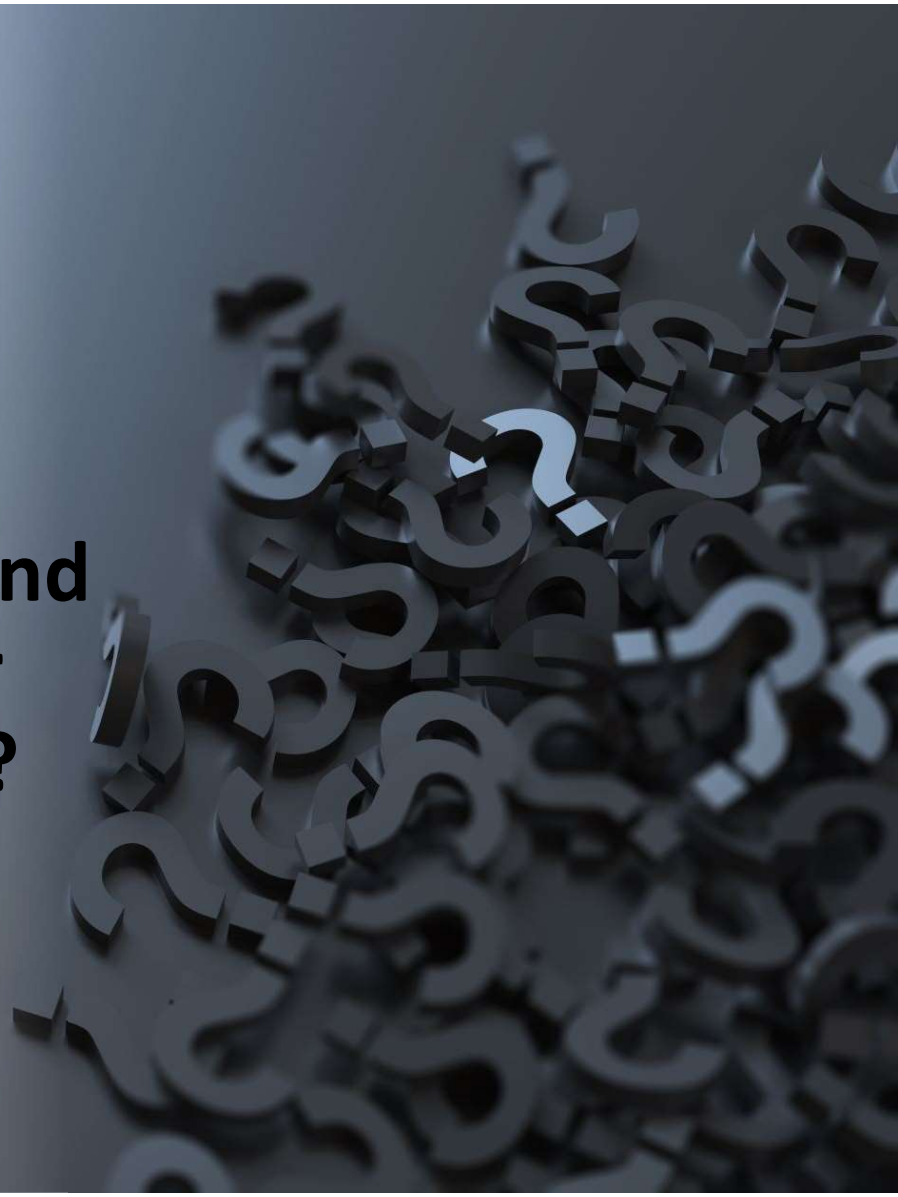
Analyzing Consumer Behavior for Bellasbeat's Health-focused Smart Devies

I. Executive Summary

- **Bellabeat, a high-tech manufacturer specializing in health-focused products for women, aims to better understand its customers' behavior through the analysis of smart device usage data. Through this understanding, Bellabeat seeks to enhance its marketing strategies and product development. This case study leverages the data from fitness trackers like Fitbit and Bellabeat's Leaf wellness tracker, focusing on metrics such as activity, sleep, and stress.**

