

Innovation practices in the Agri-food sector in the wilaya of Bejaia

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Abstract:

Our research work aims to highlight the articulation between innovation and competitiveness on the development of agri-food companies in the wilaya of Bejaia.

The results of the survey show that incremental innovation, which results in improvements made to what already exists, is the type of innovation most practiced by agri-food companies. In agri-food SMEs in the wilaya of Bejaia, 75% of turnover is achieved through innovation. A large number of the agrifood companies surveyed do not have a research and development (R&D) structure, which represents a source of innovative ideas, and the products produced by these companies are not up to international standards because the technologies and skills used are low.

Keywords: Innovation, Competitiveness, Agri-food SMEs, Bejaia.

Jel Classification Codes: 40 P.

1. INTRODUCTION

At the macroeconomic level, innovation is recognized as the dominant factor in economic growth. It is considered a key factor in saving Western industry (Midler C; Beaume R; & Maniack R, 2012, p. 28).

In an increasingly competitive economic context, characterized by uncertainty, turbulence and the complexity of the environment, the diversity of companies, the increasing speed of technological developments, companies are forced to innovate constantly.

The latter must constantly improve their competitiveness; by clearing new sectors of activity, developing promising niches through their creativity, exploiting existing markets and maintaining a high level of research and development (R & D) expenditure. Innovation has obviously become the key to success of the competitiveness of the companies an imperative to be able to maintain the company effectively on the market, to face competition, to ensure its perennially

Innovation plays a key role in setting the economy in motion. Economists have never ceased, since the early days of industrialization, to compliment the entrepreneur, the emblematic figure of the transformation of scientific advances into new commodities.

In a knowledge-based economy, competition between companies is no longer based solely on prices but on innovation. Indeed, if innovation allows companies to gain market share by marketing new products and services, it also allows them to achieve productivity gains, improve the quality of their products and their adaptation to the market and therefore to gain in competitiveness.

But understanding the links between competitiveness and innovation is much more complex than the global innovation paradigm would suggest. However, for innovation to bring us benefits, it must be effective. This challenges us to ask ourselves:

what extent is innovation a key success factor for agri-food SMEs, particularly in the wilaya of Bejaia? Is the latter considered as an engine of growth and competitiveness?

In order to answer this main problem, we have dealt with the following axes:

- Theoretical and conceptual approach to innovation;
- The typology of innovation;
- Business competitiveness in relation to innovation;
- Discussion of results.

2. Theoretical and conceptual approach to innovation

Innovation is a term popularized by Schumpeter designating innovation as the transformation of an invention into a salable product is in fact its marketing, it is also important to emphasize that this concept should not be confused with the notions of invention, discovery, creation, design (Sander A, 2005) However, this concept is widely borrowed by all fields of knowledge to designate change or novelty but for our part, we insert it specifically in the context of entrepreneurial activity and production in the company, in general .

Innovation is a polysemic and multidimensional term with macroeconomic characteristics, and having been the subject of several definitions proposed by institutions, organizations and academic authors (Freeman C, 1991, p.305).

Several theoretical approaches have been put forward to deal with innovation from the most minimal (exogenous approach) considering innovation the fact of an isolated person in the company's laboratories as a black box, to the most representative (evolutionary and institutional approach) placing innovation as the engine of economic growth and giving a major role to the innovative entrepreneur.

Innovation can be defined as a new combination of factors in the production function; it translates according to the classification of J.A Schumpeter (Schumpeter J.A, 1999, pp. 22-47) by:

- New production techniques (process innovation);
- New goods for customers;
- New sources of raw materials;
- New economic outlets (new means of transport, new methods of distribution);

- New forms of business management (concentration such as the emergence of large trusts, relocation).

The innovation dynamic is ensured at the microeconomic level, innovation diverts factors of production from their usual use and leads to an innovation process (cluster innovation) leading to economic growth. We will treat innovation according to two visions (Garcia, R., & Calantone, R., 2002, p.115):

➤ **The vision of the economist:** Schumpeter (Schumpeter, 1939) is one of the very first authors to have torn between innovations. According to him, it represents the driving variable of the capitalist type economy. He distinguished innovation. The invention is a technical discovery; the innovation concerns the industrialization of a new object. We can therefore consider that innovation is a new resource for the company, while invention consists of integrating this invention into a product placed on the market.

