



Sources of Product Innovation in Algerian Pastry SMEs: An Exploratory Study

Dr. Tarik AZKAK*

University of Bejaia, Algeria

t.azkak@yahoo.com

Dr. Nouredine MOUSSI

University of Bejaia, Algeria

moussinouredine@yahoo.com

Received: 11/03/2021

Accepted: 15/05/2021

Published: 01/08/2021

Abstract:

This article aims to identify and understand the sources of product innovation in SMEs operating in the pastry industry in Algeria. To do this, a qualitative and exploratory study was conducted on a sample of pastry SMEs operating in Bejaia province, through semi-structured interviews, addressed in particular to pastry managers and owners. The thematic analysis of interviews reveals that the pastry chef is the only element on which pastry industry ensures a certain level of product innovation, which allows small pastries to differentiate themselves from competition. However, pastry chefs resort to many innovation sources in order to be creative, such as Internet, benchmarking, traveling, internships and media.

Key Words:

Product Innovation, SMEs, Exploratory Study, Pastry Industry

JEL Classification: O31, Q13, M31.

* Corresponding author: Azkak Tarik (*t.azkak@yahoo.com*)

Introduction

Innovation is necessary for businesses. Whatever be the way they compete, differentiate or use economies of scale, innovation is essential to achieve unique results that allow businesses to stand out from competition, and therefore meet customer expectations. The importance of innovation in businesses competitiveness is well established, both from a theoretical point of view and through empirical studies (Paranhos et al., 2019; Cantwell, 2005; Tidd & Bessant., 2018).

Innovation is an important source of competitive advantage, even during times of great crisis in the global economy (Martínez-Rodríguez, 2010). Paradoxically, agri-business industry is a sector that invests little in research and development, but features among the most innovative industrial activities (Fort et al., 2005).

Indeed, business managers are concerned with environmental and social issues, particularly leaders of small and medium-sized businesses (SMEs), in view of their socio-economic impact and their fragility. However, innovation plays a key role in the different phases of the development of an SME, especially in the case of agri-food SMEs.

In this context, the goal of this article is to respond to a question regarding product



innovation in pastry industry. The study aims particularly to determine the sources of product innovation among SMEs specializing in pastry products in Bejaia. To do this, a qualitative and exploratory study was conducted, using semi-structured in-depth interviews with a sample of pastry managers and/or owners.

I. Literature Review

1. The Concept of Innovation

The concept of innovation gives rise to numerous debates and controversies (Carrier and Garrand, 1996). The issue of innovation initially attracted the interest of a small group of economists, from Schumpeter (1942) to Nelson and Winter (1982), who emphasized that innovation was essential for economic growth.

According to Bellon (1994), innovation consists in bringing a new product to the market, introducing a new valuation or manufacturing process, or a new organizational model in a company. This definition refers to the work of one of the most eminent figures who dealt with innovation, Joseph Schumpeter. Based on his pioneering work, numerous developments have been introduced in various disciplines: economics, sociology and management. Innovation is also the company's first demonstration of invention. Innovation is the conversion of this invention into a usable application. If there is no market (or use) for the product, there can be no innovation. Unlike the invention, innovation is linked to the possible uses of potential markets.

Dekkers (2005) shows that company adaptation to its environment takes place thanks to the establishment of mutations through forms and functions, responding to performance requirements. It is also about offering new products or making better use of resources. Many authors pursue the same idea and show that product development and innovation is a key way to adapt to the environment (Jones and Wadhwani, 2006).

For Saraceni and Andrade (2012), the most important factors in the innovation process are: knowledge sharing; knowledge transfer; information integration from the environment; interaction with customers, suppliers, universities and other knowledge production centers; and the deepening of the division of labor, among others. On the other hand, Sanchez et al. (2011) stress the importance of the “*strategic complementarity*” of innovation with mechanisms for systematic management of innovation, the development of new products, advanced manufacturing, process innovation, organizational flexibility, marketing skills, strategic planning, management and project portfolios.

