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Reducing the Electricity Bill with a Scientific Method

In the last years the development of new technologies aligned with the acquisition and processing of data has led to an increase in academic content related to the understanding and processing of data in the majority of areas of knowledge. Moreover, assessing different training courses in Higher Education, it has observed that the contents related to processing data are more focused on the teaching of statistical-computing techniques and tools and less focused on the teaching of the scientific method of learning which is necessary to achieve efficient and lasting results.

We present a practice carried out with 3rd year students of the Industrial Management Engineering Degree at TECNUN-University of Navarra during the 2022-23 academic year. The practice was proposed within the framework of the Process Improvement subject. The general objective is to promote a methodology focused on accelerating the learning process of students in the use of the scientific method to diagnose industrial problems in environments of variability.

The objective of the practical exercise was to understand the electricity consumption of a household using real data and propose actions to reduce the electricity bill. Students must follow the methodology taught in the theoretical classes.

Through this practice, the students improved their ability to extract value from the data, visualize it and understand the origin of the invoice cost in its depth. It is discussed between changing rates while maintaining the pattern of consumption or changing habits to change the pattern.

Keywords

scientific method, learning process, practical case

Classification

Both methodology and application

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