

Situational Analysis of a Mexican Cleaning Products Marketing Company Affected by Covid-19 Pandemic: A Knowledge Management Approach

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Abstract

The uncertainty of a new global contingency requires companies to be better prepared in certain organizational aspects that were not relevant before the Covid-19 pandemic. Today, organizations must seek better alternatives to be able to act in the event of another eventuality of this nature, taking the previous pandemic as an experience. Based on a review of literature and related studies, this paper presents a descriptive situational analysis of a Mexican cleaning products distribution company that describes its situation before, during, and after the Covid-19 pandemic and proposes organizational survival strategies for future contingencies. The analysis was carried out as a follow-up to the results obtained in the study by Perez-Soltero and Leal-Soto (2024) considering the factors that were found associated with the Covid-19 effect (organizational structure, interrelationships, market positioning, work modality, health, communication, technological systems, and training) through an analytical synthesis of the actions that were carried out in the organization related to knowledge management processes (capture and/or creation of knowledge, exchange and dissemination of knowledge, and acquisition and application of knowledge). The main results show the integration of the common use of technology and innovation in the factors of communication, training, and interrelationships, as well as the normalization of the use of digital platforms and tools as a business strategy. It was also found that the company studied managed to expand its market niche, increased its sales and customers significantly during the pandemic, in addition to the creation of new positions and work areas; because by its nature it was an essential company during the crisis. Finally, some organizational survival strategies are described that could mitigate future contingencies of this nature.

Keywords: Knowledge management, Covid-19 pandemic, Situational analysis, Organizational survival strategies.

1. INTRODUCTION

The Covid-19 pandemic had multiple impacts on various aspects of humanity, including economic and organizational impacts. At the beginning of the Covid-19 pandemic worldwide, there was no clear policy approach (Li et al., 2023); however, many governments around the world tried to support companies and businesses in an effort to mitigate the economic difficulties, but the private sector still faced multiple challenges, such as lower

demand, disruptions in supply chains, drop in investment and lower expectations (Stemmler, 2022).

To counteract the spread of the pandemic, overcome the Covid-19 crisis and at the same time reactivate the economy, some governments, such as Italy, implemented knowledge management actions, calling it “smart governance”, where digitalization was applied with knowledge management practices to face the crisis (Berardi et al., 2021). This was considered a significant value contributor, according to Plessis (2004). In addition, there is a growing recognition in the business community about the importance of managing knowledge as a fundamental source for competitive advantage (Paulova et al., 2017).

In this regard, it is important to know the cases of different companies, to identify their operation before, during and after the pandemic, to analyze the main organizational changes and impacts derived from them, as well as the transition to the new normal (Centeno and Eduardo, 2020). Different measures can be identified to face future contingencies of this nature; some measures may be organizational survival strategies.

It is important to conduct studies that measure the actual objectives achieved by companies before and after the crisis to identify the organizational skills that helped in the survival of the organization during the critical situation, which would require a longitudinal approach (Chudziński et al., 2023). Thus, companies would be able to have organizational knowledge and strategies to act in a more timely manner, if similar circumstances were to arise in the future. Sonntag and Seleme (2023) suggest that there is a gap in the literature related to the establishment of tactical and operational level plans related to crises such as the pandemic.

The objective of this study is to carry out a descriptive situational analysis of a cleaning products distribution company located in northwestern Mexico by analyzing its situation before, during and after the Covid-19 pandemic, considering its relationship with knowledge management processes and defining organizational survival strategies for similar future contingencies.

2. LITERATURE REVIEW

Covid-19, caused by SARS-CoV-2, is a highly infectious disease (Dryhurst et al., 2020). The strong transmission potential of the virus and its rapid spread across continents and nations led the World Health Organization (WHO) to declare it a global pandemic on March 11, 2020 (Davidescu et al., 2023). In December 2019, some cases of pneumonia with unknown etiology were first recorded in the city of Wuhan, Hubei province, China. It eventually reached most countries around the world (Dryhurst et al., 2020).

The WHO declared the rapid spread of Covid-19 internationally as a global public health emergency. This spread of the disease was influenced by the proximity of people at risk (Dryhurst et al., 2020), which is why multiple companies could not carry out their operations as usual.

In order to control the impact of SARS-CoV-2 and guide prevention and control actions to avoid its spread in Mexico, the Ministry of Health, through the General Directorate of Epidemiology, generated the standardized guidelines for epidemiological and laboratory surveillance of the viral respiratory disease, which contained the procedures for epidemiological surveillance that included the identification of cases, follow-up of contacts, timely notification to the National Epidemiological Surveillance System (SINAVE), as well as the aspects for the collection, handling, proper sending of samples and the analytical control available for the confirmation of cases (Secretary of Health, 2023).

According to the World Bank (2022), the Covid-19 pandemic was one of the most impactful events in modern history. It spread across many countries and induced one of the largest shocks to the economy since the Great Depression (UN, 2020). This international crisis affected many companies in different sectors globally (Suparta and Wijaya, 2023), from national lockdowns to border closures, disrupting economies and putting great pressures on global supply chains, thus revealing how fragile and vulnerable these can be (Sonntag and Seleme, 2023). Some companies and sectors were able to overcome these negative impacts (Suparta and Wijaya, 2023), while others were not. It was not until May 5, 2023, that the SARS-CoV-2 coronavirus was declared to be no longer an international public emergency. The pandemic followed a downward trend, with an increase in population immunity, a decrease in mortality, and a reduction in pressure on health systems (UN, 2023). This has allowed most countries to return to the life they knew before Covid-19 (WHO, 2023).

Knowledge management is the deliberate and systematic coordination of an organization's people, technology, processes, and organizational structure to add value through reuse and innovation. This is achieved by promoting the creation, sharing, and application of knowledge and by incorporating lessons learned and best practices into corporate memory to foster continuous organizational learning (Dalkir, 2023).

