

Covid-19 and network strategies: the impact on SMEs in the beverage sector in the wilaya of Bejaia**كوفيد-19، واستراتيجيات الشبكات: التأثير في الشركات الصغيرة والمتوسطة بقطاع المشروبات في ولاية بجاية****Amina KACI¹, Lila AMIAR²**

¹ PhD student in economics, LAREMO, Mouloud Mammeri University of Tizi-Ouzou (Algeria), Kacimina96@gmail.com

² Lecturer class A, LAREMO, Mouloud Mammeri University of Tizi-Ouzou (Algeria), lildouadi@yahoo.fr

Received: 15/11/2022**Accepted:** 29/12/2022**Published:** 31/12/2022**Abstract:**

The aim of this article is to examine the network strategies deployed by small and medium-sized companies in the beverage sector in the wilaya of Bejaia in the era of the Covid-19 pandemic. To conduct our study, we relied on a quantitative approach through a questionnaire distributed to the aforementioned companies in the beverage sector located in the wilaya of Bejaia. The results of our exploratory research show that companies in the beverage sector have encountered constraints related to the paralysis of supply chains, cash flow difficulties and a significant loss of turnover. To cope with the harmful effects of this pandemic, some business leaders have opted for cooperation with industrialists in the region as part of the agro-logistics beverage cluster.

Keywords: Cooperation, SMEs, Proximity, Inter-firm relations, Networks.

JEL Classification Codes: L0, O1, R58.

ملخص:

الهدف من هذا المقال هو دراسة استراتيجيات الشبكات التي نشرتها الشركات الصغيرة والمتوسطة في قطاع المشروبات في ولاية بجاية بداية جائحة كوفيد 19-اعتمدنا في طرحنا مقارنة كمية عبر استبيان وزع على الشركات الصغيرة والمتوسطة في قطاع المشروبات الواقع بولاية بجاية تظهر نتائج بحثنا الاستكشافي أن الشركات في قطاع المشروبات قد واجهت قيودًا تتعلق بسلسلة التوزيع، وصعوبات مالية، وخسارة كبيرة في رقم الأعمال. للتعامل مع الآثار السلبية لهذا الوباء، اختار بعض مسؤولي المؤسسات التعاون مع الصناعيين في المنطقة في إطار تجمع للمشروبات الزراعية واللوجستية.

كلمات مفتاحية: التعاون، كوفيد-19، الشركات الصغيرة والمتوسطة، القرب العلاقات ما بين الشركات، الشبكات

تصنيفات JEL: L0، O1، R58

INTRODUCTION:

The history of humanity has been marked by various epidemics, some of which have decimated entire populations, such as leprosy, syphilis, plague, cholera, Spanish flu, AIDS, Ebola, etc. However, the most recent pandemic that has surprised the world with its danger and speed of spread is undoubtedly Covid-19, more commonly known as the coronavirus. A virus that has forced thousands of people to stay indoors for weeks, slowing down the economy of several countries. Even the world's greatest powers bowed to this virus. In this context, major industries came to a standstill, weakening the economy and jeopardizing thousands of jobs, thereby causing the impoverishment of a large section of the world's population.

This pandemic is a real economic cataclysm that has hit the world's economies, as the Algerian economy, which has had to endure a vertiginous drop in hydrocarbon prices caused by the slowdown in global economic activity (Kaci, 2020). This has led to an unprecedented drop and freeze in economic and social activity in the country, particularly among the most disadvantaged groups and entrepreneurs, as well as the self-employed, jeopardizing their jobs following the containment measures decreed by the Algerian government to slow the spread of the virus, not to mention the increase in taxes imposed on the bottled water industry as part of the finance law (2021), rising from 1.05 to 2.07 DA per litre.

In response to the Covid-19 pandemic, many industries have come together, for example, alliances between pharmaceutical industries that collaborate to develop a vaccine by sharing knowledge and equipment (Crick & Crick, 2020). In this perspective, SMEs play a key role in the economic growth of each country, such as the creation of employment opportunities, the generation of income and wealth and the reduction of poverty (Di Maria & Roberto, 2016). These enterprises are very important in developing economies. SMEs have become privileged economic entities with easy and rapid adaptation (Bauchet & Morduch, 2013)

It is in this context that we conducted a survey among SMEs in this region in order to know their collaborative practices during the crisis.

