

AgTech entrepreneurship: a necessary conditions analysis

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Introdução

AgTech startups are companies based on Industry 4.0 technologies and use them to optimize agricultural production. In recent years, these ventures have attracted the interest of politicians, academics and investors, but little is known about the contextual determinants of their establishment (Dionisio, 2023). Studies on entrepreneurship link the success of innovative companies to innovation systems. However, there is a lack of research into the factors required to create AgTech startups.

Problema de Pesquisa e Objetivo

Notably, there is a dearth of studies delving into the impact of budgetary resource availability on AgTechs. Given the above, our study aims to fill the research gap by seeking to answer the following question: Does government spending on agriculture influence the creation of agricultural technology startups? To answer this research question, our paper has a dual purpose: First, we aim to assess whether agricultural support policies are necessary conditions for fostering AgTechs startups. Second, identify the required levels of each resource/policy to stimulate AgTech startups.

Fundamentação Teórica

Agricultural knowledge and innovation systems represents a collaborative effort among various organization to foster technological innovation in agricultural sector. This collective endeavor enlists traditional sources of innovation, such as local technical knowledge, and engages with contemporary stakeholders, including research institutes, agro-industrial entities, entrepreneurs, NGOs, farmers, consumer association, and interest groups.

Metodologia

In this study, we applied a necessary condition analysis to a database composed of 27 countries. To create our database, we collect data about AgTech startups from Crunchbase and for data about agricultural context, we collect data from OECD's agricultural policy monitoring and evaluation dataset. We select 10 variables that represent policy support for the agricultural sector. Using OECD data is interesting because it provides a longitudinal and systematic study of the evolution of agricultural policy in both OECD and non-OECD countries.

Análise dos Resultados

Our results showed that factors such as agricultural knowledge Generation, exemption services, payments based on Variable input use, payments based on fixed capital formation, payments based on-farm services, inspection and control, development and maintenance of infrastructure, and marketing and promotion are necessary conditions for AgTech startups.

Conclusão

In this research endeavor, our objective was to assess the requirement of diverse budgetary resources in advancing AgTech entrepreneurship at the national level. Our study findings underscored that among the 10 examined conditions, eight were deemed imperative in nurturing AgTech entrepreneurship: Agricultural knowledge generation, extension services, payments based on variable input use, payments based on-fixed capital formation, payments based on-farm services, inspection and control, development and maintenance of infrastructure, and marketing and promotion.

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