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# **Do We Have to Change Our Business Models and Managerial Practice in COVID-19 Times? A Qualitative Study**

## **Temos de Alterar os Nossos Modelos de Negócio e Práticas Gerenciais em Tempos de COVID-19? Um Estudo Qualitativo**

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### **Abstract**

The new way of working that the COVID-19 pandemic has brought to all companies in the world has been a true “whirlwind” of changes to the traditional status quo of operation of each one of them. Faced with this turbulent environment, different organizations in the world have had to change their business models and traditional management practices to face the threat of COVID-19. Derived from this reality, it is preponderant to study the changes made by organizations in the context of this global pandemic. Therefore, the purpose of the research is to explore and understand how certain companies in the world have changed (or intend to) change their models of business and management practices to face the global pandemic. The methodology was qualitative in two crucial strategies, the exhaustive documentary analysis in 22 companies around the world and semi-structured in-depth interviews in the entire world, using theoretical sample. The most important findings were the identification of different clusters (4 in specific) of changes in business models and management practices characteristic of the COVID-19 pandemic. Finally, the theoretical contribution of the article is because 84% of the management practices supported by the Mintzberg (2010) model were found in the data obtained in the research. The methodology was qualitative in two crucial strategies, the exhaustive documentary analysis in 22 companies around the world and semi-structured in-depth interviews in the entire world, using theoretical sample. The most important findings were the identification of different clusters (4 in specific) of changes in business models and management practices characteristic of the COVID-19 pandemic. Finally, the theoretical contribution of the article is because 84% of the management practices supported by the Mintzberg (2010) model were found in the data obtained in the research.

*Keywords:* Business management; business model; managerial practices; COVID-19 pandemic; qualitative study.

*JEL Codes:* Códigos JEL: M10 General, M1 Business Administration, M16 International Business Administration

### **Resumo**

A nova forma de trabalhar que a pandemia do COVID-19 trouxe para todas as empresas do mundo tem provocado um verdadeiro “turbilhão” de mudanças no tradicional *status quo* de

funcionamento de cada uma delas. Perante esse ambiente turbulento, diferentes organizações no mundo tiveram que mudar os seus modelos de negócios e práticas de gestão para enfrentar a ameaça da COVID-19. Decorrente desta realidade, importa estudar as mudanças efetuadas pelas organizações. Nesse contexto, o objetivo da presente pesquisa foi explorar e entender como certas empresas no mundo mudaram (ou pretendem) mudar os seus modelos de negócios e práticas de gestão para enfrentar a pandemia global. A metodologia usada foi de natureza qualitativa, tendo materializado em duas etapas cruciais: a análise documental exaustiva de 22 empresas ao redor do mundo; e entrevistas em profundidade semiestruturadas em todo o mundo, utilizando uma amostra teórica. Os resultados mais importantes foram a identificação de diferentes *clusters* (4 em específico) de mudanças nos modelos de negócios e práticas de gestão características da pandemia de COVID-19. Por fim, a contribuição teórica do artigo decorre de 84% das práticas de gestão sustentadas pelo modelo de Mintzberg (2010) terem sido encontradas nos resultados da pesquisa.

*Palavras-chave:* Gestão empresarial; modelo de negócio; práticas de gestão; pandemia de COVID-19; estudo qualitativo.

*Códigos JEL:* M10 General, M1 Business Administration, M16 International Business Administration

## 1. INTRODUCTION

The new way of working that the COVID-19 pandemic has brought to all companies in the world has been a true “whirlwind” of changes to the traditional status quo of operation of each one of them. Ritter and Pedersen (2020) studied eight business-to-business firms to understand these specific changes and found certain elements that indicate that the management practices of these companies had to change to adapt to this reality. Other authors such as Kraus et al., (2020) similarly studied 27 family businesses in Europe from a qualitative perspective. Eight of these companies radically changed their business model, another twelve made minimal transformations and seven decided to keep it.

Given this reality, it is a fact that the pandemic continues and that we have practically reached 107 million cases in the world and 2.4 million deaths as of February 11, 2021 (WHO, 2021). Therefore, several academics on the subject have expressed their arguments by indicating that global and world leadership has failed to face this global health crisis from a systematic perspective and not a specific problem (Bolden, 2020). In fact, some of these members of the academic community, such as Stahl et al., (2020) mention some examples of strict changes in people's lifestyles and the operation of companies that occurred in Taiwan, Japan, and Singapore to deal with COVID-19. In this way, the exploratory question that arises in this regard is: *will companies have to change their business models and management practices, in the face of a pandemic that seems endless and affects the operations and financial results of companies?*

The answer to this question represents the research gap in this article. Despite the fact that several academics and companies around the world have studied certain changes in certain organizations, the work is still incipient and recent due to the continuity of the COVID-pandemic 19 (Ritter and Petersen, 2020; Kraus et al., 2020; Mattera et al., 2021). The study represents a great opportunity to assess the moment that certain organizations live in a turbulent and changing environment, therefore, the general purpose of this research is to explore and understand how certain companies in the world have changed (or intend to) change their models of business and management practices to face the global pandemic. In particular, local and regional companies (Puebla, Mexico) were analyzed to observe their changes in business models and management practices. The research questions governing this study are as follows:

- *RQ1: What kind of changes have been made to the business models due to the COVID-19 pandemic by the companies studied?*

- *RQ2: What management practices were identified in the business model changes in the companies studied?*

The answers to these two research questions explained in the research findings is the result of this research that aims to explore business model changes in times of the COVID-19 pandemic. This paper is structured in four main parts. The first part sets out a conceptual framework based on two components. First, the concept of business model, management and managerial practices is defined in the academic literature on the subject. In the second component, some recent academic articles that talk about the changes in business models in the midst of COVID-19. In the second part, the methodological section that describes the collection and analysis of data from a qualitative perspective is explained. The third part are the found results of the changes in business models in the companies studied. The fourth part ends the research article with the discussion and conclusions remarks.

## **2. LITERATURE REVIEW**

### **2.1 Business model, management and managerial practices**

The term business models can be traced back to the 1950s and early 1960s. The first authors to indicate the term "business model" was Bellman et al., (1957) by pointing it out as an interpretation of reality for engineering simulations. The term evolved over many years as a financial term related to the NASDAQ index and even to the concept of strategy (Porter, 2001). Maggretta (2002, p. 6) defines it as: "a system, how the pieces of a business fit together". In other words, the conjunction of several elements to create a business system. With this, a modern definition of the term indicated by Da Silva and Trkam (2014) is the group of actions to go selecting the right combination of resources and associated transactions for the present circumstances, that is, the way to generate income to the company through your short-term resources. Johnson, Christensen and Hackerman (2008) agree on the definition of business model by pointing out that a business model seeks to create profits (profit formula) by seeking to add value to the customer, taking into account the resources and work processes of any organization. Practically, working on the business model through managing resources and processes to generate profit for the company.

