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EXTENDED ABSTRACT

Title: The role of social capital and absorptive capacity in the innovation of agri-food SMEs in a developing region

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Abstract

This study aims to explain how social capital and absorptive capacity influences the development of innovation in SMEs. To do so, data were collected from 117 questionnaires answered by agri-food SMEs in the region of Coquimbo, Chile. We constructed an innovation index using compensatory aggregation techniques. The research contributes to expand the discussion on the specific literature by concluding that social capital has a positive influence on the development of innovation in SMEs. In addition, the absorptive capacity of SMEs, as an individual internal attribute, has a positive moderating effect on the development of innovation.

Introduction

Agri-food SMEs represent the basis of the business fabric and act as elements of cohesion in the territory in which they carry out their activity (Minarelli et al. 2014; Luque-Vílchez & Rodríguez-Gutiérrez 2021).

In his study Teilmann (2012) explained the association between the generation of social capital and economic growth. This is carried out by visualising a connection between social capital and the motivation to participate in future rural development projects, which was demonstrated by means of an index for quantifying the social capital of rural producers. Absorptive capacity has a positive effect on the relationship between the breadth and depth of external search and innovation (Flor et al. 2018).

What is not so clear is the impact of the different dimensions of social capital and absorptive capacity on the development of innovation. In fact, we think that this impact deserves further exploration.

Therefore, focusing on the development of innovation among SMEs in a territory and a productive sector, our main research question is: how does dimensions of the social capital and absorptive capacity influence the development of innovation in agri-food SMEs in a particular territory, the Coquimbo Region, in Chile?

Consequently, the study proposes the following hypotheses:

- H₁: Social capital positively affects the development of innovation in agri-food SMEs
- H₂: Different explanatory variables of social capital have different impacts on the development of innovation in agri-food SMEs
- H₃: Absorptive capacity positively moderates the effect of the dimensions of social capital on innovation development of agri-food SMEs

Methodology and data processing

The region of Coquimbo, where the present study was conducted, is bordered to the north by the region of Atacama and to the south by the region of Valparaíso, its regional capital is the city of La Serena. It is subdivided into 3 provinces, from south to north: Choapa, Limarí and Elqui. It has a population of 770,000 (Flórez, Plata & Higuera, 2019).

Data collection

The methodology was selected taking into account the exploratory nature of the study, a semi-structured interview was conducted with 117 SMEs out of a total of 1,508 SMEs in the Coquimbo Region of Chile (SII 2020), the SMEs interviewed are engaged in the primary production of fruit and vegetables, and processed products such as: canned fruit and vegetables, honey, beer, goat cheese and goat meat products.

The instrument used to collect information included: (i) closed-ended single response questions, and (ii) rating questions, using both constant sum scales that require the interviewee to distribute a fixed amount among several options. The interview design included a series of closed questions with a scale to measure some of the variables linked to social capital proposed by Molina-Morales et al. (2008).

Analysis techniques

To test the hypotheses, we performed a hierarchical regression analysis, since an interaction effect exists if and only if the interaction term makes a significant contribution to the direct effects model (Cohen et al. 1983; Patluang 2019). The levels of significance of the regression coefficients should be examined jointly.

Variables

Dependent variable

Development of innovation: to capture the innovation output, the decision was made to develop an innovation index that took into account the definition in the Oslo Manual, 4th Edition (OECD, 2018), and for this purpose we used the utility function given by F

$(\text{score}(x)) = \sum w_i G_i(f_i(x))$ with $\sum w_i = 1$, the MCDA multi-criteria methodology (Schärlig, 1985).

Independent variables

The dimensions of social capital: density of the network, strength of ties, wealths of exchange, shared norms and values, local institutions, benefits and new resources were selected as explanatory variables, taking as a reference the study conducted by Molina-Morales et al. (2008).

Absorptive capacity: as a moderating variable, which was identified by asking the SMEs whether they had technological absorptive capacity (yes/no).

Control variables

Productive sub-sector and financing: the questionnaire asked about the sub-sector to which the SMEs belonged, most of them being from the productive sector (producer of raw/transforming material), as well as whether they had received public financing (yes/no).

Discussion and conclusions

The case study analysed provides evidence supporting the positive effects of the dimensions of social capital in agri-food SMEs in the region of Coquimbo Chile and can be effective in understanding the development of innovation in the SMEs studied. It summarises the key findings with respect to the background (sources of knowledge and experience), the dimensions of social capital (network density, strength of the ties, wealths exchange, shared norms and values, local institutions, and benefits and new resources) and the control variables (productive subsector, receiving financing). Consequently, H_1 was only partially confirmed, although with results consistent with Van Looy and Debackere 2005 and Rodrigo-Alarcón et al. 2018. On the other hand, the dimensions of social capital vary in terms of the groups they connect and, consequently, how they affect the development of innovation. Thus, H_2 is partially confirmed, as the dimensions have an influence to varying degrees, consistent with research by Mu et al. 2008; Lu et al. 2012 and Patluang 2019.

Regarding the interaction effects, the results show that absorptive capabilities has a significant moderating effect. It thus confirms H₃, in agreement with Sheg and Hsich (2010), Panayides (2006) and Thornhill (2006), and consistent with Van der Bosch et al. (1999), as regards the fact that investments in absorptive capacity were associated with a firm's ability to predict technology paths as well as new opportunities, thereby gaining time advantages over competitors.

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