Traditionally, there are three types of innovation systems: national, regional, and sectoral innovation systems (Boly et al., 2000). Thus, an innovation system is a set of commercial organizations, and/or industrial and other establishments in a defined region, which interact with the goal of providing resources for activities aimed at generating and disseminating knowledge, and forms the basis of economic development.

In their microeconomic dimension, innovation processes are fundamentally



interactive, cumulative and non-linear processes, in which the organizational architecture of the firm plays a major role (Teece, 1996). However, Galliano et al. (2011) observed that three sets of parameters affect the firm's innovation capacity: internal organization choices of agents; their modes of coordination and cooperation with external partners; and finally, their ability to capture knowledge in their environment. The first level of analysis refers to the influence of the internal architecture of organizations in terms of the modes of information circulation. The second refers to the external relationships that a company weaves with its environment which is seen as a set of various upstream and downstream partners. Finally, the third level is based on the assumption that all the territorial, market and institutional characteristics of the firm's environment influence its innovation capacity.

Innovation can come from opportunities created by the market or from orientations brought by downstream players, particularly due to the growing integrative power of distribution on the sectors (Von Tunzelman and Acha 2005, Castellacci 2008). Cantner and Malerba (2006) confirm the existence of a close link between innovation and technology: variation, selection and periods of gradual change are driven by innovation.

Innovation springs from the creative application of knowledge, and the creative act is the basis for an innovation (Yusuf, 2007). In this way, Amabile (1988) suggests that individual creativity is essential to organizational innovation. For the author, companies should focus on supporting individual creativity in the workplace in order to enhance the chances of long-term survival. For Hinton (1970), individual creativity consists of two distinct elements, namely (1) creative potential, which refers to an individual's creative skills and abilities; and (2) creative behavior, which is the measured result of creative efforts. Creative potential may never be realized as creative behavior if an organization's work environment does not foster creativity.

2. Innovation in SMEs

In practical terms, all studies on innovation find that firms' behavior with regard to innovation varies according to size. Indeed, SMEs show little interest in innovation than large companies, the agri-food industry is indisputably part of this trend (Miquel and Teurlay, 1998).

By contrast, according to Link and Bozeman (1991), this assertion should be qualified since SMEs are more innovative in terms of the number of generated product innovations, in relation to their size than large companies. However, SMEs make less use of internal sources of innovation, represented by research and development, than large companies do. In addition, Bellon (1994) specifies that SMEs, of course, have disadvantages in relation to innovation, but SMEs have also advantages. Overall, SMEs, by their very structure, have internal flexibility and greater responsiveness than large companies, which allow SMEs to adapt to crisis situations, but they have more difficulty developing necessary specialized skills (Azamoum, 2015).

Meanwhile, Torres (1999) considers that the fundamental organizational principle of SMEs is proximity, both within the company and in its relations with its



customers, suppliers and other partners. According Torres, numerous studies show that SMEs have well woven proximity links with their local environment, allowing them to be often “*incubators of new ideas*”, thanks to a precise knowledge of market needs that these relationships generate.

Pacitto and Tordjman (1999) were interested in very small enterprises (VSEs). On the one hand, they note that VSEs claim to rely primarily on internal sources of innovation (know-how or research and development). Internal know-how is fueled by the manager's personal relationships, which are often informal. In addition, formal or informal information acquisition is also a major source of innovation.

Furthermore, the preferred mode of learning is interaction, through integration into networks of actors. On the one hand, the performance of VSEs in innovation is linked to the weight of internal research and development, and to the level of entrepreneurs training. The most innovative VSEs also have a manager capable of appropriating and integrating new knowledge into the innovation process, and this capacity is linked to the managers' level of training. In this way, innovation process appears as “*a learning process where internal and external capacities of the company combine in interactions with its environment*” (Nicolas and Hy, 2000). For small businesses, the managers' role seems to be dominant in building these skills. The relationships managers maintain with their various partners, especially specialized suppliers, and their inclusion in networks seem to determine their ability to acquire knowledge. Moreover, the specific organizational characteristics of a company influence managers' absorption capacity, and therefore production of new knowledge materialized in innovations.

