Bellabeat Data Analysis Case Study

Dan

2024-06-18

Introduction

Welcome to the Bellabeat data analysis case study! In this report, we will analyze smart device usage data to gain insights into consumer habits and provide high-level recommendations for Bellabeat's marketing strategy.

Business Task

Analyze smart device usage data to gain insights into how consumers use non-Bellabeat smart devices and apply these insights to one Bellabeat product. The goal is to inform Bellabeat's marketing strategy.

Key Stakeholders

Urška Sršen, Co-founder and Chief Creative Officer Sando Mur, Co-founder and Mathematician Bellabeat marketing analytics team Data Preparation Data Source The data set is sourced from Kaggle and contains personal fitness tracker data from thirty Fitbit users. The data set includes information about daily activity, steps, and heart rate, which will be used to explore users' habits.

Data Source

The dataset is sourced from Kaggle and contains personal fitness tracker data from thirty Fitbit users. The dataset includes information about daily activity, steps, and heart rate, which will be used to explore users' habits.

Data Cleaning

```
## Rows: 457 Columns: 15
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (1): ActivityDate
## dbl (14): Id, TotalSteps, TotalDistance, TrackerDistance, LoggedActivitiesDi...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

Data Analysis

Summary Statistics

Average Steps per Day

```
## # A tibble: 32 x 2
##    ActivityDate AverageSteps
##    <date>              <dbl>
##  1 2016-03-12          2772.
##  2 2016-03-13          1613
##  3 2016-03-14          5728
##  4 2016-03-15          2953
##  5 2016-03-16          7311
##  6 2016-03-17          4470
##  7 2016-03-18           658.
##  8 2016-03-19          2851
##  9 2016-03-20          5187
## 10 2016-03-21          5719
## # i 22 more rows
```

Average Active Minutes per Day

```
## # A tibble: 32 x 5
##    ActivityDate AverageVeryActiveMinutes AverageFairlyActiveMinutes
##    <date>                           <dbl>                       <dbl>
##  1 2016-03-12                         0                           0
##  2 2016-03-13                         0                           0
##  3 2016-03-14                        15                           3.5
##  4 2016-03-15                         0                           5
##  5 2016-03-16                        12.5                        21
##  6 2016-03-17                         0                           0
##  7 2016-03-18                         0                           0
##  8 2016-03-19                         0                           0
##  9 2016-03-20                         0                           0
## 10 2016-03-21                         0                           0
## # i 22 more rows
## # i 2 more variables: AverageLightlyActiveMinutes <dbl>,
## #   AverageSedentaryMinutes <dbl>
```

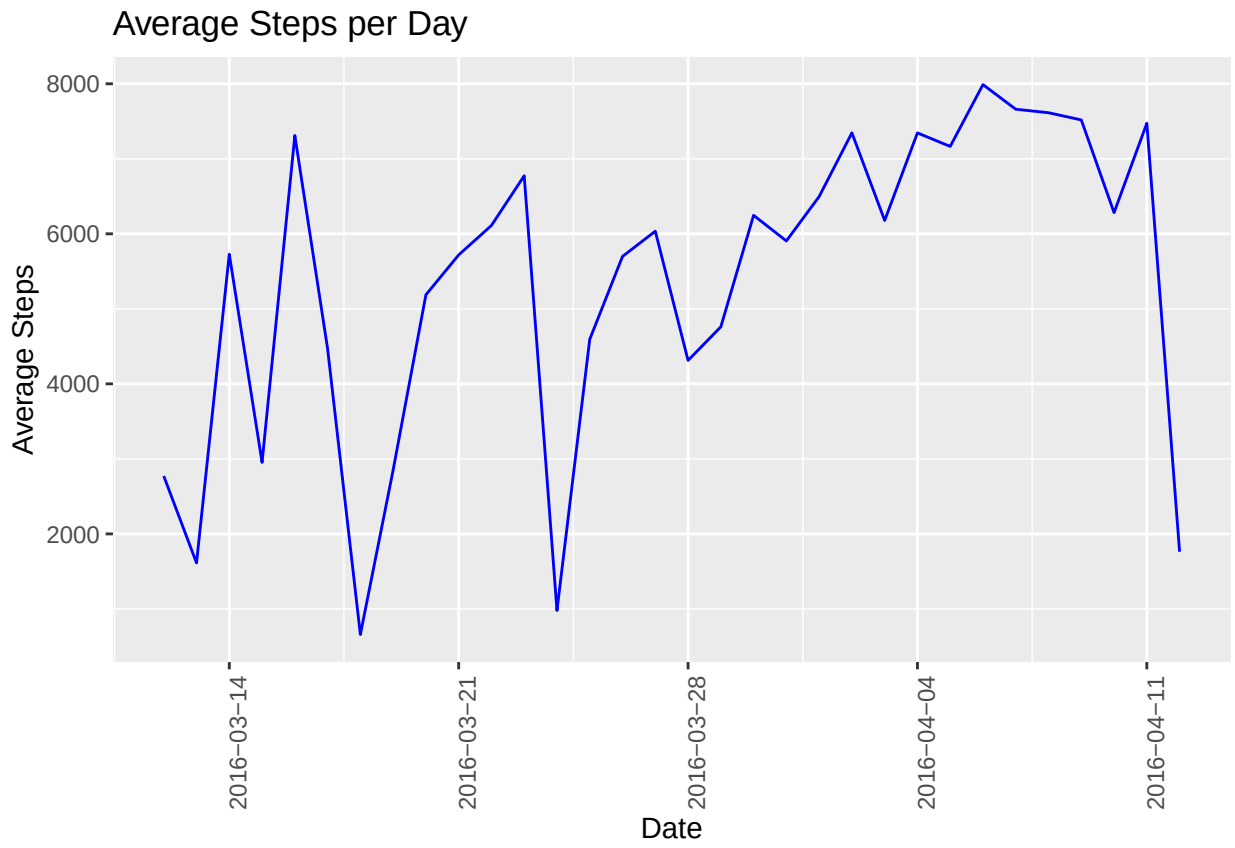
Average Calories Burned per Day

