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A BIBLIOMETRIC ANALYSIS ON INDUSTRY 4.0: TRENDS, CHALLENGES, AND EMERGING TOPICS

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Introdução
Industry 4.0 has been considered one of the most disruptive approaches in the last years. Combining cutting-edge technologies (e.g., internet of things (IoT), cyber-physical systems, big data analytics, cloud computing, artificial intelligence, among others), has caused changes in the organizations, as also in workers role in the organizations. Since the Introduction of the term by the German Government in 2011 as a project to develop its high-tech industry, this term has being a buzzword from both, scholars and practitioners.

Problema de Pesquisa e Objetivo
The current literature is scarce in conducting studies employing a bibliometric analysis. In addition, studies approaching the interplay of Industry 4.0 combined with some related-themes (e.g., network, logistic, supply chain, production system, circular economy, operations management) is rare. Thus, there is an important gap in the literature concerning a bibliometric approach in order to organize and report the advances of this research field. Thus, this study aims to identify and analyze the most relevant literature on Industry 4.0-related themes considering a period from 2011-2018.

Fundamentação Teórica
The extant literature has no unique concept about Industry 4.0, due to it is recently emerging in 201 and since then has been a hot topic not between scholars and practitioners. However, to the majority of scholars, Industry 4.0 refers to information and communication technologies (ICT) integrated with industrial technology (Ben-Daya et al., 2017; Stock & Seliger, 2016; Zhong et al., 2017). In this regard, the Industry 4.0 is composed by a vast of technologies, for instance, cyber-physical systems (CPS), internet of things (IoT), big data analytics (BDA), cloud computing (Zhong et al., 2017).

Metodologia
In this study, a bibliometric approach is followed, in order to support the papers collection, organization, and analyses. We performed a search on Scopus Database. The keywords and the combination used to perform the search were the following: "industry 4.0" AND network* OR logistic* OR "supply chai*" OR "production system*" OR "circular econom*" OR "operations management*", in the titles, keywords and abstract of the articles published in English between 2011 and 2018.

Análise dos Resultados
The main findings of this study bring essential contributions from both views, theoretical and managerial. Firstly, we identified that the Industry 4.0 combined with some related-themes (e.g., network, logistic, supply chain, production system, circular economy, operations management) has been increasing in publications, consistently only starting from 2016. Considering the number of publications by country, we showed that these publications are dominated by European countries, China, and the US. This finding can be considered a good challenge to scholars from Latin America.

Conclusão
This study explored by a bibliometric approach the Industry 4.0 and some related-themes. We covered a period from 2011-2018. Moreover, this study showed the needs for more research on these topics, especially by Latin America Institutions, and the needs of a more engagement of the Social Sciences in Industry 4.0-related themes.

Referências Bibliográficas
Ben-Daya, M., Hassini, E., & Bahroun, Z. (2017). Internet of things and supply chain management: a literature review. International Journal of Production Research, 7543, 1–24. Stock, T., & Seliger, G. (2016). Opportunities of Sustainable Manufacturing in Industry 4.0. Procedia CIRP, 40(Icc), 536–541. Zhong, R. Y., Xu, X., Klotz, E., & Newman, S. T. (2017). Intelligent Manufacturing in the Context of Industry 4.0: A Review. Engineering, 3(5), 616–630.