

“Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study”

PROBLEM

College students often struggle with maintaining a balanced and nutritious diet due to several key challenges:

1. **Lack of Nutritional Awareness**
Many students are unaware of the nutritional content of their food choices, leading to unbalanced or unhealthy eating habits.
 2. **Poor Dietary Habits**
Due to tight schedules, stress, and limited cooking skills, students often rely on fast food, processed meals, or skip meals altogether.
 3. **Limited Access to Real-Time Food Data**
Campus dining halls may not provide clear or accessible nutritional data, making it hard for students to make informed decisions.
 4. **Inadequate Use of Data for Health Interventions**
University wellness programs often lack data-driven insights into student eating behavior, reducing the effectiveness of nutrition-based interventions.
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SOLUTION

The project proposes a data-driven approach using **Tableau** to visualize, analyze, and improve college food choices:

1. Data Collection & Integration

- Gather data on:
 - Student food choices (via surveys or dining hall logs)
 - Nutritional data from dining hall menus
 - Student demographics and lifestyle indicators (sleep, stress, activity level)

2. Tableau Dashboards for Visual Analysis

- Create **interactive dashboards** to visualize:
 - Macronutrient and micronutrient intake
 - Most and least nutritious meals selected
 - Time-of-day trends (e.g., breakfast skipping)
 - Food preferences by gender, major, and lifestyle

3. Identifying At-Risk Patterns

- Use Tableau to detect:
 - Frequent unhealthy patterns (e.g., low fruit/veg intake, high sugar intake)
 - Groups at risk of malnutrition or overconsumption

4. Personalized Dietary Strategies

- Based on insights, recommend:
 - Balanced meal plans from existing menu options
 - Affordable healthy swaps (e.g., oatmeal instead of sugary cereal)
 - Custom nudges (e.g., reminders for hydration or vegetable intake)

5. Stakeholder Engagement

- Provide insights to:
 - Campus nutritionists for targeted campaigns
 - Dining services to revise menus
 - Students through self-monitoring dashboards
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IMPACT

- **Improved Student Health** through informed food choices.
- **Data-Driven Policy Making** for campus dining services.
- **Empowered Students** with self-awareness and personalized nutrition goals.
- **Academic Support** by correlating diet quality with performance and mental health.