In this way, the relationship between the business model and the management of the company is close and close. Da Silva (2003, p. 6), for his part, defines management as: "a group of activities that managers carry out in order to achieve the efficiency, efficacy and effectiveness of an organization established through its organizational purpose and of their goals". If management is working on the organization's work processes, using its resources to be efficient and effective in pursuit of organizational goals and purpose, then the business model is the platform to generate income and profit to the same organization. Mintzberg (2010), for his part, defines management as an elementary triangle made up of three vertices: 1) trade (managerial experience acquired over the years and practical learning); 2) science (knowledge acquired to perform analysis); and 3) art (business vision, creative extension, business intuition). In his terms, "if a good amount of trade is brought together with the right touch of art and science is also used a little, the result is a work that is above all a practice" (Mintzberg, 2010, p. 8). Therefore, the set of activities or practices to carry out the management of a company is known as "managerial practices" (Mintzberg, 2010). For Mintzberg (2010), management practices are made up of three levels of managerial work: 1) the information level; 2) the plane of the people; and 3) the action plan.

In the foreground we have the information level, which consists of three internal elements (frame, program control and / or direct) and one external (communicate). The term framing can be understood as the way to approach the work: making particular decisions, focusing on specific issues, developing certain strategies, determining what types of innovations, in order to establish the context for the rest of the people who work in the Unit. Meanwhile, programming can be interpreted as the development of an agenda and its fulfillment, and largely determines the manager's activities. With the controlling and / or directing element, Mintzberg (2010) seeks to channel the behavior and actions of his subordinates. Takanaka (1995) already raised this by saying that it is to generate a course between the operational activities of the work processes and the actions of the people of the unit towards them.

On the other hand, Mintzberg (2010) raises the external element of communication in terms of the manager's performance when collecting and disseminating information for its intrinsic value. Mintzberg (1973) already calculated that 40% of the time is absorbed by this management practice,

and Tengblad (2000) estimated that 23% of a manager's time was dedicated to obtaining information and more than 16% to advising and informing. Therefore, according to Mintzberg (2010), the manager's job is significantly a job of processing information: listening, seeing, feeling, in addition to speaking.

For the second plane, that of People, Mintzberg (2010) shows two elements, one external in the manager's treatment of the outside, relating, and another internal, the leadership itself. The element of relating refers to the manager's activity of building contact networks to which they dedicate a good part of their time. Thus, they are visible figures towards others, and therefore they try to spread their influence among a large group of people. Internally there is leadership, by which managers with formal authority open paths, draw a direction for others to follow consciously and unconsciously. Among its vital functions are: a) vitalize people; b) form work teams; c) develop and train its personnel; and d) strengthen an effective and efficient work culture.

Finally, the third level of managerial practices is the Plan of Action, which also consists of two elements, one internal (doing) and the other external (negotiate). In the internal component of doing, a manager as a "person of action" is actually the person who "gets it done." However, there can be three managerial activities in which the manager himself can act: 1) personally direct projects and join with others to generate proactive change; 2) manage and solve problems, reacting to the changes to which their unit is forced, for example, a problem in the process (long ignored) or the appearance of a new competitor; and 3) generate operational innovations. Also, for Suárez-Barraza, Ramis-Pujol, and Heras (2010), 21st century organizations make their managers manage problems and disturbances efficiently. In Mintzberg's model, negotiation is focused on the manager, in all types of negotiation activity with areas or companies that are external to his workplace. In this way, the action plan in the internal context is to execute and projects, and the external context is to negotiate for the benefit of its work center.

## **2.2 Business model changes in companies facing COVID-19 in the academic literature.**

The literature on this subject is scarce, because the COVID-19 pandemic continues to this day. Therefore, finding literature that studies this topic is insufficient and practically non-existent. Among the literature that could be found is the work of Kraus et al., (2020) who studied 27 mainly European family companies to validate the different types of change that these organizations have had in the face of the COVID-19 crisis. The main management practices identified by these authors were: 1) generate a crisis management strategy, based on cost reduction, process and process innovation, and finally, perseverance (maintaining the operation in times of crisis); 2) generate health protection mechanisms (use of face masks, sanitizers, and healthy distance) and 3) finally, reduction of working hours and flexible hours including the home-office. Norris et al., (2021) describe the adaptation of restaurants to the crisis of the pandemic. Its main management practices and business model changes carried out were: 1) change the business model from face-to-face service to online service with pick-up through apps, 2) innovations in the menu (reduction to commodity dishes), and 3) use of social networks and platforms to promote sales more intensively. In both studies, many changes can be observed in both business models and managerial practices, the reality is that the literature is recent and marks several managerial actions in search of survival.

Finally, other authors have also explored the changes both in the tourism industry and in supply chains, Deniszi et al., (2021) show specific changes in the business models of the case studies (hotels) that they studied to deal with the pandemic. In particular, hotels changed the business model from sales promotions and services to services focused on cleaning, health and physical (health) safety for the guest. Therefore, all management practices shifted towards that new business model focused entirely on the crisis of the pandemic. For their part, Sharma et al., (2021) show a study of how supply chains may behave in the midst of the COVID-19 crisis. Their conclusions is this new reality requires the generation of resilient supply chains, where their management practices for retail companies are focused on diversified storage, use of backup providers, emergency supply, flexibility, and collaborative strategies. The following table shows a synthetic summary of the literature found:

**Table 1. Business model change amid the COVID-19 pandemic**

Authors	Main changes in the business model and managerial practices
Yeganeh (2021)	This article looks at nine trends that have occurred in business during the pandemic. Two of these trends have focused on changes in business models focused on technological innovation (delivery by apps).
Parker (2020)	COVID-19 has induced a transition to teleworking, impending office design and configuration reversals, and office working protocol re-engineering. Management strategies reflect prioritisation choices between occupational health and safety versus financial returns. Financial reporting has shifted to a more visual and electronic approach in the wake of the pandemic.
Durst et al., (2021)	The authors carry out a study in Peruvian SMEs companies, to the question of how they have reacted to the pandemic in terms of management. The answer was with changes in the short-term strategic plan, designing new sales strategies based on technological platforms and innovation in after-sales services.
Bhattacharyya, S.S. and Thakre, S. (2021)	Remote working was widely implemented, supply networks were adjusted, operations were managed with minimal resources, working capital was closely monitored and the product-portfolio was revamped to reap benefits in an essentials-only world.
Akpan et al., (2020)	Another research that studies changes in business models and management practices in SMEs. The companies studied introduce cloud computing, 'big data', and predictive analytics that can improve operations and strategic decisions, are yet to make inroads in most EMDEs. Also, disruptive computing technologies, data analytics, and the Internet of Things (IoT) required to engineer new business models, reduce overheads, enhance competitive advantages, and digitize SMEs' business operations remain untapped.

Source: By the authors.

### 3. RESEARCH METHODOLOGY

This research used a qualitative approach due to the recent phenomenon studied (Denzin and Lincoln, 2008). Two crucial methodological strategies were used. First, the business and management literature worldwide was analyzed to “understand” which organizations reported changes in their business models or management practices through interviews, reports or briefings published in management magazines, and official WEB pages and / or business magazines (FORBES, BLOOMBERG, among others) (Outhwaite, 1975). Second, we conducted a qualitative expert interview to answer our research questions (Neergaard and Ulhøi, 2007) based on the list found in the business and management literature. Qualitative research is adaptable and useful to analyze this type of organizational process (Bluhm et al., 2011).