Through this paper we will discuss the organizational / and inter-organizational changes and behaviors adopted by SMEs operating in the agri-food sector to cope with the effects of the pandemic. The objective of this paper is twofold as it proposes, firstly, to reflect on a strategy to reduce the vulnerability of SMEs and the role of collaborative practices as a means to reduce the effects of covid-19. Then, in a second step, to propose ways of thinking about the post-pandemic period, particularly the vulnerability of the Algerian economy, which is dependent on hydrocarbons, thus enabling the country's economic and social recovery in the long term.

In the context of the global pandemic, have the SMEs in the beverage sector located in the wilaya of Bejaia opted for cooperative relationships or have they closed themselves off to the individualistic business model?

This paper is organized in three parts. First, a review of the theoretical literature on the concepts of cooptation and territory is examined. Secondly, the research methodology adopted to conduct the present research is exposed. Finally, we present the empirical results of our exploratory analysis on the inter-firm relations of SMEs in the beverage sector in Bejaia in the Covid-19 era.

1- Theoretical and conceptual framework:

1-1 Co-operation at the heart of network strategies

Coopetition" is a notion that describes a combination of competition and cooperation of geographically close companies (Mohellebi, 2015). The neologism "coopetition" was proposed by the American authors Brandenburger and Nalebuff in (1996) and is essentially based on the establishment of "relational networks".

This combination enables local companies to increase their productivity and competitiveness, thus strengthening the bonds of trust and the relational network. This process will promote the dissemination and circulation of information and knowledge and the pooling of their costs, particularly in times of crisis.

1-2 The territory as a substrate on which network strategies can be consolidated

Neoclassical spatialists consider space as a homogeneous abstract medium that obeys the postulates of neoclassical theory, which stipulates the homogeneity of space and pure and perfect competition. Space as perceived by neoclassical economists is therefore limited to a physical distance that generates travel and transport costs without taking into account the characteristics of the socio-economic and cultural environment in which economic phenomena occur.

It was only in 1890 that the British economist Alfred Marshall introduced the concept through the study of booming industrial cities such as Birmingham and Sheffield. His work is based on the co-location and spatial concentration of a group of small and medium-sized companies specialized in the same branch of production. According to Marshall, the organization and production of a company depends on the industrial organization of a group of other companies located outside, which allows the industrial district to take advantage of the benefits offered by these agglomerations of companies. This mode of operation is called by Marshall the "External Economies". The industrial district is based on logic of proximity and location in space. This geographical proximity makes it possible to generate externalities of agglomeration which reduce production, transaction and transport costs and reinforce the specialization of companies. Marshall's pioneering work was the starting point for numerous reflections on the analysis of the phenomenon of industrial districts: the industrial districts of the third Italy and then Porter's work on clusters. These works agree on the fact that industrial and entrepreneurial activities take place within a space that is no longer passive but active through the activation of its specific resources, it participates in the construction of industrial dynamics carried by local actors. According to the economist (Courlet, 2006) the territory "is the place where forms of cooperation between companies, individuals and activities are organized, voluntarily or spontaneously".

1-3 The proximity approach in the consolidation of network strategies

The proximity economy approach is one of the essential foundations of the territorial approach. The Economy of proximity was constituted at the articulation of the developments of the industrial economy and the spatial economy (Torre & Rallet, 1995). The notion of proximity originates from the works of (Bellet, Colletis, Lung, 1993), they are the first authors to have published a text dealing with the notion of proximity in a special issue of the *Revue d'Economie Régionale et Urbaine (RERU)*, which marked the birth of the "proximist

current". Indeed, a rich and abundant literature has been devoted to it, including the works of Gilly and Torre (2000), Pecqueur and Zimmermann (2004), Torre and Rallet (2005), Boubaolga, Carrincazeaux and Coris (2008). The notion of proximity is characterized by a 'semantic imprecision' (Lepage & Huriot, 2009). This imprecision makes the concept ambiguous, leaving room for different interpretations. To this end, there are two main currents that propose different declensions of proximity. The first current distinguishes two dimensions of proximity: a geographical proximity and an organized proximity (Gilly & Torre, 2000; Rallet & Torre, 2004; Beuret & Torre, 2012). In an analysis grid of the proximity approach elaborated by (Rallet & Torre, 2004), the authors propose a declension of the organized proximity which is divided into two logics: a logic of belonging and a logic of similarity. As for the other current, it distinguishes respectively three dimensions of proximity: a geographical proximity, an organizational proximity and an institutional proximity (Gilly and Perrat, 2003; Pecqueur and Zimmermann and Talbot). This approach is inspired by the work of North (1991) who in turn distinguishes between organizations and institutions.

