# Bellabeat Case Study

Google Data Analytics Capstone Project

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# Business Task

Analyse data from non-Bellabeat smart devices to see how the consumers are using it and with the insights found in that data apply it to a Bellabeat's product to help the marketing team to find a strategy for the company.

Questions that guided the analysis:

1. What are some trends in smart device usage?

2. How could these trends apply to Bellabeat customers?

3. How could these trends help influence Bellabeat marketing strategy?
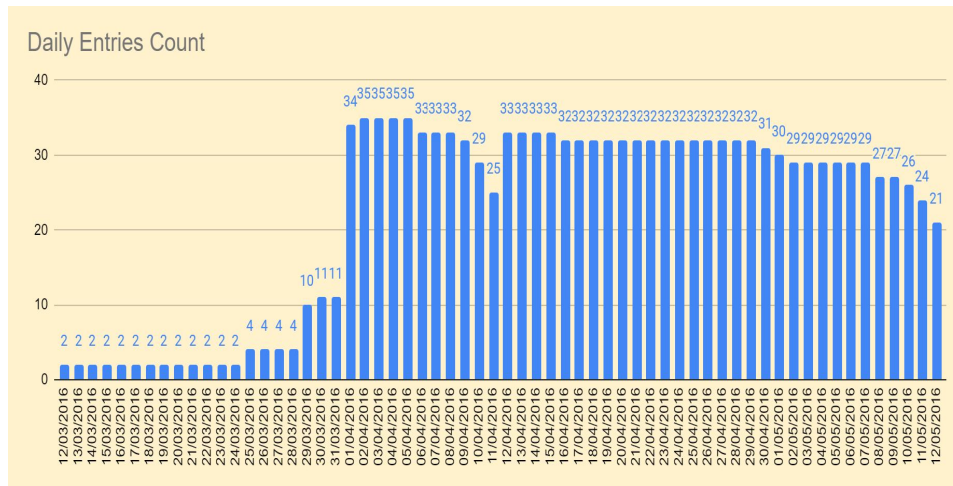
# Total Data Entries

After calculating the max entries available and the total data entries, we found that only 63% of the data possible is available.

Could be because some users didn't have the tracker yet or because they didn't use it those days?

On the graph we can see that we have the 63% of the total data entries available because users didn't have the tracker yet.

Also could be that a promotion was run on Friday 01/04/16 due the increase of users and continuity on time.



Daily Entries Count

# Users Tracked Records

By summing the minutes, we found that only 52% of all data entries completed the full 1,440 minutes in a day. On average, users wore the tracker for about 1,223 minutes, or approximately 20.5 hours per day.

This means users wore the tracker for 85% of the day.

In other words, **users are tracked for most of the day, averaging 20.5 hours, but only 52% of them completed a full day with the tracker.**

**This raises questions about WHY and WHEN they remove the tracker. Is it to charge the tracker?**

Further analysis of battery data could lead to product improvements and greater accuracy in data summaries for customers.

# Users Daily Activity

Users spend an AVERAGE of 81.9% of their time on Sedentary minutes, 15.4% Light Active minutes, 1.6% Very Active minutes and 1.1% Fairly Active minutes.

This translates to an AVERAGE of 16,7 hours on Sedentary activity, approximately 3 hours on Light activity, 20 minutes on Very Active activity and 14 minutes on Fairly Active activity each day.