According to this approach, innovation is considered as the successful marketing of a new product, process or service. We will retain from this formulation (which is found in different wordings by many authors) the fact that there is: (Bellon B, 2002, pp. 5-6)

- Success: ie economic sustainability.
- Value creation.
- Total or partial difference from previously existing products

➤ **The systemic vision:** Innovation by its indeterminate nature does not accept ideal organizations that can rationalize and control it. The company must find a relevant and appropriate structure over a given period, knowing that it will be temporary. Innovation arises in particular from organizational change. It is defined as a space to conquer adjustments and adaptations of tools and operating methods on the one hand and of organization on the other hand (modification of the mandates entrusted to the personnel, of the control system, etc.). Then moves towards favorable and new areas.

Innovation is also characterized by its complexity referring to systemic theories; it refers to a complex structure in the following way (Boly V, 2004, p.30):

- As composed of many elements belonging to multiple categories;
- These elements are grouped into subsets organized in successive hierarchical levels;
- These elements and subsets linked by numerous and multiple type interactions.

2.1. The typology of innovation

According to the Oslo Manual (2005), there are two types of innovation classifications:

➤ **Classification of innovations according to their degree of novelty:** There are three types of innovation in this classification:

1) Incremental innovations: This is the multitude of daily improvements that each employee or group of employees introduces into existing products or manufacturing processes: better adjustment of machines, modification of the composition of products to increase solidity or aesthetics... These incremental innovations accumulate almost continuously over the course of any production.

2) Radical innovations: On a larger scale and individualized, these represent a total and irreversible break in the processes: the replacement of cotton by nylon or polyethylene, the introduction of the inner tube tire, the invention of electronic components, but also the purchase of a machine or the change in the organization of a sales system or the internal circulation of information, often have a radical character.

3) Technological innovations: Innovation of this last type concerns less an entire company. They result from the conjunction of several radical innovations and determine the birth of new products and services, completely changing the nature of demand, the structure of costs and the conditions of competitiveness throughout the economic sphere.

➤ **Classification of innovations according to their field of application:** We cite four fields of their applications :

1) Product innovation: It corresponds to the introduction on the market of a product, good or service that is new or significantly improved in terms of its functionalities, its fundamental characteristics, its technical

specifications. It has a colossal impact on the growth of sales and the improvement of the profitability of the company (Rahmouni. M, 2011, pp. 22-28).

2) New process innovation: Way of doing things based on one or more new technologies, new process projects its internal projects with the aim of reducing the operating or logistics cost. They can be managed in a similar way to new product development projects, or according to a specific mode of organization (Walch S.F, 2008, p 135).

3) Marketing innovation: It corresponds to the implementation of a new marketing method involving significant improvements in the design or packaging, placement, promotion or pricing of a product.

4) Organizational innovation: It is based on a change in business practices, in the organization of the workplace or in the way external relations are managed. It is demonstrated through individuals, teams and management and allows the formation of an innovative culture, as well as the overall internal receptivity of new ideas (Wang. C. L; Ahmed, P. K., 2004, pp. 674-688). It involves:

- The introduction of new qualification of operators increased versatility of employees designed as the foundation for greater production flexibility.
- A new marketing and distribution structure, for example Bic perfume in tobacconists.
- New management of stocks, production or logistics.

2.2. Business competitiveness in relation to innovation

Competitiveness can be broadly defined as the ability of a country or a company to maintain or increase its market share relative to its competitors. This is therefore a fundamental notion insofar as the capitalist system is based on a widespread competition.

"Seeking to explain 'competitiveness' at the national level is incorrect. What one needs to understand are the determinants of productivity and the rate of productivity growth? To find solutions, one should focus, not on the economy as a whole, but rather on specific industries or industry segments" (Porter M, 1990).

