Transactions on Machine Learning and Artificial Intelligence - Vol. 10, No. 6
Publication Date: December, 25, 2022
DOI:10.14738/tmlai.106.13359.
Lakbir, A., Laaraussi, A., & Bouayad, A. (2022). The Entrepreneurial Orientation of Agricultural Small and Mid-size Enterprises in the Fez-Meknes Region: A Qualitative Study. Transactions on Machine Learning and Artificial Intelligence, 10(6). 01-08.

The Entrepreneurial Orientation of Agricultural Small and Mid-size Enterprises in the Fez-Meknes Region: A Qualitative Study

Abderrahman Lakbir
Teacher of economy and management, high school
ALLAL ELFASSI qualifying Morocco, Africa

Amale Laaraussi
Professor FSJES Meknes
University Moulay Ismail Meknes, Morocco, Africa

Abdelrhani Bouayad
Dean of the FSJES Meknes
Moulay Ismail University Meknes, Morocco, Africa

ABSTRACT

The objective of this paper is to examine how entrepreneurial orientation (EO) manifests itself in the context of agricultural SMEs integrated into the value chain in the Fez-Meknes region. More specifically, we seek to know to what extent the dimensions of EO are expressed in agricultural SMEs in the Fez-Meknes region. To do this, we used a qualitative study of 15 agricultural SMEs, using the Nvivo software for data analysis. This study revealed that the dimensions of EO in agricultural SMEs in the Fes-Meknes region do not differ from those reported in the literature. The three dimensions of EO were demonstrated by the agricultural SMEs in the region in a manner similar to that reported in the literature. The SMEs interviewed demonstrated innovation, risk taking, and proactivity.

Keywords: entrepreneurial orientation, innovation, risk taking and proactivity.

INTRODUCTION

Small and mid-size enterprises (SMEs) contribute increasingly to the country's stability, job creation and economic development. In Morocco, SMEs constitute 95% of the total number of enterprises. (78.1% are concentrated in the services sector), 21% of employment, 40% of Gross Domestic Product (GDP) and 31% of exports[1].

Morocco has implemented a series of reforms and actions to promote SMEs and entrepreneurship as: sectoral strategies, institutional reforms, improvement of the business climate, opening up of the economy, public-private partnership [2].

However, despite the measures taken, the number of bankrupt companies is increasing. In 2017, out of 70,000 SMEs in operation, those that went bankrupt represented 11.5%. Between 2009 and 2015, the bankruptcy rate increased by16%. This trend, compared to other countries, is expected to continue in the future [3].

Given the high failure rate of small businesses, there is a need to identify strategies that can improve their performance and competitiveness[2].

Therefore, SMEs should benefit from an entrepreneurial orientation (EO) to stand out. In other words, they must be innovative, proactive, aggressive and they must take risks [4], [5].

In this context, the question that challenges us is the following: Does EO, a concept empirically established in the Western context, exist in the context of Moroccan agricultural SMEs, specifically in the Fez-Meknes region?

To answer this question, several subsidiary questions must be asked:
What are the dimensions of entrepreneurial orientation? How does entrepreneurial orientation (EO) manifest itself in the context of agricultural enterprises in the Fez-Meknes region?
Our study consists in determining how entrepreneurial orientation (EO) manifests itself in the context of agricultural enterprises in the Fez-Meknes region (**FMR**).

CONCEPTUAL FRAMEWORK OF THE STUDY

Entrepreneurial orientation (EO): Definitions

Although there is a semantic diversity on the different theoretical approaches mobilized to conceptualize EO [6], it is most often defined as a strategy, a posture, a resource, a capability, a managerial practice, an organizational culture or a process of launching into a new activity.

According to [7], entrepreneurial orientation refers to a process of developing innovative projects, adopting a proactive attitude within the market, and undertaking investments with a percentage of risk[8], [9]. EO is a set of behaviors that demonstrate within a firm the extent to which the leader is inclined to take risks regarding the business, foster change and innovation to gain competitive advantage, and compete aggressively with rival firms [8].

[10] consider it to be a set of entrepreneurial processes, practices and activities. As for [11], EO is considered as a state of mind with which the firm engages in the pursuit of entrepreneurial activities.