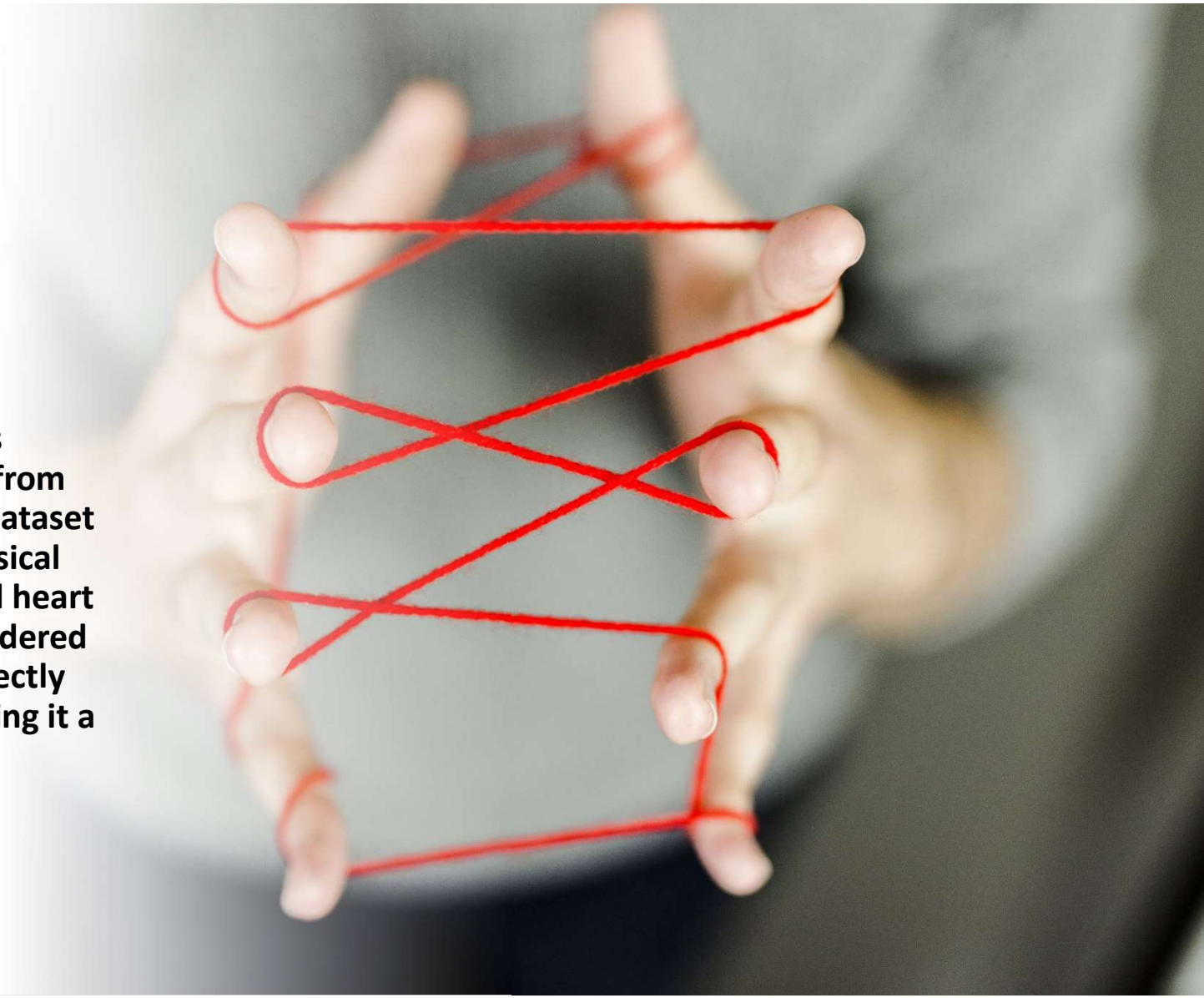
II. Ask

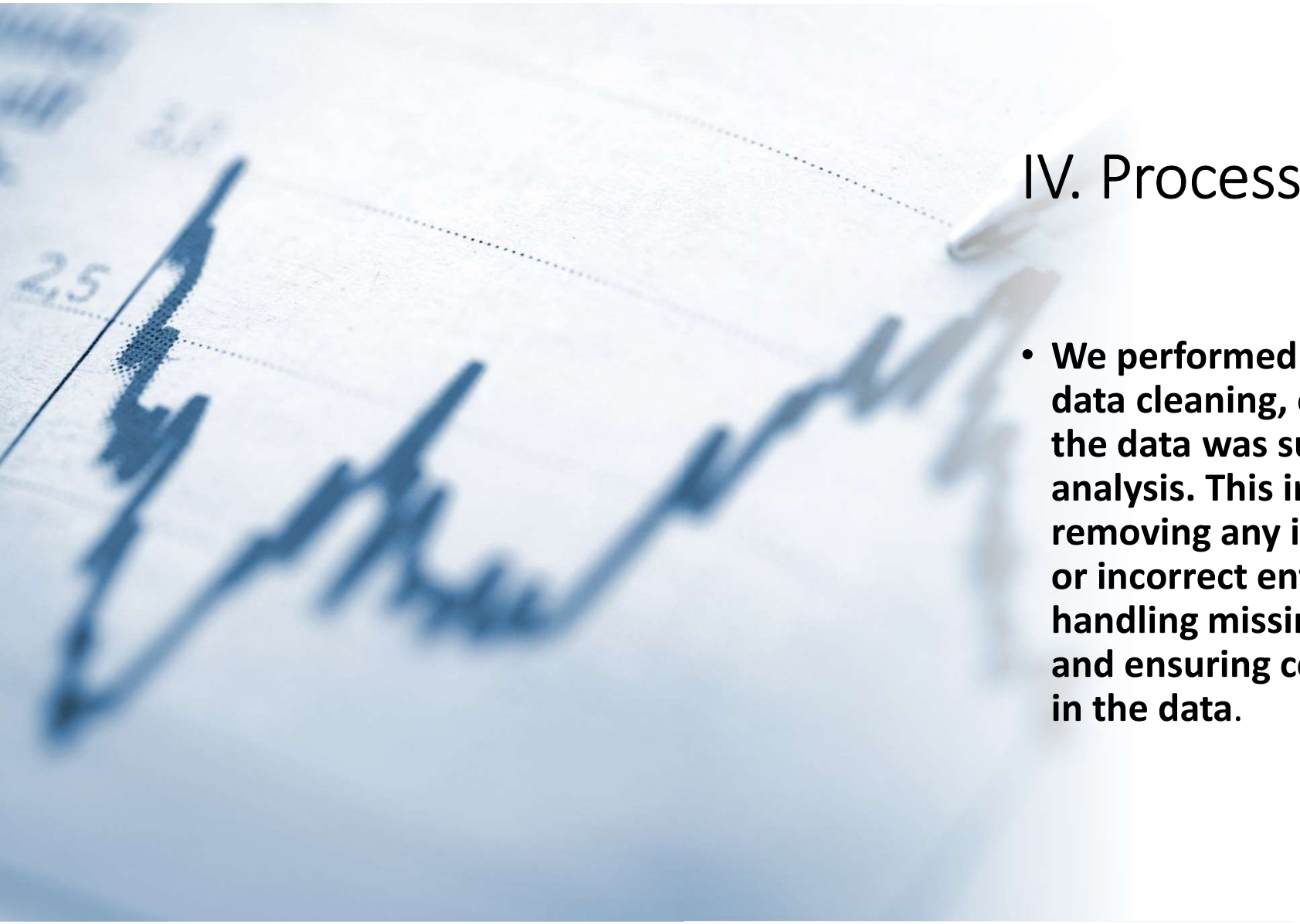
- **How are consumers using Bellabeat's smart devices, and what insights can we gather about their health patterns?**