Even seeing an impressive high average of Sedentary minutes, the users have an AVERAGE of 34 minutes of 'Very or Fairly Active sport' per day.
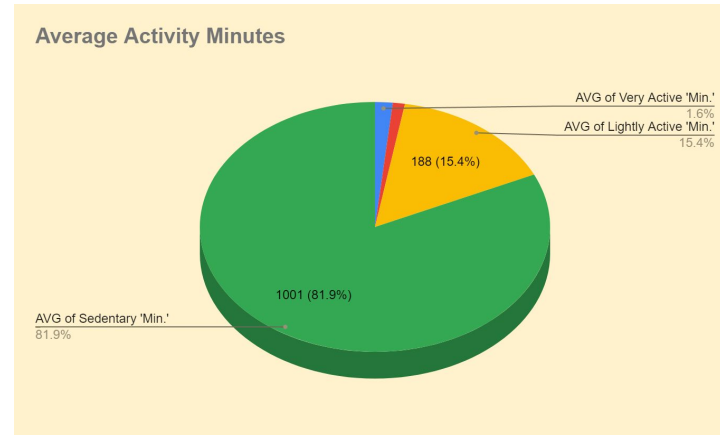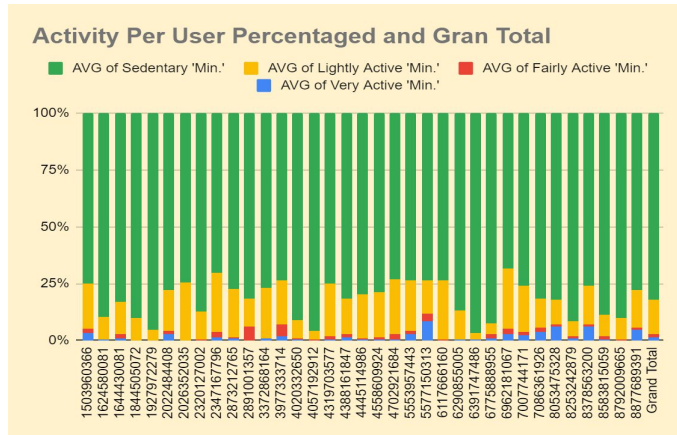
# Preferred Activity

In terms of activity count, users prefer Light Intensity activities 62.7% of the time, followed by Very Active Intensity activities at 21.7%, and Fairly Active Intensity at 15.6%.

- 1st: Light Intensity Activity.
- 2nd: Very Active Intensity activity.
- 3rd: Fairly Active Intensity Activity.

**Activities Count Percentage**



COUNT Very Active Intensity
21.7%

21.7%

COUNT Fairly Active Intensity
15.6%

15.6%

COUNT Lightly Active Intensity
62.7%

62.7%
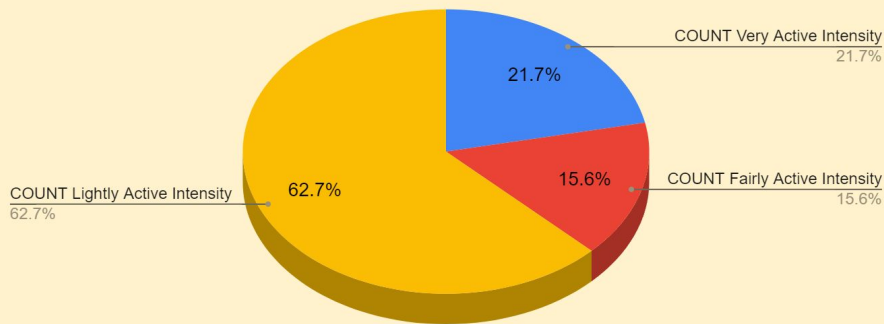
# Activity per Day

On Monday, Tuesday, Wednesday, and Saturday, the volume of kilometers is higher, with **Saturday being the day when people exercise the most.**

Sunday has the lowest activity, suggesting it is generally a rest day, even though the decrease is not extreme.

The "Average Steps per Day" graph confirms the trends observed in the "Average Intensity Activity in Kilometers per Day" graph.