In particular, we seek that the business literature will report the changes in business models and management practices caused by the COVID-19 pandemic. In other words, different organizations were determined in the form of multiple case studies to strengthen our research (Eisenhardt and Graebner, 2007; Yin, 2017). On the other hand, the detailed analysis of the literature on business models and management practices provided us with the necessary theoretical framework to search for this type of organization, and avoid a possible bias of changes made that do not focus on business models and managerial practices. This means that a qualitative methodology is required that can extend existing theory (Graebner et al., 2012).

For the sampling of the companies, the purposive sampling technique (Pettigrew, 1997; Guest et al., 2006) was used for both, the selection of the organizations in the business and management literature, and for the interviews of CEOs or managers of operations of the selected organizations. In the case of the interviews with experts, key informants from each organization were interviewed, remembering that this approach allows maximum variability following the principles of appropriateness and adequacy (Gaskell, 2000). We were able to gain insights regarding both similarities and contrasts among the cases (Guest et al., 2006). The executives who responded represent different multinational companies mainly from Mexico, the United States and some European ones (from Sweden). As it is common in qualitative research, data analysis begins at the end of each interview to validate whether there is data saturation, which means, that nothing new is found in each interview carried out. This saturation was identified in 12 interviews (Eisenhardt, 1989; Guest et al., 2006).

For the data collection in the first strategy of the analysis of the business and management literature, specialized databases (emerald insight, academic google, and the conversation) were searched for articles, notes and briefings that would indicate all companies that had made changes in their business models during the COVID-19 crisis. In total, 58 records were obtained. However, after the comparison with the theoretical framework obtained from Mintzberg (2010), the number was reduced to 22 sources (see table 2). The review work was detailed and exhaustive of the selected companies, WEB pages, reports, and promotional brochures and all material that would help to find the changes in business models and management practices in each case were analyzed. Not a simple matter for the privacy and confidentiality of the information of each organization in the world. As a next step, each of the selected cases is presented, having a “theoretical” sample trying to cover different sectors, countries and size of organizations as far as possible, and selecting those cases that had richer and deeper content based on the research question of changes in business models and managerial practices.

**Table 2.- Companies selected for changes in business models and management practices in the business and management literature**

Case Number	Country	Industry / Business sector	Employees number	Scope/Size	Year of foundation
1	Spain	Textile	More than 176,000	Large	1985
2	Spain	Finance/Banking	123,174	Large	1999
3	US	Internet services	135,301	Large	1998
4	US	Consumer Goods	1.13 million worldwide	Large	1994
5	MX	Publishing/Commerce	645	Large	1971
6	US	Cultural/Arts, entertainment and recreation (museum)	315	Large	1937
7	US	Food/Service (high end restaurant)	93	Medium	1887
8	MX	Hospitality/Lodging/Service	50	Medium	2009
9	MX	Food/Candies	360	Medium	2015
10	MX	Food/Service (restaurant)	30	Small	2012
11	Spain	Consumer Goods	93,500	Large	1977
12	MX Puebla	Entertainment/animals conservation center (and zoo)	400	Large	1972
13	Zurich, Switzerland	Hospitality/Lodging/Service (Luxury Business Hotel)	700 approximately	Large	1972
14	Switzerland	Banking/Finance/Trading	71,551	Large	1998
15	Amsterdam	Hospitality/Service (Grand Luxury Hotel)	200 approximately	Medium	Restoring in 2014 as hotel
16	US	Finance/Investments	More than 8,400	Large	1946
17	MX	Food/Manufacturing	127,152	Large	1945
18	MX Puebla	Cultural/Arts, entertainment and recreation (museum)	25	Small	1991
19	MX	Consumer goods/	More than 129,000	Large	1977
20	MX	Beverages/Manufacturing	17,000	Large	1991
21	UK	Consulting/Accountancy	11,200 UK 298,965 worldwide	Large	1989
22	MX Puebla	Food/Service (restaurant)	20	Small	1896

Source: by authors.

On the other hand, as indicated, semi-structured in-depth interviews were also conducted, which helped us to capture the phenomenon studied in greater depth with the directors and managers of

multinational companies that have made changes in their business models during the pandemic (Graebner et al., 2012). We were looking, in particular, for these changes through the stories told in the conducted interviews, finding vividness, concreteness and richness to the research phenomenon (Bluhm et al., 2011; Denzin and Lincoln, 2008; Graebner et al., 2012). The interviews were conducted between February 2 and May 21, 2021, most of them with CEO's and general managers in regional companies (eight interviews). These were based on an interview guide, which allowed the interviewers to spontaneously react to the respondents' statements (Eisenhardt and Graebner, 2007). The social distance and even the quarantine led to the interviews being carried out through electronic means, either by telephone or with a digital communication tool such as Zoom or Teams. The interviews were recorded for each respondent, on average the duration of each interview was 40 minutes, each of the interviews was transcribed at most 24 hours after its completion. See table 3.

Finally, during the data analysis the transcripts eliminated any “slang” words such as (“hello”, “uh”, “mmm”, “I say”, etc.) to only focus on the answers and their content. Once the transcripts of all the interviews had been completed, both authors read the texts in detail to carry out the open matter coding (Miles and Huberman, 1994; Corbin and Strauss, 2014), all this to determine how the data was carried out changes in business models and management practices forced by the COVID-19 pandemic. All the codes that emerged were analyzed iteratively on several occasions in order to ensure the reliability and validity of the findings (Sousa, 2014). At the end of the iterative analysis, a comparative exploration was carried out with the theoretical frameworks of change in business models and management practices of Mintzberg (2010) in a new final cycle to determine the final codes of the research.

**Table 3.- Overview of the directors and managers interviewed**

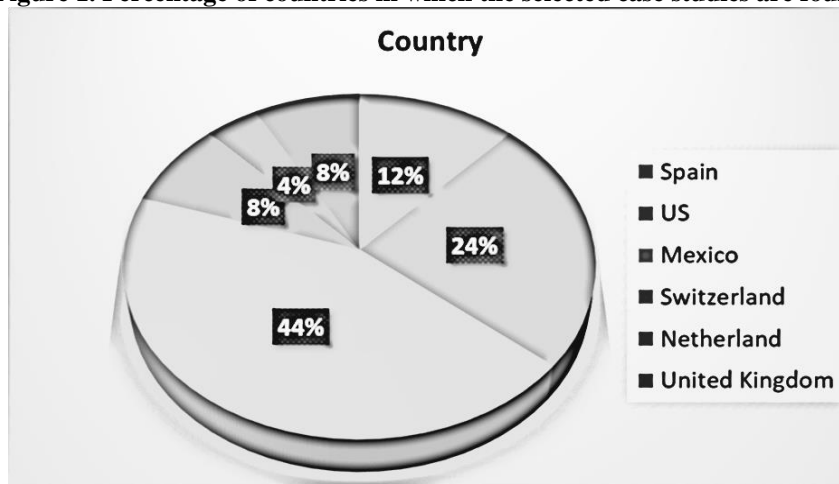
<b>Respondent</b>	<b>Country</b>	<b>Company</b>	<b>Position and experience</b>
R1	México	Candy production company	Chief Executive Officer
R2	México	High standing restaurant of beef	Chief Executive Officer
R3	Ecuador	Frozen fruit production company	International Manager
R4	México	Banking Company	Regional Operational Manager
R5	Sweden	Retailing and furniture Company	International Manager
R6	Japan	Auto parts supplier company	Supplier Manager
R7	México	Multinational auto parts supplier company	Assembly Manager
R8	México	Multinational food company	Operation Management Manager
R9	México	Supplier food company	Chief Executive Officer
R10	México	Auto parts supplier company	Chief Executive Officer
R11	México	Logistic company	Logistic Manager
R12	Singapore	Trade transport company	Logistic Manager

