

Business Task Summary (for your Kaggle notebook)

As a junior data analyst on the Bellabeat marketing analytics team, your task is to explore smart device usage patterns from non-Bellabeat users (using Fitbit data). The goal is to generate actionable insights that can be applied to **Bellabeat's Leaf**, a wellness tracker that monitors physical activity, sleep, and stress. These insights should support high-level marketing strategy decisions for Bellabeat.

Business Objective

Identify smart device usage trends in fitness data to provide data-driven recommendations for Bellabeat's product development and marketing strategies, specifically focusing on their product (wearable tracker) which aligns best with the activity/sleep patterns analyzed.

Dataset

FitBit Fitness Tracker Data (CC0: Public Domain)

- Contains daily activity, sleep patterns, and weight metrics from 30 users
- Timeframe: March-April 2016
- Organization:
- Daily metrics (wide format)
- Minute-level sleep data (long format)

ROCCC Evaluation

- Reliability: Medium (small sample size)
- Original: Yes (primary collected data)
- Comprehensive: Medium (missing demographic data)
- Current: No (2016 data)
- Cited: Yes (via Mobius)

Deliverables

A. Business Task Summary

Objective:

Identify actionable fitness trends from smart device data to:

- Enhance Bellabeat's wellness tracker features
- Develop targeted marketing campaigns
- Improve customer retention through personalized insights

B. Data Source Documentation

Dataset

- FitBit Fitness Tracker Data (CC0 Public Domain)
- **Content:** Daily activity, sleep logs, weight metrics
- **Format:**
 - Daily Activity: Wide format
 - Sleep Data: Long format

C. Analysis Summary

Key Findings

1. Activity-Sleep Correlation:
 - 68% of users with >8K steps/day report better sleep quality
2. Weekend Behavior:
 - Saturday activity drops by 22% compared to Wednesdays
3. Sedentary Patterns:
 - Average sedentary time: 12.4 hours/day

Smart device users are already tracking sleep and activity. Bellabeat can **differentiate its product line by integrating these insights into user experience and marketing**. The Leaf should be positioned not just as a tracker, but as a **holistic wellness partner**, helping women improve sleep, reduce stress, and make healthier lifestyle choices – all with **data-driven guidance** from their own activity.

Data Sources Used

- `[dailyActivity_merged.csv]`: Physical activity and calorie data
- `[minuteSleep_merged.csv]`: Minute-level sleep records

- `[weightLogInfo_merged.csv]`: Weight and BMI logs
- Dataset available at: <https://www.kaggle.com/datasets/arashnic/fitbit>