A company that wants, therefore, to be competitive, must sustainably support the competition, have certain capacities for mastering quality management and skills and knowledge management, be flexible, set up a strategic watch unit, master the use of ICT and also have a corporate culture favorable to quality production.

The competitiveness of a company is measured by market share, price level, and product quality. The analysis of a company's market indicators should be supported by a more precise rotational examination of its profitability, productivity and profitability. For example, the margin rate makes it possible to measure (Lachaal L, 2001 , p 31):

- A company's ability to control its costs and set its prices;
- The excellence of its processes and production (quality, reliability, safety ...);
- His skills in human resources management.

3. Discussion of results

At present, the economic development of companies is conditioned by their skills, that is to say a company that cannot innovate will disappear. Faced with increased competition due to the opening of the external market and the variation of consumer preferences and tastes which are no longer those of the 80s, companies in different sectors of activity must integrate into their development programs; innovation strategies to ensure their sustainability and in particular to improve their competitiveness.

Today, more than 80% of companies (all sectors combined) in the wilaya are located there, more particularly in the municipalities of Bejaia, Akbou, El-Kseur and Ouzellaguene (Statistical directory of the planning and budget monitoring department, Bejaia, 2020). These companies operate in several sectors, including the industrial sector, which is dominated by agrifood¹. This agri-food entrepreneurial dynamic, developed from the 1990, introduced certain vitality at the level of the industrial zone of Akbou which results in the creation of jobs and the diversification of the economic structure. Indeed, several ancillary activities, such as food packaging, transport of goods, labeling and industrial printing have been created to support the development of the agri-food business.

Today, the Wilaya of Bejaia supplies a large part of the national market and manages, in certain products (oil, water, sugar and yogurt), to monopolize it. The remarkable growth of agri-food activity over the past two decades has aroused our curiosity to seek out the impact of innovation on the competitiveness of agri-food companies.

In this order of ideas we have the attention to make a survey on the ground intended for some agri-food companies of the wilaya of Bejaia. The choice of the sector is justified by the entrepreneurial dynamism.

The sample selected at the start was 30 agri-food SMEs and following the refusal of companies to cooperate, we were obliged to work with a sample of 20 companies. The table below shows the company name, location and date of operation:

Table number 1: Identification of the survey sample

Compagnies	Location	Branch of activity
PRIMA VIANDE	Activity Zone of Taharacht	Deli
MOULEX	Industrial Zone of El-Kseur	Semolina
JUCTAR	Béjaia (Tala-Hamza)	Drink
FRULACT Algérie	Activity Zone of Taharacht	Fruit preparation
COGB -Labelle	Bejaia	Oil mills, fats and soap
Grands Moulins CHIBANE	Activity Zone of El-Kseur	flour mill
Moulina	Activity Zone of El-Kseur	flour Mill
Grands Moulins	Activity Zone of Taharacht	flour Mill
ITHRI	AKBOU	Drink
Tijgouga Haddouche	Activity Zone of El-Kseur	Fat body
SCOP	Tichy	Soft drink
CEVITAL	Béjaia	Oil mills, sweets, fats
MOLINO GRANI	Activity Zone of Taharacht	flour mill
DANONE-DJURDJURA	Activity Zone of Taharacht	Dairies
GIPROLAIT	Bejaia	Ice cream and sorbets
CONDI VOLAILE	Activity Zone of Taharacht	Deli meats
LAITERIE GUELDMAN	Activity Zone of Taharacht	Dairy
TCHIN LAIT	Bejaia	Dairy
ERIOD Sidi Aich	Sidi Aich	Transformation of cereals (soft wheat and durum wheat)
COJEK	El Kseur	Beverage and canning

Source: According to the field survey, 2020.