3. Sources of Product Innovation in the Literature

A new product is the result of an organization, its structure, and its strategy. It requires the interaction of several functions: marketing, production, accounting, finance, research and development. In terms of decisions and depending on products, a new product results from engineering sciences, management, and marketing.

According to Durand (1999), sources of innovation are divided between, on the one hand, customers and suppliers, and on the other hand, operational staff and research and development teams. However, other studies present much less significant results and the sources of innovation are more heterogeneous (Bille and Soparnot, 2005).

A study by Duerr (1986) shows that customers represent only 17% of the sources of innovation, while marketing and R&D departments are at the origin of 40% of newly developed products. However, West (1992) highlights that customers are the source of information that stands out for its performance in terms of the volumes of information that can be collected, its completeness and its uniqueness. Empirical studies by Kahn (2001) show that the performance of product management and development is positively linked with the degree of customer orientation.

In industry, suppliers play an important role in innovation. Handfield et al. (1999) emphasize the important role of suppliers. For him, many companies have recognized that involving suppliers in efforts to develop new products, processes and



services offers significant results.

In this sense, agri-food industry is particularly marked by the importance of incremental and cumulative innovation, particularly due to the rather conservative behaviour of consumers in front of dietary changes (Galizzi and Venturini, 2008). According to Pavitt (1984), agri-food industry is classified as a “supplied-dominated” sector, that is technologically dominated by suppliers, and draws its sources of innovation from its upstream. In the same vein, Andersen and Lundvall (1988) show that the capacity for product and process innovation is not only linked to investment in research and development, but also depends on the degree of interaction with suppliers of specialized equipment and inputs.

II. Methodology

This research aims to understand and explore a specific marketing question, namely product innovation. The sector of pastry industry in Algeria is also particular. The field of research concerns pastry SMEs located in Bejaïa province, Algeria. To do this, we opted for a qualitative and exploratory study, due to the new and unexplored nature of the research question, and the absence of previous research among Algerian pastry SMEs. The sample is composed of 19 pastries, codified according to the first letter of the three main regions of Bejaia province, namely: The Valley (called “*La Vallée*” in French), from El Kseur to Tazmalt (V1 to V4), Bejaia city (B1 to B12), Sahel, from Tichy to Kherrata (S1 to S3). Pastry shops were selected according to three criteria as follows:

- Size of pastry SMEs: from 1 to 9 employees; from 10 to 19 employees; and from 20 to 50.
- Location: The Valley (called “*La Vallée*” in French), from El Kseur to Tazmalt, Bejaia city, Sahel, from Tichy to Kherrata.
- Seniority of pastry managers: less than 5 years; from 5 to 10 years; from 11 to 20 years; 21 years and over.

Data was collected using semi-structured interviews with a sample of pastry owners and/or managers operating within Bejaia province. An interview guide with open questions was used in order to respond to the research question, and identify the sources of product innovation. Additionally, this study helped to make comparisons between the different pastry cases, which enriched the research findings. All the interviews were recorded, then transcribed, and finally analyzed using NVivo, a qualitative data analysis computer software package.