Knowledge management deals with how companies organize, store, and share what they know (Yunus et al., 2024). It involves the process of collecting, storing, managing, and distributing knowledge across the organization so that it can be used to improve performance and innovation; companies need to be able to effectively manage and use the knowledge held by their employees (Lating and Aryani, 2024). The value of knowledge management is greatest when it is available to the right people at the right time (Maisango and Stores, 2023). It helps to better utilize their knowledge, make smarter decisions, and generate new ideas; when done correctly, this management helps companies work more efficiently, learn faster, and stay ahead of the competition (Yunus et al., 2024). Furthermore, Wang and Wu (2021) suggest that effective employment of knowledge management practices can prevent or minimize the undesirable consequences of crises.

Organizational survival strategies are defined for this study as the strategies generally applied by organizations to cope with less favorable situations (Suparta and Wijaya, 2023). It is therefore considered that these strategies can mitigate similar circumstances, since, during the Covid-19 crisis, companies that had greater confidence in their capabilities and that implemented an accurate assessment of their strategies to manage their businesses from the beginning of the pandemic, were more likely to keep their business alive without any additional need (Li et al., 2023).

In accordance with the relevance to the situation of the Covid-19 pandemic, survival strategies and resilience mechanisms of companies have become a research topic (Arslan et al., 2022; and Suparta and Wijaya, 2023). Some studies on organizational survival strategies are as follows:

Sudarmiatin (2022) proposes adapting to changes in consumer behavior during the pandemic, increasing training to develop skills in using technology to support business activities, developing target consumers, adding an online marketing network by selling products in the market, and increasing product diversification based on consumer needs. Sari et al. (2022) suggest optimizing the use of technology to increase sales and improve product and packaging quality to increase consumer interest and trust. Rosyidah et al. (2022) propose innovative diversification, creating new innovative products, expanding sales areas, increasing promotions, and integrating digital technology into business activities.

Avelar et al. (2022) analyze the effects of the Covid-19 pandemic on the financial performance of Brazilian public companies listed on the Brazilian stock exchange. Quarterly data of 158 companies, for the period 2019 to 2020, were analyzed. The results indicated the expected effects on the financial performance of companies in the first two quarters of 2020, and found that the pandemic had significant effects on the market valuation, profitability and activity cycles of companies.

Zayed et al. (2022) study how the Covid-19 outbreak affected the operations of the Nigerian hotel sector and the effect of knowledge management on business resilience. A cross-sectional survey was used with a purposive sampling technique, with a sample size of 279 companies. Knowledge management, measured in terms of knowledge acquisition, knowledge storage, knowledge sharing, and knowledge utilization, was found to have a significant effect on microentrepreneurs' business resilience, suggesting that microentrepreneurs should incorporate their experiences gained during the Covid-19 era to strengthen the resilience of their businesses in the post-pandemic phase.

Thumiki and Jurcic (2021) investigate various changes made in knowledge management practices implemented by organizations in the Sultanate of Oman after the onset of Covid 19 crisis, and identified the impact of those changes on human resource management aspects. Snowballing and purposive sampling techniques were used to collect relevant data from 110 managers. The findings indicated that organizations started using an inside-out approach to knowledge management after the Covid-19 crisis, shifting the knowledge management process from a manual to a technology-based process. Perceived benefits included increased employee motivation and engagement, increased learning and improved work-related skills, along with an improved culture of knowledge sharing across the organization.

3. METHODOLOGY

The approach of this research is qualitative, since it is based on an inductive scheme. It is expansive and generally does not seek to generate research questions in advance or test preconceived hypotheses, but rather these arise during the development of the study, it does not carry out statistical analysis; its analysis method is interpretive, contextual and ethnographic (Hernández-Sampieri and Mendoza, 2018). Likewise, it is concerned with capturing experiences in the language of the individuals themselves and studies natural environments. In addition, the design of this study is longitudinal since data is collected at different points in time (Hernández Sampieri et al. 2014).

This analysis complements the study “Designing an Evaluation Instrument to Assess the Relationship Between Organizational Climate and Knowledge Management”, which aimed to design an instrument for the evaluation of the organizational climate and its relationship with knowledge management processes (Perez-Soltero and Leal-Soto, 2024). Figure 1 shows the methodology developed to carry out this study. The methodology is described below.

- Review and analysis of the results of the open questions: In this section, each response to each open question applied to the representative research sample is reviewed and ordered, frequency is observed, and general response patterns are identified.
- Coding of open questions: Once the general patterns have been identified, the coding is carried out, which, according to Hernández-Sampieri and Mendoza (2018), is carried out once all the participants' responses are known in order to obtain certain categories that represent the final results. In this study, these categories or groups with similar characteristics are called “factors”; in this section, the most frequently occurring factors are selected.

- Descriptive analysis of factors before the Covid-19 pandemic: In this section, each of the factors selected before the pandemic are described.
- Descriptive analysis of factors during the Covid-19 pandemic: In this section, each of the factors selected during the pandemic are described.
- Descriptive analysis of factors after the Covid-19 pandemic: In this section, each of the factors selected after the pandemic are described.
- Analytical synthesis of the actions carried out before, during and after the Covid 19 pandemic regarding knowledge management: In this section, an analytical synthesis is made of the actions that were carried out in the organization before, during and after the pandemic, related to the knowledge management processes associated with the study factors.
- Proposed organizational survival strategies on the study factors: In this section, we describe the strategies related to the process of capturing and/or creating knowledge, the strategies related to the process of exchanging and disseminating knowledge, and the strategies related to the process of acquiring and applying knowledge.

The factors described before, during and after the pandemic were obtained from information obtained from the company, using documentary analysis technique (Martínez, 2012).