Entrepreneurial orientation (EO): Dimensions

Dimensions	**Indicateurs de mesure** [12]
Innovation	- Research and development (R&D), technological change and innovation - Company introduces several new product lines or services - Company radically changes its products or services
Risk taking	- Company is more interested in risky projects with a likelihood of high income. -Given the nature of environment, radical measures are sometimes necessary to achieve company's goals. - Under uncertainty, there is no fear to take risks to exploit new opportunities
Proactivity	- Company undertakes actions that its competitors reproduce - Company is often the first to introduce new products, services, techniques or technologies, production methods, etc. - Company adopts a highly competitive position aimed at reducing competition

Source: Lomberg & al. 2017[13]

RESEARCH METHODOLOGY

After a review of the literature that allowed to identify the research concepts, their dimensions and the measurement scale of each dimension, as well as the limitations of previous studies. Indeed, the majority of studies on EO are quantitative [14], [15] and that these studies concentrated in developed countries. This study seeks to answer their call by taking as a context the agricultural SMEs of the Fez-Meknes region.

Based on this literature review, we formulated the following propositions:

-Proposition 1: Innovation is a key characteristic of agricultural SMEs in the Fez-Meknes region (FMR)

-Proposition 2: SMEs take bold risks in the (FMR)

-Proposition 3: SMEs are proactive in the (FMR)

First, the choice of the sector is made on the basis of a study of the context of the study which consists in carrying out a monograph of the region in order to determine the state of the art of the economic sectors in the region.

A sample of 15 agricultural SMEs (farmers, agri-food companies, agricultural equipment companies and agricultural companies) was selected. We were able to access these companies through the list provided by the Regional Directorate (RD). In order to answer our question and to verify our research proposals, we carried out a content analysis on the software Nvivo12.

The table below summarizes the profile of the 15 people interviewed during this first phase of exploratory semi-structured interviews:

Table 2: Description of the sample of respondents to the qualitative study

Characteristics of the interviewees	Number of respondents	Percentage	Characteristics of SMEs interviewed	Number	Percentage
Gender :			**Juridical status:**		
- Female	5	33,33%	- AC	2	13,33%
- Male	10	66,67%	- Limited liability company	8	53,34
			- Natural person	5	33,33%
Age :			**Number of employees**		
- 25 – 35	4	26,67%	-less than 10	1	6,67%
- 35 – 45	6	40%	- between 10 and 50	10	66,67%
- 45-55	3	20%	- between 50 and 100	2	13,33%
- 55-65	2	13,33%	- between 100 and 200	2	13,33%
Field of training:			**Location:**		
- Agricultural	3	20%	Fez	5	33,33%
- Economics	10	66,67%	Meknes	4	26,67%
- Agronomy	1	6,67%	El Hajeb	6	40%
- Law	1	6,67%			
Experience:			**Chain :**		
Less than 10 years	2	13,33%	Olive tree, rosacea, ...	6	40%
Between 10 and 20 years	10	66,67%	Food industry	5	33,33%
20 years and more	3	20%	Agro-equipment	4	26,67%

URL: http://dx.doi.org/10.14738/tmlai.106.13359

A total of 11 owner-managers and 4 managers of agricultural SMEs were interviewed.

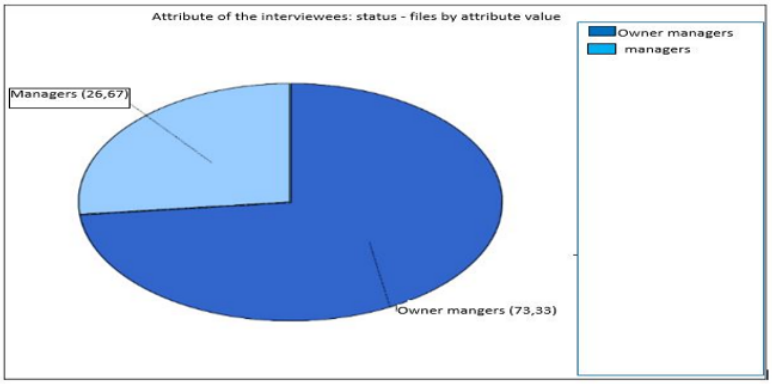

Figure 1: Distribution of interviewees by status
Source: Elaboration by Nvivo 12

This sample of 15 agricultural SMEs was constructed not based on representativeness in the statistical sense, but rather taking into account the theoretical saturation principle (Glaser and Strauss, 1967, cited in Royer and Zarlowski, 2014).