Source: By own

#### **4. MAIN FINDINGS OF THE RESEARCH**

The purpose of our study was to explore and understand how certain companies in the world have changed (or intend to change) their business models and management practices to cope with the global pandemic. As indicated, 22 case studies were analyzed from a documentary perspective and 12 in-depth interviews were conducted. In terms of results, graphics were made that allow analyzing the data worked in terms of countries, type of business sector and size of the companies taken as selected cases. Figures 1, 2 and 3 show the graphs of the results.

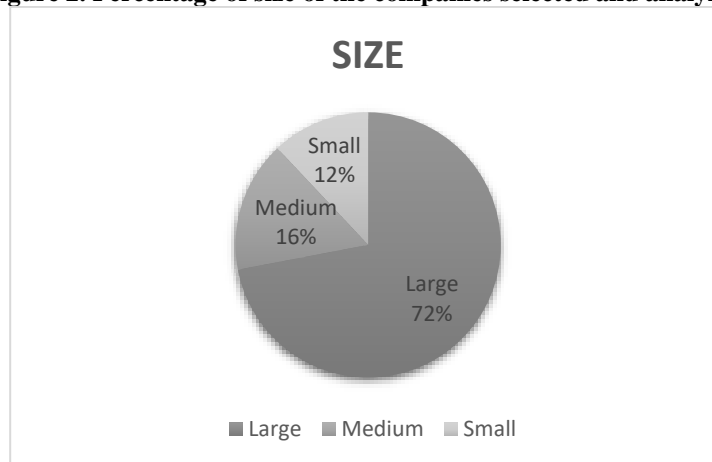
**Figure 1. Percentage of countries in which the selected case studies are found**



Source: by authors

For obvious reasons, the sample focuses on 44% of companies selected in Mexico due to the geographic location of the authors and for the focus in regional companies. While the second is United States 24%, 12% Spanish companies as third place in the sample due to their proximity and relationship with Mexican companies, and 8% were also studied in both the United Kingdom and Switzerland. Much of the data obtained from the selected cases is supported by the information and accessibility of the data in the reviewed sources. In this way, the graph of the size of the studied companies also shows variations according to the accessibility of the data, so that large companies represent 72% of the selected companies, which have published the most activities that have carried out during the pandemic, the same happens with medium-sized companies, but to a lesser extent (16%). Finally, small companies only accounted for 12%.

**Figure 2. Percentage of size of the companies selected and analyzed.**



Source: by authors

The results of the sectors of the companies studied were mainly focused on financial and banking organizations (20%), food and services (16%) and finally the hospitality industry (12%), together with manufacturing (12%). It is a fact that different sectors of companies around the world have tried different changes in their business models and management practices. In particular, companies in the banking and financial sector, and food services due to its proximity to customers, the need of change was extremely urgent. Once the demographic results of the companies studied have been analyzed, we return to the two research questions that govern this study, which are, *What kind of changes have been made to business models due to the COVID-19 pandemic of companies studied?* and *What management practices were identified in the changes of business models in the studied companies?* According to the evidence found in our study, it is reflected in the following table:



**Table 4. Main results of changes in business models of the selected companies.**

Case Number	Company	Industry (Industry and Business Sector)	Business Model Shifts	Findings in Managerial Practices	Source
1	Inditex	Textile	Lean business model, flexibility in adjusting orders, inventory levels and purchasing agreements (mainly with Zara); due to changes in demand of informal clothing	Developing actions and programs to support its supply chain workers and business communities to tackle the consequences of the pandemic. - Logistics and procurement capabilities available: In Spain, the distribution of PPE (personal protective equipment), ventilators, hospital tables, tests, robots to accelerate test processing. - Support for suppliers pertaining to guarantee payment for all orders and work with financial institutions for suppliers and manufacturers.	<a href="https://www.inditex.com/covid-19">https://www.inditex.com/covid-19</a>
2	BBVA	Finance/Banking	They change bank hours to avoid saturation in peak hours. It extremes precautions due to the new virus, open branches with minimum of staff. They ask their customers to use digital-mobile banking services, which operates 24 hours a day.	BBVA Asset Management & Global Wealth adheres to an international manifest as institutional investor, to ensure adequate funding to ensure fair and equitable access to tools to fight COVID-19. Launching the first social bonus COVID-19, as financial mechanism. In Mexico, it provides customers who request it with 4 months of deferral in the payment of their monthly payments.	<a href="https://www.bbva.com/es/actualidad/coronavirus/">https://www.bbva.com/es/actualidad/coronavirus/</a> <a href="https://www.bbva.com/es/bbva-am-se-adhiere-a-un-manifiesto-internacional-en-apoyo-a-una-respuesta-efectiva-justa-y-equitativa-frente-a-la-covid/">https://www.bbva.com/es/bbva-am-se-adhiere-a-un-manifiesto-internacional-en-apoyo-a-una-respuesta-efectiva-justa-y-equitativa-frente-a-la-covid/</a>
3	Google	Internet services	Testing its own capacity to work remotely. Some offices have shifted to a work-from-home status ensuring business continuity, while others are still operating as normal. Boosting the capabilities and adding resources of its tools and services to support and help their users, partners, customers and communities.	Setting up a 24-hour incident response team to make critical decisions about its offices globally. Donating ad credit to the WHO and government agencies, and funds to support relief efforts Working with the government to implement a chatbot on their website that helps answer citizens' most common questions.	<a href="https://blog.google/inside-google/company-announcements/coronavirus-covid19-response/">https://blog.google/inside-google/company-announcements/coronavirus-covid19-response/</a>
4	Amazon	Consumer Goods	Hiring new warehouse and delivery workers to meet increased demands for shipments. Enhanced cleaning and social distancing measures, and implemented disinfectant spraying and temperature checks across operations worldwide. Ramped-up onsite COVID-19 testing for employees. Encouraging contactless delivery to keep its customers safe. Using its logistics network to support UK Government to boost testing capacity delivering test kits to homes around the country.	Offering jobs to people who lose their jobs in other business sectors to join its teams until things return to normal. Helping vaccinate thousands of people through pop-up clinics. Investing in supporting employees, customers, and communities during the pandemic. Such as relief funds for partners, fair pricing for customers, and supporting virtual classrooms with no-cost resources from AWS (Amazon Web Services).	<a href="https://blog.aboutamazon.co.uk/amazon-actions-to-help-employees-communities-and-customers-affected-by-covid-19">https://blog.aboutamazon.co.uk/amazon-actions-to-help-employees-communities-and-customers-affected-by-covid-19</a> <a href="https://www.washingtonpost.com/technology/2020/10/29/amazon-hiring-pandemic-holidays/">https://www.washingtonpost.com/technology/2020/10/29/amazon-hiring-pandemic-holidays/</a>
5	Ghandi Libraries MX	Cultural/Publishing/commerce	Temporary store closures for governmental mandate. Digital store in operation, with free shipping throughout the country.	“Click and Collect” model for point of sales. Home Delivery (alliance with delivery suppliers) in Mexico City and Metropolitan areas. Finally, “Air Safe” system to design the Gandhi’s olfactory logo	<a href="https://www.eleconomista.com.mx/artes-ideas/Librerias-comienzan-reapertura-de-tiendas-en-seis-">https://www.eleconomista.com.mx/artes-ideas/Librerias-comienzan-reapertura-de-tiendas-en-seis-</a>

