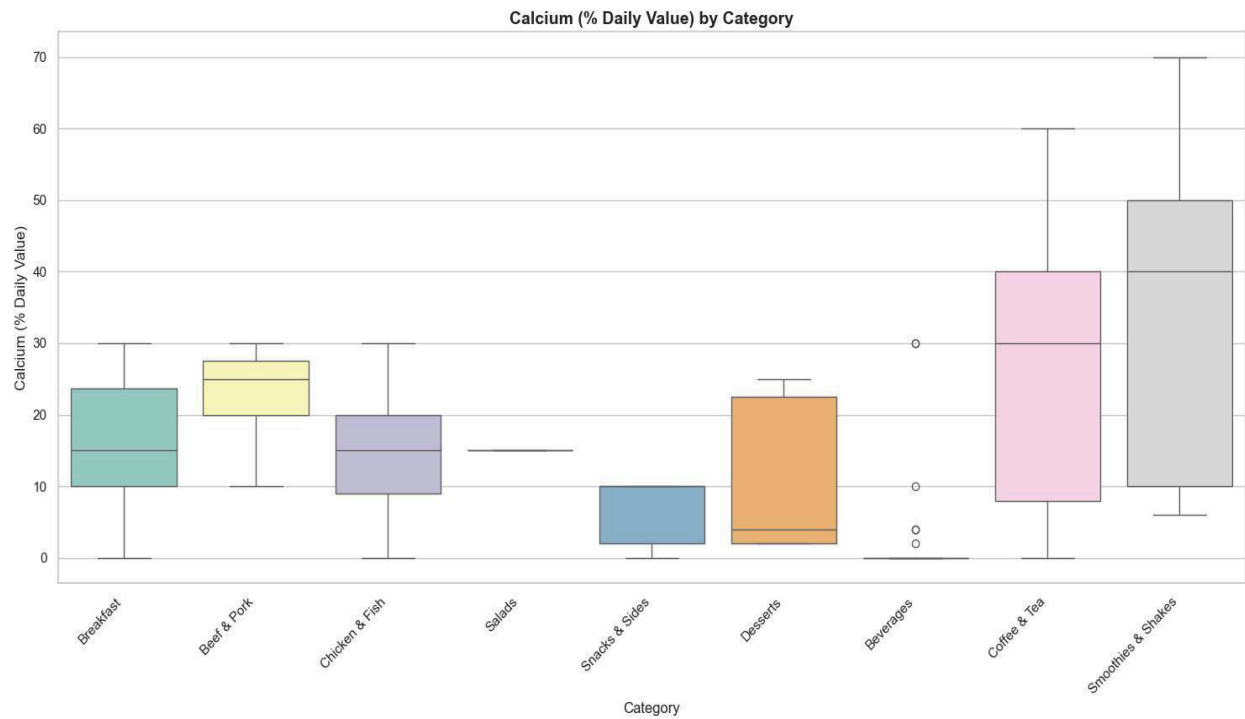
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	6.93	2.60	2.00	6.00	6.00	9.00	10.00
Beverage	27	0.74	2.66	0	0.00	0	0	10.00
BreakFast	42	6.92	6.01	0	2.00	6.00	10.00	20.00
Chicken & Fish	27	20.44	27.15	0	2.00	4.00	60.00	70.00
Coffee & Tea	95	10.73	6.10	0	6.00	10.00	15.00	25.00
Dessert	7	5.14	3.43	2.0	2.00	4.00	8.00	10.00
Salads	6	146.66	32.65	100.0	122.50	165.00	170.00	170.00
Smoothies & Shakes	28	18.75	13.09	0	10.0	20.00	26.25	50.00
Snacks & Slides	13	4.84	12.15	0	0	2.00	2.00	45.00

