

# Case Study: How Can a Wellness Technology Company Play It Smart?

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## Introduction

This case study analyzes consumer smart device usage to generate insights for Bellabeat, a high-tech company specializing in health-focused products for women. As part of the Bellabeat marketing analytics team, I was tasked with identifying trends from publicly available smart device data and applying those insights to Bellabeat’s product line. The goal was to provide actionable marketing recommendations that highlight how Bellabeat can grow its presence in the global wellness technology market.

## Business Task

Bellabeat’s executive team wanted to understand how consumers currently use smart devices and how those behaviors could inform marketing strategy. Specifically, the task was to:

- Identify trends in smart device usage.
- Apply these trends to one Bellabeat product.
- Recommend high-level marketing strategies that align with user habits.

## Data Preparation

The primary dataset used was the Fitbit Fitness Tracker Data (Kaggle, 2016), which contains daily activity, sleep, and heart rate records from 30 consenting users. The dataset included minute-level physical activity output and sleep monitoring data.

Strengths	Limitations
Granular, real-world user data across multiple wellness dimensions.	Small sample size (30 users), potential bias in self-selected participants, not fully representative.

## Data Processing

Steps taken to ensure data integrity included:

- Removing duplicate and incomplete records.
- Standardizing timestamps to consistent formats.
- Filtering out extreme outliers (e.g., implausibly high step counts).
- Aggregating data by day and user to make analysis more interpretable.

This cleaned dataset was ready for analysis in R.

### Analysis

Exploratory analysis revealed several key insights:

Daily Activity Patterns	Most users were more active between 6–8 AM and 5–7 PM, aligning with morning and evening routines.
Step Counts and Sleep	Users who reached 7,500+ daily steps also recorded longer sleep durations.
Weekday vs. Weekend	Activity levels were higher on weekends, while weekday activity clustered around commute times.
Consistency of Use	Users tracked daily activity more consistently than hydration or stress-related features.

### Visualizations

Key visualizations included:

- A line chart of average steps per weekday, showing peaks on Saturdays.
- A scatterplot of steps vs. sleep, illustrating the positive correlation.
- A heatmap of activity by hour of day, showing strong morning and evening clusters.

These visuals reinforced the narrative that consumers integrate wellness behaviors around work and daily routines.

### Recommendations

Product Integration with Routines	Emphasize Leaf and Time products as companions for morning/evening habits; use app notifications.
Hydration Awareness (Spring Bottle)	Campaigns linking hydration to daily step goals; promote Spring bottle integration with app.
Membership Engagement	Position Bellabeat Membership as holistic wellness support; offer personalized recommendations.

### Conclusion

The analysis demonstrated that smart device users follow predictable daily activity patterns, balance physical activity with sleep, and are most engaged during morning and evening hours. By aligning marketing strategies with these behaviors, Bellabeat can

highlight how its products seamlessly integrate into daily wellness routines. These findings support targeted campaigns that will increase product adoption and strengthen Bellabeat's position in the competitive wellness technology market.

## References

Google Data Analytics Capstone: Case Study 2 – How Can a Wellness Technology Company Play It Smart?

Fitbit Fitness Tracker Data. Kaggle. Retrieved from

<https://www.kaggle.com/datasets/arashnic/fitbit>

Bellabeat Official Website. Retrieved from <https://bellabeat.com/>