Innovation practices in the Agri-food sector in the wilaya of Bejaia

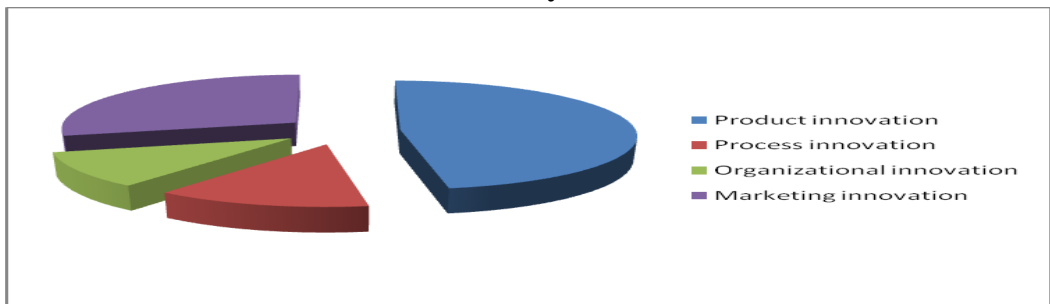
According to the data in this table, the companies surveyed operate in almost all branches of the agri-food sector. They are located in the business and industrial zones because the latter offer opportunities and they benefit from the externalities drawn from this location.

3.1. Innovation in agri-food companies in the wilaya of Bejaia

Innovation is a natural phenomenon, in the order of industrial systems; it is, indeed in the nature of industrial organization, not only to ensure maximum efficiency in the immediate use of machines and men when the implemented technologies are fully mastered, but also to systematically promote the creation of new products, new processes and new machines.

The company is, in this context, the agent that achieves the division of labor source of immediate efficiency; it is also the agent that promotes change by being the place where creative decisions are taken. The following table shows the type of innovation used by the companies surveyed:

Figure number 1: The type of innovation practiced in the companies surveyed



Source: According to the field survey, 2020.

According to figure n°1, we notice that all the companies surveyed practice innovation in the offer, which is either radical (produce new products outright, or incremental (make considerable improvements to an existing product, or both at the same time. It should be noted that these companies mainly practice incremental and rarely radical innovation. For innovation in processes and organizational structure, only 20% of the companies surveyed practice them. Because even if an innovation is often a simple modification of the production technique, it is sometimes a new way of thinking about the relations between the factors of production, insofar as

the innovation will modify the productive order, it is rarely accepted without difficulty.

This is explained by the modification of the production and organization process, which has caused companies to refrain from these types of innovations.

3.2. The good reasons and the desired objectives of innovation

The reasons for innovation differ from one company to another according to their objectives set by the latter and for this the following table traces the reasons and objectives for innovation within the companies surveyed.

According to the field survey, we notice that the reasons that have prompted most agri-food SMEs in the wilaya of Bejaia to innovate are: conquering new markets, creating value and reducing costs. On the other hand, for large agri-food companies, we find that improving their brand images and differentiating themselves from the competition are the most important reasons.

3.3. R&D activity within the companies surveyed

The "research and development" structure is a major element in the growth and development of innovation, because it allows the company to produce and acquire new knowledge which provides it with the development of new products, the reduction of costs, customer satisfaction, gaining market share, and improving the quality of existing products.

According to the results of the survey, we find that only four companies (20% of the companies surveyed) have a well-defined R&D structure, the case of the company Cevital, Candia –Thin lait, Danone-Djurdjura and COJEK, and for the rest of the companies (80% of the companies surveyed), they contented themselves with laboratories for analyzing the quality of their products. The non-existence of this structure is justified by the limited financial resources that do not allow them to have an R&D structure.

3.4. The impact of innovation on the competitiveness of agri-food companies in the wilaya of Bejaia

For a long time, it was believed that only large size favored innovation more. However, such a size, due to its complexity to manage, can influence

Innovation practices in the Agri-food sector in the wilaya of Bejaia

relational capacities and generate blockages in research efforts, confronting the actors involved with coordination problems. It is only recently that studies show that small size better promotes esprit de corps and the efficiency of the efforts of small research teams, allowing the construction of a lasting collaboration.

