Health Tech Company - Captsone Project

Code

PHASE 1 : ASK

Business Objective

- Analyze smart device fitness data to find new growth opportunities for the company.
- Focus on smart device data to gain insight into how consumers are using their smart devices.
- Use insights you discovered to help guide marketing strategy for the company.
- Present final analysis to the executive team along with high-level recommendations for their marketing strategy.

PHASE 2 : Prepare

Import libraries, data, sort summaries and clean data.

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```
#Importing libraries
library(tidyverse)
library(reshape2)
library(scales)
library(readr)
library(dplyr)
library(ggplot2)
```

Data used was from the FitBit Fitness Tracker Data (https://www.kaggle.com/datasets/arashnic/fitbit) dataset found on Kaggle

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```
# Format

# intensities
intensities$ActivityHour=as.POSIXct(intensities$ActivityHour, format="%m/%d/%Y %I:%
M:%S %p", tz=Sys.timezone())
intensities$time <- format(intensities$ActivityHour, format = "%H:%M:%S")
intensities$date <- format(intensities$ActivityHour, format = "%m/%d/%y")
# calories
calories$ActivityHour=as.POSIXct(calories$ActivityHour, format="%m/%d/%Y %I:%M:%S %
p", tz=Sys.timezone())
calories$time <- format(calories$ActivityHour, format = "%H:%M:%S")
calories$date <- format(calories$ActivityHour, format = "%m/%d/%y")
# activity
activity$ActivityDate=as.POSIXct(activity$ActivityDate, format="%m/%d/%Y", tz=Sys.tim
ezone())
activity$date <- format(activity$ActivityDate, format = "%m/%d/%y")
# sleep
sleep$SleepDay=as.POSIXct(sleep$SleepDay, format="%m/%d/%Y %I:%M:%S %p", tz=Sys.timez
one())
sleep$date <- format(sleep$SleepDay, format = "%m/%d/%y")
```

PHASE 3 & 4: Process and Analyse

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```
#Summarise
activity %>%
  select(TotalSteps,
         TotalDistance,
         SedentaryMinutes, Calories) %>%
  summary()
```

```
   TotalSteps    TotalDistance    SedentaryMinutes    Calories
 Min.   :    0   Min.   : 0.000   Min.   :   0.0   Min.   :   0
 1st Qu.: 3790   1st Qu.: 2.620   1st Qu.: 729.8   1st Qu.:1828
 Median : 7406   Median : 5.245   Median :1057.5   Median :2134
 Mean   : 7638   Mean   : 5.490   Mean   : 991.2   Mean   :2304
 3rd Qu.:10727   3rd Qu.: 7.713   3rd Qu.:1229.5   3rd Qu.:2793
 Max.   :36019   Max.   :28.030   Max.   :1440.0   Max.   :4900
```

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```
activity %>%
  select(VeryActiveMinutes, FairlyActiveMinutes, LightlyActiveMinutes) %>%
  summary()
```

```
 VeryActiveMinutes FairlyActiveMinutes LightlyActiveMinutes
 Min.   :  0.00    Min.   :  0.00      Min.   :  0.0
 1st Qu.:  0.00    1st Qu.:  0.00      1st Qu.:127.0
 Median :  4.00    Median :  6.00      Median :199.0
 Mean   : 21.16    Mean   : 13.56      Mean   :192.8
 3rd Qu.: 32.00    3rd Qu.: 19.00      3rd Qu.:264.0
 Max.   :210.00    Max.   :143.00      Max.   :518.0
```

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```
calories %>%
  select(Calories) %>%
  summary()
```

```
    Calories
 Min.   : 42.00
 1st Qu.: 63.00
 Median : 83.00
 Mean   : 97.39
 3rd Qu.:108.00
 Max.   :948.00
```

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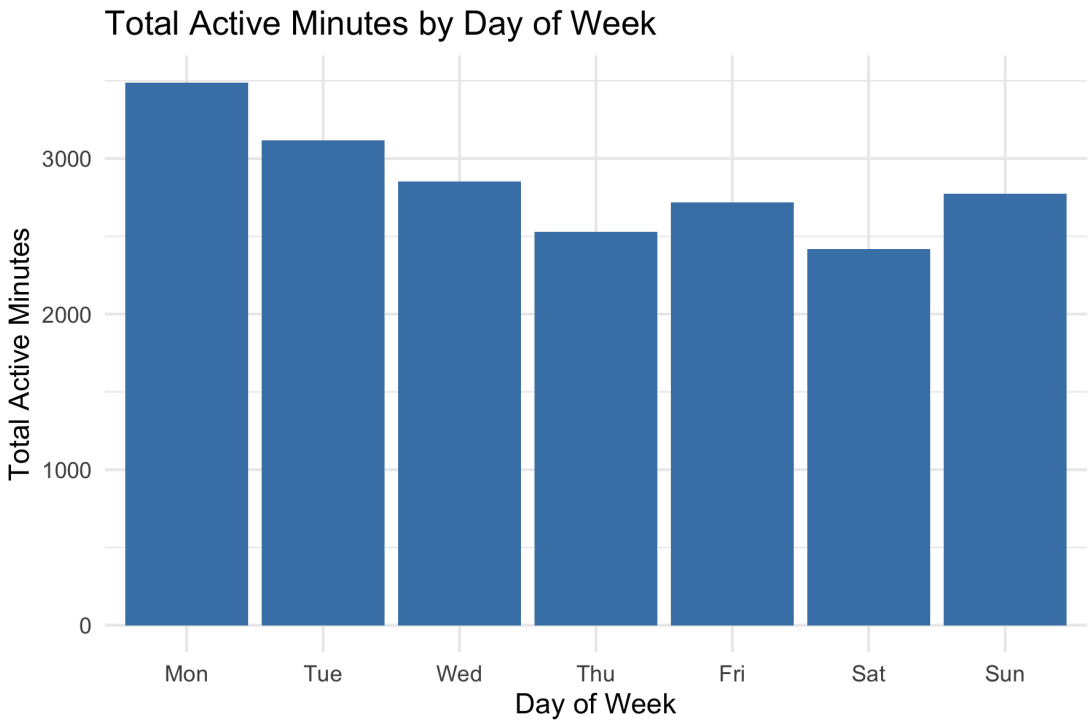
```
sleep %>%
  select(TotalSleepRecords, TotalMinutesAsleep, TotalTimeInBed) %>%
  summary()
```

