


DETERMINING FACTORS OF INNOVATIVE PERFORMANCE: MULTIPLE CASE STUDY

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DOI: <https://doi.org/10.31410/LIMEN.2020.215>

Abstract: *The agri-food industry plays an important role in the manufacturing industry in the Autonomous Community of Extremadura (Spain). The objective of this research is to identify which factors influence the success of the innovative performance in this regional industry. For this, a case study methodology was designed to analyze, from an organizational point of view, which elements contribute to the ability of various companies to develop an innovative strategy. This study validates the proposed model in which Management, Strategy, Structure, Culture, Climate and Market Orientation are factors that determine innovative Performance.*

Keywords: *Agri-food industry, Innovative performance, Extremadura.*

INTRODUCTION

The agri-food industry groups a set of very heterogeneous activities, ranging from the first transformation of animal and vegetable raw materials to the production of sophisticated products such as functional foods. The importance of the agri-food sector goes beyond the quantitative indicators of economic activity and job creation.

The agricultural and food industry is one of the main economic activities in the region of Extremadura (Spain) and plays a key role in the regional economy. The weight of the agricultural sector and its associated industries is substantially higher than the national average. Nevertheless its importance, the agri-food industry is undergoing substantial changes and needs to include innovation within its strategies, in addition to changing its products. On the one hand, the companies must adapt their products to the new consumers and the markets' food demands, in order to be more competitive and differentiate themselves from other producers. On the other hand, they must adapt their organizational structure, and especially their marketing strategies, to gain competitiveness and adapt to the international markets, which implies changes in non-technological innovation. As in other industries, innovation gives agri-food companies the possibility of generating higher incomes and increasing their productivity and competitiveness.

Based on this framework, the main objective of this study is to identify which business factors influence the success of the innovative performance in this industry. To do this, a multiple case study methodology was used to analyze, from an organizational point of view, which elements contribute to the ability of companies to develop an innovative strategy. The study validates

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the premises of the proposed model in which Management, Strategy, Structure, Organization, Culture, Climate and Market Orientation are factors that determine Innovative Performance.

This study aims to contribute to the existing literature by analyzing innovation in the agri-food industry, especially in a regional setting. Its main novelty and interest lie in the methodology used (multiple case study), the proposed model, and the fact that few studies have analyzed this issue. The main contribution of the study is oriented, on the one hand, at the promotion of the capacities and competences of the managers of the agri-food companies for the development of innovative activities favoring the knowledge, the external visibility and the competitiveness of the companies. On the other hand, it is useful for Public Administrations when developing policies to promote and encourage innovation in a sector of vital importance in rural and regional development.

THE CONCEPTUAL MODEL

Both the economic and the organizational analysis coincide in highlighting the importance of innovation in the complex and changing world that organizations are currently faced with. On the one hand, innovation is a way of avoiding obsolescence, responding to changing market expectations, and is a source of competitive advantage. On the other hand, innovation takes different forms, each one as part of a multidimensional, multidisciplinary, and multifactorial process, as the product of interaction within the organization and with its environment, in a permanent and non-linear way.

In effect, innovation is a complex activity in an organization, in which multiple variables intervene both internally and externally. Therefore, there is a set of variables that intervene to make all of this possible. i) A Culture that drives an adequate mindset (Dabic et al., 2018; Padilha & Gomes, 2016) ii) A Structure that organizes work in a way that enhances human capital (Miles et al, 1978). iii) A Strategy that sets a course and establishes the "how to do" (Prajogo, 2016; Wei et al., 2019). iv) A Management that acts proactively, not only creating appropriate internal conditions but also external ones, in the management of complementary resources (Cabello-Medina et al., 2011; García-Morales et al., 2012; Hullova et al., 2019). v) A Market Orientation that establishes the environment-organization relationship as a source of ideas, recommendations, adjustments, and benchmarks (Ozkaya, 2015; Ho et al., 2018). vi) And, finally, a Climate capable of creating the enthusiasm and commitment necessary to achieve the objectives (Popa et al., 2017).

Based on these variables, the following research premises are established (Corchuelo et al., 2020):

- 1° There is a positive relationship between Management and Innovative Performance.
- 2° There is a positive relationship between Strategy and Innovative Performance.
- 3° There is a positive relationship between Culture and Innovative Performance.
- 4° There is a positive relationship between Structure and Innovative Performance.
- 5° There is a positive relationship between Climate and Innovative Performance.
- 6° There is a positive relationship between Market Orientation and Innovative Performance.

METHODOLOGY

In order to validate the established premises, the present study uses a qualitative methodology based on a multiple case study. In accordance with Ruiz (2007: 57), a qualitative research

strategy “imposes a context of discovery and exploration”, a circumstance that fits our objective.