Average Intensity Activity per Day (Km)



Average Steps per Day
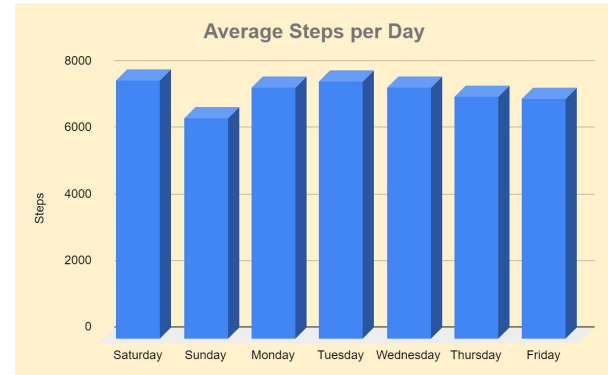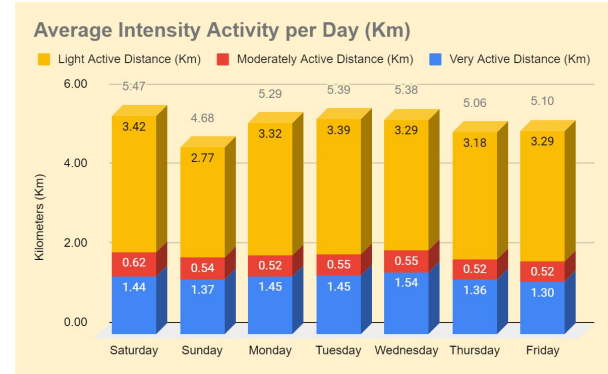
# Recommended Steps

The well-known target of 10,000 steps per day was launched by a Japanese marketing campaign and has since been validated by scientific and medical research.

- Sedentary: fewer than 5,000 steps per day.
- Low active to somewhat active: 5,000 to 9,999 steps per day.
- Active: more than 10,000 steps per day.
- Highly active: more than 12,500 steps per day.

The analysis shows that **80% of the total users don't reach the average target of 10,000 steps per day.** About 50% of the total users fall within the range of 5,000 to 10,000 steps, and 31% of the total users take fewer than 5,000 steps per day.
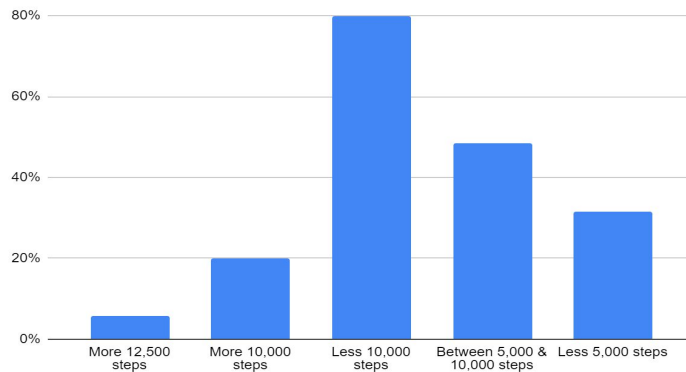


*Each Percentage is measured for total user\**

| Steps Recommended per Day | 10,000 |
|---|---|
| Users | 35 |
| More 12,500 steps | 6% |
| More 10,000 steps | 20% |
| Less 10,000 steps | 80% |
| Between 5,000 & 10,000 steps | 49% |
| Less 5,000 steps | 31% |

# Logged Activities

Checked for Logged Activities percentage. With the total activity count and the logged activity count, I got that from all the activities registered **only 2.55% were with a logged activity.**

