Industry 4.0 and Supply Chain Integration: Case of Tunisian Industrial Companies

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Abstract : Industry 4.0, a set of emerging smart and digital technologies, has been the main focus of operations management researchers and practitioners in recent years. The objective of this research paper is to study the impact of Industry 4.0 on the integration of the supply chain (SCI) in Tunisian industrial companies. A conceptual model to study the relationship between Industry 4.0 technologies and supply chain integration was designed. This model contains three explained variables (Big data, Internet of Things, and Robotics) and one variable to be explained (supply chain integration). In order to answer our research questions and investigate the research hypotheses, principal component analysis and discriminant analysis were used using SPSS26 software. The results reveal that there is a statistically positive impact significant impact of Industry 4.0 (Big data, Internet of Things and Robotics) on the integration of the supply chain. Interestingly, big data has a greater positive impact on supply chain integration than the Internet of Things and robotics.