```
 TotalSleepRecords TotalMinutesAsleep TotalTimeInBed
 Min.   :1.000     Min.   : 58.0      Min.   : 61.0
 1st Qu.:1.000     1st Qu.:361.0      1st Qu.:403.0
 Median :1.000     Median :433.0      Median :463.0
 Mean   :1.119     Mean   :419.5      Mean   :458.6
 3rd Qu.:1.000     3rd Qu.:490.0      3rd Qu.:526.0
 Max.   :3.000     Max.   :796.0      Max.   :961.0
```

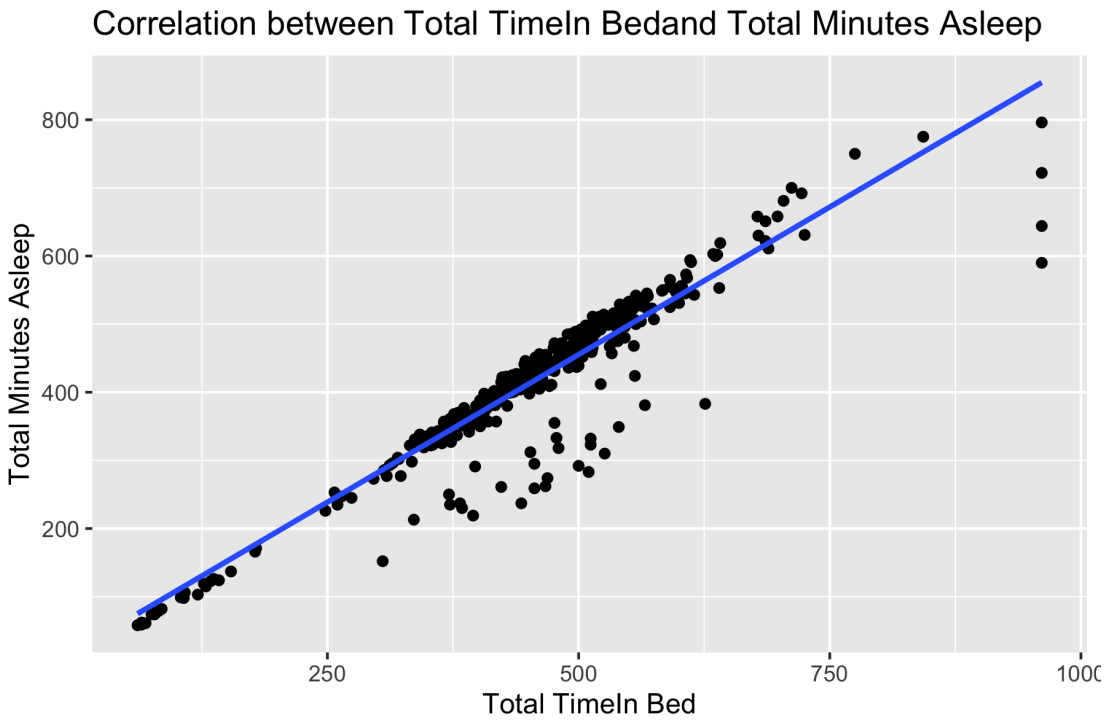
Very Active Minutes



- Interesting to note that the most active minutes are at the start of the week.

Steps vs Calories

Bed Time vs Sleep



PHASE 5 : Share

Conclusion

There were some interesting insights found that could aid the marketing team in the future.

- If users are more active at the start of the week one could target exercise related material to fit into an already existing user habit.
- More calories are burned with more steps. A basic motivational goal for users wanting this result is to increase steps which is easily measurable.
- Education around bed time best practices could improve minutes asleep which has a direct affect on overall health.