Comparing the sum of total distance and the sum of tracked distance, I found that there's only a 35 km difference between them. This means that most of the kilometers tracked were while users were wearing the tracker.
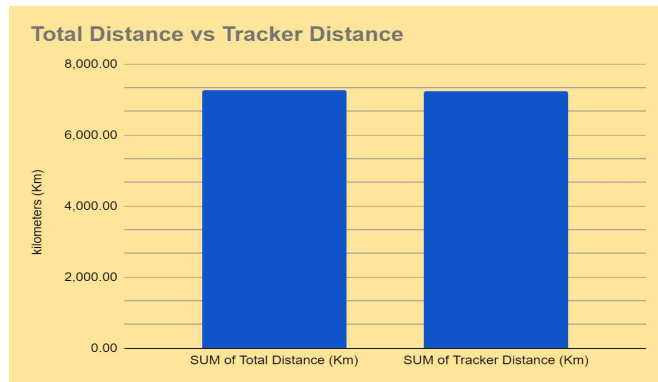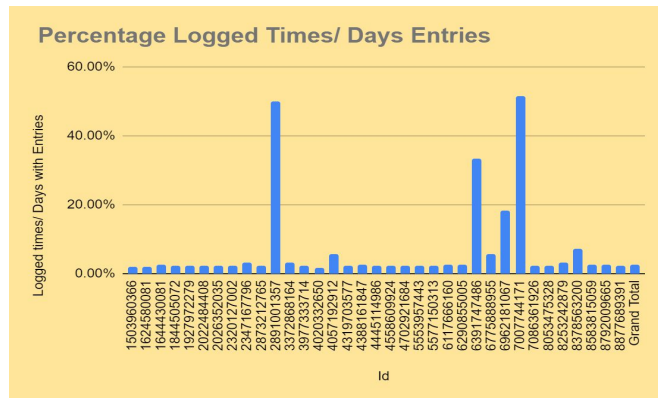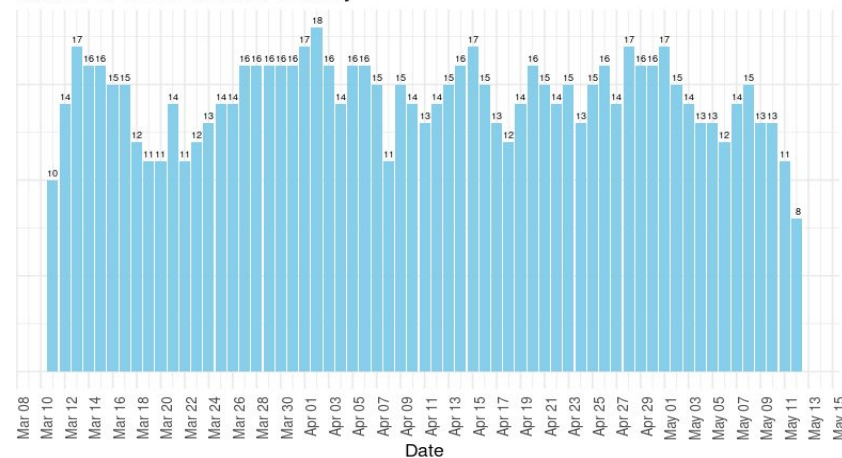
# Sleeping Data

1. We have a total of 25 user tracked. The whole case study data has a total of 35 users as found previously in the Excel data activity.

   This means that from the whole case study data 71% of the users tracked their sleep. Within this group, an average of 57% of days were tracked.

2. On average, 14 users per day tracked their sleep, with a range of 11 to 18 users per day.



Number of Users Tracked Per Day

# Sleeping Data

3.  Users slept an average of 6.5 hours with approximately 30 minutes in a restless state, slightly below the recommended 7-9 hours of sleep according to the National Heart, Lung, and Blood Institute.

Three users spent between 20% and 30% of their sleeping time in a restless or awake state, indicative of a potential sleep disorder. However, the vast majority, around 90% of users, spent most of their sleeping time in a restful state.