6. Vitamin C (% Daily Value)



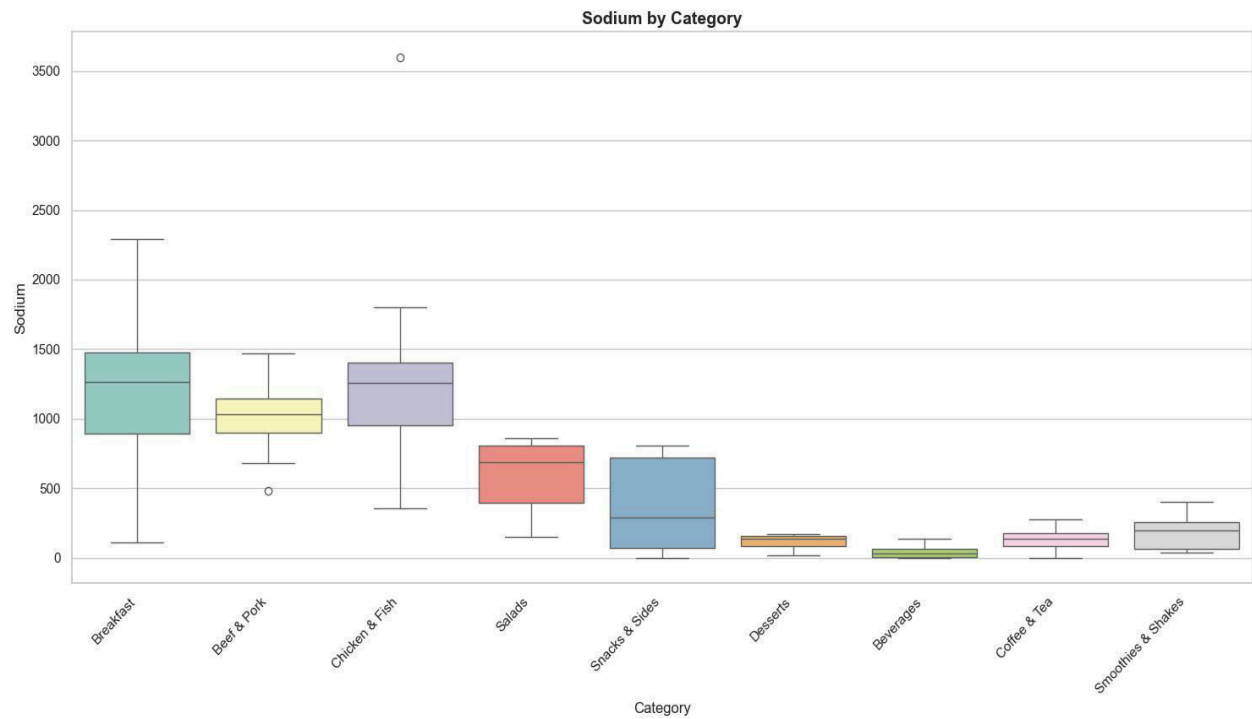
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	7.33	7.40	2.00	2.00	2.00	9.00	25.00
Beverage	27	23.48	60.51	0	0	0	0	240.00
BreakFast	42	8.90	27.69	0	0	2.00	3.50	130.00
Chicken & Fish	27	12.62	8.36	0	5.00	15.00	20.00	30.00
Coffee & Tea	95	0	0	0	0	0	0	0
Dessert	7	4.14	9.31	0	0	0	2.00	25.00
Salads	6	28.33	2.58	25.00	26.25	30.00	30.00	30.00
Smoothies & Shakes	28	6.96	13.26	0	0	0	4.00	45.00
Snacks & Sides	13	28.15	44.91	0	2.00	15.00	30.00	160.00

7.Calcium (% Daily Value)



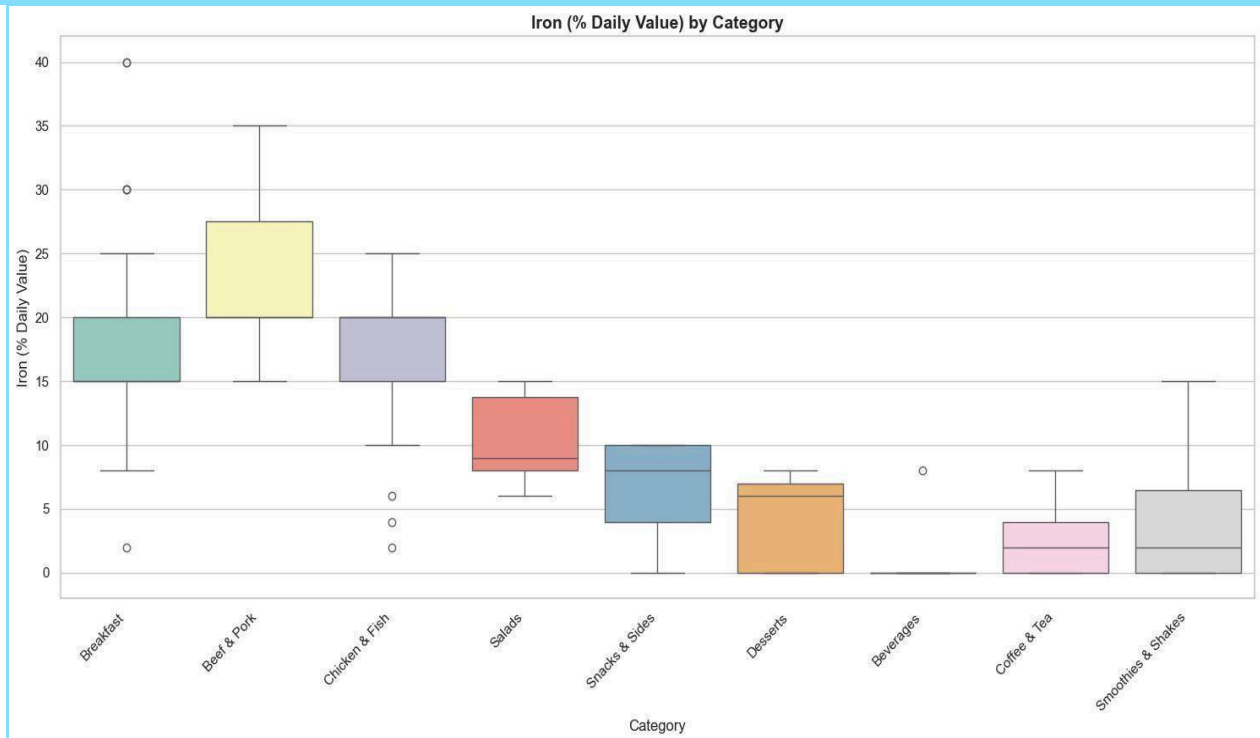
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	23.00	5.91	10.00	20.00	25.00	27.50	30.00
Beverage	27	2.96	8.08	0	0	0	0	30.00
BreakFast	42	16.16	7.82	0	10.00	15.00	23.75	30.00
Chicken & Fish	27	15.44	8.55	0	9.00	15.00	20.00	30.00
Coffee & Tea	95	28.29	17.62	0	8.00	30.00	40.00	60.00
Dessert	7	11.42	11.28	2.00	2.00	4.00	22.50	25.00
Salads	6	15.00	0	15.00	15.00	15.00	15.00	15.00
Smoothies & Shakes	28	35.57	21.75	6.00	10.00	40.00	50.00	70.00
Snacks & Slides	13	6.00	4.54	0	2.00	10.00	10.00	10.00