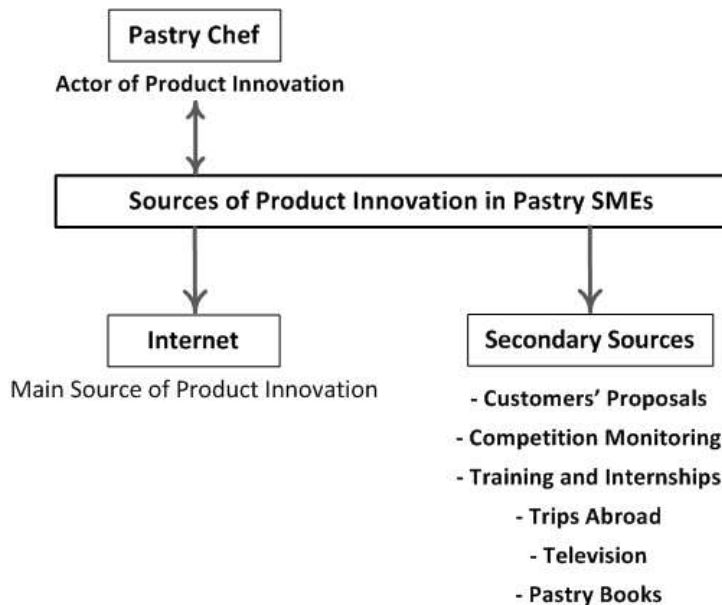
Interviews were analyzed through a thematic analysis, more precisely using thematic content analysis (TCA). This method of qualitative analysis consists in identifying, in verbal or textual expressions, general recurring themes which appear under various and more concrete contents (Mucchielli, 1996, p. 259). In other words, thematic analysis proceeds systematically to the identification, grouping and, alternatively, to the discursive examination of the themes addressed in a corpus (Paille and Mucchielli, 2008, p. 162).



III. Thematic Analysis of Interviews

The thematic analysis of all interviews made it possible to understand how the managers of pastry SMEs perceive innovation and, overall, to explore the various difficulties that limit their capacity for innovation. Results from this study enabled us to make an inventory of the various determinants and sources of product innovation in the pastry industry in Bejaia province, Algeria, as it is shown in the following diagram.

Fig. 1. Sources of product innovation in pastry SMEs



Source: Prepared by authors, based on thematic analysis of interviews

1. Innovation in Bejaia Pastry SMEs: Perception and Obstacles

Pastry managers believe that innovation is very important for the success and the sustainability of their activities: *"Of course, innovation is an important thing, it matters"* (V3). However, innovation is often limited only to product innovation, which consists of slight changes or improvements: *"Yes, innovation is important to modify our pastries"* (S1); *"(...) we are interested in the shape of pastries"* (B1); *"(...) how pastries are decorated"* (B11). Thus, some pastry shops practice radical innovation, and offer new products and models to their customers: *"(...) we can make new pastry models"* (V2).

The study reveals that pastry shops in Bejaia province suffer from several obstacles that hamper product innovation in pastry industry. In this section, several obstacles were mentioned. First of all, pastry shops, like all SMEs, suffer from the lack of material and financial resources, which prevents them from innovating: *"Here [in Algeria], we don't have the necessary equipment"* (B8); *"(...) the problem of the*



molds, the machines” (S1); “There is no enough money” (B1).

Pastry managers mentioned raw materials as another major obstacle to innovation, whether in terms of price, availability or quality: *“Raw materials are too expensive” (B2); “(...) and ingredients are very expensive” (B4); “Ingredients are sometimes scarce” (B1); “Ingredients are not available” (B5); “It is difficult to find good quality ingredients” (B9).* Consequently, high prices of pastry ingredients and entrants are reflected in the selling prices: *“If raw materials are expensive, automatically our products will be expensive” (B2).*

2. The Pastry Chef, Main Actor in Product Innovation

The pastry chef is the most important human resource in the pastry industry, since he is responsible for the whole process of preparing pastries, recipes, quality and tastes. In this sense, the study reveals that the pastry chef is at the same time the actor and the main source of product innovation, whether in terms of improvements or radical change: *“Our pastry chef changes our pastries and brings new things” (V2); “The pastry chef decides on product changes” (V2).*

Indeed, good pastry chefs are necessary for product innovation, because innovation depends on their skills and experience: *“It depends on the skills of the pastry chef” (S3).* In this way, a good pastry chef is supposed to lead and carry out all the actions of product innovation: *“(…) because the pastry chef is the master on board, it is his job” (B1).*

