

Bellabeat Data Analysis Case

Presented by Enrique Lara

Our Mission

Bellabeat is a high-tech manufacturer of health focused smart products for women. Our lineup of products includes the Bellabeat App, Leaf, Time, and the Spring all of which provide insight into the health habits of our users. Since 2013 the company has grown rapidly and quickly and positioned itself as a tech-driven wellness company for women.

The Business Task

We seek to understand how people utilize the bellabeat devices differently by analyzing smart device usage from a sample of customers. Using the information from the study, we wish to suggest some new opportunities for the company's growth.

Bellabeats Product Lineup

Bellabeat app

The Bellabeat app provides users with health data related to their activity, sleep, stress, menstrual cycle, and mindfulness habits. This data can help users better understand their current habits and make healthy decisions. The Bellabeat app connects to their line of smart wellness products.

Leaf

Bellabeat's classic wellness tracker can be worn as a bracelet, necklace, or clip. The Leaf tracker connects to the Bellabeat app to track activity, sleep, and stress.

Bellabeat membership

Bellabeat also offers a subscription-based membership program for users. Membership gives users 24/7 access to fully personalized guidance on nutrition, activity, sleep, health and beauty, and mindfulness based on their lifestyle and goals.

Time

This wellness watch combines the timeless look of a classic timepiece with smart technology to track user activity, sleep, and stress. The Time watch connects to the Bellabeat app to provide you with insights into your daily wellness.

Leaf

This is a water bottle that tracks daily water intake using smart technology to ensure that you are appropriately hydrated throughout the day. The Spring bottle connects to the Bellabeat app to track your hydration levels.

Focus of our Analysis

The Impact of Everyday Activity

Daily activity is vital for our analysis since it allows us to find patterns in our users' behavior throughout the day.

The importance of Weight

Weight is an important consideration since we feel fitness is one of the primary reasons our consumers will utilize the product. In our investigation, we hope to confirm this hypothesis and build a service around it.

Prioritizing Sleep

We feel sleep is an essential component because we can determine whether we need to expand our services to accommodate individuals' sleeping habits, and we may be able to determine whether the user receives useful information from such service.

The Impact of Everyday Activity

Daily Activity Breakdown

2013

the average number of calories burned

7671

is the average number of steps taken by our users

6

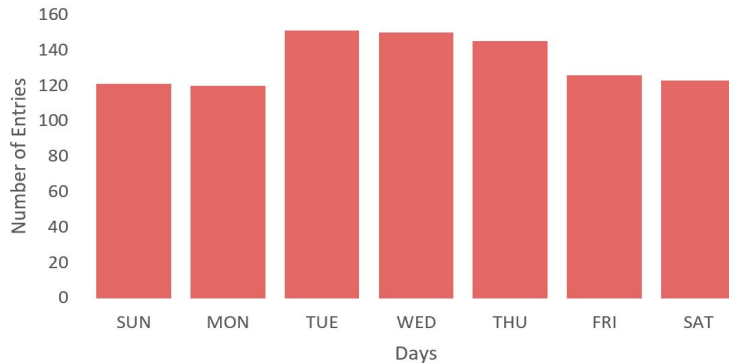
Miles is the average total distance our users record in a given day

Device usage throughout the week

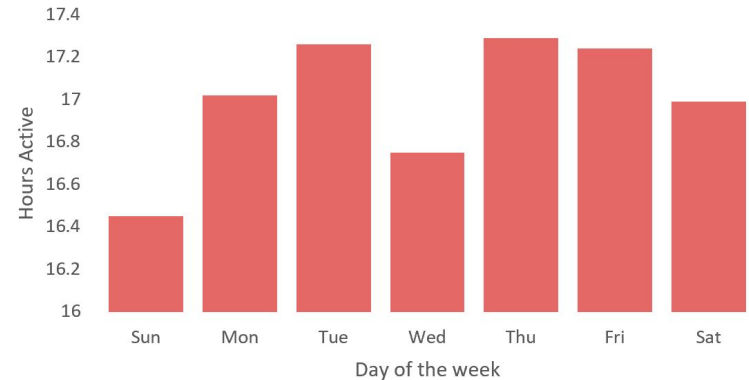
There does not appear to be a consistent pattern for device usage among our users; nonetheless, we can observe that during the week, Tuesdays and Wednesdays are the days when our users use their devices the most, while Sundays and Mondays are the days when they use them the least.

Daily Activity utilization varies according to the day. During the weekend, our customers sleep more and document less of their daily activities, the same is observed for Wednesdays.