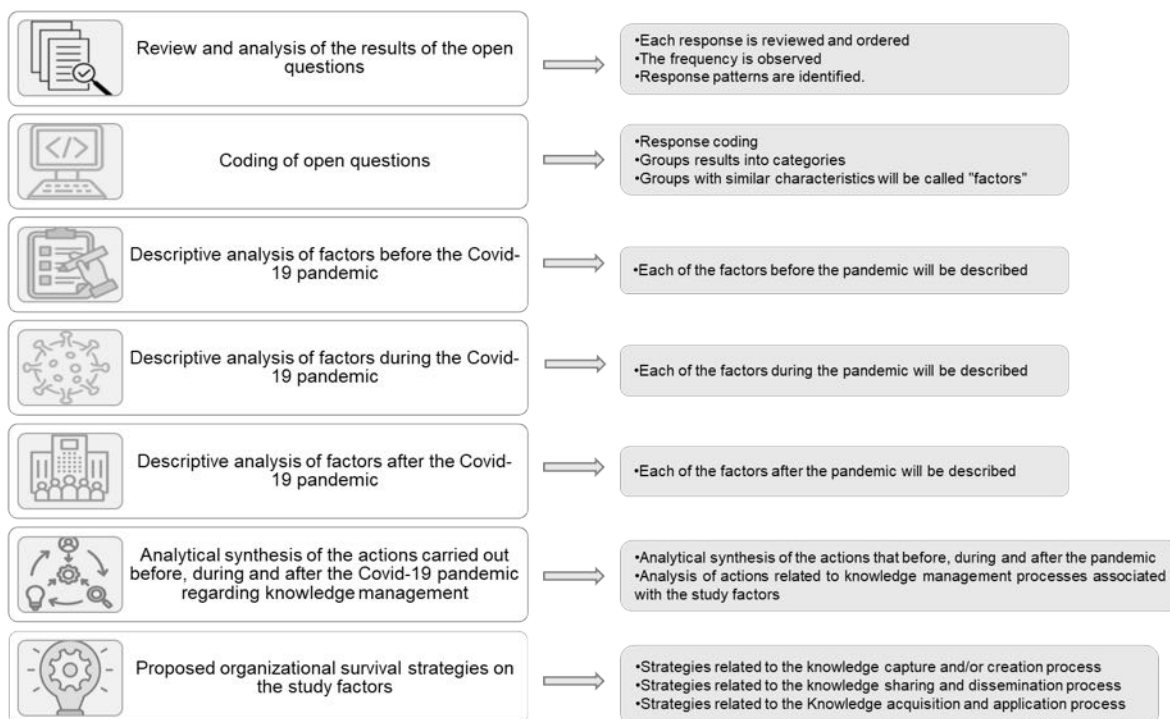


Figure 1: Applied Methodology

4. CASE STUDY

The analysis was carried out in a company that is classified as wholesale trade by the National Institute of Statistics and Geography (INEGI, 2023). This company markets cleaning products, which include safety and hygiene products in its catalogues. The Government of Mexico (2020), due to the company's economic activity, classified it as essential during Covid-19. In addition, the company can be classified as a key company during the pandemic period because it distributes essential products. These types of companies were able to remain

partially open and received preferential treatment, and they were less likely to experience a decrease in their sales and demand, and lower number of workers in the company faced temporary unemployment situations (Stemmler, 2022). The company is divided into six units: Querétaro branch, Mexicali branch, Hermosillo branch, Guadalajara branch, Hermosillo distribution center and General Support. The sample consisted of 79 workers. The company is classified as a medium-sized company according to the Official Gazette of the Federation (DOF, 2019).

4.1 Review and analysis of the results of the open questions

Based on the results obtained by Perez-Soltero and Leal-Soto (2024), the responses to the following open questions were reviewed and ordered, in which the impact that Covid-19 had within the company was sought: a) What organizational changes do you identify after the Covid-19 pandemic? b) What effects did the Covid-19 pandemic have in relation to the organizational climate in your company? c) And what effects did the Covid-19 pandemic have on knowledge management processes? The frequency with which each response appears was observed and the general response patterns were identified and grouped, as shown in Figure 2.

Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9
<ul style="list-style-type: none"> • Structure • Organizational • Positions • Process 	<ul style="list-style-type: none"> • Interrelations • Integration • Companionship • Work environment 	<ul style="list-style-type: none"> • Market positioning • Products • Clients 	<ul style="list-style-type: none"> • Work modality 	<ul style="list-style-type: none"> • Health 	<ul style="list-style-type: none"> • Communication 	<ul style="list-style-type: none"> • Technological systems 	<ul style="list-style-type: none"> • Training • Development 	<ul style="list-style-type: none"> • Did not experience the pandemic • Does not know • No comments

Figure 2: Groups of General Response Patterns

4.2 Coding of open questions

After identifying the groups of general response patterns, the most frequent ones were selected and simplified into the following factors: organizational structure, interrelations, market positioning, work modality, health, communication, technological systems and training. In this analysis, group 9 was eliminated, corresponding to the responses of: did not experience the pandemic, does not know and no comments, since they are not of interest to this study. Table 1 shows the simplification of the study factors.

Groups of general response patterns		Study factors	General frequency
1.	Structure, organizational, positions and process	Organizational Structure	25
2.	Interrelations, integration, companionship and work environment	Interrelations	25
3.	Market positioning, products and clients.	Market positioning	20
4.	Work modality	Work modality	15
5.	Health	Health	11
6.	Communication	Communication	9
7.	Technological systems	Technological systems	9
8.	Training and development	Training	5

Table 1: Simplification of the Study Factors

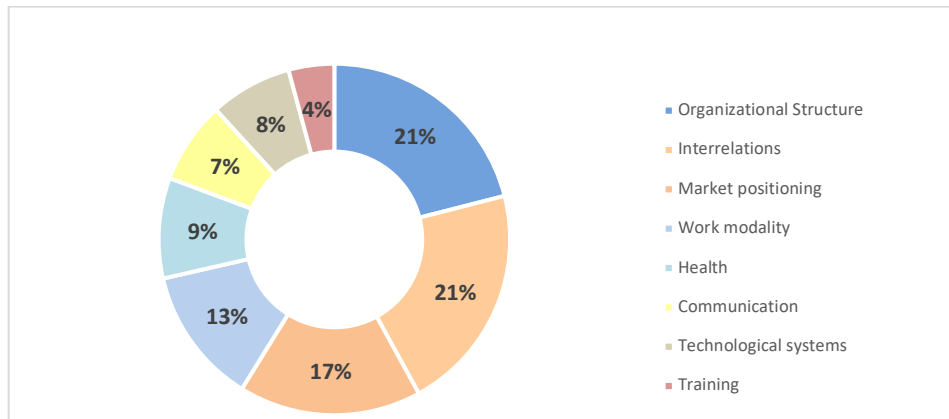


Figure 3: Percentage of the Study Factors

Figure 3 shows the percentages of the study factors. It is observed that the organizational structure factors and the interrelations factor have a higher frequency of 21% each.