The intersection between the dynamics of geographical and organized proximity means that the territory is no longer a passive receptacle delimited by geographical borders. Thus, the activation and the combination of the two types of proximity contribute to the setting in synergies and coordination of a group of local actors, it also makes it possible to give birth to territories of type clusters qualified by (Torre, 2006) of "winning" clusters. According to the authors (Pecqueur & Zimmerman, 2004): 'In itself, coordination mechanisms cannot be based on the geographical dimension of proximity alone, but on its conjunction with other forms [...] Consequently, this conjunction is likely to create, through the resulting coordination, a process of reinforcement that ensures its sustainability. From this, the territory is born'.

2- Methodology: Exploratory analysis

We conducted a field survey using a questionnaire in order to collect the necessary data on the inter-firm relations that local firms maintain within their territory of establishment during the Covid-19 crisis, thus making it possible to respond to our research problem and test our hypothesis. The survey took place during a period from December 2021 to June 2022. For the definition of the companies studied, we used the database of the Directorate of Industry of the wilaya of Bejaia. The survey carried out concerns a selection of 30 SME-type companies (initial sample). The results that we collected from the entrepreneurs show a number of non-responses of 13 entrepreneurs, i.e. a number of 13 questionnaires that were not collected due to the refusal of certain company managers to respond. Thus, the sample studied is made up of 17 SMEs specialized in the food industry (beverages), paper and plastic packaging industry, and transport/logistics. These SMEs are mainly located in the main activity zones of the wilaya of Bejaia (Bejaia zone, Akbou zone, El Kseur zone and Sidi Aich zone). These latter areas account for the bulk of the companies operating in the wilaya. Therefore, we considered that these zones could be a pilot sample for understanding the phenomenon of coordination during the Covid-19 crisis between companies in the Bejaia area.

2-1 Presentation of the SME fabric in the wilaya of Bejaia

The wilaya of Bejaia is one of the most dynamic wilayas in terms of industrialization, ranked ninth in 2021 after Algiers, Tipaza, Boumerdès, Blida, Tizi-Ouzou, Bouira, Médéa and Ain Defla. Bejaia has a relatively dynamic production base on a national scale in terms of business creation and activities. Indeed, it has three main industrial zones (ZI of Bejaia which is located at the level of the chief town of the wilaya, ZI of Akbou which is located at the level of the valley of Soummam and constitutes the economic lung of the region, ZI of El Kseur which is located at 30 km of the wilaya of Bejaia). These zones are home to most of the companies operating in the wilaya and contribute strongly to the development of the region in terms of job creation and added value, and reinforce the image and territorial attractiveness of the Bejaia region. In addition to the industrial zones, there are also activity zones (ZAC) which accommodate various activities (industry, services, crafts, etc.).

The table below shows the evolution of SMEs at local and national level

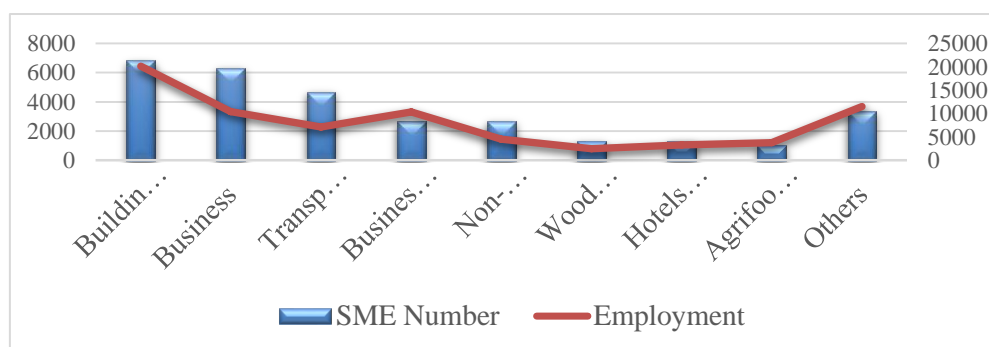
Table (1): Movements of private SMEs in the wilaya of Bejaia during the last four (04) years (2017-2020)

Year	2016	2017	2018	2019	2020
Number of SMEs local	23472	25036	27 203	28 842	30199
Evolution rate of SMEs in Bejaia	/	1564 6.66%	2167 8.65%	1639 6.02%	1357 4.70%
Number of jobs	61129	63 484	67 890	71 172	73 737

Source: Directorate of Industry of the wilaya of Bejaia, 2020.