Number of Entries for each Day of the Week



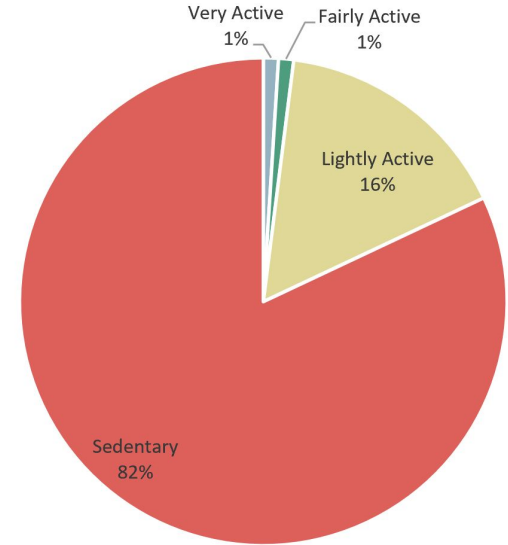
Daily Activity Recorded



Our users throughout the day

Bellabeat members spend 82 percent of their day in a Sedentary stage of activity, which means they are somewhat sedentary. 16 percent are lightly active, 1 percent are somewhat active, and 1 percent are extremely active. The WHO advocates a more balanced lifestyle along with moderate exercise.

Breakdown of Activity Levels Throughout the Day



The link between calories and steps per day

We observed a definite association between the amount of calories burnt and the overall number of steps completed based on our data. The greater the number of steps taken, the more calories burned.

Informing the customer could be a top priority regarding weight loss. Higher weight is correlated with overall worst health.



The Importance of Weight

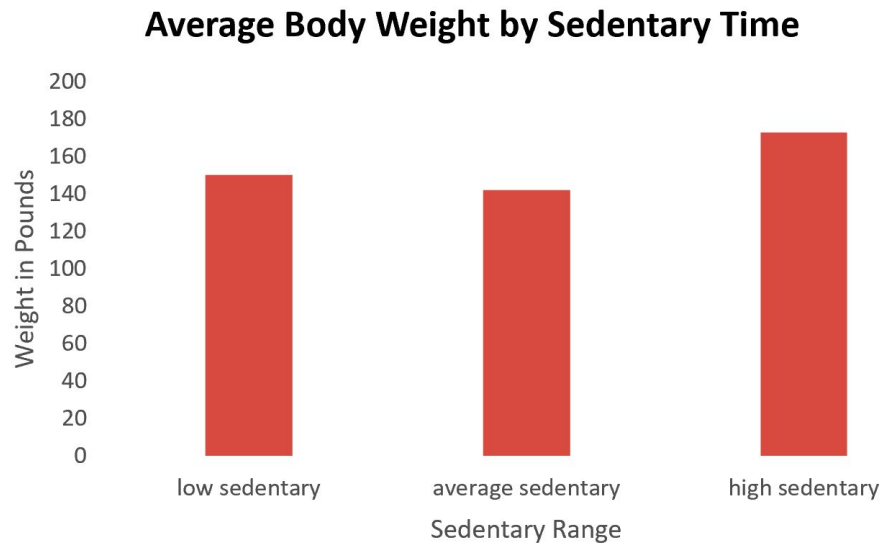
Our users

159 Average Weight

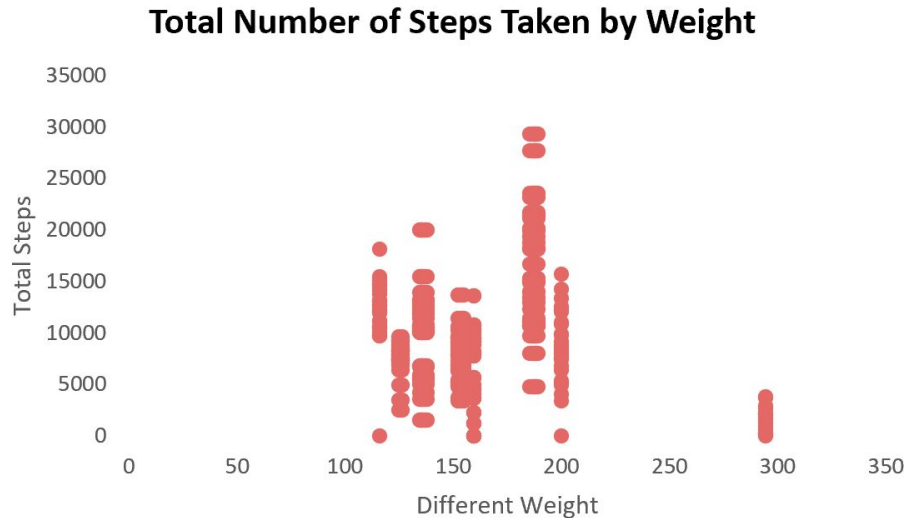
25.2 Average BMI (Body Mass Index)

Relationship between Weight and Different Sedentary Activity Levels

Sedentary ranges were divided into three categories: low, medium, and high. We discovered that being more sedentary correlates with having a larger weight. Users that are average sedentary tend to weigh less.



