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**POST-PANDEMIC
LOGISTICS
MANAGEMENT**

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Abstract: Humanity, from time to time, has been challenged by numerous variables such as, for example: political, economic and natural. The emergence of the Covid19 pandemic in December 2019 has worsened economic and social conditions in the world. Given the current reality, it is relevant to understand the crisis in supply chains to improve local, regional and global logistics management. In this context, the present study seeks to identify and analyze the main impacts on the logistics supply chain, due to the lack of preparation in the current model practiced in this type of management. In order to reach the objective, qualitative methodological procedures of descriptive, experimental, explanatory and bibliographic levels were used. From the data obtained and its analysis, it was observed how sensitive supply chain management is due to several factors published in this article and how organizations must behave to harmonize these variables.

Keywords: Jail, Covid-19, Management.

INTRODUCTION

The Coronavirus pandemic began in December 2019 in the Chinese city of Wuhan, capital of Hubei province. This respiratory disease is caused by the SARS-Cov-2 virus, considering a betacoronavirus of the SARS family, which has other microorganisms responsible for other outbreaks of Severe Respiratory Syndrome in the world, among these the episode of the years 2012 and 2013 that reached about 8 1000 people in 17 countries. Covid19, however, surprised the international academic community by presenting an unprecedented transmission capacity, called the invisible transmission chain in which even people at an early stage and without the presence of symptoms are vectors, which makes it extremely difficult to contain the disease. (BAIMA, 2020). Also according to Baima (2020), despite

the Chinese government quickly closing its borders, on January 30, 2020, the World Health Organization (WHO) already declared Covid19 as an international emergency, with cases recorded in 18 countries. Even so, the countries did not take rapid action of social isolation and in February of the same year there were already identified cases worldwide, which made the WHO (World Health Organization) declare Covid19 as a pandemic, a disease of incidence/ worldwide spread in March 2020.

Regarding international trade, at the beginning of 2020, scholars began to think about the effects that the pandemic would have on the Global Supply Chain. In this sense, the biggest concern would be a disruption of distribution flows until March of the same year, caused by the impossibility of carrying out transactions with China, due to the stoppage of activities, which could cause a global crisis due to the lack of inputs, cancellation of routes, shortages of containers and delays in customs clearance procedures (DIÁRIO DO COMÉRCIO, 2020).

The commercial world is characterized by its economic relationships that show an interdependence of products and services between countries. In this context, international trade works as an important tool for the economic growth of countries seeking to balance their exchange balances and enrich their institutions. In this sense, Logistics works as an important tool in the management area, which is responsible for seeking supply strategies that make national and international operations possible, such as imports and exports. About International Logistics, it works as a set of strategic choices for organizations to manage their flows of goods and services on a global scale, directly linked to international trade. Through the collaboration of several logistics operators, organizations seek the most efficient services

and routes to make the import and export process possible, leveraging their competitive capacity against competitors. Logistics can be exercised by organizations through road, rail, air, pipeline, waterway and maritime modes. Each of these modalities has different characteristics in terms of costs, agility, infrastructure, capacity and others. A good planning of modes will determine the type of mode used, such as unimodal, successive, segmented, multimodal or intermodal. The management of International Logistics is related to the management of the Global Supply Chain or the management of the International Chain. Therefore, it is necessary that decisions are taken at the three hierarchical levels in an agile and updated way as a way to guarantee planned processes and in accordance with the characteristics and needs of the operations. This way, this article, through descriptive, experimental, explanatory and bibliographic research, aims to show how the Coronavirus (Covid19) can affect the Global Supply Chain.

THEORETICAL REFERENCE

There are several definitions for Supply Chain. For Mentzer et al. (2001) is “a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finance or information from a source to the customer.” Ballou (2020) expands the scope insofar as he defines the supply chain as “a system that also encompasses the processes related to the life cycle of a product, being responsible for aggregating key and support activities, in addition to the actors involved. from a network of independent companies that add value to the end user.”

Introduced by Oliver and Webber, the term “supply chain management” has been used to describe the merger and reclassification of business activities, as well as the potential benefits of integrating internal business

functions across organizations, including purchasing, manufacturing, sales, and distribution. (Harland, 1996 apud Oliver and Webber, 1992). The term has evolved over the years, however, the definition most used in the literature and in several studies, so far, is the one proposed by: *Concil of Suppy Chain Management Professionals*, in which:

Supply chain management encompasses the planning and management of all activities involved in sourcing, purchasing, converting and all logistics management activities. It must be noted that it also includes coordination and collaboration with channel partners that can be suppliers, intermediaries, third-party service providers and customers. In essence, supply chain management integrates supply and demand management within and across companies” (CSCMP, 2020).