According to Yin (1989), this approach is appropriate because it fosters a broad understanding of the researched issue. Through case studies, an issue such as the factors that influence innovative performance can be fully appreciated, and its attributes can then be widely understood through a simultaneous analysis of all its aspects. There are several categories of case studies. Yin (1989) defines three categories: descriptive, exploratory, and explanatory. For this study, the exploratory approach was adopted.

Before carrying out an investigation using the case analysis methodology, the theoretical framework of the investigation must be defined, and an exhaustive compilation and review of the literature related to the topic must be done. Background from other researches, hypotheses, and experimentations were reviewed, which will facilitate the interpretation and analysis of the data at the end of the study.

A fundamental element of the design of this methodology is the elaboration of the semi-structured interview. To do this, a script (or protocol) was prepared, including the aspects related to the selected variables previously analyzed.

Another fundamental element of the design is the type of sampling to be carried out. In our case, the sample was selected in order to identify notable agri-food companies according to their management and performance in terms of innovation. The aim is to look for relevant examples of good practices to later extend the generalization to any type of company. Given the exploratory nature of the qualitative studies, neither the researchers nor the interviewees knew the totality of the type of information that they had to provide and collect. For this reason, the protocol was sent to the selected companies before the interviews.

Once the cases to be studied were selected, the interview was carried out and the relevant information obtained in the responses was collected. We also used other secondary information that would allow the study to be completed (date on which the interview takes place, the position of the interviewed person, organization address, duration, and method to do it).

Five Extremaduran agri-food companies of different sizes and branches of activity were contacted. Based on the diversity of the situation (age, size, with or without a formal R&D department), we prepared for different eventualities in order to validate the proposed model. The contact with the companies and the interviews started in late February 2020.

Finally, to analyze and interpret the information, an initial coding framework for the interview transcripts was developed. The data obtained through the literature and the interviews allowed the coding and analysis of the cases. Finally, the functional-structural analysis was carried out after revisiting the literature again.

RESULTS: CROSS ANALYSIS OF THE CASES AND VARIABLES OF THE PROPOSED MODEL

Regarding innovative performance

COMPANY A, a large company, develops process and management innovation, a product of the expansion dynamics that began in 2014. In addition, it started another process in its products by expanding its lines, in response to its customers in the development of sauces.

COMPANY B, a small young company, develops and patents new products, as well as innovation in marketing through the packaging of its products and its online marketing and management system.

COMPANY C, one of the most dynamic, develops through open innovation with the academic, public, and private business sectors, a new raw material for the cosmetics sector, in addition to products such as olive leaf tea. It also innovates in marketing, catering, wine tourism and strategic marketing mechanisms for its products.

COMPANY D, another small company, a relatively young wine producer, develops product innovations, differentiating itself with unique products in the market and by innovating in marketing through “virtual tastings” with its clients, achieving the positioning of its products both nationally and internationally.

COMPANY E, with a great position in the Extremadura wine sector, is initiating a process of innovation in its business model and product, entering the Cava sector.

Regarding the variables of the model

The variables proposed in the research model have been validated formally, or informally in the case of the relatively smaller organizations. This is how all the premises have been positively valued as determinants of innovative performance, by all the participants in the multiple case study.

P1. There is a positive relationship between management and innovative performance: validated. Management that acts proactively, not only creating appropriate internal conditions, but also external ones, in the handling of complementary resources.

P2. There is a positive relationship between strategy and innovative performance: validated. A strategy that sets a course and establishes the "how-to".

P3. There is a positive relationship between culture and innovative performance: validated. A culture that encourages the right mindset.

P4. There is a positive relationship between structure and innovative performance: validated. A structure that organizes work in a way that enhances human capital.

P5. There is a positive relationship between climate and innovative performance: validated. A climate capable of creating the enthusiasm and commitment necessary to achieve the objectives.

P6. There is a positive relationship between market orientation and innovative performance: validated. A market orientation that establishes the environment-organization relationship as a source of ideas, recommendations, adjustments and benchmarks.

DISCUSSION

Innovative Culture, Organizational Climate, Strategy and Structure

Our findings are in line of the studies of Padilha and Gomez (2016) and Dabic et al (2018). In both of them, a multivariate model was proposed to explain the innovative performance in companies. Dabic et al (2018) outlined that the contextual factors related to the Organizational

Climate and the Innovative Culture are vital for the success of the company, adding that the biggest performance is positively related to higher levels of innovative culture.

Culture, Organizational Climate, Strategy and Structure are variables of vital importance for the achievement of innovative performance. The first one (Culture), is the driver of the action oriented at innovating. It is fed by a clear definition of the vision and the mission of the company (Strategy), the way the work is organized inside the firm (Structure-flexibility), and the establishment of support mechanisms (rewarding the success and the recognition). This combination of factors is contained in the model proposed by Padilha and Gomez (2016), and validated through a quantitative study in the textile sector, with a sample of 287 companies, demonstrating the influence of its model's variables on innovation.

