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IoT and analytical practices in traditional industries: A view of the farming and agricultural sector

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IoT and Analytical Practices in Traditional Industries: A view of the Farming and Agricultural Sector

Abstract

Contemporary advancements in technology and analytical methods have attracted great interest from the farming and agricultural sector. Internet of Things (IoT) and Big Data Analytics can provide opportunities for improving the farming and food production operations. Such initiatives in agriculture are becoming financially viable due to relatively low cost of sensor devices, data storage and processing in cloud environments. Furthermore, the development and expansion of mobile networks have enabled efficient and reliable transmission of relatively large data sets from fields around the world to data centres. The affordability of such technologies means that big and small farms can benefit equally from the use and sharing of information, technology and equipment for improving the farming practices. The use of smart sensors and IoT devices in farming practices can generate renewed interest in transforming the traditional business models to digital ones that focus on achieving value through the Big Data evolution. However, this transition and the implications it can entail into traditional organisational and operational practices challenges not only digital and technological sectors but also traditional sectors like agriculture and farming more than ever before. Clearly, a new research agenda is required to update and understand the implications of digital disruptive innovations in traditional industries. To address these challenges, this study focuses on a) describing current views on operational and business model disruption b) exploring the value of IoT in agricultural and farming sector and c) drawing a research agenda in the field and the empirical patterns that could be examined in the future.