

The Role of Industry 4.0 in Supply Chain Management

Alper Senol

Department of Industrial Engineering and Management Systems | University of Central Florida |
Orlando, Florida

Ahmed Bakhsh

Department of Industrial Engineering | King Abdul Aziz University | Jeddah, Saudi Arabia

Ahmad Elshennawy

Department of Industrial Engineering and Management Systems | University of Central Florida |
Orlando, Florida

Abstract

The concept of Supply chain 4.0 is still at the beginning stage and presents an opportunity for academic research in related areas. Currently, a number of various research are completed in the field of Industry 4.0 and Supply Chain Management. However, factors of the successful integration of Industry 4.0 in the Supply Chain Industry are still debatable. So, it is crucial to establish a study that evaluates the impact of these major factors. The purpose of this study is to identify the potential factors and their impacts while adapting to Industry 4.0 in the various areas of the SC industries. Furthermore, the created model and suggested framework aim to analyze the result of these factors.

The intention of this study is to provide practical guides for the organizations in the SC industries while concentrating on the success factors that can be controlled by the companies. The originality of this study is to find out what are the key business resources of the companies and their employees' work engagement to execute Industry 4.0 tools and technologies in order to manage Supply Chain operations successfully, creating a framework that can provide guidance for the practitioners in the industry to adopt such a model in the SC organizations.

A systematic literature review was applied as a method in the research. Sixty-seven articles were evaluated in the research using "Web of Science", "Scopus" and "Dergipark" databases. As a result of the review, descriptive findings were spotted for studies on supply chain management and the industry 4.0 relationships.

While this research is ongoing, the basic questions to be answered in the research are as follows: 1. What are the business resources that affect the industry 4.0 success levels of the supply chain companies and to what extent do these business sources affect the industry 4.0 success? 2. While business resources of supply chain companies affect industry 4.0 success levels, do companies' work engagement concept also play a role in this situation.