Finally, some managers believe that pastry chefs must be creative: *“He uses his ideas” (B9); “I [the pastry chef] create new products, like an artist” (B3); “You have to be an artist” (B9).* In this sense, according to pastry managers and owners, creativity makes it possible to distinguish them and set them apart from competition. So pastry managers think that differentiation can be made through product innovation: *“(…) especially if we bring something unique, special” (B12).*

However, pastry shops’ owners mentioned the difficulty of finding a good pastry chef. This is also considered as an obstacle to innovation, since the pastry chef is the main actor in product innovation: *“It is rare to find a pearl, it's difficult to find a good pastry chef” (B1).* For some pastry managers, good pastry chefs require for too high remuneration, which represents another constraint for the pastry shop owner, often with limited resources.

3. Internet: The Main Source of Product Innovation

Managers and owners of pastry shops in Bejaia recognize that their main source of innovation is Internet: *“I use [the pastry chef] the Internet, you just need to know the name of the cake, and it's easy to get the recipe” (V2).* In this regard, most pastry managers consider Internet as their main source of information on pastries: *“(…) Internet gives us more information” (B12); “We find on the Internet models that do not exist here in Algeria” (S3).* For example, Internet allows pastry chefs to be creative, by using YouTube and Facebook: *“I [the pastry chef] watch YouTube and Facebook pages” (B9); “The pastry chef looks for ideas elsewhere, he uses the Internet as a means to innovate” (B11); “Usually new models are copied from the*



Internet” (S3).

Consequently, Internet has become very important and even essential in the pastry industry, since it allows pastry chefs to keep abreast of developments in pastry at national and international levels: *“Internet is very important”* (V2). In recent years, with the development of information and communication technologies in Algeria, Internet access has become easy and inexpensive: *“I don't pay a lot (...)”* (V2); *“It's easy to have Internet”* (V4).

On the other hand, some pastry chefs state that they do not trust the information published on the Internet: *“Most of the information is false, (...) we can copy the new decorations but not the recipes”* (V4). For them, the use of the Internet therefore entails risks for innovation actions, because there is false information circulating on the Internet: *“(...) risks, we follow such and such a recipe, but it is quite possible that it won't work”* (V4).

4. Customer Feedback and Proposals

For pastry managers, customers' feedback and proposals are another major source of product innovation. Thus, customers express themselves on pastries and their desired tastes. Then, based on customers' needs and expectations, pastry chefs try not only to improve or adapt their products to customers' needs, but also develop new pastry models: *“They [customers] even suggest to prepare new models”* (S3); *“We make improvements according to customers' proposals”* (B9); *“We take his [customer] opinion into consideration”* (B1). However, some pastry managers reveal that customers express constantly their dissatisfaction with the offer of pastry shops in Bejaia and Algeria in general. Customers consider that all pastry products are similar and standard. This fact may lead us to conclude that product innovation in pastry industry is very limited in some regions of Bejaia province.

5. Competition Monitoring

Pastry managers are divided on the importance and role of competitors in innovation process. Some pastry shop owners recognize the importance of benchmarking in helping them to innovate: *“When we hear about a pastry shop making good models, we move (...) to see and compare”* (B5); *“(...) to do better”* (B8). They also recognize the importance of monitoring the competition: *“We travel to see if there are new things, or new ingredients”* (B10); *“When I see a pastry shop, I visit it to see and have new ideas”* (S2). Other pastry chefs explain that monitoring competition products is limited to visual aspects and pastries' decoration: *“Usually we copy the decorations used by competitors (...)”* (V3). In this sense, pastry shops target three objectives by monitoring competitors:

- to attract customers and ensure the pastry shop survival: *“(...) to attract customers, if we do not do like competitors or better, we close the store”* (V2)
- to align with competitors: *“To always remain at the same level, and remain competitive”* (B1)
- to get ahead of competitors: *“I must do better than other pastry shops, we must offer something new, (...) never seen before”* (V2); *“A good competitor will urge us to do better”* (B9)



- to be the leader in the market, by building a strong brand image, and good reputation as an innovator: *“have a good reputation compared to others”* (V4).