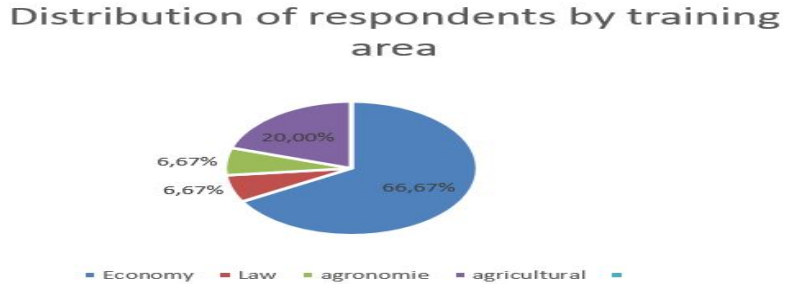

Figure 2: Distribution of interviewees by field of training
Source: Elaboration by Nvivo 12

ENTREPRENEURIAL ORIENTATION OF AGRICULTURAL SMES IN THE FEZ-MEKNES REGION

During the interviews, all respondents were asked several questions related to their EO. Their responses provided a general picture and understanding of the level of EO in their businesses.

Innovation in agricultural SMEs in the Fez-Meknes region

The first dimension of EO is innovation capacity. Remarks made by respondents such as "introducing many new products", "investing in R&D", "process innovation" and "market innovation" are significant indications of the presence of innovation capacity in their organization. Basically, all interviewees reported innovation capacity during their interviews.

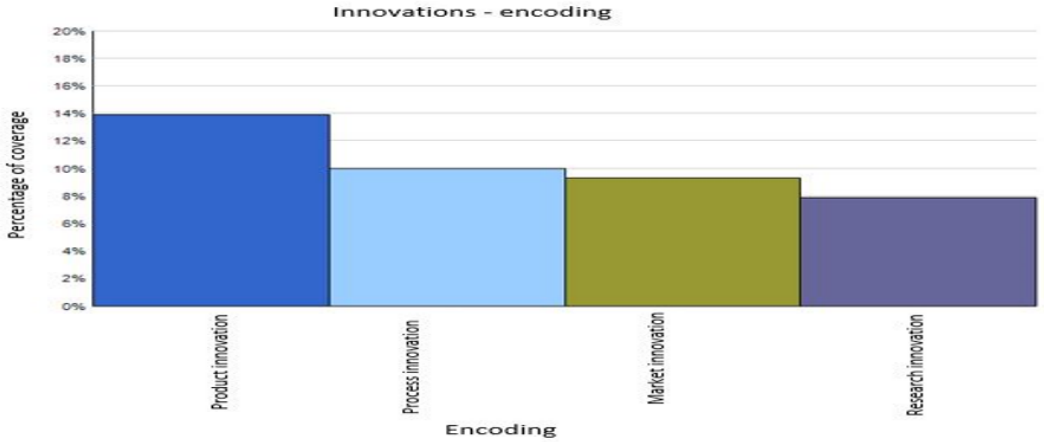

Figure 3: Innovation of agricultural SMEs in the Fez-Meknes region
Source: Elaboration by Nvivo 12

Most of the interviewees confirm that there are no innovations in the region, but they try to include new practices in the cultivation of the fields, such as the practice of conservation agriculture in the field. They have tried to integrate new techniques in irrigation as drones into phytosanitary treatment, and the use of solar energy in pumping as well.

Product innovation

The product innovation demonstrated by the SMEs interviewed can be classified according to the links in the value chain:

For farmers: product innovation is manifested by the introduction of new varieties or species. They have integrated rapeseed, which was not done before, but they still have a problem with vegetables, like grass weed control. So they have looked for varieties or species with which this type of problem does not arise, such as rapeseed and forage pea.

For processors and suppliers of inputs: the design of new products, it is the ability of SMEs to research, create and introduce to the market new products. They have launched new products based on 20% milk and fruit and without preservatives or colorants, with a capacity of 100 ml. They also commercialized new products such as new brands of olives and wine.

Market innovation

The interviews revealed that the majority of the interviewees were involved in the exploration of new markets. Indeed, before they started production, they were looking for millers or others who set the price, but now they contact the millers' federation, they enter into a partnership whereby, they express their needs in terms of varieties and criteria, and through which they try to respond efficiently but with a counterpart.

The majority of the interviewees rely heavily on informal marketing; they have used their networks, such as friends and relatives, to promote their products. As well as participation in trade fairs, thirteen out of fifteen SMEs participated in trade fairs in the hope of meeting potential buyers.

URL: http://dx.doi.org/10.14738/tmlai.106.13359

Most of the agricultural SMEs interviewed demonstrated process innovation through the implementation of new practices or the use of new technologies in their operations. Suggestions from suppliers and customers were the main sources of innovative ideas for the agricultural SMEs.

