

Electricity Consumption using Big Data Analytics

Prof. Sandhya A. Awate¹, Rahul Chaurasia², Pratiksha Kirolkar³, Minal More⁴, Prerna Ingale⁵

Professor, Department of Computer Engineering¹

Students, Department of Computer Engineering^{2,3,4,5}

A. C. Patil College of Engineering, Mumbai, Maharashtra, India

Abstract: *This paper focuses on using big data analytics to analyze the electricity consumption patterns of 500 consumers(residential) in a particular area over 24 months. The data was obtained from MESB and analyzed to understand the trends in consumption better. The analysis was used to create visualizations and graphs that helped to identify the consumption patterns of individual users as well as the overall trends in the area. Using the Power BI tool, a dashboard is created to showcase the results. The dashboard provides valuable information such as the top 10 consumers and average consumption values by user. This information can be used by utility companies to identify areas where consumption is high and to develop strategies to reduce overall electricity consumption. This study demonstrates the value of big data analytics in understanding complex patterns and identifying opportunities for energy savings.*

Keywords: Consumption, Analytics, Electricity, Visualizations

REFERENCES

- [1]. Song Liu, Lei Yan, and You Wu. Multi-dimensional energy efficiency assessment of residential users based on big data analysis of differentiated electricity consumption behavior. In 2020 IEEE 9th Joint International Information Technology and Artificial Intelligence Conference (ITAIC), volume 9, pages 1295–1300. IEEE, 2020.
- [2]. Engy Soliman and Noora Fetais. Visualization as a mean of big data management: Using Qatar's electricity consumption data. In 2017 9th IEEE-GCC Conference and Exhibition (GCCCE), pages 1–6. IEEE, 2017.
- [3]. Roimah Dollah and Hazleen Aris. A big data analytics model for household electricity consumption tracking and monitoring. In 2018 IEEE Conference on Big Data and Analytics (ICBDA), pages 44–49. IEEE, 2018.