8.Sodium:



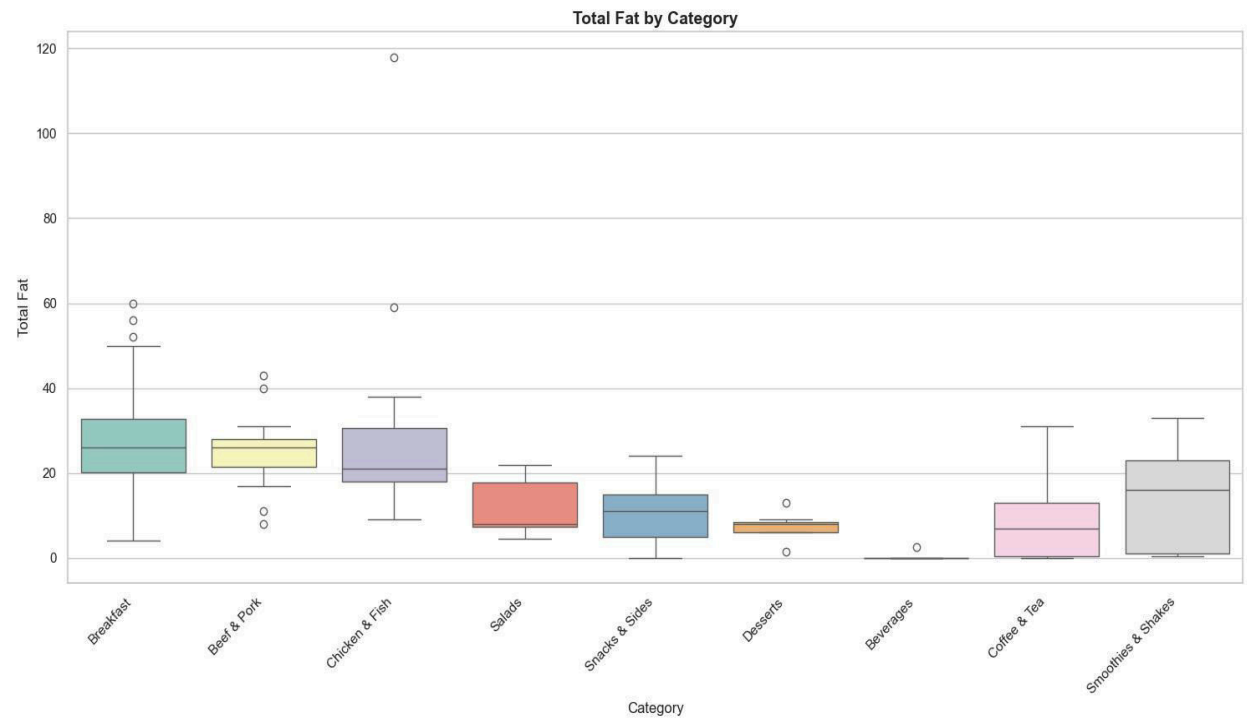
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	1020.6	267.7	480.0	900.0	1030.0	1145.0	1470.0
Beverage	27	41.5	43.4	0	5.0	30.0	62.5	140.0
BreakFast	42	1211.1	509.5	115.0	892.5	1265.0	1477.5	2290.0
Chicken & Fish	27	1257.8	584.4	360.0	950	1260.0	1405.0	3600.0
Coffee & Tea	95	136.9	74.1	0	85	140.0	180.0	280.0
Dessert	7	117.14	55.1	20.0	87.5	135.0	160.0	170.0
Salads	6	588.3	295.4	150.0	395.0	685.0	810.0	860.0
Smoothies & Shakes	28	183.6	110.9	40.0	63.8	195.0	260.0	400.0
Snacks & Slides	13	395.8	334.0	0	70.0	290.0	720.0	810.0

9.Iron (% Daily Value):



