

Big Data Analysis and Decision Making: Perspectives, Analysis, and Context

The research work is based on the desire to offer a contribution to the fabric of SMEs. It starts from the consideration that companies can gain a competitive advantage from using data-driven decision-making processes.

The first part of the research work consists of a careful review of the state of the art. The goal was to dissect all aspects related to the world of big data. Initially, an attempt was made to frame the phenomenon and understand it in its complexity.

It is assumed that big data is a relatively new phenomenon and that in recent years, thanks to new IT, IoT, and ML technologies, it is increasingly gaining traction in the international business landscape and, of course, in academia. Once the reference context of big data was examined and clarified, their importance in decision-making processes was observed. The aim was to understand how their use can lead to a higher decision-making capacity for management. The original purpose of the research was to bring these aspects to the level of SMEs. It was noted how the utilization of big data is not easy for small enterprises due to certain obstructive elements, which were extensively explored in the research work.

The impact of their use was also studied in the case study of an American company, with particular reference to its risk management. The work was driven by a strong desire to practically contribute to the current state of our domestic companies, concerning data-driven decision-making processes. In this sense, a model was hypothesized to facilitate this. To make this idea concrete, the latest technologies were researched and tested, including blockchain, to eliminate all the barriers that SMEs identify in using this technology.

The hypothesized model was tested on a micro-enterprise, albeit for a short period. The results obtained are encouraging and suggest that even SMEs, if well guided, can benefit from the advantages of a data-driven decision-making approach.