Given this context, it is understood that it is a management system that requires the integration of participants, in addition to the simultaneous action of several trade-offs. According to Handfield and Nichols Jr. (1999) “every organization is part of one or more supply chains, whether a company extracts raw materials, manufactures products, sells to the final consumer or provides a service”.

With regard to services, the main characteristic is their nature, which “can be more or less intangible, both in terms of processes and their results, not presenting absolute thresholds on this attribute” (Neves and Vinagre, 2018). In this sense, the relationship builder can become an important issue, as it becomes a factor of adding value in supply chains (Giannakis, 2010).

Also according to Giannakis (2010), with regard to the provision of services, such as the production of manufactured goods, it also involves the participation of various actors. There is a joint work with the objective of co-producing value in chains or networks. In service supply chains (Figure 1), value

is added through the flow of information and knowledge shared during the customer interaction process.

In the context of organizations, the supply chain management process evolves significantly due to globalization, starting from an individual reality for a concept of company networks (Fleury, 2000). This way, managing a supply chain has become a complex process, since it aims to meet customer requirements, while taking into account the awareness of operational and economic vulnerability and various threats in the macro environment. Generally, supply chains are subject to unexpected disturbances that can lead to financial losses and even the closure of companies (Scholten et al., 2014 apud Skipper and Hanna, 2009).

For Heckmann et al., (2014), supply chain vulnerability concerns the perception of the extent to which a chain is susceptible to a specific risk event and the requirement or not of skills to respond to danger, as well as their ability to deal with the damage that may occur.

In this regard, dealing with disturbances caused by disasters of different natures, taking into account their context, is a unique opportunity to examine the resilience of a

supply chain (Kovács and Spens, 2007). In view of the present theme, we seek to analyze how the effects of Covi19 can affect the Global Supply Chain, leading to the confrontation of unpredictable and even unknown factors on the part of the links that compose it.

METHODOLOGY

“Using objectives as a criterion to identify the type of research implies asking about the goals, purposes and type of expected result. Some goals can be considered more conceptual, others can be more descriptive” (GONSALVES, 2001, p. 65). Classification based on research objectives can be very useful to “establish the theoretical framework, that is, to enable a conceptual approximation” (DIEHL & TATIN, 2004, p. 53).

In view of this article, an attempt was made to fragment the entire methodology for better accuracy. Thus, a synthesis of the classification made in this work was elaborated. The type of research according to the objectives was: Descriptive, Experimental and Explanatory.

- Descriptive research focuses on surveying the characteristics of an object of study. It can be defined as research that “observes, records, analyzes and correlates

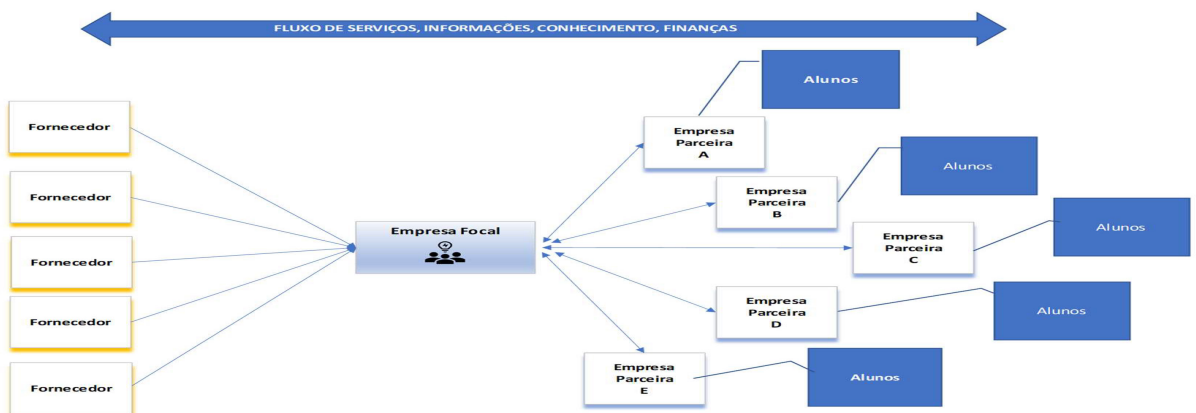


Figure 1: Executive education supply chain model.