				(scent/aroma) for a sensory experience.	estados-del-pais-20200607-0062.html <a href="https://www.facebook.com/LibreriasGandhi/posts/10159651354744113/">https://www.facebook.com/LibreriasGandhi/posts/10159651354744113/</a> <a href="https://www.gandhi.com.mx/ayuda/para-comprar/envios">https://www.gandhi.com.mx/ayuda/para-comprar/envios</a> <a href="https://www.milenio.com/negocios/lectores-regresan-a-librerias-gandhi">https://www.milenio.com/negocios/lectores-regresan-a-librerias-gandhi</a>
6	Guggenheim Museum Bilbao Spain	Cultural/ Arts, entertainment and recreation (museum)	Implemented furloughs and pay reductions in an effort to contend the coronavirus pandemic. Projected a \$10 million revenue shortfall. Virtual museum exhibitions to appreciate from home, its world-famous collections online for anyone to view. It digitalized each floor to allow virtual visitors wandering its winding halls, top to bottom.	<i>During the visit:</i> Visitor capacity is reduced to 25% of maximum capacity. Mandatory to wear at all times a three-layer mask (N95 or equivalent) – all visitors over the age of two and all staff -. To maintain at least six feet of distance and one-way markers are located throughout the museum. Hand-sanitizer dispensers are stationed throughout the museum.	<a href="https://www.guggenheim.org/plan-your-visit/coronavirus-information">https://www.guggenheim.org/plan-your-visit/coronavirus-information</a> <a href="https://ge.usembassy.gov/tour-these-american-museums-virtually-during-covid-19-pandemic/">https://ge.usembassy.gov/tour-these-american-museums-virtually-during-covid-19-pandemic/</a> <a href="https://www.nytimes.com/2020/04/10/arts/guggenheim-furloughs-staff.html">https://www.nytimes.com/2020/04/10/arts/guggenheim-furloughs-staff.html</a>
7	Restaurant Peter Luger US New York	Food/Service (high end restaurant)	Main change in the business model was switch its service practices from offering takeout, delivery and outdoor dining, to accept credit cards and going against its cash-only business practices.	Due to online ordering, there are lead times of 30 minutes and more. Reservations to dine with celebrity look-alikes (celebrity wax figures) in its website. New containers had to be brought in to fit food for two, instead of insisting that customers eat on-site.	<a href="https://people.com/food/peter-luger-steak-house-teams-up-with-madame-tussauds-for-star-studding-dining-experience/">https://people.com/food/peter-luger-steak-house-teams-up-with-madame-tussauds-for-star-studding-dining-experience/</a> <a href="https://ny.eater.com/2020/6/9/21271524/peter-luger-steak-house-coronavirus-photos-delivery-takeout">https://ny.eater.com/2020/6/9/21271524/peter-luger-steak-house-coronavirus-photos-delivery-takeout</a>
8	Hotel boutique Casa Lecanda  <b>MX Mérida</b>	Hospitality/Service (Hotel)	It offers its guests the reservation of laboratory tests for the detection of COVID-19, according to your destination: Antigen test, (results in 2H) or PCR (results in 24h).The guests have direct service at its facilities.	Its check in, check out, guestrooms, public and common use areas, food and services processes adjustments based on strict COVID-19 protocol measures. QR codes will be used so that each guest can download it on their cell phone, there will be extra menus that, if used, must be disinfected after each use.	<a href="https://www.casalecanda.com/prueba-covid-19">https://www.casalecanda.com/prueba-covid-19</a> <a href="https://www.casalecanda.com/en/protocol-covid">https://www.casalecanda.com/en/protocol-covid</a>
9	Candy factory <b>MX Puebla</b>	Food/Candies	Change operational process.	Process improvement and Kaizen effort to reduce operation cost.	<a href="http://www.lajosefina.com/site/es/index.htm">http://www.lajosefina.com/site/es/index.htm</a>
10	Los Sonorenses <b>MX Puebla</b>	Food service (Restaurant)	Consideration of strict hygiene and safety measures to take care of employees and customers, based on government guidance and restrictions.	The main change focused on cutting temporary staff, and of course continuing the Kaizen process improvement effort they had made before the pandemic. Therefore, the processes kept costs low at the time the pandemic caused the restaurant to close. Also, they used the home delivery “Pick up and Go”	<a href="https://m.facebook.com/lossonorensesparilla/">https://m.facebook.com/lossonorensesparilla/</a>
11	Mercadona Spain	Consumer Goods	Measures for protecting the health and safety of customers and employees, and the supply for their stores.	Only one person per household. People at-risk groups should not come to do their shopping. Staggered Shopping schedule throughout the day. Reduced shopping time spending and privileged credit card payment over cash.	<a href="https://info.mercadona.es/en/current-affairs/update-3-mercadona-is-adopting-the-following-measures-which-will-come-into-force-as-of-tomorrow-thursday-26th-march-2020/news">https://info.mercadona.es/en/current-affairs/update-3-mercadona-is-adopting-the-following-measures-which-will-come-into-force-as-of-tomorrow-thursday-26th-march-2020/news</a>