For greater clarity and understanding, the study factors that had the greatest impact within the company due to the Covid-19 pandemic are defined below.

1. **Organizational Structure:** Even during the Covid-19 pandemic, organizational structure is one of the factors that affects the productivity of companies (Alegría Zebadúa et al., 2022). It forms the fundamental part within different companies, since it allows the activities carried out by human talent to be divided in order for them to be developed effectively and efficiently so that they contribute to the achievement of business goals and objectives (Ulloa et al., 2019).
2. **Interrelations:** According to Sahibzada et al. (2020), the importance of relationships can be explained through task attributes that promote job satisfaction. Communicative interactions and the relationship with the context become a priority in the management of organizational interrelations processes (Marchiori, 2011). In the context of knowledge management, knowledge workers seek and share knowledge, and are five times more likely to turn to another person as a source of knowledge (Dalkir, 2023).
3. **Market positioning:** Positioning refers to both the place that a product or brand occupies in the minds of customers, relative to their needs and to competing products or brands, and to the seller's decisions and intention to create such a position (Walker et al., 2003). A stable market positioning can ensure that the company maintains itself for a longer time compared to companies that do not have an established market.
4. **Work modality:** Work modality is a way of carrying out the job, which can be applied in different ways; innovative work modalities, such as those introduced during the Covid-19 crisis, can bring benefits to economies, companies and workers, including greater productivity and a better work-life balance (OIT, 2023). Teleworking is a modality that is carried out through the use of information and communication technologies (ICT), that is, through a telecommunications system, and can be carried out at the worker's home or at other places or establishments (Ramírez and Rúa, 2014).
5. **Health:** Some of the reactions reported by companies to combat the effects of the Covid-19 pandemic were related to employee safety (Avelar et al., 2022), referring to the measures implemented to guarantee the protection and wellbeing of their

workers during the pandemic. Both physical and psychological health played a vital role in times of pandemic; mixed emotions were experienced such as wanting to return and the fear and uncertainty of becoming infected, so the focus was on following different protocols (Hernández et al., 2023).

6. Communication: Knowledge sharing is facilitated through ICT, which includes computers, telephones, email, databases, data mining systems, search engines, video conferencing equipment, etc. (Maisango and Stores, 2023). ICTs provide small and medium enterprises with opportunities for knowledge management (Twongyirwe and Lubega, 2018).
7. Technological systems: Technology is the most widely used practice in knowledge management; any organization requires significant technology in this modern era (Yunus et al., 2024). During the pandemic, the use of technological systems at homes (Salvador-Ferrín, 2020) and in organizations in general was accelerated. The technological aspect during the pandemic was essential for the business sector since it allowed them to adapt their processes, and progress was made in a more accelerated manner in terms of technology use and maintenance.
8. Training: Some studies have supported the claim that employees are the most important asset of an organization, especially those who possess, share and communicate effective knowledge (Theriou and Chatzoglou, 2014). There is a positive relationship between knowledge management, training and development, and human resources in the organization, which includes the components of recruitment, training and development, performance appraisal, compensation for services and working conditions in the organization (Mirzaei et al., 2023).

These factors were analyzed in three stages: before, during and after the Covid-19 pandemic. In each of these stages, the aspects associated with the Covid-19 effect are described. Then, an analytical synthesis is made of the actions that were carried out in the company related to these factors with respect to their relationship with the knowledge management process defined by Dalkir (2023), which are: knowledge capture and/or creation, knowledge exchange and dissemination, and knowledge acquisition and application.

4.3 Descriptive analysis of factors

4.3.1 Before the Covid-19 Pandemic

1. Organizational structure: Before the pandemic, there was an established general structure. The processes were defined, and there was a job description. The organizational chart was defined and there was a set of operating manuals, though they were not fully updated and generally not used. There were identified positions and organizational processes, and this information was shared digitally and in print.
2. Interrelations: People interacted with each other. There was an exchange of general knowledge between workers; they mingled at internal events such as birthdays, holidays and other company events. The positions and areas were generally known, but the responsibilities of some members of the company were unknown.
3. Market positioning: The company marketed health, hygiene and cleaning products. It had a line of established suppliers and standard catalog of products, which were divided by categories and uses, and had its own brand of cleaning products. A proposal to create new products and expand the product catalog was made according to the needs of the market, for instance, for differentiated products, especially environment-friendly products.

4. **Work modality:** The work modality was face-to-face; in the external sales area, local and foreign clients could carry out physical tests of the products, where their use and functionality could be demonstrated. They sought to create new clients and follow up continuously. The logistics area was the one which worked externally to meet its delivery, support, installation, returns and other operational activities.
5. **Health:** The company's occupational health and safety areas were generally exclusive to the company's operational area, especially in handling merchandise, from assortment, packaging, and shipping to delivery; the other areas complied with the company's general policies and suggestions regarding general health and safety, but there was no awareness about occupational healthcare.
6. **Communication:** Before the pandemic, communication was face-to-face within the company; face-to-face meetings and online meetings were held. The latter were only scheduled when communication was required with other branches of the same company, but from a different geographic area or point of sale; Zoom application was used for online communication. Formal communication with the client was through face-to-face meeting, email, instant messaging such as WhatsApp, and phone calls. Communication with suppliers was through phone calls, emails and frequent visits that suppliers made to the company.
7. **Technological systems:** There was a comprehensive administrative system called MacroPro which integrated all its main processes related to sales, operations, warehouses, inventories and administrative processes. This Enterprise Resource Planner (ERP) was easily accessible and met their requirements, but there were already signs of a search for an alternative system.
8. **Training:** Training for company employees was provided through physical demonstrations of the products to be used, as well as physical and online presentations when they were invited to other branches in different locations. Customers were also trained through physical demonstrations of the products and face-to-face presentations. Sometimes they were also trained through video calls. In addition, videos were distributed through the YouTube platform demonstrating the use of some cleaning products. These videos were the company's own, made by their staff. Suppliers generally provided face-to-face training, with demonstrations of the use of the products and samples of new products. In addition, support materials, such as technical sheets, safety data sheets, and advertising brochures, were printed.