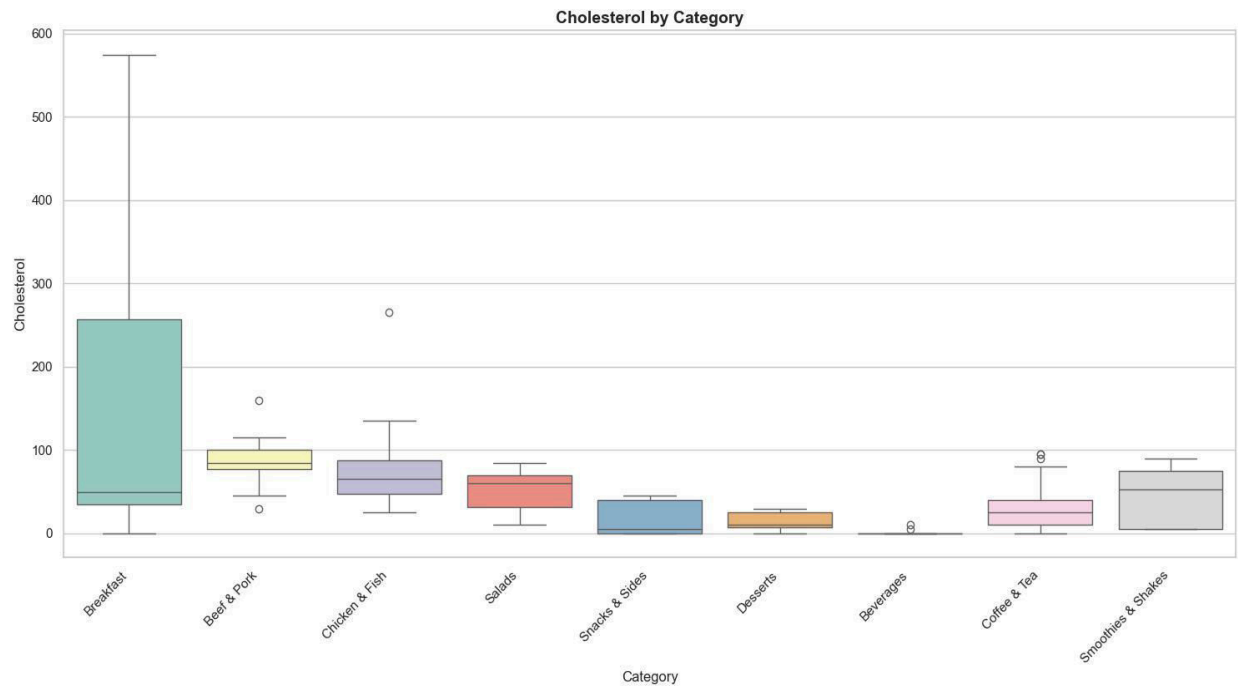
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	23.33	5.88	15.00	20.00	20.00	27.50	35.00
Beverage	27	0.30	1.54	0	0	0	0	8.00
BreakFast	42	17.14	7.92	2.00	15.00	15.00	20.00	40.00
Chicken & Fish	27	16.37	5.62	2.00	15.00	20.00	20.00	25.00
Coffee & Tea	95	2.14	2.54	0	0	2.00	4.00	8.00
Dessert	7	4.00	3.83	0	0	6.00	7.00	8.00
Salads	6	10.33	3.83	6.00	8.00	9.00	13.75	15.00
Smoothies & Shakes	28	3.96	4.04	0	0	2.00	6.50	15.00
Snacks & Slides	13	6.61	3.68	0	4.00	8.00	10.00	10.00

10.Total Fat:



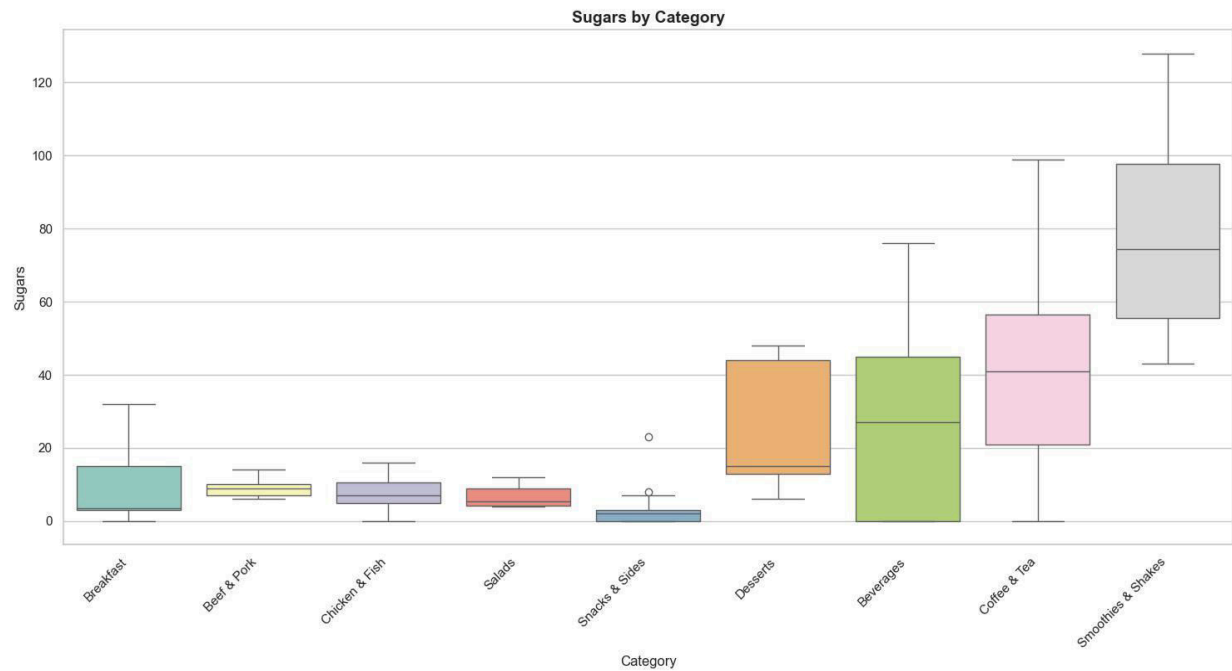
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	24.86	9.25	8.00	21.50	26.00	28.00	43.00
Beverage	27	0.09	0.48	0	0	0	0	2.50
BreakFast	42	27.69	13.34	4.00	20.25	26.00	32.75	60.00
Chicken & Fish	27	26.96	20.86	9.00	18.00	21.00	30.50	118.00
Coffee & Tea	95	8.02	7.44	0	0.50	7.00	13.00	31.00
Dessert	7	7.35	3.50	1.5	6.00	8.00	8.50	13.00
Salads	6	11.75	7.67	4.5	7.25	8.00	17.75	22.00
Smoothies & Shakes	28	14.13	10.37	0.5	1.00	16.00	23.00	33.00
Snacks & Slides	13	10.54	7.56	0	5.00	11.00	15.00	24.00