Sleep Average by State



Percentage of Time Spent in Each Sleeping State by Id
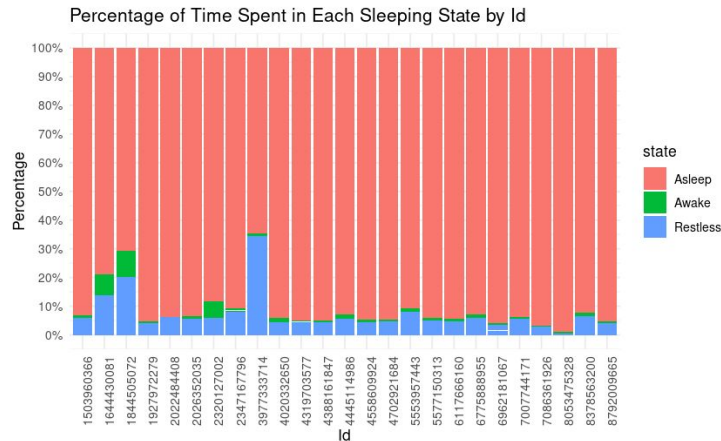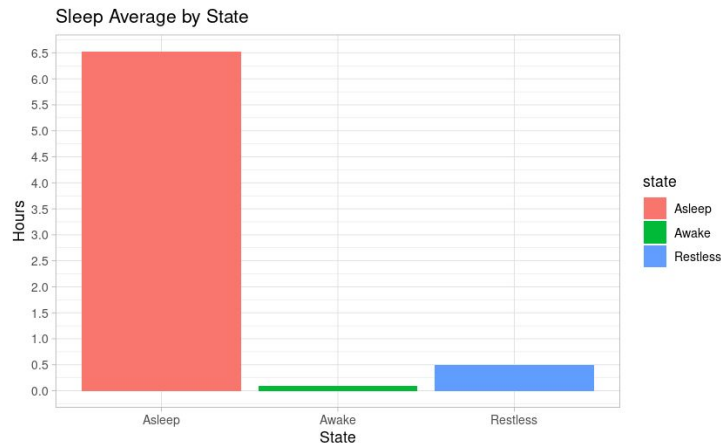
# Weight Data

The weightLogInfo data appears to be of poor quality. The **analysis of weight information cannot be considered reliable due to insufficient data, which is incomplete and lacks consistency.**

Out of 13 users, only 2 have regular habits of entering weight data. There are a total of 98 data entries: 63 entries are manually reported, while 35 are automatic, but 32 of these entries belong to just one user. Only 3 users use automatic reporting, 10 add the data manually, and 22 users have no weight data at all.

Several questions arise from this analysis:

1. Why do we have such a limited amount of weight data? Are users not interested in tracking their weight, or is it difficult for them to measure it easily?

2. Could the manual and automatic reporting options be contributing to the low amount of data?

3. Could introducing a scale with Wi-Fi or Bluetooth connectivity be a viable product for users?

4. What other parameters could a scale measure besides weight?

5. Could a scale be designed differently, perhaps resembling a decorative carpet for placement next to the bed, where users typically stand at least twice a day?

These questions could guide further investigation and potentially lead to product improvements or new design considerations for weight tracking devices.

# Conclusions

Daily Activity Data

- Users wore the tracker for 85% of the day. Further analysis of battery data could lead to product improvements and greater accuracy in data summaries for customers.

- Develop notifications or activity advice to reduce the percentage of Sedentary minutes per day.

- The percentage of logged activity is very low and knowing the preferred activity by users. Introducing Light Intensity Activity exercise routines on the app may encourage users to engage in more daily activities and diversify their exercise routines.

- There is a noticeable decrease in activity on Sunday as general trend. This raise the question: could a marketing campaign promoting familiar activities increase the average kilometers and overall activity levels on Sundays?

- The analysis shows that 80% of the total users don't reach the average target of 10,000 steps per day. Implementing a point/rewards system could motivate users to achieve this goal.

# Conclusions

Sleep Data

- Users sleep an average of 6,5 hours and around 30 minutes in restless state. It seems just below the recommended amount of sleep, 7-9 hours.
  A marketing campaign highlighting the importance of adequate sleep and its benefits could improve users' activity performance.

- Three users appear to suffer from some form of sleep disorder. Providing a report of this data to the users could encourage them to visit a doctor, potentially improving their sleep disorders.

The final and broder question raised by this analysis is what additional metrics could be measured to improve the device?