4.3.2 During the Covid-19 Pandemic

1. **Organizational structure:** There was a significant restructuring in the company. New areas and jobs were created. The physical location of the company was changed; new facilities were acquired and the distribution center and central offices were expanded. The new location was closer to the industrial park where the company's main clients were located. As the company expanded and hired new staff, clients expressed dissatisfaction through complaints, since some new staff lacked experience in face-to-face training and product demonstrations. Some new collaborators showed a lack of knowledge of the products, their use and delivery times. Delivery times were highly variable due to logistics problems with the suppliers, since there were no fixed delivery times, especially for high-demand products related to Covid-19. The processes in different areas were updated and positions were restructured with a focus

on the specific area to which they belonged. There was uncertainty about the new work modalities and resistance to change.

2. **Interrelations:** The number of collaborators increased with new workers filling vacant positions in roles such as systems assistant, commercial accounts assistant, and credit and collection assistant, among others. However, people began to complain because they did not know their coworkers, the new positions or the new work areas. The interrelationship between collaborators decreased, as due to Covid 19 security protocol, physical meetings were prohibited, except for those related to company operations.
3. **Positioning in the market:** There was a significant improvement in sanitization, disinfection and cleaning products. Although the company already marketed health and hygiene products (such as face masks, disinfectants, sanitizers, gloves, etc.), a special line of Covid-19 products was created. Some suppliers designed new products specifically for use and consumption during the pandemic, adhering to the new standards established by health authorities, such as masks with specific quality characteristics.
4. **Work modality:** At the beginning of the pandemic, work continued in person, leading to absenteeism due to the uncertainty of contracting the Covid-19 virus. Later, the company organized roles according to positions and work areas, distributed them on different days and times to ensure no area was left uncovered physically. During the peak of the Covid-19 outbreak, a large part of the company, such as the administrative and support areas, began working remotely from home, while operational areas such as warehouse and logistics continued to work in person for the most part. Main suppliers and clients initially worked virtually, then shifted to a hybrid model—partly in person and partly virtual—continuing this way until the new normal after the pandemic.
5. **Health:** There was uncertainty regarding the risks of contagion and deaths from the Covid-19 virus, and the company sought training on various topics to effectively address the pandemic. To maintain functionality, the company adhered to established national regulations and new guidelines published by official media. The company provided Covid-19 tests to its employees and demonstrated sensitivity by offering permits, accommodating disabilities, and supporting work from home, among other actions in solidarity with employees.
6. **Communication:** Digital communication channels were strengthened; although the company already had technological tools for digital communication, their management was limited. During the pandemic, the use of these applications increased significantly. Platforms like Zoom were used for video calls and conferences. New technological applications such as Telegram and Microsoft Teams were adopted, along with the increased use of instant messaging apps like WhatsApp. Additionally, there was more frequent use of institutional social networks like Facebook, toll-free telephone lines, and anonymous calls to foster closer communication with clients. Some communication barriers were that the customer was confused by the lack of information about product stocks and the lack of knowledge about products and services of new workers.
7. **Technological systems:** The company changed from ERP to a system designed to cover its new growth needs. The company's information was stored in the new system, which was expected to improve the management of its main processes such

as sales, warehousing, inventory and administration in general. The company used the Google Cloud platform to manage the company's information in the cloud. Overall, there was growth in the area of technological infrastructure, systems and personnel.

8. Training: Training during the pandemic was given through digital means, using Zoom, Microsoft Teams and Telegram. It included internal training for employees, external training for customers, and supplier training for company employees and end customers. The support material was digital, and the use of institutional social networks was resumed with greater vigor, especially Facebook, through which advertising and videos containing information on the use of existing products were shared, especially the new products of the Covid-19 line. YouTube videos were used more frequently; the institutional website was reactivated and online catalogues were updated.

4.3.3 After the Covid-19 Pandemic

1. Organizational structure: Initially there was resistance to change to return to work, as staff showed a lack of knowledge of new positions and work areas. Organizational communication and the establishment of new processes were gradually resumed. The description of new positions and work areas was updated.
2. Interrelations: People began interacting with each other in person. They exchanged general knowledge and socialized at internal events such as birthdays, holidays and other company events. Some new employees showed a lack of knowledge about positions and work areas and were unaware of the responsibilities of some members of the company. The new interrelations between staff occurred gradually and were supported by protective equipment, in line with the new normal during the return to work.
3. Market positioning: The new products created remained, and the company continued to innovate new products. The Covid-19 line of common consumption remained, normalizing its sale. There were some products such as masks, mats and face masks, that stopped selling or saw a decrease in their sales. The company retained some potential clients acquired during the pandemic and strengthened commercial alliances with suppliers.
4. Work modality: Once the return to work was authorized by the health authorities, the physical return was progressive. After the pandemic, there was greater flexibility to work remotely, but it was not established in any specific job position. Those who continued to be authorized on a regular basis were external sales department or when there was the possibility of acquiring contagion of the disease.
5. Health: They adapted to the new normal by complying with organizational health and safety regulations. The Covid-19 health guidelines are no longer followed on a regular basis. There was more interest in healthcare, although there was no formal support program for occupational health and safety. They continued with the practice of isolating people with symptoms and using personal protective equipment, especially face masks, when required.
6. Communication: Communication returned to its pre-pandemic state, with face-to-face interactions within the company; face-to-face meetings and online meetings were held, with the latter becoming more common and remained as a normal way of communication. The use of digital platforms was normalized. One of the main

complaints regarding the company's growth was that information did not always reach the right people. Formal communication with clients and suppliers restarted through face-to-face visits, while the use of emails, instant messaging such as WhatsApp and phone calls continued.

7. Technological systems: The company was continually updating itself with technological systems to grow its business. During and after the pandemic, a change was made to a more practical and easy-to-use ERP system, which streamlined daily activities. In particular, there was growth in the area of digital marketing used to attract potential customers, in addition to strengthening its customer relationship management (CRM) system.
8. Training: Training was reestablished through physical demonstrations of products, and internal training on the main products and processes was resumed. Online training continued and was adopted for regular use by collaborators, clients and suppliers. The use of digital platforms was normalized, and digital materials were adopted, greatly minimizing the use of printed materials.