12.Cholesterol:



Category	count	7mea 0 0n	std	min	25%	50%	75%	max
Beef & Pork	15	87.33	29.75	30.00	77.50	85.00	100.00	160.00
Beverage	27	0.56	2.12	0	0	0	0	10.00
BreakFast	42	152.86	171.48	0	35.00	50.00	257.50	575.00
Chicken & Fish	27	75.37	45.91	25.00	47.50	65.00	87.50	265.00
Coffee & Tea	95	27.26	22.55	0	10.00	25.00	40.00	95.00
Dessert	7	15.00	11.55	0	7.50	10.00	25.00	30.00
Salads	6	51.67	29.09	10.00	31.25	60.00	70.00	85.00
Smoothies & Shakes	28	45.00	32.29	5.00	5.00	52.50	75.00	90.00
Snacks & Slides	13	18.46	20.35	0	0	5.00	40.00	45.00

12.Sugars:



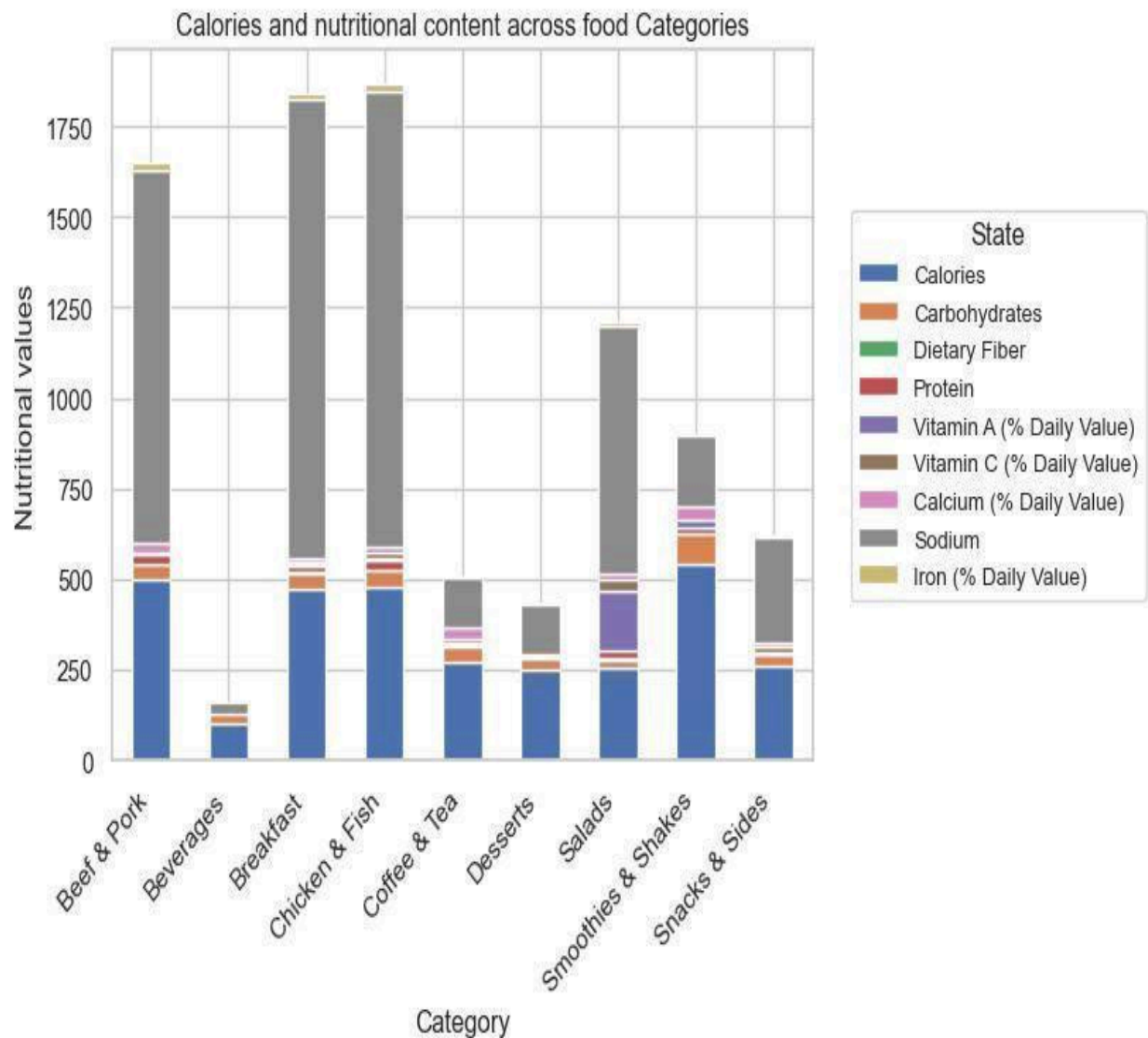
Category	count	mean	std	min	25%	50%	75%	max
Beef & Pork	15	8.80	2.37	6.00	7.00	9.00	10.00	14.00
Beverage	27	27.85	25.44	0	0	27.00	45.00	76.00
BreakFast	42	8.26	7.99	0	3.00	3.50	15.00	32.00
Chicken & Fish	27	7.33	4.43	0	5.00	7.00	10.50	16.00
Coffee & Tea	95	39.61	22.35	0	21.00	41.00	56.50	99.00
Dessert	7	26.14	18.22	6.00	13.00	15.00	44.00	48.00
Salads	6	6.83	3.37	4.00	4.25	5.50	9.00	12.00
Smoothies & Shakes	28	77.89	25.77	43.00	55.50	74.50	97.75	128.00
Snacks & Slides	13	4.07	6.22	0	0	2.00	3.00	23.00