The table above shows the evolution of the overall population of private SMEs in the wilaya of Bejaia. The overall number of SMEs in the wilaya of Bejaia has increased over the years from 23472 SMEs in 2016 to 30199 SMEs in 2020. As regards the creation of jobs generated by private SMEs in the wilaya of Bejaia, we note a strong evolution from 61 129 jobs created in 2016 to 73 737 jobs in 2020.

Fig (1): Distribution of SMEs by sector of activity as of 31/12/2020



Source: (CNAS,2020)

The graph above illustrates the data provided by the CNAS of the wilaya of Bejaia. (BTP) with a workforce of (22.58%) SMEs at the end of 2020, the services sector is in second place with a number of (33.1%) SMEs. In third place we find the trade sector with a workforce of (20.93%) SMEs. In last place we find the industry sector, which includes the wood, cork and paper industry and the agri-food industry, with a low rate of SMEs (4.41%) of the total number of SMEs. As for the number of jobs offered by these sectors, we note that the construction sector occupies a predominant place in the employment market with a rate of (27.26%) jobs offered by this sector.

The characteristics of the sample are presented below:

Table (2): Characteristics of the companies surveyed

Enterprise	Activity	workforce	Date of creation	Legal form
E1	Transportation/logistics	<250	2008	SARL
E2	Water mineral/diverse beverages non alcoholic	<250	1986	SARL
E3	packaging/ corrugated cardboard	<250	2000	SPA
E4	Bottled water	<250	1996	SARL
E5	Bottled water	<50	2010	SARL
E6	Beverages Fruity/gassy	<250	1981	SARL
E7	Mineral water Bottled/drinks non alcoholic	<250	2008	SARL
E8	Packaging/plastic	<250	1999	SARL
E9	Transportation/logistics	<250	2007	SPA
E10	Production of milk UHT and derivatives	<250	1999	SPA
E11	Bottled mineral water	<250	2008	EURL
E12	Source water	<250	1998	SARL
E13	Source water juice and soda	<250	2012	SARL
E14	Bottled mineral water and juice	<250	1998	SPA
E15	Production of juice and soda	<250	1990	EI
E16	Production of jus and soda	<250	2006	SNC
E17	Bottled mineral water , juice and soda	<250	1936	SARL

Source: Compiled by the author from field survey data.

The table shows that:

- A significant number of companies (09) are exclusively specialized in the manufacture of bottled water and mineral water. As for the other companies, they opt for the diversification of their product range (juice, soda and various non-alcoholic drinks). The sample is also composed of (02) companies specialized in the production of packaging and cardboard, and (02) companies specialized in transport and logistics;
- A high proportion of companies (08) were created from the year 2000 onwards following the wave of economic reforms undertaken by the Algerian government in the framework of liberalization and encouragement of private initiative and the promotion of SMEs;
- The legal status "SARL" is the most chosen corporate form by the companies surveyed. This is justified by the advantages offered by this form to entrepreneurs. This form does not require entrepreneurs to invest a large amount of share capital when setting up their business. This status is better suited to family businesses because it facilitates the transmission of shares to future generations (ascendants and descendants)². According to data from the (CNRC) at the end of the year (2020), the legal form most used by Algerian companies is the "SARL" with a rate of 52.21%. The wilaya of Bejaia has 3 149 SARLs.

3- Results and discussion

The purpose of this section is to present the empirical results of our field survey. First, we will present the socio-economic impact of the pandemic on SMEs in the wilaya of Bejaia. Then, in a second step, we will analyze the inter- firms maintained by companies in the region to reduce the adverse effects of the Covid-19 pandemic.

3-1 Socio-economic impact of covid-19 on SMEs in the wilaya of Bejaia

Through our data collection, we have identified the following constraints:

3-1-1 Decrease in imports in M/P and paralysis of supply chains

In order to reduce the effects of the pandemic, the Algerian government has implemented measures aimed at restricting imports (Gana, 2020). This decrease in imports and the disruption of supply chains is a major constraint faced by SMEs in the region, as the majority of companies depend on imports of their raw materials from abroad. The data from our survey show that a number of fifteen (15) enterprises source their raw materials from abroad, mainly from China, Europe, South America and Saudi Arabia.