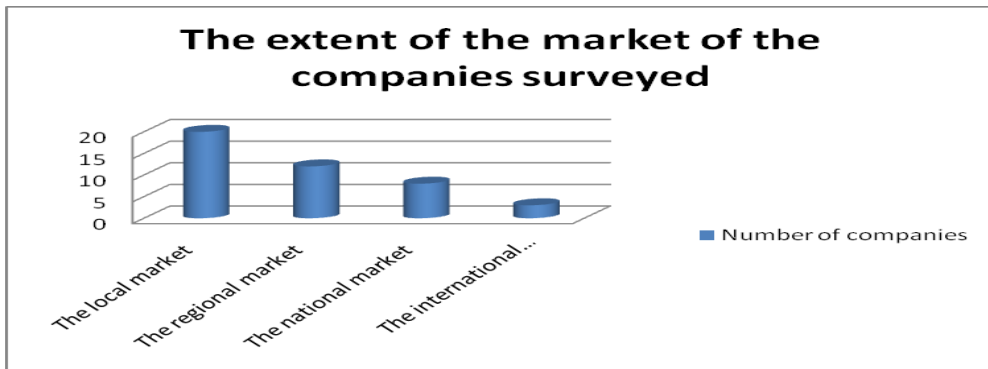
In addition, SMEs are more inclined to forge links with other social actors and not to waste too much time. Especially since they are motivated by considerations increasingly linked to market share gains. SMEs are more efficient than large ones with regard to the adaptability of their social regulation systems “to the legitimization of their projects” and to the efforts devoted to Research and Development (R&D). Thus, it is more apt to achieve satisfactory performance and lead to faster results in the field of innovation.

In this part, we will determine the impact of innovation on the competitiveness of agri-food companies, as well as assess the state of competitiveness of the companies surveyed.

➤ The extent of the market of the companies surveyed

Knowing the extent of the market of the companies surveyed makes it possible to estimate their growth, as illustrated in Figure number 2.

Figure number 2: The extent of the market of the companies surveyed



Source: According to the field survey, 2020.

Regarding distribution, we note that 100% of the companies surveyed intended their products for the local market, followed by 75% for the regional market, and 50% for the national market. Only three manage to

export abroad (Cevital, Candia-Thin-Lait and Danone-Djurdjura) their export share is around 10% of total production.

The rest is distributed on the local or national market in order to meet the needs of the population. These agri-food companies manage to export part of their production, this is due to innovation practices and the existence of the “research and development” structure within their companies. Therefore, the products of SME agrifood companies in the wilaya of Bejaia are intended primarily for the local or national market and most companies are unable to export their products to international markets.

➤ **The evolution of turnover and the value of the investments of the companies surveyed**

Market share or more accurately market share growth was used as a performance indicator in many empirical works (Larson and Rask, 1992).

The evolution of turnover will allow us to really touch the impact of innovation on the competitiveness and growth of the SMEs surveyed. We have seen a 75% increase in turnover linked to innovation.

According to the results of the survey on the evolution of turnover and the value of the investments of the companies surveyed during the three years (2017-2020). We note an increase in turnover and investment during 2017-2019 and a drop in the latter during the year 2019 to 2020, this drop is explained by the entry of new competitors in the same sector, the drop in demand for its products and the spread of the COVID-19 pandemic (containment measures).

4. CONCLUSION

Innovation is an essential factor of competitiveness, the implementation of new production techniques (process innovation) is synonymous with significant productivity gains and innovation in the organization of work is favorable to increasing productivity, which reflects an improvement in price competitiveness. Innovation is also a way for the company to improve its non-price competitiveness and this is summed up by the differentiation and personalization of its offers.

Our research aims to highlight the link between innovation and competitiveness on the development of agri-food SMEs. The results of the survey show that incremental innovation, which results in improvements

made to what already exists, is the type of innovation most practiced by agri-food companies. A large number of the agrifood companies surveyed do not have a research and development (R&D) structure, which represents a source of innovative ideas, and the products produced by these companies are not up to international standards because the technologies and skills used are low.

In principle, for a company to innovate, it means introducing new or significantly improved products to the market in order to conquer new markets and expand the production range. In agri-food SMEs in the wilaya of Bejaia, 75% of turnover is achieved through innovation. Therefore, innovation is an important issue for the competitiveness of companies; it is an important and major element of the success of industrial companies. It is considered by companies as one of the strategic factors for their growth, both for employment and for their turnover.

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