III. Prepare

- **We used the Fitbit Fitness Tracker dataset and data from Bellabeat's devices. The dataset includes measures of physical activity, sleep quality, and heart rate. These data are considered reliable, as they come directly from users' trackers, making it a firsthand source.**





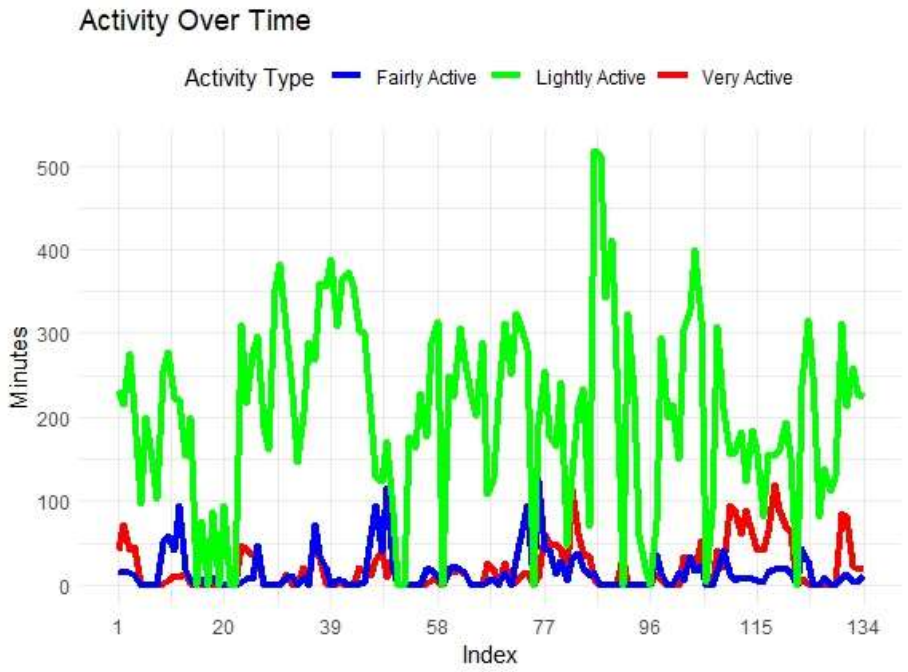
IV. Process

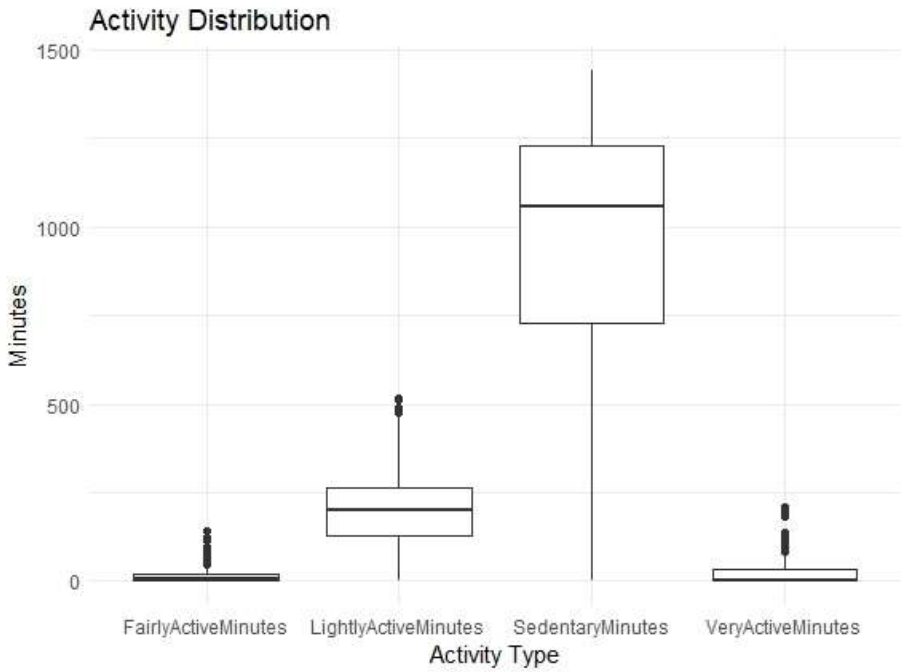
- **We performed thorough data cleaning, ensuring the data was suitable for analysis. This involved removing any incomplete or incorrect entries, handling missing values, and ensuring consistency in the data**.