How weight interacts with daily steps



We discovered that the more a user weighs, the less number of steps they will take in a given day. On average most of our users take a relatively small number of steps. The WHO recommends at least 10,000 steps in one's daily routine.

Giving our consumer frequent reminders might be good if they are seeking to take control of their health.

Prioritizing Sleep

Our users

7

Average Number of Hours spent sleeping

7.64

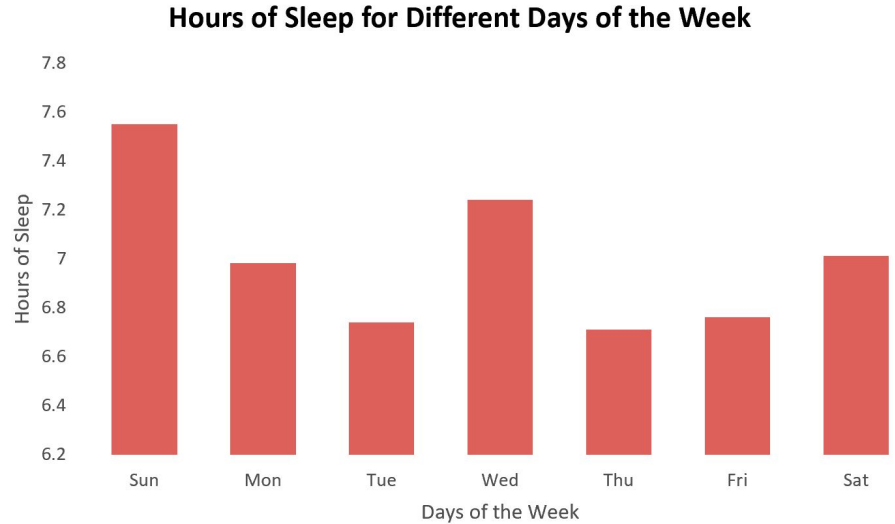
Amount of hours spent in bed

38

Minutes spent in bed after waking up

Sleep Patterns Through the Week

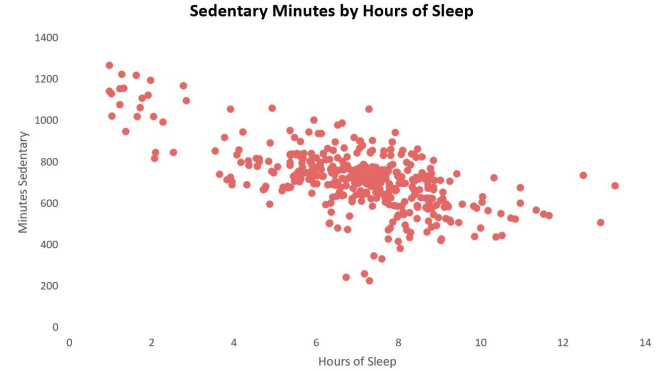
Our users spend 7 hours of time sleeping on average, we can see that those time are spread throughout the week at different days. Generally our users sleep the most on Sundays and Wednesdays, while getting the least amount of sleep on Tuesdays and Thursdays. We could conclude our users consider Sunday to be a relaxing day, while Thursday is a busy day from start to finish.



Activity Patterns from Sleep

The WHO recommends sleeping for a minimum of 7-8 hours every night. We can observe that when people spend more time sleeping, they feel more refreshed, which corresponds to greater energy levels and, eventually, less sedentary behavior.

Users tend to be “Fairly” more active as the number of hours of sleep increases, decreasing as our users sleep less.



Key Findings

Everyday Activity

Our users tend to use Bellabeat devices at separate times of the week.

Users tend to be in a sedentary state of activity 82% of the day

The more steps our users record, the more calories they burn. A great point of emphasis for many.

Weight

Users who weight more, tend to spend less time being active.

The heavier one weighs, the less steps they will take in a day.

Sleep

Sundays are considered lazy days, with the user recording the least amount of activity.

The Sleep patterns of our users suggest a direct correlation with ones activity levels.

7-8 hours of sleep is the optimal amount of time to sleep for best energy levels.

Recommendations

1

Begin by focusing on the users' well-being. By emphasizing the value of the user, we may encourage engagement among our members in the hopes of expanding the service without spending large sums on marketing.

2

Developing a wellness program for members, in our analysis we observed that users wear the devices in order to gain insight into their health. We may include a reminder for simple actions, such as taking a specific amount of steps or running the last mile. Users who need motivation to take charge of their health may benefit from a weight loss option.

3

Focus on sleep. Our observations show that when a person sleeps for 7-8 hours, he or she is considerably more engaged in everyday tasks. We might give a colorful daily statistic that could be readily shared on social media to remind people of the necessity of getting enough sleep.

Resources:

- The dataset license has been issued to the public domain on the website Kaggle
 - License: CC0: Public Domain
- Special thanks to MÖBIUS for uploading the dataset.