For some pastry shops, monitoring competition is not necessary: *“It’s not important”* (B6); *“We do not base our actions on what competitors do”* (B8). They argue that actually competition cannot exist as pastry products are often similar and standard at the national level *“(…) go elsewhere, you will not find big differences between the products”* (B3). According to these participants, pastry chef is the only element that makes it possible to differentiate pastry products. For them, a skillful pastry chef is the key factor to being competitive: *“You just need a good pastry chef and you will be fine”* (B2).

6. Training and Internships

Pastry shops managers recognize that training and internships are in turn important sources of innovation. In addition to training in Algeria, pastry chefs believe that access to training abroad would allow them to enrich their skills and hence diversify their pastry products: *“Internships or training at the international level, for example Tunisia, Morocco, (…) to bring back something new”* (V4); *“We hope to do international training”* (B4). For them, training and internships will improve their pastry skills, and develop their capacities in terms of creativity: *“(…) provide training to improve”* (B4); *“(…) to learn a good method”* (B11); *“(…) to always bring something new, (…) and innovation”* (B8).

In contrast, another obstacle was raised by participants. On the one hand, the cost of pastry training is too high compared to the limited resources of the small pastry businesses: *“It is expensive”* (B1); and, on the other hand, the lack of good and specialized training schools in pastry, particularly in Bejaia province: *“(…) here in Bejaia, no good schools”* (B5).

7. Trips Abroad

Traveling and visiting foreign countries are essential to product innovation process within pastry industry. Pastry managers say that traveling is *“(…) important”* (B6), and constitutes a real source of product innovations in the field of pastries: *“(…) when I travel elsewhere I look at the models, either nationally or particularly in France”* (S2). According to them, the main destinations are Morocco, Tunisia, France and Switzerland: *“France is ranked first in the world for pastry and gastronomy”* (B8); *“(…) our reference is France”* (B1); *“When we see French patisserie and viennoiserie, it makes us want to do like them”* (B2).

Indeed, participants agree that regular travel is particularly essential for the pastry chefs who are the main actor and source of product innovation: *“One trip per year is compulsory”* (B6). Travel allows pastry chefs to discover new models, and above all to keep abreast of changes, creations, and models in the world of pastry: *“When I travel elsewhere I look at the models, either here in Bejaia. Algiers, or in France”* (S2); *“(…) to see better with our own eyes, then, to improve and do better in the future”* (B6).

However, money and time are the real constraints that make access to foreign



travel more difficult: “Costs are expensive, they [international trips] have high costs” (B6); “It is expensive” (B10); “We cannot go out for a week or two, leaving our shop closed” (B10).

8. Media and Books

Some pastry chefs have cited media as being valuable sources of product innovation: “We are inspired by the media” (B1); “Television, for example, Samira TV” (S3); “We watch the broadcasts to look for new decorations” (B1). However, pastry chefs explain that television provides incomplete information in terms of recipes, in particular the measurements and the ingredients: “The problem that arises in television, (...) no exact measurements” (V4). Pastry chefs also use the various books on pastry making “We read pastry books” (B10); “We even bought Pierre Hermé’s books” (B1).

Conclusion

Innovation has become more than ever a primary business strategy. The race for innovation, whether in terms of products, manufacturing processes or the internal organization of firms, does not forgive those who do not want or who do not know how to comply. As a result, it has been shown that success is linked to innovation, but less data is available on the factors that explain why a business adopts an innovation policy. Despite the advantages, not all companies innovate.

Indeed, innovating is not synonymous with ease. SMEs do not have all the capacities to innovate. Still, some SMEs having capacities to innovate do not have the resources to do so, or do not know how to deal with an environment where uncertainty and risk dominate. On the other hand, the acquisition of skills in a number of areas is usually another prerequisite for innovation. Thus, companies that are more concerned with technology and marketing skills are more likely to innovate. This is particularly significant from the perspective of product innovations.

