Increasing the Use of Big Data via Agricultural Cooperatives - Abstract

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Summary

The talk aims to find strategies to defend small and medium farms and to find a way to make them productive and technologically updated. Technological and IT innovation in agriculture is an excellent opportunity to improve many conditions and solve some problems. In particular, through Big Data, it is possible to increase the knowledge of correlations between events, places, and crops and thus improve the quality and quantity of production. Large companies have implemented these technologies: the cases of Monsanto and Ferrero are well known. The agricultural systems of some European states, such as Italy, are strongly characterized by small farms (according to the Italian Statistical Institute, the average size of farms is 8.4 hectares). Often these companies are in intense competition because they are part of a territory famous for a specific type of product (event increased by labels as PDO or PGI). Similarly, the average age of Italian farmers is high (in Italy, more than half of agricultural entrepreneurs are older than 50 years old). These factors (small size of the company, strong competitiveness between neighboring companies, and high age) increase the risk of artificial intelligence under-use in agriculture.

Part of the mistrust is due to issues concerning privacy and business secrecy. IT companies or universities working on innovation in agriculture ask agricultural companies to make their data available or make it public (Open Data) to be able to correlate or find causal links between various phenomena. Farms, however, are often reluctant to do so in order not to share information that could benefit their competitors. They do not find an advantage for them to contribute to creating innovative and advantageous tools with a very high cost that they would not be able to use, devices that are likely to be used only by multinationals or large companies. A solution to this problem could be encouraging the transition from medium-small to medium-large farms. However, this has two side effects: on the one hand, it changes the traditional agricultural organization of some European states. On the other hand, having small businesses firmly anchored to the enhancement of their territory has the positive effect of protecting the environment, its health, its landscape, and its history.

The solution to this impasse is to encourage the construction of agricultural cooperatives, consortia, or inter-company organizations linked to a territory. This system, which has already been in use in many parts of Europe for more than half a century, and which has strong links in local history, can be the bearer of the transition to information technology by encouraging its members to share data among themselves to projects for the protection of the territory, enhancement of products and increase in profitability and product quality. The Data should be shared following a pact of purpose, and the results should be equally accessible to all parties. The cooperative could purchase high-cost technology products jointly and use them alternately. In this way, two objectives could be achieved: the protection of the territory and the development of new agricultural technologies.

Keywords

Small farm, politics of agricultural systems, rural development

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