4.4 Analytical synthesis of the actions carried out regarding knowledge management

Table 2 shows an analytical synthesis of the actions that were carried out in the company related to knowledge management associated with the study factors. As previously mentioned, these factors were selected as a result of the grouping of the response patterns to the open questions of the applied questionnaire. Now, we want to identify how the actions of these factors relate to the knowledge management processes.

In the case of knowledge capture and codification process, there are a wide variety of techniques used and many have their origin in fields other than knowledge management; for example, artificial intelligence, sociology, and instructional design (Dalkir, 2023). In the present study, the factors training and market positioning are included as actions related to knowledge management process.

In the case of knowledge sharing and dissemination, the goal is to share and disseminate knowledge throughout the organization. There are various techniques and technologies for people to receive knowledge from others either tacitly or explicitly, through documents, web information, knowledge bases, etc. (Dalkir, 2023). Thus, in this study, communication factors, interrelations, and technological systems are included as related actions in the process of knowledge sharing and dissemination. Finally, acquisition and application of knowledge involves its use in the real environment. Knowledge management can be successful only if knowledge is used, which leads to an improvement in work; content management systems can optimize the application of knowledge at the organization level (Dalkir, 2023). In this study, organizational structure, health, and work modality are included as related actions in the process of knowledge acquisition and application.

Actions related to knowledge management associated with the study factors				
Knowledge management processes by Dalkir (2023)	Before the COVID-19 pandemic	During the COVID-19 pandemic	After the COVID-19 pandemic	Factors
Knowledge capture and/or creation	Physical demonstrations of the products.	Physical demonstrations of products are prohibited.	Physical product demonstrations are reinstated.	Training
	Physical internal training of the main products and processes.	Face-to-face training is completely omitted.	Physical internal training for key products and processes is reestablished.	
	Internal online training for collaborators and external training for clients, both by the company and suppliers.	Internal online training for employees and external training for clients is strengthened, both by the company and by suppliers.	Online training continues and is adopted on a regular basis for both collaborators, clients and suppliers.	
	Videos on the use of products through the YouTube platform.	The use of digital platforms is expanded to strengthen training on product usage; in addition to YouTube, social networks such as Facebook, LinkedIn and Instagram are strengthened.	The use of digital platforms is adopted on a regular basis, and this area is established in a formal manner.	
	Printed support material such as technical sheets, safety sheets and advertising brochures.	Most of the support material is digital. All advertising is done through digital means.	Supporting material is printed regularly, the use of digital material is normalized.	
	Creation of new products under your own brand.	Creation of special products during the pandemic with the specific specifications of current regulations.	The new products created remain and the search for innovation of new products continues.	
Use of online catalogs.	A special COVID-19 product line is created, there was a significant increase in customers and sales.	The COVID-19 line of common consumption remains, the consumption of these products is normalized.		
Knowledge sharing and dissemination	Internal face-to-face meetings.	Face-to-face meetings are completely omitted.	Face-to-face meetings are resumed.	Communication
	Internal online meetings between branches.	Only online meetings are allowed, meetings are held via Zoom and Telegram.	Online meetings are normalized, communication with other branches with clients and suppliers is facilitated.	
	Face-to-face communication between collaborators.	People no longer communicate face to face.	Face-to-face communication between collaborators is resumed, in addition to normalizing virtual communication.	
	WhatsApp instant messaging between collaborators and between clients.	Instant messaging is strengthened, the company supports its employees with mobile devices and created its organizational WhatsApp line.	Instant messaging is normalized and WhatsApp is frequently used within the organization.	
	Telephone calls with clients and suppliers.	Telephone calls with clients and suppliers increase.	Telephone calls with clients and suppliers are maintained.	
	Visits by suppliers to the company.	In-person visits are completely prohibited.	Supplier visits to the company are resumed and interactions are normalized virtually, minimizing in-person supplier visits.	Interrelations
	Interrelationship between people.	Interrelations between people are limited, causing problems in work relations.	The interrelationship between people improves. At the beginning, there was resistance to change, to the new normality.	
	Knowledge exchange between workers.	The exchange of knowledge in person is minimized, new alternatives are sought to find those who know the processes.	There was resistance to the change in the return to work in terms of the exchange of knowledge.	
	Coexistence at internal events.	Internal meetings are excluded.	Work gatherings related to birthday and holiday celebrations are resumed.	
	Data processing.	Due to growth and high demand, a new operating system for the company is created.	Data management with the new system has significantly improved.	
Process integration.	There is a greater integration of processes in a systematic way.	Good acceptance in the integration of new processes in a systematic way. There was an improvement in terms of technological systems in general.	Technological systems	
Knowledge acquisition and application	Knowledge of positions and work areas.	The staff is expanded due to high demand, as well as the expansion of new jobs and areas, such as growth in the marketing and systems area.	Resistance to return to work, showing a lack of knowledge of new positions and work areas, communication and knowledge of new processes is gradually resumed, the organizational structure is updated.	Organizational structure
	Knowledge of some scopes and jobs Who knows what?	The scope and new jobs are unknown, as there are new positions and new people, and there is a lack of knowledge of Who knows what?	The updating of job descriptions and scopes begins with the aim of sharing them.	
	Compliance with operational safety policies in occupational hygiene.	The regulations established by Mexican policies are applied. The guidelines of the new normal and new ways of working are complied with. Strict health protocols on safety and hygiene are followed, including the creation of health check-up policies and COVID-19 tests.	They have adapted to the new normal, there is compliance with organizational health and safety regulations, but COVID-19 health guidelines are not being followed. There is more interest in health care, but there is no formal support program.	Health
	Face-to-face work modality, only external sales justify their remote work due to the management of external clients.	At the beginning of the pandemic, the work modality continued in person, then the collaborators took turns to attend physically. During the strongest outbreak of COVID-19, a large part of the company worked remotely from home. Operational areas such as warehouse and logistics continued to work mostly in person.	The physical return was progressive, there is greater flexibility to work remotely, but it is not established in any job position, those who remain authorized are the external sales department.	Work modality

Table 2: Actions Related to Knowledge Management Associated with the Study Factors

4.5 Proposed organizational survival strategies on the study factors

Table 3 shows a series of strategies that can be developed to act in a timely manner in an event of a catastrophe or one of a magnitude similar to that of the Covid-19 pandemic, considering the lessons learnt before, during and after the pandemic from the present study. Given below are the strategies for each knowledge management process and its related factors.