The Box Plot and Table helps you understand all Food Category nutritional Values helps choose menu items wisely.

Visualizations:

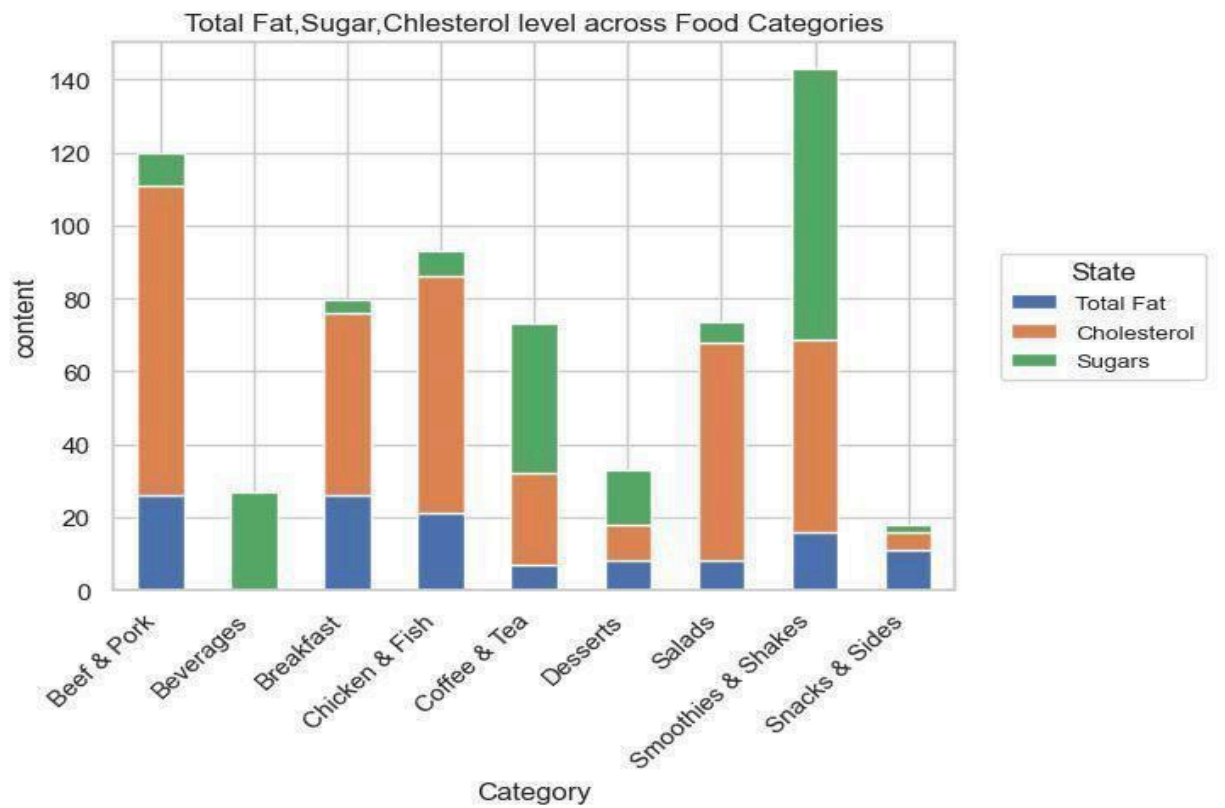
Nutrition Navigator: Identifying Healthy and Less healthy Food Categories options:

Healthy Nutrients



Category	calories	carbohydrates	Fiber	protein	Vit A	Vit C	calcium	sodium	iron
Beef & Pork	500	41	3.0	24.0	6.0	2.0	25.0	1030	20.0
Beverage	100	27	0	0	0	0	0	30	0
BreakFast	470	45	3.0	19.0	6.0	2.0	15.0	1265	15.0
Chicken & Fish	480	44	3.0	27.0	4.0	15.0	15.0	1260	20.0
Coffee & Tea	270	45	1.0	10.0	10.0	0	30.0	140	2.0
Dessert	250	32	1.0	2.0	4.0	0	4.0	135	6.0
Salads	255	21	4.5	24.0	165.0	30.0	15.0	685	9.0
Smoothies & Shakes	540	88	1.0	12.0	20.0	0	40.0	195	2.0
Snacks & Slides	260	30	1.0	6.0	2.0	15.0	10.0	290	8.0

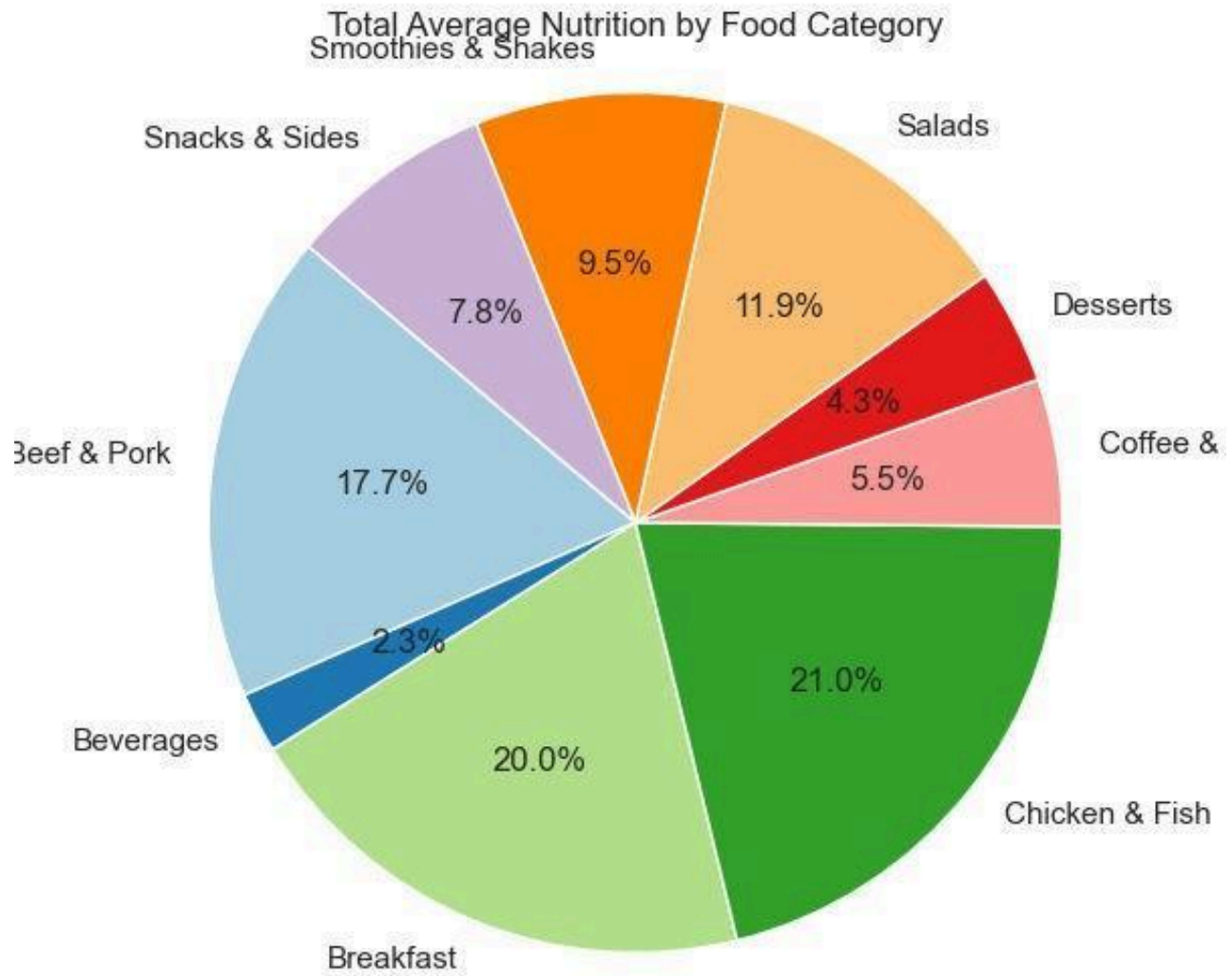
Less healthy Nutrients



Category	Total Fat	Cholesterol	Sugars
Beef & Pork	26.0	85.0	9.0
Beverage	0	0	27.0
BreakFast	26.0	50.0	3.5
Chicken & Fish	21.0	65.0	7.0
Coffee & Tea	7.0	25.0	41.0
Dessert	8.0	10.0	15.0
Salads	8.0	60.0	5.5
Smoothies & Shakes	16.0	52.0	74.5
Snacks & Slides	11.0	5.0	2.0

