



# Why do small businesses innovate? Relevant factors of innovation in businesses participating in the Local Innovation Agents program in Rondônia (Amazon, Brazil)

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Received 8 December 2016; accepted 25 July 2017

Scientific Editor: Felipe Borini

## Abstract

This study aimed to present the most relevant cognitive factors that influence innovation in activities of small businesses participating in the Local Innovation Agents program in Rondônia (Amazon, Brazil). Cognitive maps were used as a methodological approach for the study of a group of small businesses within the context of the project. The results indicated the existence of 14 relevant factors mentioned by the businesses assessed, highlighting two influence factors mentioned by all participants in some casual relationship, therefore, a consensus: “need for survival” and “knowledge and experience”. These factors indicate, respectively, motivation and innovation process management of the companies studied. The different relations among the factors allowed identifying two groups within the program. They differed primarily in regard of willingness to innovate and development of learning levels that influence innovation activities resulting from the interaction with the program’s agents.

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**Keywords:** Innovation factors; Cognitive maps; Small businesses; Cognition for innovation

## Introduction

Innovation that results in an endogenous economic development is an alternative paradigm to the neoclassical mainstream economic theory. It is very effective in explaining inequalities between nations. It has grown in importance also for the theory of organizations, whose main objective is to understand the sources of innovation within organizations (Bastos, Souza, & Costa, 2008; Goodhew, Cammock, & Hamilton, 2005; Pundt, 2015; Swan, 1997), and support organizational and institutional environments in which innovations occur (Braga & Forte, 2016; Conceição, 2008; Mais, Carvalho, & Amal, 2014; Possas, 2008). Discussions involving relationships between institutions and

entrepreneurial and innovation activities are still a fertile field for discussion due to the evident existing gaps.

However, recent studies on innovation (Carvalho, Silva, Póvoa, & Carvalho, 2015; da Silva Néto & Teixeira, 2011, 2014; Desidério & Popadiuk, 2015; Rodrigues et al., 2014) have focused on presenting the types of innovations performed, their development processes or measurement mechanisms, but neglected to discuss the reasons why a business decides whether or not for the development of innovation activities. Moreover, this lack of debate is even more evident when the study *locus* are micro and small businesses (MSBs), which have received little attention in innovation studies despite political and economic incentives and the important role they play in economic and social development (Forsman, 2011; MDIC, 2013).

An example of such political and economic incentives to MSBs in Brazil is the Local Innovation Agents program (LIA program). It was created in 2009 by the Brazilian Support Service for Micro and Small Businesses (Sebrae) to promote innovation in the business sector and consolidate a culture of

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Peer Review under the responsibility of Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP.

<http://dx.doi.org/10.1016/j.rai.2017.07.007>

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innovation through a continued practice of innovation activities in small businesses under the monitoring of selected and trained agents for such purpose. From 2012, the program has expanded due to the support of the National Scientific and Technological Development Council (CNPq). According to CNPq (2015), over 90,000 businesses in Brazil were served up to the end of 2014. The program has an investment forecast of R\$ 320 million for the period 2015–2020.

Other incentives to facilitate access to programs and projects for the development of innovations and the improvement of small business management are the Federal Supplementary Law no. 123/06, also known as General Law of Micro and Small Businesses, Law no. 10,973/04, known as the Innovation Act, and Law no. 5798/06, known as Law of the Good (BRASIL, 2004, 2006a, 2006b).

Nevertheless, a survey conducted by the Ministry of Development, Industry and Foreign Trade of Brazil (MDIC, 2013) evidenced that, despite the significant number of businesses, which impacts consequently on job opportunities and participation in income, Brazilian micro and small businesses are not representative in terms of productivity, affecting the ability to perform effectively the role of inducing economic development.

The low response of the segment to measures such as those mentioned opens room for discussions about the possibility of the problem not being institutionally related to the incentive structure, including legal incentives, but more connected with the cognitive behavioral attitude of MSB entrepreneurs.

From this controversy, and in order not to exhaust any questioning or discussion possibility and contribute to a greater understanding of the causes of this undesirable dynamic, this research discusses what cognitive structure factors influence the innovative behavior of small business' entrepreneurs by understanding the most relevant cognitive factors influencing innovation activities of small entrepreneurs participating in the LIA program in the state of Rondônia (Amazon, Brazil).

This study understands innovation as a process of creation and social appropriation favored by an intangible dimension related to behavior, freedom of communication, risk-taking culture and practice of creativity techniques, understanding innovation per the society's broad sense, and the effects the stimulus to innovation may exert on a creation and distribution of income (Bin, 2008), more aligned to the reality of small businesses (Bachmann & Destefani, 2008).

In this context, this study is an interesting proposal for discussion of innovation motivated by social processes based on the individual and collective learning provided by experiences and sharing of meanings derived from them. It is influenced by, and subsequently influences, values, beliefs, rules and social standards, focusing on the cognitive aspects of the individual in face of the decision to innovate.

### Innovation and learning in the small business environments

García-Morales, Lloréns-Montes, and Verdú-Jover (2007), in a quantitative study involving small and large businesses, showed a high correlation between learning ability and

innovative capacity, and innovation activities and business performance. Organizational learning appears to be one of the innovation background processes that best responds to the understanding of the dynamics of small businesses (Morales, 2013).

Innovation capacity has often been compared to business activities related to formal research and development (R&D) and new products (Kirner, Kinkel, & Jaeger, 2009). This linear model of innovation emphasizes the scientific and technological knowledge and perceives formal R&D efforts as an indicator of the technological progressiveness of businesses. Regarding small businesses, the current literature suggests that innovations do not necessarily result from formal R&D. They result from daily business developments, customer collaboration and optimization processes (Hirsch-Kreinsen, 2008). Bachmann and Destefani (2008) argue that patent number and percentage of revenues applied to R&D are not adequate indicators for micro and small businesses because this stratum of businesses generally does not spend on R&D, does not have PhDs and professors as employees and does not register patents.

In the case of Brazilian MSBs, given the management difficulties faced by such organizations and the difficulties in measuring results, Sebrae (2011) considers the use of knowledge on new ways to produce and market goods and services as innovation along with any change involving a significant level of novelty for the business. Sebrae assesses the cognitive effort to innovation regardless of measurable R&D results, sales increase, market shares, cost reductions or improved operating methods of these organizations.

The innovation paradigm adopted by the LIA program to serve Brazilian small businesses was the Oslo Manual, published by the Organization for Economic Cooperation and Development (OECD, 2005, p. 55). It presents innovation as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.”

The consequences of this concept are that innovation should take place on a systematic basis and obtain the expected results in its planning (Barbieri, Vasconcelos, Andreassi, & Vasconcelos, 2010), associating innovation with the creation of value capable of producing differentiation and make organizations more competitive in the market. Tidd and John (2015) stated that the innovation process, however, is complex and requires some knowledge and ability in order to establish relations and identify opportunities so that they may be well-used.

The process of innovation in MSBs, then, is favored by organizational structures and by an intangible dimension related to behaviors, freedom of communication, risk-taking culture and practice of creativity techniques (Bachmann & Destefani, 2008). Reis, Carvalho, and Cavalcante (2009) considered such intangible dimension as a learning environment that combines the expertise and the use of ideas from employees for the generation and implementation of innovations, as shown in Fig. 1. From this model, the process as a whole involves the dynamic between experiential learning and mental models.

Kolb's theory of experiential learning (1984) assumes that all knowledge results from the interaction between the abstract

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