4.5.1 Strategies Related to Knowledge Capture and/or Creation Process

Training: Providing continuous training programs, from operational, generic and specialized according to the sector and the nature of the company, in addition to training in topics related to the healthcare and general wellbeing of the workers. Depending on the contingency addressed, it is important to train workers in topics related to the crisis that arose; for example, in the case of previous Covid-19 pandemic, the timely training involved safety protocols, adapting to new normal and compliance with government regulations, among others.

Market positioning: Continuous innovation of new products, openness to their differentiation, constant market research for new changes and trends is suggested. Alternate search for new markets, securing secondary suppliers and ensuring that these have programs for possible contingencies and supply chain assurance, relying on digital transformation, especially in online markets are also suggested.

4.5.2 Strategies Related to Knowledge Sharing and Dissemination Process

Communication: During a crisis, clear, updated and assertive communication is essential for the continuity of a company's operations. The use of communication channels, such as digital platforms, where collaborators, clients and suppliers can communicate in a transparent manner to address their needs during an eventuality, is suggested.

Interrelations: Use of relationship channels involving collaborators, clients and suppliers. These channels must be alternative to face-to-face ones, for example, meetings, workshops and online seminars scheduled in a constant manner. These meetings must be effective, where different resources and information updates can be shared constantly for a knowledge creation and sharing approach. In addition, the strengthening of technological channels creates or encourages other alternative communication channels.

Technological systems: Organizations must integrate technological systems and their infrastructure in all areas of the company, mainly in its key processes. In the case of the company under study, it is suggested to adopt and/or update its computer system, customer management, collection, administration, warehousing, inventory, sales, billing, e-commerce and logistics in general. Cloud systems, collaboration tools and digital platforms are very important to maintain continuity. It is also very important to ensure security against possible cyber attacks.

Knowledge management processes	Related factors	Strategies
Knowledge capture and/or creation	Training	<ul style="list-style-type: none"> • Creation of continuous training programs according to the nature of the company. • Training in topics related to the health care and general well-being of workers. • Depending on the contingency addressed, it is important to train workers in topics related to the crisis that arose. • Compliance with government regulations. • Creation of a digital platform for continuous training.

	Market positioning	<ul style="list-style-type: none"> • Search for continuous innovation of its products. • Openness to their differentiation. • Constant market research for new changes. • Securing secondary suppliers. • Creation of programs for possible contingencies and supply chain assurance. • Support in digital transformation, especially in online markets.
Knowledge sharing and dissemination	Communication	<ul style="list-style-type: none"> • Clear, up-to-date and assertive communication • Use of communication channels that are constantly fed is suggested, such as digital platforms where collaborators, clients and suppliers can communicate in a transparent manner
	Interrelations	<ul style="list-style-type: none"> • Use of relationship channels with its main relationship groups • These channels must be alternative to face-to-face ones, for example, meetings, workshops and online seminars • Meetings must be effective, where different resources and information updates can be shared constantly for a knowledge creation and sharing approach. • Creates or encourages other alternative communication channels.
	Technological systems	<ul style="list-style-type: none"> • Integration technological systems and their infrastructure in all areas of the company, mainly in its key processes. • Adoption and/or updating of operating systems in its main processes • Integration of cloud systems, collaboration tools and digital platforms
Knowledge acquisition and application	Organizational structure	<ul style="list-style-type: none"> • Select a responsible team and leader to ensure the continuity of a company's operation during the crisis. • Implementation of contingency plans or crisis management plans. • Define processes, scopes and limitations per job position and constantly update them in case of any change. • Constant updating of organizational changes. • Work with an approach of organizational flexibility.
	Health	<ul style="list-style-type: none"> • Implementation and updating of the company's occupational health and safety protocols based on internal policies and government regulations. • Implementation of continuous physical, mental and emotional health programs for all members of the organization. • Maintain a file for each employee with constant monitoring, especially keeping track of alarm data for possible sources of contagion of different diseases, • Acquisition and use of healthy spaces.
	Work modality	<ul style="list-style-type: none"> • Establishment of hybrid job profiles. • Flexibility of working at home. • Work is based on results. • Providing these new positions with benefits in terms of equipment and resources necessary to continue their continuous operations. • Implement time management and decision-making among employees so that they work in a proactive manner during a possible crisis.

Table 3: Organizational Survival Strategies

4.5.3 Strategies Related to Knowledge Acquisition and Application Process

Organizational structure: It is suggested to select a responsible team and leader to ensure continuous operation of the company during the crisis and to be responsible for making the main decisions aligned with the organizational policies and government regulations to which it may be subject. Contingency plans that spell out how to act in an event of possible catastrophic events or events of a magnitude similar to that of a pandemic, need to be made and implemented. In addition, it is suggested to clearly define the processes, scope and limitations per job position and constantly update them in case of any change. Organizational flexibility in case of emergency is also recommended.

Health: Implementation and updating of the company's occupational health and safety protocols based on internal policies and government regulations. Implementation of continuous physical, mental and emotional health programs for all members of the organization. Maintaining a file for each employee with constant monitoring, especially

keeping track of alarm data for possible sources of contagion of different diseases, in addition to the acquisition and use of healthy spaces.

Work modality: It involves establishment of hybrid job profiles, which allow flexibility of working at home, and providing them with benefits in terms of equipment and resources necessary to continue their operations. It is suggested to implement time management and independent decision-making among employees so that they work in a proactive manner during a possible crisis.