To this end, in the field of pastry in Algeria, the owner must invest in human resources, particularly the pastry chef, since the latter will be considered as the key success factor for pastry business, and will allow pastry SMEs to stay ahead of competition.

Bibliographic References

- Amabile, T.M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, 10, 123-167.
- Andersen, E. S. & Lundvall, B. A. (1988). Small national innovation systems facing technological revolutions: An analytical framework. In Freeman, C. & Lundvall, B. A. (Eds.), *Small countries facing the technological revolution* (pp. 9-36). Pinter Publishers, Londres.
- Azamoum, M. (2015). L’orientation marché dans les PME de services : un état de l’art. *La Revue des Sciences Commerciales*, 14(1), 193-208.



<https://www.asjp.cerist.dz/en/article/16879>

- Bellon, B. (1994). Innover ou disparaître. Economica, Paris.
- Bille J. & Soparnot R. (2005). La connaissance client: une ressource pour innovation? Les cas de PSA et de la Société Générale [Conference presentation]. IVème Conférence Internationale de Management Stratégique, Angers, France
- Boly, V., Morel, L., Renaud, J., & Guidat, C. (2000). Innovation in low tech SMBs: evidence of a necessary constructivist approach. *Technovation*, 20(3), 161-168. [https://doi.org/10.1016/s0166-4972\(99\)00099-1](https://doi.org/10.1016/s0166-4972(99)00099-1)
- Cantner, U., & Malerba, F. (2006). Innovation, industrial dynamics and structural transformation: Schumpeterian legacies. Springer-Verlag Berlin Heidelberg.
- Cantwell, J. (2005). Innovation and competitiveness. In Fagerberg, J., Mowery, D.C. & Nelson, R. R. (Eds.), *The Oxford handbook of innovation* (pp. 543-567). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199286805.003.0020>.
- Carrier, C., & Garrand D. (1996, May 13-15). Le concept d'innovation : débats et ambiguïtés [Conference presentation]. Conférence internationale de Management Stratégique, Lille, France.
- Castellacci, F. (2008). Technology clubs, technology gaps and growth trajectories. *Structural Change and Economic Dynamics*, 19(4), 301-314. <https://doi.org/10.1016/j.strueco.2008.07.002>
- Dekkers, R. (2005). Technology management and innovation. In Dekkers, R. (Eds.). (R) Evolution: Organizations and the dynamics of the environment (181-211). Springer Science & Business Media.
- Duerr, M. G. (1986). *The Commercial Development of New Products*, New York: The Conference Board (No. 890). Report.
- Durand T. (1999). Management de la technologie et de l'innovation. In Le Duff R. (Eds.). *Encyclopédie de la Gestion du Management*. Dalloz, Paris.
- Fort, F., Rastoin, J., & Temri, L. (2005). Les déterminants de l'innovation dans les petites et moyennes entreprises agroalimentaires. *Revue internationale P.M.E.*, 18(1), 47-72.
- Galizzi, G., & Venturini, L. (2008). Nature and determinants of product innovation in a competitive environment of changing vertical relationships. In Rama R. (Eds.). *Handbook of Innovation in the Food and Drink Industry* (pp. 51-80). Haworth Press.
- Galliano, D., Garedew, L., & Magrini, M. B. (2011). Les déterminants organisationnels de l'innovation-produit : les spécificités des firmes agroalimentaires françaises. In Magnien, F. (Eds.). *L'innovation dans les*



entreprises motrices, moyens et enjeux. Nicole Merle-Lamoot et Gilles Pannetier, Paris.