Risk-taking

The majority of interviewees suggest that they take risks when running their respective organizations. Risk taking among the interviewees can be classified as (1) managerial and (2) market, (3) climate or (4) health (Figure 4). Indeed, any investment in agriculture is a risk that is not manageable, if farmer or investor are not able to take risks, they should not invest in agriculture. There is no sector riskier than agriculture (for example, to add nitrogen, make forecasts, if a large amount of rainfall is predicted, it has to add a large amount, but this constitutes a risk if there is a deficit in rainfall, which will negatively impact productivity and therefore yields.

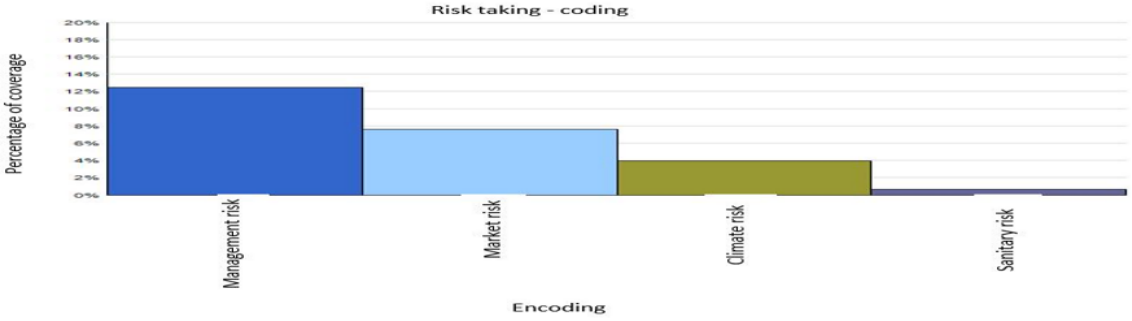

Figure 4: Types of risk
Source: Elaboration by Nvivo 12

All interviewees indicate that taking risks and being exposed to risks is common in their business. These risks seem to begin at the start-up of SMEs and continue throughout their business. There is no opportunity without risk, because agriculture is a high-risk opportunity. Investors are currently investing without knowing the prices in 5 to 6 months, or even the quantity that will be presented on the market because everything depends on the weather.

Furthermore, the majority of the SMEs suggest that they are bold risk takers. The bold risk-taking of many of the SMEs interviewed appears to be manifested in investments in new technologies and equipment, the introduction of new varieties.

In adopting mixed risk-taking, many invetors indicate that they experience different risks. The most important risks are climate, price instability due to overproduction, labor scarcity, international competition and health.

Proactivity

The investors interviewed for this study were proactive. Either by introducing new practices, new products before competitors or anticipating market trends through strategic intelligence practices. For example, they try to introduce new products and new technologies before the competitors. They are the first to be certified, they will soon launch, fruit juices mixed with

vegetables and cereals to increase their nutritional quality and less sweet juices to meet the changing habits of consumers oriented towards healthy and responsible products.

We note that all interviewees, without exception, refer to the three dimensions of entrepreneurial orientation of [4], [16], namely innovation, risk-taking and proactivity.

CONCLUSION

The results of this study show that the surveyed SMEs took risks in search of opportunities, including being bold in carrying out high-risk projects, entering new and unknown markets, borrowing money, exporting directly, applying new technologies, and expanding their production facilities.

Regarding the research objective, it is indicated that many agricultural SMEs interviewed adopt the entrepreneurial orientation which includes, first, innovative measures to adapt new products and services to customer needs and or adapt to climate change as well as to improve the profitability of their SMEs. Second, risk-taking seems to be a mix of bold and risk-averse strategies and there seems to be a tendency to adopt bold strategies.

Overall, based on the results of our research, we can confirm that the three dimensions of EO have an impact on the competitiveness of the SMEs studied.

In terms of contributions, our work is the first at the academic level that contributes to the analysis of the three dimensions of EO of agricultural SMEs in the Fez-Meknes region.

Future research could focus on all five dimensions of EO. Also, our qualitative study could be complemented by a quantitative approach to better assess the impact, in the long term, on the basis of quantified, tangible and real data.

Finally, it is relevant to approach the subject through a different perspective allowing for a Benchmark between the EO of agricultural SMEs and other sectors such as tourism, crafts and industry.

Bibliography

[1] Y. Maaroufi, « Enquête nationale auprès des entreprises 2019 », *Site institutionnel du Haut-Commissariat au Plan du Royaume du Maroc*. https://www.hcp.ma/Enquete-nationale-aupres-des-entreprises-2019_a2405.html (consulté le 25 mai 2021).