```
## # A tibble: 32 x 2
##    ActivityDate AverageCalories
##    <date>                 <dbl>
##  1 2016-03-12             2384.
##  2 2016-03-13             2128.
##  3 2016-03-14             2512.
##  4 2016-03-15             2396
##  5 2016-03-16             2882.
##  6 2016-03-17             2741
##  7 2016-03-18             1947
```

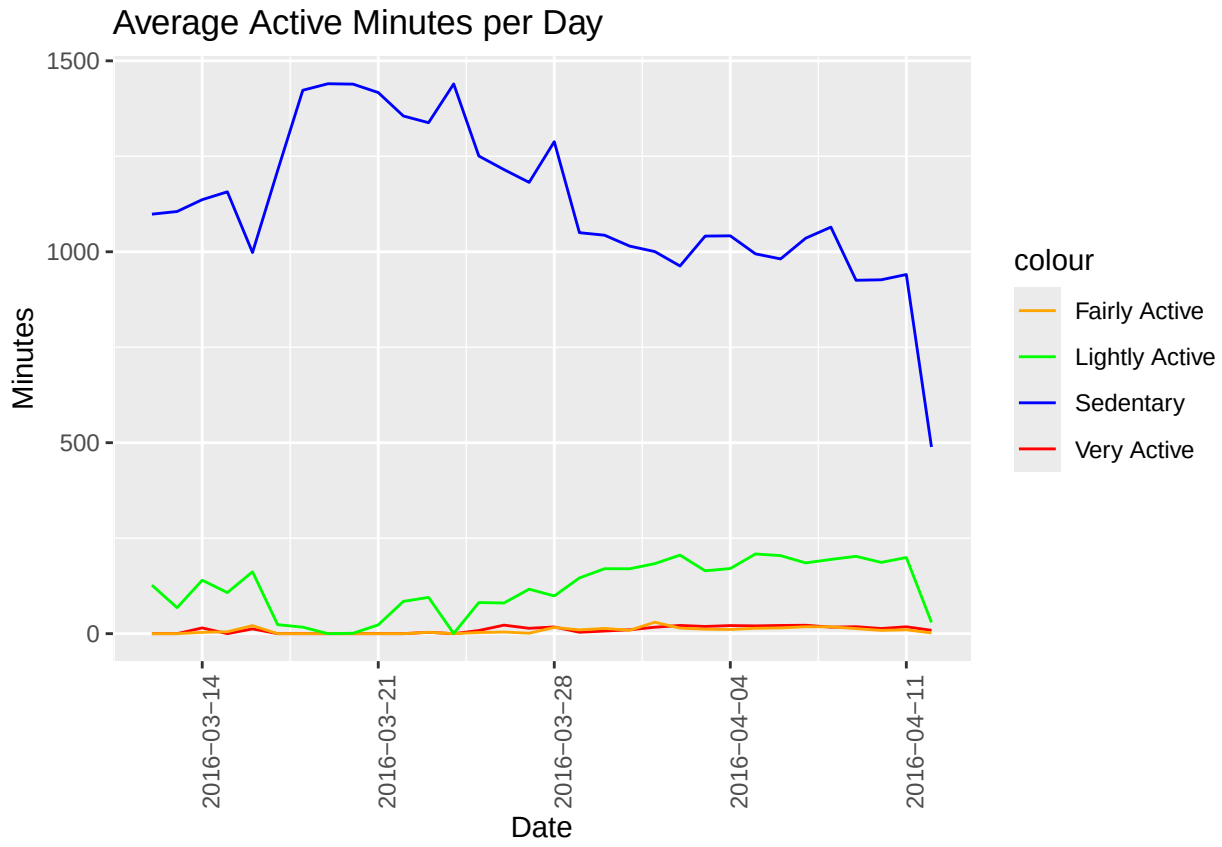
```
##  8 2016-03-19             2378.
##  9 2016-03-20             2755
## 10 2016-03-21             2663
## # i 22 more rows
```

Visualization

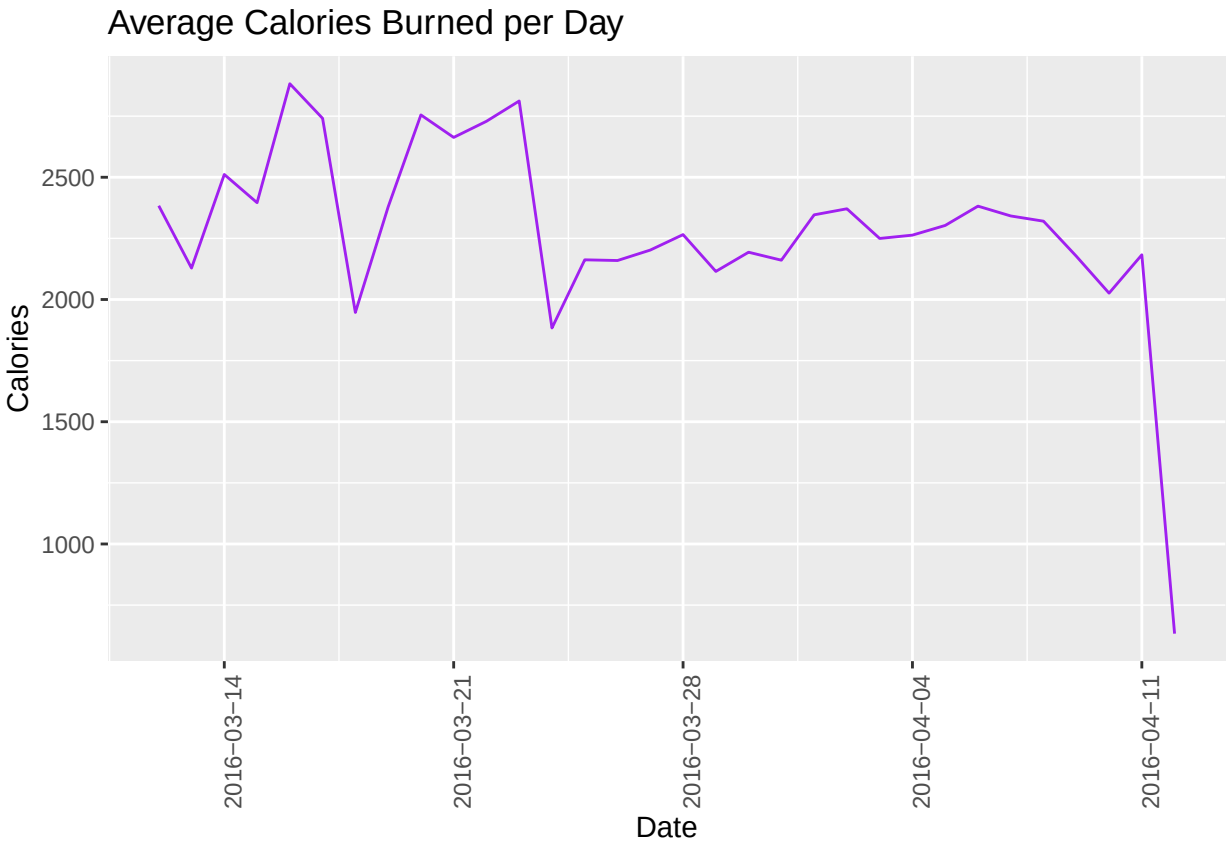
Average Steps per Day



Average Active Minutes per Day



Average Calories Burned per Day



Insights and Recommendations

Key Findings

Trends in Smart Device Usage:

-Users show consistent activity levels with notable patterns in very active, fairly active, lightly active, and sedentary minutes.

-Daily steps and calories burned show trends that can inform product usage insights.

Application to Bellabeat Customers:

-The trends can help Bellabeat tailor its marketing strategies to emphasize features that align with user habits.

-Highlight the benefits of Bellabeat products for tracking and improving daily activity and wellness.

Influence on Marketing Strategy:

-Use insights to create targeted marketing campaigns.

-Emphasize unique selling points of Bellabeat products that resonate with user activity trends.

-Leverage data to create personalized user experiences and recommendations in the Bellabeat app.

High-Level Recommendations

Marketing Strategy:

-Focus on personalized marketing campaigns that highlight the health benefits of Bellabeat products.

-Use data-driven insights to create content that resonates with users' daily habits.

Product Development:

-Integrate features that help users set and achieve activity goals based on observed trends.

-Enhance app functionality to provide personalized recommendations and insights.