12	Africam Safari <b>MX Puebla</b>	Entertainment/animals conservation center (and zoo)	Temporary closures for governmental mandate, due to coronavirus pandemic. Only 80 out of 400 staff members (20 percent) in charge of the animals.	It asked people aid for the zoo, adopted two strategies to overcome the pandemic: Online selling of “Pasaporte 2020” with unlimited entrance after pandemic and subscribing to their Youtube channel to live streaming “Safari tras bambalinas” transmissions to observe animals and “Closed door experience” service for individuals or family members in a controlled environment.	<a href="https://www.e-consulta.com/nota/2020-12-29/sociedad/africam-safari-suspende-actividades-por-pandemia">https://www.e-consulta.com/nota/2020-12-29/sociedad/africam-safari-suspende-actividades-por-pandemia</a> <a href="https://www.milenio.com/politica/comunidad/coronavirus-mexico-zoologicos-piden-apoyomantener-animales">https://www.milenio.com/politica/comunidad/coronavirus-mexico-zoologicos-piden-apoyomantener-animales</a>
13	Swissôtel Zürich Switzerland	Hospitality/Lodging/Service (Luxury Business Hotel)	The hotel was heavily dependent on the city’s primary trade fairs. Over 60% of revenue at the Basel hotel came from trade fair bookings.	Change of market segment – from business clients to students who can get stunning views of Zurich and cheaper rooms.	<a href="https://watchesbyjx.com/2021/02/swissotel-le-plaza-basel-bankrupt.html#:~:text=Located%20just%20across%20the%20street,fairs%2C%20Art%20Basel%20and%20Baselworld.">https://watchesbyjx.com/2021/02/swissotel-le-plaza-basel-bankrupt.html#:~:text=Located%20just%20across%20the%20street,fairs%2C%20Art%20Basel%20and%20Baselworld.</a>
14	UBS	Finance/Banking/Trading	The creation of a virtual reality (VR) trading floor using Microsoft HoloLens headsets.	In London, the technology helps traders to recreate the experience of being on a full trading floor from their homes.	<a href="https://www.finextra.com/newsarticle/36600/ubs-trials-virtual-reality-trading-floor">https://www.finextra.com/newsarticle/36600/ubs-trials-virtual-reality-trading-floor</a> <a href="https://www.reuters.com/article/us-health-coronavirus-finance-tech-insig-idCAKBN2840M2">https://www.reuters.com/article/us-health-coronavirus-finance-tech-insig-idCAKBN2840M2</a>
15	Waldorf Astoria Hotel	Hospitality/Service (Grand Luxury Hotel)	Without guests or open dining rooms, hotels and restaurants in the Netherlands have had to turn to offering takeaway meals. All reservations at Waldorf Astoria Amsterdam – even non-cancellable stays – on or before June 30, 2020, are eligible for a full refund.	To provide a cleaner stay for guests with the creation of the Hilton CleanStay program, an industry-leading hygiene practice created to keep guests and employees safe. Grab & Go pre-plated and individually portioned options to breakfast and buffet service.	<a href="https://news.yahoo.com/michelin-rated-chefs-20-takeaway-123543370.html?guc-counter=1&amp;guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&amp;guce_referrer_sig=AQAAAD7uZzDyzK-zdgrJ0a1O1ddnYWiNePXHzJomu5GHw-wt-PmPVwRu0ri69vKjLbms-uFIVPFMmEbgB-wGgqleAkzkDMSyJAH061e0eW13GPe-mDy-M_X-hpGi81Py1O8YCsh4jHLy6mKYWRjwbvRt36bapRi37_t6wVIF_yrENtZfU">https://news.yahoo.com/michelin-rated-chefs-20-takeaway-123543370.html?guc-counter=1&amp;guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2x1LmNvbS8&amp;guce_referrer_sig=AQAAAD7uZzDyzK-zdgrJ0a1O1ddnYWiNePXHzJomu5GHw-wt-PmPVwRu0ri69vKjLbms-uFIVPFMmEbgB-wGgqleAkzkDMSyJAH061e0eW13GPe-mDy-M_X-hpGi81Py1O8YCsh4jHLy6mKYWRjwbvRt36bapRi37_t6wVIF_yrENtZfU</a> <a href="https://www.hilton.com/en/corporate/cleanstay/">https://www.hilton.com/en/corporate/cleanstay/</a>
16	Fidelity International	Finance/Investments	Due to the fact of COVID-19 pandemic, Fidelity decide to offer digital experiences for its investor and adviser network. As well as an increase of digital adoption rates for its own corporation.	Having internally explored virtual reality (VR) and augmented reality (AR) technology. Fidelity now aims to trial VR with its sales teams’ interactions with clients.	<a href="https://www.investmentsnews.com/fidelity-tests-virtual-reality-simulators-196697">https://www.investmentsnews.com/fidelity-tests-virtual-reality-simulators-196697</a> <a href="https://www.reuters.com/article/uk-health-coronavirus-finance-tech-insig-idUKKBN2840NI">https://www.reuters.com/article/uk-health-coronavirus-finance-tech-insig-idUKKBN2840NI</a>
17	Grupo Bimbo MX	Food/Manufacturing	It has taken a set of measures to keep availability of products, take care of its people and give certainty to its clients and consumer amid the COVID-19 pandemic.	Prevention, health and security are the core of all its operations. Where the wellness of people are its priority, considering some preventive measures. Assuring availability of its products in Mexico and in the countries where Bimbo operates. The	<a href="https://www.grupobimbo.com/es/siempre-con-las-familias-covid-19">https://www.grupobimbo.com/es/siempre-con-las-familias-covid-19</a> <a href="https://www.forbes.com.mx/coca-cola-alsea-y-femsa-se-protegen-contra-el-">https://www.forbes.com.mx/coca-cola-alsea-y-femsa-se-protegen-contra-el-</a>