The stacked bar charts and accompanying tables offer a detailed comparison of both healthy and unhealthy nutrients across various food categories, helping consumers make informed dietary choices. For healthy nutrients, categories like Salads and Chicken & Fish stand out for their **high protein**, vitamins, and minerals such as Vitamin A, Vitamin C, and iron, while Smoothies & Shakes provide a boost of **calcium**. On the other hand, unhealthy nutrients like total fat, cholesterol, and sugars are notably higher in categories such as Beef & Pork, Smoothies & Shakes, and Beverages, signaling that these options should be consumed with caution due to their higher fat, cholesterol, and sugar content. This insight empowers individuals to balance their nutritional intake based on their health goals.

Determining the average nutritional content of popular menu categories.



The value shown in pie chart gives which food having good nutritional content

Nutritional Overview of Popular Menu Categories at McDonald's

Breakfast:

McDonald's breakfast is a customer favorite, offering a mix of protein, carbs, and vitamins to kickstart the day. Pairing breakfast items with coffee or tea makes for a great, energizing combination.

Lunch:

The Chicken & Fish options are popular for lunch, providing calories, protein, and essential vitamins. For a more balanced meal, you can pair these with salads or smoothies, adding more nutrients and variety.

Dinner:

For dinner, Beef & Pork items like burgers and wraps are a go-to choice. Many customers enjoy these with drinks, desserts, or sides. While tasty, this combo can be high in fat, cholesterol, and sugar, so it's best to enjoy in moderation for a healthier diet.

Benefits of Nutritional Analysis for McDonald's Customers and Organization

For McDonald's Customers

1. Making Informed Choices:

Customers can choose meals that match their dietary needs, like low-calorie, high-protein, or balanced meals, by knowing the nutritional value of each item.

2. Healthier Eating Habits:

Understanding which items are rich in nutrients like protein, fiber, and vitamins helps customers pick healthier options and maintain better eating habits.

3. Customizing Meals:

Nutritional information can help people manage specific health concerns, like limiting salt, sugar, or fat for conditions such as diabetes or high blood pressure. They can adjust their meals to fit their needs.

4. Supporting Dietary Preferences:

Customers with specific goals, like weight management or muscle building, can easily find options like high-protein chicken dishes or low-calorie drinks that fit their preferences.

For McDonald's Organization

1. Better Menu Options:

McDonald's can use this data to improve their menu by adjusting portion sizes, ingredients, or creating new healthier items that still taste great.

2. Targeted Advertising:

Nutritional insights help McDonald's market items like salads, smoothies, or low-calorie drinks to health-conscious customers, offering personalized promotions that connect with their needs.

3. Stronger Customer Trust:

Providing clear nutritional information builds trust and loyalty among customers, especially those who care about eating healthy.

4. Following the Rules:

Many places require fast-food chains to share nutritional info. This analysis ensures McDonald's stays legal and transparent.

5. Creating New Products:

The insights can inspire McDonald's to develop new, healthier fast-food options, attracting more customers, including those who avoid fast food for health reasons.

- By using nutritional analysis, McDonald's can improve customer satisfaction, meet health trends, and stay ahead in the fast-food business.

Recommendations on how McDonald's could improve the nutritional profile of their menu

McDonald's can improve the nutritional profile of their menu by implementing the following recommendations:

- **Reduce sodium, saturated fat, and added sugars in popular items to promote healthier options.**
- **Incorporate leaner protein sources like grilled chicken or plant-based alternatives to offer more balanced meals.**
- **Increase the availability of fresh vegetables and whole grains to enhance the nutritional value of meals.**
- **Offer smaller portion sizes to help customers manage calorie intake more easily.**
- **Provide greater transparency on ingredients to allow customers to make informed, health-conscious choices.**
- **Adopt healthier cooking methods, such as baking instead of frying, to reduce overall fat content in certain menu items.**

These changes would not only support healthier eating habits but also align McDonald's with evolving consumer preferences for nutritious and balanced meals.

Conclusion:

This analysis provides valuable insights into the nutritional content across various food categories at McDonald's, helping customers make more informed choices based on their dietary preferences. While categories like Chicken & Fish and Salads offer a balanced combination of proteins, vitamins, and minerals, others such as Beef & Pork and Smoothies & Shakes are higher in fat, cholesterol, and sugars, which may require careful moderation. By understanding the nutritional profiles of these menu items, consumers can tailor their meals to fit their nutritional goals, promoting healthier eating habits.

Arpita-14-lenka/McDonald-s-Menu-Nutrition-Analysis(github.com)