Bellabeat Case Study: Portfolio Report

# Business Task

Bellabeat, a high-tech company specializing in health-focused smart products for women, aims to uncover insights from Fitbit user data to inform the marketing and feature strategies of their wellness app. The analysis explores users' activity, sleep, and heart rate behavior to make evidence-based recommendations.

# Key Findings

## 1. Physical Activity

- Average steps per day: 9,891 steps  
- Most active weekdays: Saturday and Thursday  
- Maximum daily steps: 36,019  
- Minimum: 0  
- Average distance covered per day: 7.18 km  
- Average calories burned per day: 2,686  
- Maximum calories: 4,900  
- Minimum calories: 0  
- A positive linear correlation exists between steps and calories burned, as confirmed by a Pearson correlation test.

## 2. Sleep Behavior

- Average time asleep: 425 minutes (7 hours)  
- Average time in bed: 455 minutes (~7 hours)  
- Minimum sleep: 58 minutes (~1 hour)  
- Maximum sleep: 796 minutes (~13 hours)  
- Sleep efficiency was consistent for most users  
- A negative correlation exists between sleep duration and step count

## 3. Heart Rate

- Average heart rate data was extracted daily from second-level readings  
- Users showed higher average heart rate on more active days  
- A negative trend between daily steps and average heart rate was found

# Recommendations

- Encourage users to meet step goals with daily challenges

- Use sleep data to suggest bedtime routines

- Offer personalized insights using heart rate + activity

- Summarize trends weekly inside the Bellabeat app

# Conclusion

This analysis of Fitbit data reveals key trends in user behavior that Bellabeat can use to enhance its smart welness app. By aligning app features with user activity, sleep, and heart rate patterns, Bellabeat has the opportunity to improve user retention, boost engagement, and support healthier outcomes for its customers.