			Vulnerable groups were sent home guaranteeing them payment and their jobs. The use of facemasks and protective face shields in operational, distribution and sales areas. Remote work for those whose functions allow it, and guards or special shifts.	company and its collaborators commit with all its stakeholders (consumers, clients, suppliers) that they are working to guarantee availability, fresh and safe products at the point of sale.	coronavirus-con- estas-medidas/
18	Museo Amparo MX <b>Puebla</b>	Cultural Recreation (museum)	The museum strengthens its virtual program and develops new contents to offer great variety of activities to all publics. Its purpose to attract them to Permanent Collection, Temporary Exhibitions and to offer them significant experiences regarding art through “El Amparo en tu casa” virtual program, that has conferences, podcasts, booklets for children, storytelling, social networks, virtual cinema cycles, among others.	In the museum’s openings amid the pandemic, it implements health and safety measures in all spaces in touch of visitors and employees. Instead of guided tours, the use of The “Amparo Plus App”, which offers audios to take a tour of the different exhibitions, is recommended.	<a href="https://museoamparo.com/en-linea">https://museoamparo.com/en-linea</a> <a href="https://museoamparo.com/noticias/detalle/734/reapertura-del-museo-amparo">https://museoamparo.com/noticias/detalle/734/reapertura-del-museo-amparo</a>
19	OXXO MX	Consumer goods/	Oxxo has implemented a series of actions to protect its collaborators, among which: - It keeps its staff of collaborators without affecting their salaries. Over 17,000 employees belonging to groups in vulnerable situations were sent home with salary. For administrative positions, remote work for those whose functions allow it.	OXXO is contributing to the development of the community with jobs creation and vacancies availability, resulting in a 4.8% hiring rate during the contingency period. It seeks to generate economic and social value in the communities where they are present.	<a href="https://www.femsa.com/es/sala-de-prensa/comunicado/oxxo-apoya-a-sus-colaboradores-ante-la-emergencia-sanitaria-del-covid-19/">https://www.femsa.com/es/sala-de-prensa/comunicado/oxxo-apoya-a-sus-colaboradores-ante-la-emergencia-sanitaria-del-covid-19/</a>
20	Coca Cola México / Industria Mexicana Coca Cola MX	Beverages /Manufacturing	Prioritization of employees’ health and well-being following government sanitary directions for health and security purposes.	Coca Cola Mexico joins the DN-III plan of the Ministry of National Defense (SEDENA) delivering more than 231 thousand liters of bottled water to 35 military hospitals and the Institute of Health for Well-being, in addition to 25 thousand protective masks made with PET 100 % recycled. It promotes a #MiTiendaSegura initiative among retailers of small stores with recommendations to continue to open with confidence during the contingency period. It created #CokeStudio Sessions so that thousands of fans could see concerts, interact and donate to the Red Cross.	<a href="https://www.cocacolamexico.com.mx/impacto-positivo/covid19">https://www.cocacolamexico.com.mx/impacto-positivo/covid19</a>
21	Accountancy firm Ernst & Young (EY) UK	Accountancy/Consultancy	During lockdowns and COVID-19 restrictions, EY relies on its long-standing culture of flexible working based on a culture of trust and empowerment with their people that has been in place for many years prior to the pandemic. Based on government guidance, the company encourages people to work at home when they can, but its offices remain	Even after the coronavirus restrictions, the company will adopt a post-pandemic “hybrid working model”. It expects that its 17,000 employees will work remotely at least two days a week, EY office and clients site. On September 2021, it will initiate an experimentation stage considering a “hybrid working model” approach to ensure it meets the needs of its people, clients and other stakeholders. It will include a long-term program, to reconfigure EY offices, mainly to create more	<a href="https://www.accountancydaily.co/ey-confirms-move-hybrid-working-model">https://www.accountancydaily.co/ey-confirms-move-hybrid-working-model</a> <a href="https://www.ey.com/en_uk/news/2021/05/ey-confirms-move-to-hybrid-working-model">https://www.ey.com/en_uk/news/2021/05/ey-confirms-move-to-hybrid-working-model</a>

			open whenever they need to work at the office.	collaboration, meeting spaces and group working.	
22	La Chiquita MX <u>Puebla</u>	Food/Service (restaurant)	Temporary and intermittent closures during COVID-19 pandemic respecting state government measures, to prevent employees and customers getting sick caused by the spread of this virus.	The company decided to commit with its suppliers network in the delivery of its gastronomic concept to its customers. They decided to help each other maintaining sales and allowing them to overcome their economic crisis, through the collaborative work and alliance with “La Luz” potters, an artisan from Ajalpan and a “San Francisco” bread oven. Therefore, Local Consumption is part of its social responsibility.	<a href="https://www.periodicoentral.mx/2020/rayas/vidayestilo/item/11929-la-chiquita-hace-alianza-con-artesanos-y-horno-de-pan-en-puebla-para-salir-adelante-en-medio-de-la-pandemia-de-la-covid-19">https://www.periodicoentral.mx/2020/rayas/vidayestilo/item/11929-la-chiquita-hace-alianza-con-artesanos-y-horno-de-pan-en-puebla-para-salir-adelante-en-medio-de-la-pandemia-de-la-covid-19</a>

Source: By the authors.

As we have observed in the 22 cases studied in a documentary way, plus the 12 semi-structured in-depth interviews, there are different changes in the business models of the companies studied, as well as their management practices. On the subject of business models, changes were found from movements in the organizational structure, reduction of personnel, redesign of processes, application of new information technologies, new sales channels and even new lines of business. On the management practices side, the variety is likewise wide. Most of them, focused on preventive health measures to face COVID-19 and the approach to the client-target. On the other hand, some of these practices focused on the incorporation of information technology to continue executing the processes (zooms, teams, google -meet among several others). Supported by the findings, both the changes in business models and management practices were specifically focused on four large specific clusters that are listed below:

#### 4.1 MANAGEMENT SYSTEM’S DESIGN CHANGES

The original business model of the companies studied had to change radically when “closing their operations due to the pandemic”. Therefore, some of these companies (Cases 1, 2, 6, 8, 13, 14, 17, 22) had to make changes to the strategic design of their business model and of course their management system on a radial basis. The vision and mission of these organizations changed radically, causing the Operation of the business model to change into a new management system that would allow them to survive. Management practices such as: opening new lines of business like home deliveries, intensifying online sales, incorporation to platforms as Amazon, Mercado Libre or Alibaba, even remodeling of specific space of its facilities to protect customers and employees (bulkheads plastic, specialized cubicles) were common.

In other cases, modifications were made to the delivery capacity of the service and / or products based on government restrictions aligned to COVID-19 preventive measures and protocols, reducing personnel for customer service, and / or making use of other modalities to delivery and distribution as "click and collect" or "pick up and go" or home delivery. In addition, some even had to make a radical change in their strategy of the market segment that the company is targeting to become its new customer, to take advantage of the company's current infrastructure and operations and avoid closure. For a manager of a Japanese company, this pandemic meant the following in terms of strategic design:

*“For us, the pandemic was the biggest challenge we have had as an organization, because it changed our entire strategy, and of course our operating standards. We had to leave the traditional routines and design new alternative strategies that we never would have thought of total change (E-CE-R-6)”.*

#### 4.2 MANAGERIAL INNOVATION AND INFORMATION TECHNOLOGIES.

Management innovation supported by information technologies were critical management practices that helped change the business models of the studied companies. Within the case studies, some of them applied virtual reality (VR) and augmented reality (AR) technologies for interactions between the different work groups within the company and abroad with clients and other interest groups (stakeholders and stockholders ) for the purposes of negotiations and project deliveries. Other

groups trained their staff using this technology (VR) and (AR) and created virtual visits and tours, development of digital content for courses, workshops, conferences and conversations of particular and general interest.

One of the most interesting cases found in the investigation was the company that, when applying the practice of managerial innovation, used new elements for the concept of the original business model from another industry, such as celebrity mannequins made of wax on the tables of diners to meet the required social distance measure. It became common practice to use QR codes for data visualization on smartphones or tablets, such as the menu in a restaurant, and to avoid the use of printed materials.

