Bellabeat Case Study.

FitBit Tracker Data Set.

EEssien 2023

outline

1. Data Collection.
2. Business task summary.
3. Objectives.
4. Data source.
5. Results, Visualizations & Insights.
6. Recommendations & Conclusion.

Data Collection

SQL : Used SQL to query and extract user health data.

Rprograming & PyExcel: For data cleaning and exploratory analysis : Performed initial data cleaning, filtering, and exploratory analysis to identify key trends and user patterns. Also used R for deeper analysis and personalized recommendations based on user data.

Visualization : Leveraged Cognos to create dashboards and visual reports to monitor app engagement, feature effectiveness, and user trends.

Business Task Summary

- **To develop a personalized wellness feature** for Bellabeat's app using subscribers' health data.
- **To enhance user experience** by offering customized wellness tips and alerts.
- **To increase user engagement** and retention through relevant and actionable insights.
- **To drive business growth** by attracting new users with advanced data-driven features.

Objectives

1. **Improve User Experience**: By providing personalized wellness tips and alerts based on individual health data analysis.

2. **Boost Engagement**: By increasing app interaction and user retention with more relevant and actionable insights.

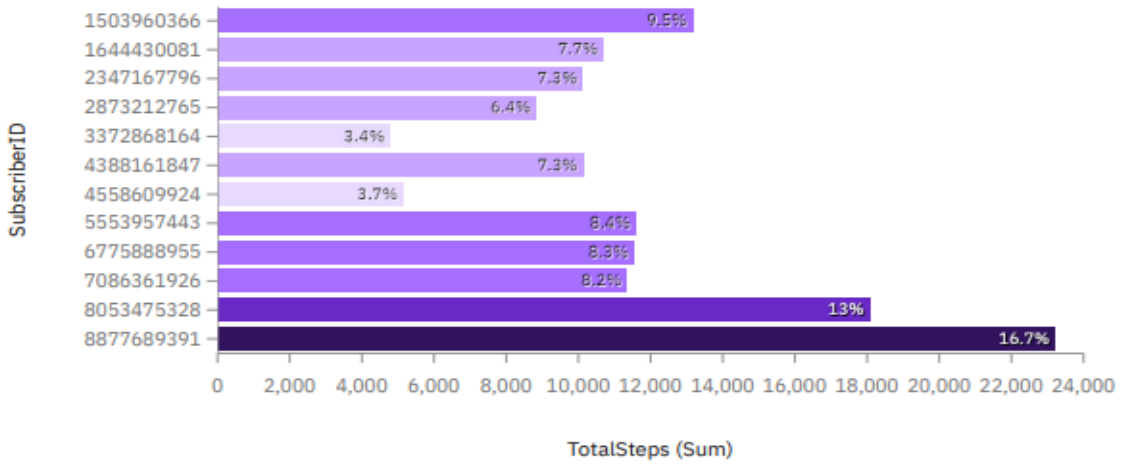
3. **Drive Growth**: By attracting new users through data-driven insights generated in the project.

Data source

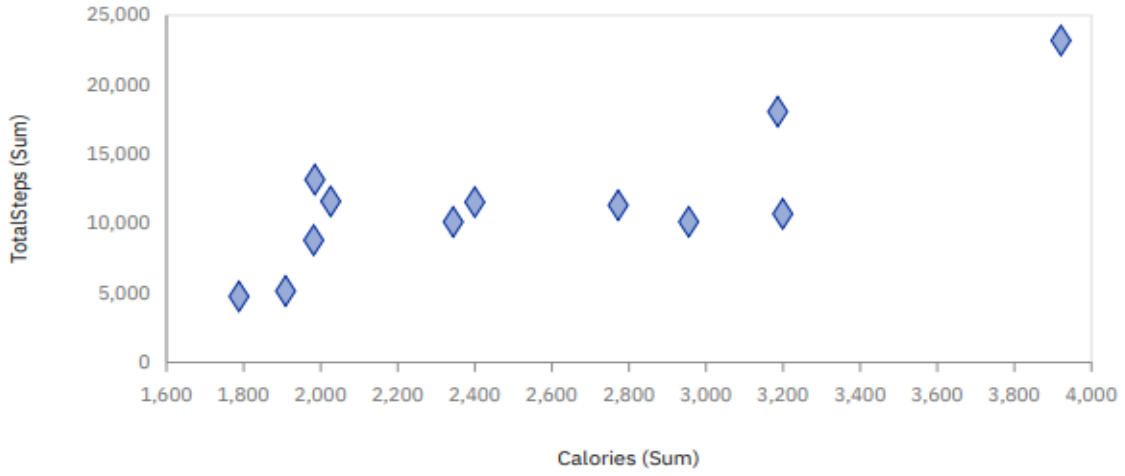
Bellabeat Dataset related to Fitbit fitness tracker user data. (Available as a public dataset on Google or Kaggle)

Results, Visualizations & Insights.