3-1-2 Cash flow difficulties during the Covid-19 health crisis

When asked about cash flow problems encountered during the crisis, eight (08) entrepreneurs stated that they had not encountered any cash flow problems. This is in contrast to nine (09) entrepreneurs who had cash flow problems. According to a study conducted by

² In the Algerian context, Articles 566 and 567 of Ordinance No. 75-59 of 26 September 1975, referred to above, are amended, supplemented and drafted as follows: Article. 566 now provides that: "The registered capital of a limited liability company shall be freely determined by the members in the articles of association of the company. It shall be divided into equal shares. The share capital must be mentioned in all the documents of the company" in Jora n° 71 of 30 December 2015, p. 5.

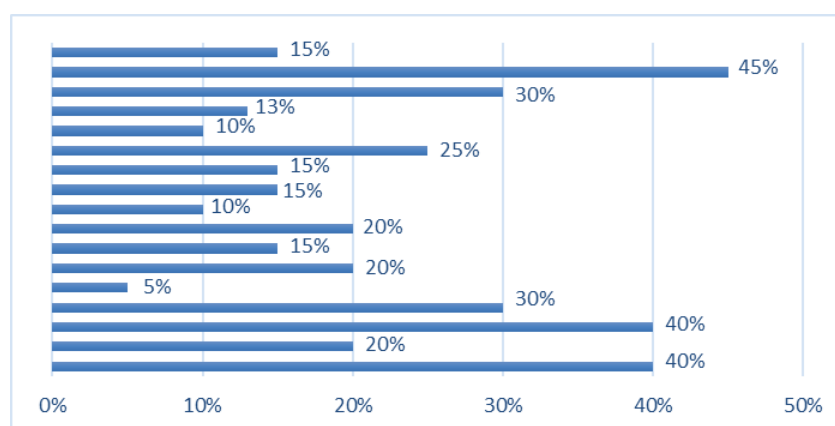
the United Nations system in Algeria on the socio-economic impact of covid-19 on the country, the manufacturing sector was severely affected, a fact justified by the confinement measures imposed on workers, which led to the temporary closure of factories (United Nations system in Algeria, 2020).

Our survey shows that the wilaya of Bejaia, like all the wilayas in the country, has seen an increase in the unemployment rate, estimated at 13.09% in (2020) compared to the year (2019), which was estimated at 8% (DPAT, 2019-2020). The increase in this rate could be explained by the Covid-19 health crisis, which has led to an unprecedented drop and freeze in economic and social activity across the country, thus jeopardizing jobs following the containment measures decreed by the Algerian government to slow the spread of the virus. Thus, a number of fourteen (14) companies surveyed declared having laid off their salaried staff during the Covid-19 pandemic, compared to three (03) companies that opted to reduce working hours.

3-1-3 Record of turnover losses during the pandemic

With regard to the question concerning the loss of turnover during the period of the pandemic, the descriptive analysis of the sample revealed that all the entrepreneurs surveyed declared that they had suffered deterioration in their turnover that varied between 5% and 45%.

Fig (2): Loss of turnover of the surveyed companies



Source: Field survey data

This deterioration of the turnover could also be explained by the increase of the tax for bottled water from 1.05 to 2.05 DA per litre within the framework of the 2021 finance law. Thus, this measure has led to a reduction in the profit margin of bottled water producers and, in turn, has negatively impacted the purchasing power of households.

3-2 Measures (provisions) taken by the Algerian government to reduce the impact of the health crisis on SMEs

The Algerian government has put in place a range of measures aimed at reducing the negative effects of the pandemic on the operation of businesses, which are mainly based on fiscal and customs measures and banking facilities. They are cited in a World Bank report, 2020, as follows

- Deferring the declaration and payment of income taxes for individuals and companies, except for large companies;
- Relaxation of contractual deadlines and penalties for companies which are late in completing public works;
- Lowering the main key rate of the Bank of Algeria from 3.5% to 3% and reducing the mandatory reserve rate from 10% to 3%;
- The easing of the solvency, liquidity and non-performing loan ratios of banks and allowed the extension of certain loans without additional provisioning by the Bank of Algeria.

In our field survey, five (05) of the entrepreneurs interviewed stated that they had benefited from the government's stimulus measures. Among these measures we find measures relating to social contributions, tax measures and banking facilities, while twelve (12) entrepreneurs have unfortunately not benefited from these measures because the companies are not eligible for the conditions set by the government.