[2] A. Lakbir, Research Laboratory on Entrepreneurship and Management of the Business Environment, Lareme;, N. Chihab, et Faculty of Legal, Economic and Social Sciences Mohammedia, University of Hassan II Casablanca, Casablanca 20000, Morocco;, « The Contribution of Entrepreneurial Orientation to Improve the Competitiveness of Small and Medium-sized Enterprises (SMEs): Agricultural SMEs in the Fes-Meknes Region as a Case Study », *Indian Journal of Science and Technology*, vol. 12, nº 31, p. 1-7, août 2019, doi: 10.17485/ijst/2019/v12i31/147276.

[3] N. El Manzani, amina asli, et Y. El Manzani, « Les facteurs de l'échec entrepreneurial des PME marocaines : une étude exploratoire », *Marché et organisations*, vol. 3, p. 105-144, oct. 2018, doi: 10.3917/maorg.033.0105.

[4] J. G. Covin et D. P. Slevin, « A Conceptual Model of Entrepreneurship as Firm Behavior », *Entrepreneurship Theory and Practice*, vol. 16, nº 1, p. 7-26, oct. 1991, doi: 10.1177/104225879101600102.

URL: http://dx.doi.org/10.14738/tmlai.106.13359

[5] J. Wiklund et D. Shepherd, « Entrepreneurial orientation and small business performance: a configurational approach », *Journal of Business Venturing*, vol. 20, nº 1, p. 71-91, janv. 2005, doi: 10.1016/j.jbusvent.2004.01.001.

[6] J. Wiklund et D. A. Shepherd, « Where to From Here? EO-as-Experimentation, Failure, and Distribution of Outcomes », *Entrepreneurship Theory and Practice*, vol. 35, nº 5, p. 925-946, sept. 2011, doi: 10.1111/j.1540-6520.2011.00454.x.

[7] G. Shirokova, K. Bogatyreva, T. Beliaeva, et S. Puffer, « Entrepreneurial orientation and firm performance in different environmental settings: Contingency and configurational approaches », *Journal of Small Business and Enterprise Development*, vol. 23, p. 703-727, août 2016, doi: 10.1108/JSBED-09-2015-0132.

[8] J. G. Covin et D. P. Slevin, « Strategic management of small firms in hostile and benign environments », *Strategic Management Journal*, vol. 10, nº 1, p. 75-87, 1989, doi: 10.1002/smj.4250100107.

[9] K. Kiyabo et N. Isaga, « Entrepreneurial orientation, competitive advantage, and SMEs' performance: application of firm growth and personal wealth measures », *Journal of Innovation and Entrepreneurship*, vol. 9, nº 1, p. 12, juill. 2020, doi: 10.1186/s13731-020-00123-7.

[10] G. T. Lumpkin et G. G. Dess, « Linking two dimensions of entrepreneurial orientation to firm performance », *Journal of Business Venturing*, vol. 16, nº 5, p. 429-451, sept. 2001, doi: 10.1016/S0883-9026(00)00048-3.

[11] A. Rauch, J. Wiklund, G. T. Lumpkin, et M. Frese, « Entrepreneurial Orientation and Business Performance: An Assessment of Past Research and Suggestions for the Future », *Entrepreneurship Theory and Practice*, vol. 33, nº 3, p. 761-787, mai 2009, doi: 10.1111/j.1540-6520.2009.00308.x.

[12] J. G. Covin et W. J. Wales, « The Measurement of Entrepreneurial Orientation », *Entrepreneurship Theory and Practice*, vol. 36, nº 4, p. 677-702, juill. 2012, doi: 10.1111/j.1540-6520.2010.00432.x.

[13] C. Lomberg, D. Urbig, C. Stöckmann, L. D. Marino, et P. H. Dickson, « Entrepreneurial Orientation: The Dimensions' Shared Effects in Explaining Firm Performance », *Entrepreneurship Theory and Practice*, vol. 41, nº 6, p. 973-998, nov. 2017, doi: 10.1111/etap.12237.

[14] J. G. Covin et W. J. Wales, « Crafting High-Impact Entrepreneurial Orientation Research: Some Suggested Guidelines »:, *Entrepreneurship Theory and Practice*, mai 2018, doi: 10.1177/1042258718773181.

[15] H. Chebbi, M. Sellami, et S. Saidi, « Les déterminants et les conséquences de l'orientation entrepreneuriale : enseignements et voies futures de recherche basés sur une étude bibliométrique (2001-2016) », *ipme*, vol. 31, nº 1, p. 59-92, 2018, doi: https://doi.org/10.7202/1044689ar.

[16] D. Miller, « Miller (1983) Revisited: A Reflection on EO Research and Some Suggestions for the Future », *Entrepreneurship Theory and Practice*, vol. 35, nº 5, p. 873-894, sept. 2011, doi: 10.1111/j.1540-6520.2011.00457.x.