The above strategies will not only help organizations to be prepared for possible crises, but also to face a changing global market. In addition to these organizational strategies, governments should provide timely support to small businesses in regions experiencing more serious impacts of the pandemic; this should consist of a combination of financial support, loans and temporary tax exemptions from the initial stages (Li et al., 2023). In this regard, the lack of external financing and the difficulty in accessing government support caused some companies to use personal savings and access quick financial loans from family and friends to cover operating costs and maintain the continuity and survival of the business (Arslan et al., 2022).

5. DISCUSSION

Wang and Wu (2021) suggest that the effective use of knowledge management practices can prevent or minimize the undesirable consequences of crises. This study has shown that, in addition to preventing or minimizing these consequences, there may be growth of the company. This growth could be possible by applying some of the actions related to the knowledge management processes associated with the study factors indicated in Table 2.

In this study, and in agreement with Chudziński et al. (2023), it is considered that a crisis depends mainly on strategic and entrepreneurial skills, such as the ability to transfer resources quickly, organize work in the company effectively, plan strategically, and diversify its products and services perceived as critical. Table 3 proposes some organizational survival strategies, emphasizing the importance of centralized coordination to facilitate effective knowledge sharing. This includes organization of collaboration and addressing the barriers faced by managers at various organizational levels, as suggested by Von Behr et al. (2023). In the present study, within the organizational structure factor of Table 3, the selection of a responsible team and leader during the crisis is indicated, which can implement a centralized coordination function during such eventualities.

Contrary to what Stemmler (2022) proposes regarding the multiple challenges faced by companies, such as lower demand, disruptions in supply chains, drops in investment and decreased expectations due to the Covid-19 pandemic, the company under study (mainly due to the nature of the products it sells) not only survived during the crisis, but also grew through creating new positions, increased sales and customers, expansion of facilities and implementation of new technological systems. This company is part of the companies and sectors that were able to overcome these negative impacts (Suparta and Wijaya, 2023).

This study also confirms what was proposed by Sudarmiatin (2022) and Rosyidah et al. (2022) regarding the adaptation of products according to consumer needs and the creation of new innovative products. In this case, the company under study created a specific line of products for Covid-19, which were in high demand during the pandemic and helped its positioning in the market. In addition, in accordance with Sari et al. (2022) and Rosyidah et al. (2022) in proposing to optimize the use of technology to increase sales and the integration of digital technology in commercial activities, in the case of the company under study, the

technological system and its infrastructure were integrated and strengthened in all areas of the company, in addition to implementation of cloud systems, collaboration tools and digital platforms.

6. CONCLUSION

This study descriptively analyzed the situation of a cleaning products distribution company before, during and after the Covid-19 pandemic. Due to the nature of the products it sold, the company was classified as essential during the pandemic. In this company, the main identified factors associated with the Covid-19 effect were organizational structure, interrelations, market positioning, work modality, health, communication, technological systems and training. An analytical synthesis of the actions carried out in the company related to knowledge management associated with the study factors was obtained (see Table 2). The main conclusions are given below.

In the process of capturing and/or creating knowledge, it can be concluded that the pandemic forced the digitalization of processes that were previously carried out physically, such as training and product demonstrations. This digitalization not only allowed business continuity, but also opened new ways of capturing and creating knowledge. During the pandemic, the use of digital platforms such as YouTube, Facebook, LinkedIn and Instagram were expanded to strengthen the dissemination of information about the company's products. This was adopted as a regular practice after the pandemic. In the company studied, the creation of new products, catering to the specific needs of the pandemic, helped the company to position itself during the crisis. After the pandemic, these product lines were maintained; the company managed to expand its market niche, increasing its sales and customers significantly. Regarding the process of knowledge exchange and dissemination, it can be concluded that the use of digital platforms and tools as a business strategy was normalized, in addition to the improvement in the technological systems factor. After the pandemic, face to-face meetings were resumed, but online meetings were adopted as a regular tool, especially in inter-branch communication, clients and suppliers; in addition, integration of new processes also received acceptance. Finally, in relation to the process of acquiring and applying knowledge, it was found that due to the high demand and the creation of new positions and work areas, there was a lack of knowledge of new positions and work areas at the beginning of the return to work. Subsequently, communication and knowledge of new processes was gradually resumed and the organizational structure was updated. The need for the creation of occupational health and safety programs and the creation of hybrid work positions was identified.

In general, it can be said that the company not only survived the Covid-19 pandemic, but was also able to prosper during and after it, managing to adopt the work method and new technologies. The pandemic accelerated digital transformation and innovation in all knowledge management processes, driving the company to be more technologically agile. What was initially a response to the crisis became an integral and strategic part of its organizational practices. For the company under study, it is suggested to apply and follow up on the strategies described in Table 3. Some of the main strategies may be: with regard to the process of capturing and/or creating knowledge, introducing continuous training programs, and starting contingency or crisis management programs for suppliers; in relation to the process of exchanging and disseminating knowledge, the use of digital platforms where collaborators, clients and suppliers can communicate and hold meetings, workshops and online seminars with their main relationship groups, and integration of cloud systems,

collaboration tools and digital platforms are suggested; and with regard to the process of acquiring and applying knowledge, implementation of contingency or crisis management plans, implementation of continuous physical, mental and emotional health programs for all members of the organization and establishment of hybrid job profiles are suggested.

Some challenges found in this study are in compliance with new government regulations to improve business conditions in the midst of the pandemic (Rosyidah et al., 2022). The negative impact of the Covid-19 pandemic on companies can be overcome with loyal customers, active management and a strong commitment to quality services, customer satisfaction and supplier support (Rosyidah et al., 2022).

As for future work, creation of a specific strategic plan for crisis management (Ratten, 2020) and different factors that may affect different productive sectors can be analyzed.

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APPENDIX

Questionnaire
Note: The complete questionnaire was published in: Perez-Soltero A and Leal-Soto V (2024), "Designing an Evaluation Instrument to Assess the Relationship Between Organizational Climate and Knowledge Management", <i>The IUP Journal of Knowledge Management</i> , Vol. 22, No. 1, pp. 5-38.
Answer the next open questions
a) What organizational changes do you identify after the Covid-19 pandemic?
b) What effects did the Covid-19 pandemic have in relation to the organizational climate in your company?
c) What effects did the Covid-19 pandemic have on knowledge management processes?