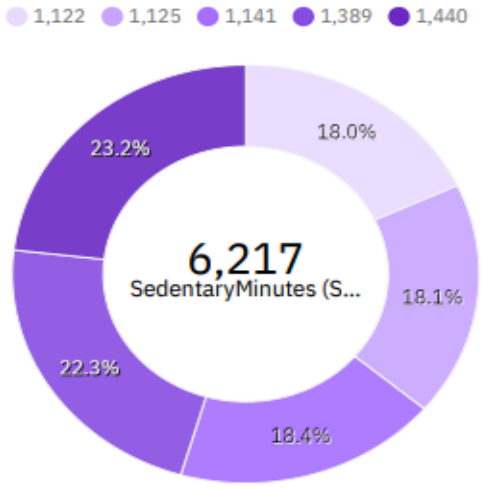
TotalStepsBySubscriberID



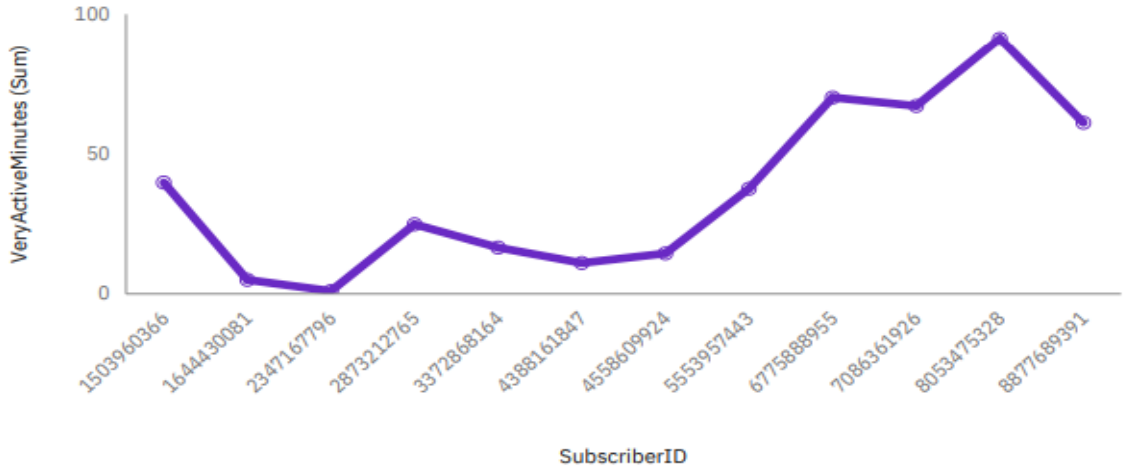
CaloriesByTotalSteps



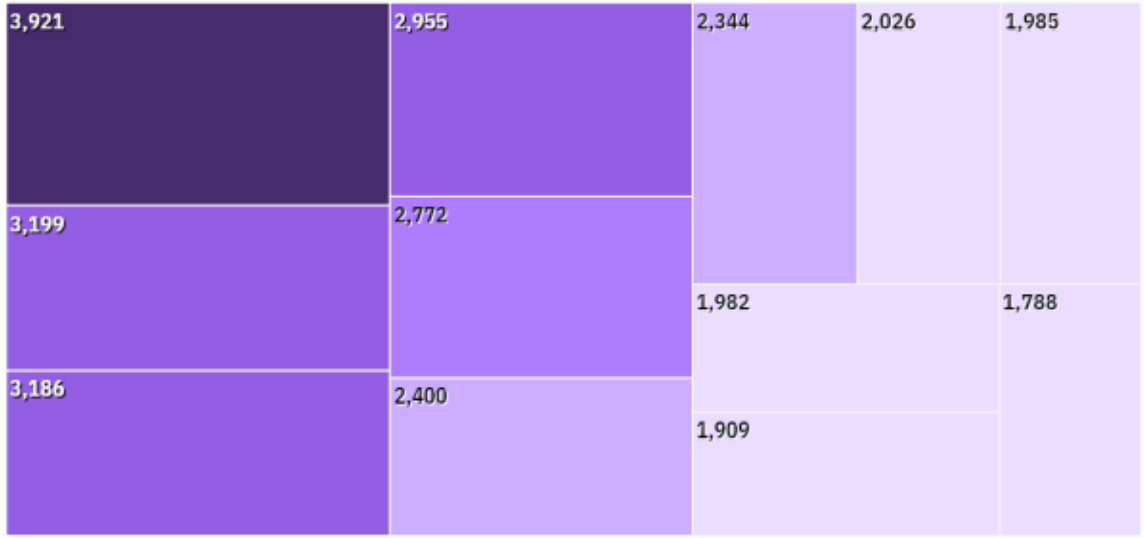
Top5SedentaryMinutes



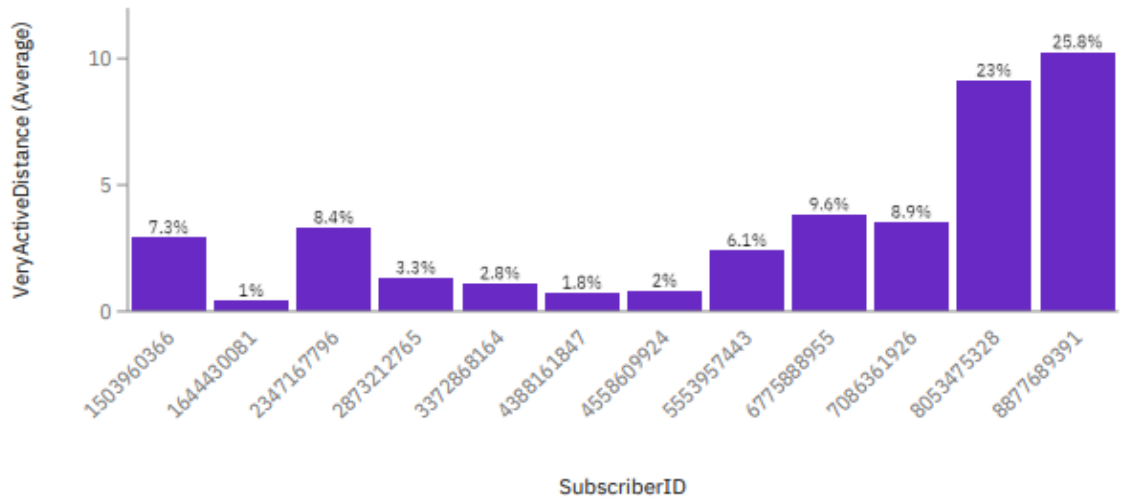
VeryActiveMinutesBySubscriberID



CaloriesBurned:TreeMap

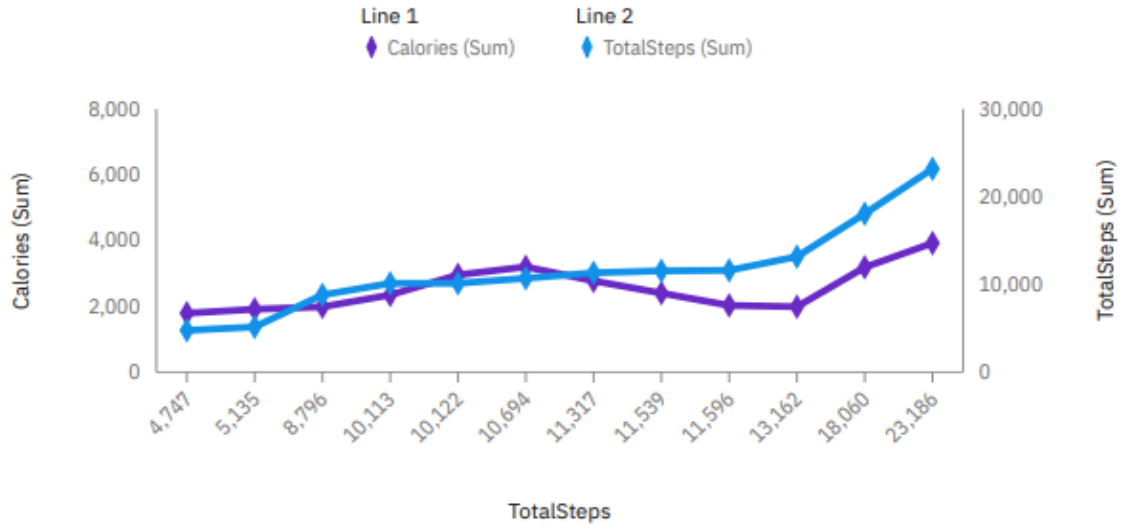


VeryActiveDistanceBySubscriberID



SedentaryMinutesBoxPlot

CaloriesByTotalSteps



[PY] DataFrame

	SubscriberID	TotalSteps	SedentaryMinutes	Calories	VeryActiveMinutes	VeryActiveDistance
count	12	12	12	12	12	12
mean	4752981999	11538.91667	1011.333333	2538.916667	36.59166667	3.291666667
std	2517234102	5047.813486	275.0534934	666.7464365	29.51737419	3.201834228
min	1503960366	4747	647	1788	1	0.4
25%	2741701523	9783.75	699.75	1984.25	13.55	1.025
50%	4473385886	11005.5	1094	2372	31.15	2.65
75%	6853507198	11987.5	1129	3012.75	62.5	3.575
max	8877689391	23186	1440	3921	91.2	10.2

[PY] 0.7868134

[PY] 0.2923848

Insights

- A correlation result of 0.79 indicates a strong positive relationship between the increase in TotalSteps and Calories burned. The relationship is not perfect, but there is a clear upward trend in the data. This result suggests that TotalSteps is a good predictor of Calories burned, but other factors may also influence calorie expenditure.

- Given a correlation result of 0.29 between TotalSteps and SedentaryMinutes, this indicates a weak positive correlation.

- Subscribers with these ID's *8053475328 ,8877689391 , 1503960366* , 5553957443 & *6775888955* had TotalSteps greater than the average making 41.67%.

- The remaining 58.33% Subscribers did not make the average TotalSteps.

Recommendations & Conclusion

Recommendations:

- Encourage more daily steps to increase calorie burn.
- Reduce sedentary time to improve overall fitness.

Conclusion:

- TotalSteps is a strong predictor of calorie burn but other factors also matter.
- Most users fall below the average steps, indicating room for improvement.

Thanks.