- Handfield, R. B., Ragatz, G. L., Petersen, K. J., & Monczka, R. M. (1999). Involving suppliers in new product development. *California management review*, 42(1), 59-82. <https://doi.org/10.2307/41166019>
- Hinton, B.L. (1970). Personality variables and creative potential. *Journal of Creative Behavior*, 4(3), 210-217.
- Jones, G., & Wadhvani, R. D. (2006). Schumpeter's plea: Rediscovering history and relevance in the study of entrepreneurship. Division of Research, Harvard Business School.
- Kahn, K. B. (2001). Market orientation, interdepartmental integration, and product development performance. *Journal of Product Innovation Management: An International Publication of the Product Development & Management Association*, 18(5), 314-323.
- Link, A. N., & Bozeman, B. (1991). Innovative behavior in small-sized firms. *Small Business Economics*, 3(3), 179-184. <https://doi.org/10.1007/bf00400023>
- Martínez-Rodríguez, S. (2010). Competitiveness, innovation and high growth companies in Spain. Ministry of Industry and Commerce of Spain, Madrid.
- Miquel, A. M., & Teurlay, J. C. (1998). Les nouvelles technologies passent par les grandes entreprises. *Agreste primeur*, 36, p. 4.
- Mucchielli, A. (1996). Dictionnaire des méthodes qualitatives en sciences humaines et sociales. Armand Colin, Paris.
- Nelson, R. R., & Winter, S.G. (1982). An evolutionary theory of economic change. Harvard University Press.
- Nicolas, F., & Hy, M. (2000). Apprentissage technologique et innovation en agro-alimentaire. *Économie rurale*, 257(1), 27-41. <https://doi.org/10.3406/ecoru.2000.5179>
- Pacitto, J.-C., & Tordjman, F. (1999). L'innovation technologique dans la très petite entreprise industrielle française : ce que disent les statistiques. *Revue internationale P.M.E.*, 12(3), 59-90.
- Paille, P., & Mucchielli, A. (2008). L'analyse qualitative en sciences humaines et sociales. Armand Colin, Paris.
- Paranhos, J., Perin, F. S., Mercadante, E., & Soares, C. (2019). Industry-university interaction strategies of large Brazilian pharmaceutical companies. *Management Research: Journal of the Iberoamerican Academy of Management*, 17(4), 494-509. <https://doi.org/10.1108/mrjiam-11-2018-0884>
- Pavitt, K. (1984). Sectoral patterns of technical change: Towards a taxonomy and a theory. *Technology, Management and Systems of Innovation*, 13(6) 15-45.



[https://doi.org/10.1016/0048-7333\(84\)90018-0](https://doi.org/10.1016/0048-7333(84)90018-0)

- Sánchez, A., Lago, A., Ferràs, X., & Ribera, J. (2011). Innovation management practices, strategic adaptation, and business results: Evidence from the electronics industry. *Journal of Technology Management & Innovation*, 6(2), 14-39. <https://doi.org/10.4067/s0718-27242011000200002>
- Valélia Saraceni, A., & de Andrade Júnior, P. P. (2012). Analysis of aspects of innovation in a Brazilian cluster. *Journal of Technology Management & Innovation*, 7(3), 207-213. <https://doi.org/10.4067/s0718-27242012000300017>
- Schumpeter, J. A. (1942). *Capitalism, Socialism and Democracy*. Harper, New York.
- Teece, D. J. (1996). Firm organization, industrial structure, and technological innovation. *Journal of economic behavior & organization*, 31(2), 193-224. [https://doi.org/10.1016/s0167-2681\(96\)00895-5](https://doi.org/10.1016/s0167-2681(96)00895-5)
- Tidd, J., & Bessant, J. R. (2018). *Managing innovation: Integrating technological, market and organizational change* (6th ed.). John Wiley & Sons.
- Torrès, O. (1999). *Les PME*. Flammarion, Paris.
- Von Tunzelmann G. N. & Acha V (2005). Innovation in “low-tech” industries. In Fagerberg J., Mowery D., & Nelson R. (Eds.), *The Oxford Handbook of Innovation* (pp. 407-432). Oxford University Press, New York.
- West A. (1992). *Innovation Strategy*. Prentice Hall, New York.
- Yusuf, S. (2007). *From creativity to innovation*. The World Bank.