

BellaBeat Case Study



Analyzing Smart Device Data for better Marketing Insights

Ask

- Cofounder and CCO of Bellabeat, Urška Sršen, has tasked us with taking non-Bellabeat device data and finding trends and actionable insights to understand the smart device market.
- Once we have actionable marketing insights we will select a product from Bellabeat's product line and target consumers to purchase this product

Prepare

- The data used for this analysis was provided free to use and with no copyright claim from the Company Fitbit.
- They provided minute level data from 30 consenting individuals for the period of 3/12/16 - 5/12/16
- This data was stored as long data with multiple entries for each user and ROCCCs
 - The data is very credible being created by a major smart device manufacturer under all legal consenting collection methods
- One negative to this data is that it is assumed to be compiled from both men and women while Bellabeat targets only women for its customers

Process

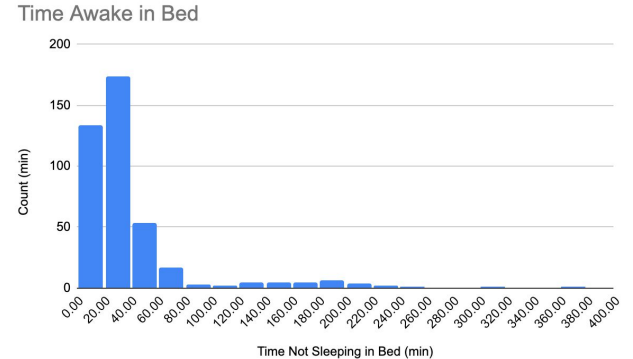
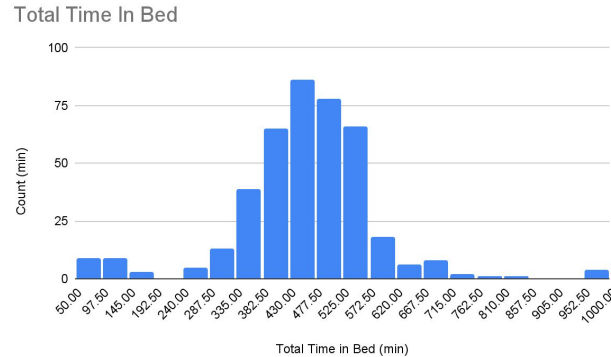
- In order to use this data and trust the insights and results it presented it needed to be cleaned and manipulated into a format that could be used for analysis
- Software choice: Google Sheets
 - Google Sheets is a great data analysis tool for small datasets and is rich with easy to use features
- Cleaning:
 - Located and fixed all empty cells
 - Remove duplicate cells
 - Split text to cell to remove any cells with numbers input as text
 - Matched ID methods for same schema purposes

Analyze

- In order to better organize the data I created pivot tables which reduced the rows significantly and summed each users data entry
 - This method allowed me to analyze values over a given time frame and discover useful trends
 - This manipulation provided lots of valuable and surprising insights
- Observations/Surprises:
 - Large variation in human exercise habit not described by typical and expected bell curve
 - People can be seen walking/pacing in the middle of the night can be signs of Insomnia/Working late/Child rearing/Sleep walking
 - As May approached less total calories were burned and exercising undertaken
 - Hotter month dissuading individuals
 - Individuals who stay in bed the longest also spend the longest amount of time awake in bed
 - R^2 value for these trends show low correlation but human behavior usually has values of less than 0.5 so not abysmal to use for marketing purposes

Share

- Bellabeat Product Focus: Time
 - Sleek and stylish smart watch that records all metrics required for deep analysis
- Sleep
- This data is validated by the typical bell curve distribution

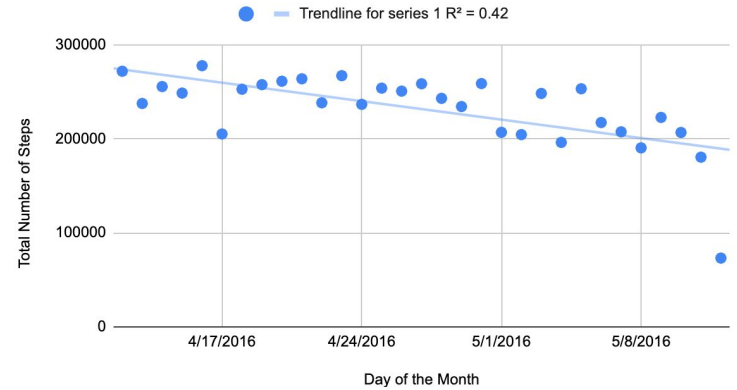


- Greater than 40% of users lie awake for longer than 30 minutes a night

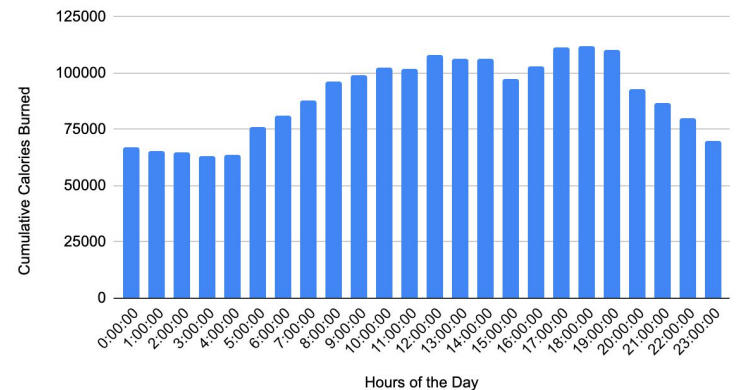
Share: Continued

- Exercise Trends
- Strong correlation for a human behavior study that people work out less as summer approaches
- Individuals in the study preferred to work out in the hours between 6am and 8pm as seen by when the most calories were burned throughout the day

Steps in a Day



Calories Burned Throughout the Day



Act: Marketing Insights

- Time would be a perfect product for those with trouble sleeping and want to track how much sleep they get to insure they are well rested for the next day
- The smart device will be best marketed to people in colder months who are excited to start working out again in the spring and are more eager to buy equipment
 - The drop in calories burned and exercise hour pictured in the previous slide will have consumers in a less exercise engaged mindset