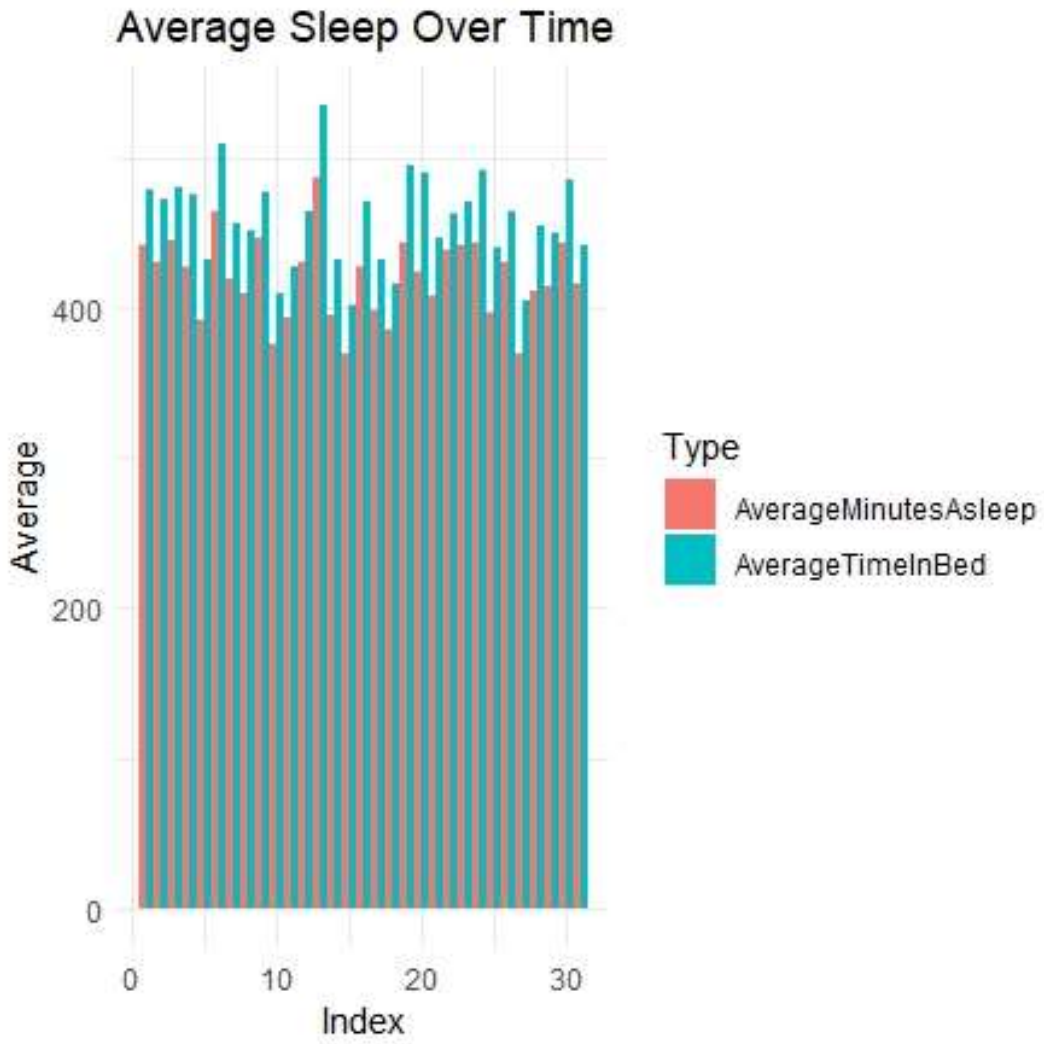
V. Analyze

Activity Levels:

- **We found a strong correlation between physical activity and the calories burned, indicating that as physical activity increased, so did the calories burned. Notably, the majority of users were more lightly active or sedentary. We also found that 'Very Active Minutes' tend to be less common, suggesting that most users are not involved in intense workouts regularly.**


Activity Over Time
Activity Type
Fairly Active
Lightly Active
Very Active
Minutes
0
100
200
300
400
500
1
20
39
58
77
96
115
134
Index


Activity Distribution
Minutes
0
500
1000
1500
FairlyActiveMinutes
LightlyActiveMinutes
SedentaryMinutes
VeryActiveMinutes
Activity Type



Sleep Patterns:

- Our analysis showed that users often get less than the recommended 7-9 hours of sleep per night. This lack of sleep can influence overall fitness, energy levels, and other aspects of daily life.

VI. Share

Based on our findings, we would recommend the following strategies:

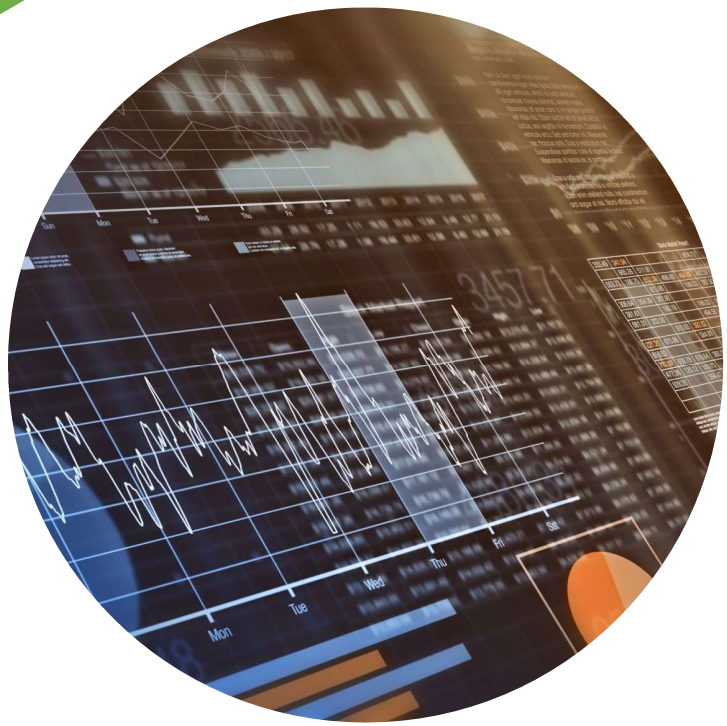
Sleep Education: We suggest launching an educational campaign about the importance of sleep for overall health. This campaign can include sleep hygiene tips, benefits of good sleep, and a comparison of users' current sleep patterns with recommended standards.

Promote Active Lifestyle: Our analysis indicates that many users fall into the lightly active or sedentary category. We suggest promoting an active lifestyle with features encouraging movement throughout the day. For example, we could add reminders to stand up or walk around every hour.

Enhanced Features: Developing features that allow users to set sleep and activity goals could foster engagement. A reward system for achieving these goals can serve as motivation for users to lead a healthier lifestyle.

VII. Act

- **Our next steps involve implementing the proposed product features and marketing strategies. We should continue monitoring user data to assess the impact of these changes and adapt our strategies accordingly. Additionally, further analysis could explore correlations between sleep data and other data from the tracker, such as physical activity or heart rate.**



VIII. Further Data Exploration

- **Further, it could be beneficial to collect additional user information like dietary habits, stress levels, and health history. This data could help us understand our users better and guide more personalized product features and marketing strategies.**