

Impact Assessment of Big Data Analysis and Application Cases – A Cross-Country Comparative Analysis

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Abstract

Purpose of the article This paper aims at exploring – in a cross-country framework – how digital technologies and, especially, big data analytics have forced companies from different sectors to reconsider and experiment with their business models and how this contributes to their innovativeness and performance. By using a comparative study of companies in several EU countries, the focus mainly lies on exploring the impact that digitization has had on businesses as a whole and how companies have succeeded in making digital technologies a competitive advantage. The analysis is centered on assessing the effect that disruptive technologies and digitization have from an economic and competitiveness perspective.

Methodology/methods The research focuses on comparing companies in several EU countries on the basis of case study methodology. Use cases from different EU countries and different sectors of the economy are being analyzed and compared.

Scientific aim Main aim is to demonstrate – based on selected cases – the potential of big data analysis as one of the key factors in digital transformation. Contrary to single-case settings addressing specific business cases, this article focuses on compilation of possible applications and implementation scenarios based on selected cases that represent various perspectives.

Findings Selected case studies clearly demonstrate the potential of using big data analysis and digital technologies with significant impact on business and society. Selection of case studies was made to cover different levels and perspectives, so that the impact could be generalized. In all these perspectives the potential for using big data analysis as a direction for improvement is shown to be very high.

Conclusions This comparative analysis shows how and whether EU economies are changing due to new disruptive technologies. EU countries show in general different levels of digital awareness and skills as well as a different potential of exploring the impact of digitalization. Governments should develop and enforce more instruments in order to be able to cope with the increasing demand for digitalization and to support companies in becoming more competitive on the international markets.

Keywords: big data, big data analytics, digitization, digital awareness, comparative analysis

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