3.3. Analysis of organizational changes within companies during the pandemic

3.3.1 Inter-firm relations and network strategies during the crisis

The objective of the analysis of inter-firm relations is to identify the different forms of relations that could exist between the companies surveyed during the crisis. Our field survey revealed that twelve (12) companies had maintained relations during the pandemic, seven (7) of which had joined an agro-logistics beverage cluster (CBA)³ located in the wilaya of Bejaia. This cluster allowed them to exchange information between the different members and to facilitate the exchange of raw materials during the crisis. For five (05) of them having implemented a cooperation strategy with local companies, the objective was to source raw materials and share information. This is justified by the geographical proximity of the companies which are part of the same industrial zone and the trust and spirit of solidarity and mutual aid within the region and finally to limit the negative effects of the pandemic on companies. According to the authors (Frimousse & Peretti, 2020): "the crisis has revalued the role of proximity".

For a number of five (05) companies we note a withdrawal and an absence of cooperative relationships between local companies. These companies prefer to go it alone for reasons linked to the loss of decision-making autonomy, dilution of competitive advantages and opportunistic behavior on the part of local companies generating conflicts of interest. This finding perfectly corroborates the results of the field survey conducted by (Redouane & Merzoug, 2020). According to the authors, SMEs in the wilaya of Bejaia do not cooperate for reasons related to conflicts of interest and business independence.

From the analysis of the inter-firm relations of the SMEs in the beverage sector, we can deduce that the relations established during the crisis period are the result of agglomeration externalities and the concentration of industrial activities within the wilaya of Bejaia. Thus, for the (05) companies surveyed, geographical proximity played an important

³ The Economic Interest Group of the Algerian beverage sector, is the first cluster officially created in Algeria in February 2015 first under the name of Soummam Beverage Cluster (CBS) then later transformed into Algerian Beverage Cluster (CBA) at the end of 2016.

role during the crisis through the sharing of resources with certain companies in the region. Nevertheless, the activation of geographical proximity alone is not enough to strengthen inter-organizational relations. Hence the need to activate other forms of proximity, the agro-logistics cluster hosted by the wilaya of Bejaia being a perfect example of how to strengthen the coordination links between the different local actors, notably companies, the university, research centers and local administrations.

3.3.2. Use of digitalization and ICT by the companies surveyed

In order to ensure compliance with the sanitary protocol and the health of employees within the companies, the latter have implemented preventive measures to limit the spread of the virus while continuing their economic activities. Among the measures applied by the SMEs surveyed, teleworking is in first place, i.e. a number of (17) companies, declaring that they had used digital technologies such as teleworking from home, videoconferencing and social networks during the pandemic. This transition constitutes a turning point in the world of business organization, particularly for Algerian SMEs, which must face up to external changes by integrating digitalization and new information and communication technologies into the functioning of their organization.

4- Strategic directions and key recommendations

The results of the survey have enabled us to come up with a set of recommendations presented below:

- Encourage and promote private initiatives in order to start the process of diversification of the Algerian economy and to face external shocks, as in the case of covid-19 ;
- Strengthen inter-company relations and exploit the potential of SMEs that make up the economic fabric of Algerian industry;
- Generalising the use of ICT within SMEs;
- The need to set up an information system for SMEs in order to communicate their difficulties;
- Make inter-company relations a strategic lever for competitiveness and performance of Algerian SMEs;
- Support and encourage clustering initiatives in Algeria.

Conclusion:

The Covid-19 pandemic could be an occasion and an opportunity to reinvent a new mode of organization for SMEs through the strengthening of the spirit of collaboration and coordination allowing the mutualization and the optimization of their gains and their productivity. The objective of the study was to examine in an empirical way the impact of the strategies of networks on the SMEs of the beverage sector of the wilaya of Bejaia in the era of Covid-19. The results indicate that the enterprises that collaborated during the crisis period are part of a cluster, hence the need to encourage this form of entrepreneurial configuration. However, this study has some methodological limitations. Indeed, the study was only based on the study of SMEs of the beverage sector located within the territory of the wilaya of Bejaia. Thus, future research could broaden the sample to other sectors of activity, which would shed valuable light on the present work. Also, the future study should include a

statistical study to investigate relationships and correlations in order to cross-reference the respondents' answers across a larger sample.

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