### **4.3 APPLICATION OF PREVENTIVE HEALTH SYSTEMS TO FACE COVID-19.**

The most common change found in all the documentary and semi-structured interview cases was the implementation of processes and sanitary measures to face COVID-19. From sanitation control points, the promotion of hybrid or remote work, to training courses for physical presence with healthy distance. All the companies aligned themselves with these COVID-19 preventive measures and the WHO (World Health Organization) protocols, in order to take care of the health and physical integrity of all the stakeholder groups inside and outside the companies. A Mexican manager of the candy companies commented:

*“Our factory has totally changed the way it operates as a result of COVID-19, we had to introduce sanitary filters for sanitary control, awareness courses, some of the support with the Mexican Institute of Social Security, the reality... is that our main concern is the health of employees, and at the same time continue our operation (E-CE-R-1)”.*

### **4.4 HYBRID WORKING MODELS, TELEWORKING AND SOCIAL RESPONSIBILITY**

Management innovation supported by information technologies were critical management practices that helped change the business models of the studied companies. Within the case studies, some of them applied virtual reality (VR) and augmented reality (AR) technologies for interactions between the different work groups within the company and abroad with clients and other interest groups (stakeholders and stockholders) for the purposes of negotiations and project deliveries. Other groups trained their staff using this technology (VR) and (AR) and created virtual visits and tours, development of digital content for courses, workshops, conferences and conversations of particular and general interest.

One of the most interesting cases found in the investigation was the company that, when applying the practice of managerial innovation, used new elements for the concept of the original business model from another industry, such as celebrity mannequins made of wax on the tables of diners to meet the required social distance measure. It became common practice to use QR codes for data visualization on smartphones or tablets, such as the menu in a restaurant, and to avoid the use of printed materials. Finally, in the cultural entertainment and recreation (cases 6 and 18), the companies decided to design virtual programs as a mean to continue interacting with their audiences. This practice led them to digitalize each floors' exhibitions as virtual tours or the use of an app replacing a guided tour on site.

## **5. DISCUSSION OF THE FINDINGS**

It is a reality that the pandemic is starting to decrease as a result of the advance in vaccination around the world. However, new variants of the COVID-19 disease such as Delta, Gamma, Omicron have been discovered; which indicate that the pandemic may continue for a longer period. In terms of the theoretical contribution of the research, it was possible to identify with the analyzed case studies in documentary cases and interviews, some interesting insights of the changes in the business model and management practices in the midst of the COVID-19 pandemic.

Focused on changing the business model and based on the first research question: *What kind of changes have been made to the business models due to the COVID-19 pandemic in the companies*

*studied?* It is essential to indicate as a conclusion that, there were several changes in the organizations studied in their business models. If we observe some specific changes focused on the creation of new business lines such as: online sales, “click and collect” or “pick up and go” or home delivery, changes in supply chains and inventory systems (to reduce costs), new products adapted to the online modality, new services in the hotel industry, and the creation of other market segments and new customers. This finding fully coincides with the definition of Johnson et al., (2008) where it is indicated that the key of the business model is the creation of profit. It is a fact that the companies studied were trying to survive and generate profits despite the situation of the COVID-19 pandemic. At all times they tried to generate cash flow to continue making profits, but at the same time maintain the operation, despite the restrictions that existed in 2020 and part of 2021. In fact, our findings confirm much of the recent literature of the subject (Krauss et al., 2020; Norris et al., 2021; Deniszi et al., 2021).

For the second research question: *What management practices were identified in the changes in business models in the companies studied?* Our findings are broad for the companies studied (see table 4). In order to generate an in-depth discussion in light of the theoretical framework of Mintzberg (2010), a comparative table is shown below.

**Table 5. Theoretical contribution on the subject of managerial practices**

Plan and Practice (Mintzberg 2010)	Finding of the research	Case Study Observed
<b>Information plane</b> Mental frame planning	√	-Interviewed - All cases in terms of planning of preventive measures and restricted operation.
Program	√	-Interviewed - All cases in terms of planning of preventive measures, new lines of business and restricted operation.
Internal communication outside of the manager’s area.	-	Little evidence of this managerial practice.
Control-Direction	√	-Interviewed - Virtually all of the scarce especially those evolved into remote work, hybrid models, Kaizen projects, and online sales.
Negotiation with the outside	√	-Interviewed - In particular, the cases that had operations with supply chains such as cases 13,15,21,22.
<b>People plane</b> Vitalize people	-	Little evidence of this managerial practice.
Create work-teams	√	Virtually all of the scarce especially those evolved into remote work, hybrid models, Kaizen projects, and online sales.
Develop and train staff	√	All the cases studied that incorporated sanitary measures, and other cases that focused on new technologies.
Strengthen an effective and efficient work culture	√	-Interviewed - Companies that worked on Lean and Kaizen; and hybrid models. The cases found were: 4,5,10,11,12,21.
<b>Action plane</b> Manage special projects	√	All the cases studied that incorporated sanitary measures, and other cases that focused on new technologies.
Manage and solve problems	√	All the cases studied that incorporated sanitary measures, and other cases that focused on new technologies.
Generate operational innovations	√	In particular, the cases studied such as cases 5, 7, 8, 9, 13, 15, 16, 18, 20 and 21.

Source: Authors

As it can be seen in the light of the theoretical comparison, 84% of the management practices of the Mintzberg Model (2010) were used by the cases studied and the interviews carried out. Which answers the research question in our study.

## 6. FINAL CONCLUSION

According to the evidence found both in the interviews and in the cases found in the documentary information, it is feasible to answer the question that governs our research: *Do we have to change our business models and managerial practice in COVID-19 times?* The answer of this important question, it is yes as a final conclusion, therefore it is necessary to change the business model because the world environment has changed due to a strong and forceful exogenous variable, the COVID-19. Thus, changing the business model and management practices of the organizations studied is a matter of survival and competitiveness. The lessons learned that emerged during our research work are listed below.

1. The companies studied both in a documentary way and in a semi-structured interview made changes in their business models. All sought the generation of profits from new perspectives and / or lines of business derived from the restrictions caused by COVID-19. It is a certainty that these organizations changed their core-business and their strategic vision at the time as evolving into new ways of producing income for the organization. In fact, according to Krauss et al., (2020) several of these changes in business models could last after the pandemic. Our findings confirm this argument by validating the same argument in the interviews carried out.

2. Similarly, the management practices of the Mintzberg (2010) model were applied in practically all the cases studied (except for two specifically - 84% -). It should be noted that in conclusion, all the management practices studied were applied in a profound and disciplined manner, probably due to the "crisis" that the organizations were in the midst of the COVID-19 pandemic. However, this finding has to further be investigated.

3. Each studied company showed that when there is a crisis (the COVID-19 pandemic), the reduction of operating costs is essential in the creation of financial value of the same. In particular, this finding was found in regional companies derived from the restrictions of the government of Puebla and Mexico.

4. The systematic, standardized, and professional implementation of managerial innovation and information technologies as managerial and technical practices that not only copes with the COVID-19 pandemic, but also as strategic mechanisms that generates value added for all stakeholders in each organization.

Finally, the article has several limitations that restrict the generalizability of the results. A theoretical generalization is possibly supported in the context of the data obtained. However, much more research and a much more in-depth look at the documentary cases remains to be done, when the conditions of the COVID-19 pandemic permits. In other words, the case study method can be applied for the 22 documentary cases and 12 in-depth interviews. Furthermore, the design of a global quantitative research approach in the global environment of the pandemic could begin to be created. As authors, we are aware of these restrictions, but we know that this research is a first step to understand more deeply how the COVID-19 pandemic affected companies in terms of changes in business models and management practices.

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