Another important issue is that the level of formalization of the strategic process was higher in the bigger companies than in the smaller ones, although these maintained a similar approach in general. The most important difference might be the way the reference documents are treated on a day-to-day basis. Nevertheless, although the processes are not formalized within the organization, they are considered key in the projection of actions to reach the proposed objectives, considering the importance of flexibility and the appropriate adaptation to the characteristics of the environment.

This finding coincides with the studies of Prajogo (2016) and Wei et al (2019). Prajogo (2016) compared this aspect to the contingent character of the strategy. Wei et al (2019) contemplated the necessity of structuring a cooperative dynamic and a flexible strategy. In our case, both recommendations are present in the interviewed companies.

Management and Market Orientation (MO)

Management is the driver, the catalyst, and the guide of the action, as well as being the center of the decision-making process. It is also the center of coordination both inside and outside the organization, assigning resources, giving guidance, and balancing the flows of resources in the ecosystem of which the organization is a part.

Management plays an important role in the identification and impulse/support of the product and process innovation complementarities (Hullova et al, 2019). Management not only responds to contingencies because of the dynamism of environmental or competitive intensity, but within its multiple responsibilities are also the management and coordination of the alliances and knowledge acquired from these (Cabello-Medina et al, 2019). Success mostly resides in the ability to manage these alliances; without a complete understanding of how they should be managed, companies could lose the opportunity offered by this kind of cooperation.

Regarding the innovation ecosystem, its complexity is due to the diversity of agents and geographical diversity. In this sense, Mei et al. (2019) found a positive correlation between the different types of linked organizations and the innovative performance, explaining that the role of the manager is important, not only regarding the solidification of the links, but in creating the necessary absorptive capacity in open innovation. García-Morales et al (2012) refer to another important function of management, highlighting its importance through the validation of the hypothesis that a positive association exists between transformational leadership exercised by management and organizational innovation. This management style emphasizes emotions, values, and it stimulates creativity in employees, establishing participative and collaborative management.

If Management is the action that orders all processes inside the organization, Market Orientation (MO) is the source that maintains the internal and external dynamics of the organization. MO facilitates the interaction with the buyer, the competition, the information administration, and the internal coordination (cross-functional coordination), focusing on solving problems and opportunities that are perceived in the environment.

The importance and positive relationship of MO with the innovative performance was perceived through the interviews of this study, coinciding with the findings of Ho et al. (2018), who used a sample of 190 actors in the value chain of the cattle raising to measure the relationship between MO and innovation (the innovative performance). This study showed that there is no positive relationship between OM and financial performance. But, if there were a positive relationship between OM and cross-functional coordination and, in turn, a positive relationship between the cross-functional coordination with innovation (innovative performance), then there would also be a positive relationship between innovative performance and financial performance.

On the other hand, Ozkaya et al. (2015), when referring to the importance of the variable MO in the firm's performance, concentrates only on two factors: The Client orientation and the Competitors orientation, as a source they called Market-based Innovation. This is a better criterion for small business and its dominant informality since it ignores the coordination between functional areas, and rather emphasizes the development of competencies based on Customer Knowledge and Competitor Knowledge, resulting in an innovation adjusted to the market reality. The authors concluded that the ability to generate and use knowledge about your customers and competitors increases the performance through market-based innovations.

Lastly, our study found that the level of formalization of the variables responds to the size of the organization. Neither the process informality nor the design diminishes the key role that all the variables play in the achievement of innovative performance.

CONCLUSION

The multiple case study carried out has shown that there is a positive relationship between the factors proposed by the research model and innovative performance. The level of clarity and formalization of each of the factors is manifested as a function of the size and level of formalization and professionalization of the different companies.

The research, by expanding into other aspects, discovered the criteria of the interviewees. They considered that other variables should be taken into account to enhance innovative performance, especially the variables "training" and "attitude", to contribute to greater solidity and dynamism in the generation of results.

Finally, several aspects were also highlighted as possible obstacles to innovative performance, such as: failure to choose a correct market-oriented idea; more innovative competitors; lack of profitability in the project; too long development times; having a limited view of your client; lack of coordination; marketing and communication; a risk-averse culture; lack of support from public administrations; lack of funding or lack of staff training.

Likewise, aspects related to the dynamics of the public sector in its role of supporting the innovation of companies were pointed out, demanding the reduction of bureaucratic procedures and increasing public financial aid.

ACKNOWLEDGMENT

This research was funded by the Junta de Extremadura (Spain) and European Regional Development Fund grant number IB18040 and GR18058 (SEJ022-Research Group INVE).

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