Source: Cláudia Santiago based on Chistopher and Peck (2004).

facts or phenomena (variables) without manipulating them”. It is a type of research that seeks to “discover, as accurately as possible, the frequency with which a phenomenon occurs, its relationship and connection with others, its nature and characteristics” (CERVO & BERVIAN, 2002, p. 66).

- Experimental research is aimed at the experimentation or verification of a phenomenon or facts that can be reproduced in a controlled way, in order to “evidence the relationships between facts and theories”. This type of research implies the “systematic observation of the results to establish correlations between the effects and their causes” (GONSALVES, 2001, p. 66).
- Explanatory research seeks to “identify the factors that contribute to the occurrence of the development of a given phenomenon. Here, sources are sought, the reasons for things” (GONSALVES, 2001, p. 66). Although some authors make this distinction between explanatory research and others, due to the prevailing explanation of the cause or reason of a given phenomenon, it is necessary to say that all research involves some degree of explanation. Hence, explanatory research can coexist with the types of research already presented.

According to the type of research according to the collection procedures, it was bibliographic. The bibliographic research, in relation to the collection procedures, is characterized by the methodology that chooses the bibliographic source as a resource to explain a problem, to know and analyze the contributions on a given subject or to dominate the state of the art on a theme. Thus, it is appropriate to call a research bibliographic when the studies, analyzes and methodological procedures are

predominantly limited to the bibliographic source. Regarding the type of research, according to the nature of the data, it was qualitative, as it is aimed at understanding and interpreting the phenomenon of the data obtained, considering the meaning that others attribute to their practices (GONÇALVES, 2001, p.68).

RESULT AND DISCUSSION

Over the years, global trade has grown exponentially between exporting countries. This growth was accompanied by the diffusion of trade in the supply chain. After decades of stability, the world was shaken by the arrival of Covid19, which quickly resulted in a global crisis generating a great impact on the supply of labor and the discontinuity of global value chains.

According to the Institute of Applied Economic Research (IPEA, 2020), it was difficult to develop estimates or projections of the evolution of international trade at the beginning of the spread of the virus, as there were uncertainties regarding the period. Restriction measures were necessary to prevent new coronavirus outbreaks. In view of this, it can be said that the analyzes made by Oliveira (2020) and by IPEA (2020) complement each other, at the moment, in which the aspects established by both, such as: local and global blocks, order cancellation, low stocks, late payments and lack of manpower are still present in many countries, including Brazil. They end up causing delays in the shipment of inputs necessary for the manufacture of new products, considerably implying in international trade, and harming the impulse in the world economy due to the ineffectiveness of the services provided. Still in accordance with the IPEA (2020), not even serious crises like the one of the 1990s, the Great Depression of the 1930s and even the Second World War (1939-1945) caused

as many shocks in global business as the one we are experiencing today. In April 2020, economists at the WTO (2020), World Trade Organization, predicted that the decline would possibly exceed the fall in trade caused by the global financial crisis of 2008-2009, as shown in the figure below.

Comparing the 2008-2009 crisis with the Covid19 crisis, it is possible to observe that in Figure 1 the scenario is pessimistic regarding the international trade of goods for the current period. However, governments have returned to intervene in fiscal and monetary policy to control the slowdown and provide temporary income support to companies and families affected by the crisis. What did not happen in 2008-2009 is that sectors were not completely affected, such as hotels, restaurants, retail, industry and tourism; different from what happened with the Covid19 pandemic. According to the WTO (2020), although the reduction in trade during the Covid19

pandemic is similar in magnitude to what was the financial crisis of 2008-2009, as explained above, the economic context is very different, since the contraction of GDP was much stronger in the current economic downturn, while the fall in trade was more moderate.

Even in normal scenarios, supply chain management is a complex task, because it is divided into interconnected sub-chains. Collapse in one link can affect the entire chain. The supply chain crisis affects both importers and exporters.

The impact of the Covid19 pandemic on Logistics was historic, requiring a rapid mobilization of organizations to fulfill contractual obligations and to maintain the production and distribution of products. Given this scenario, it is clear that specific and detailed planning is carried out to combat disruption in a supply chain. For this to happen, the management of organizations in a post-Covid19 world needs to identify

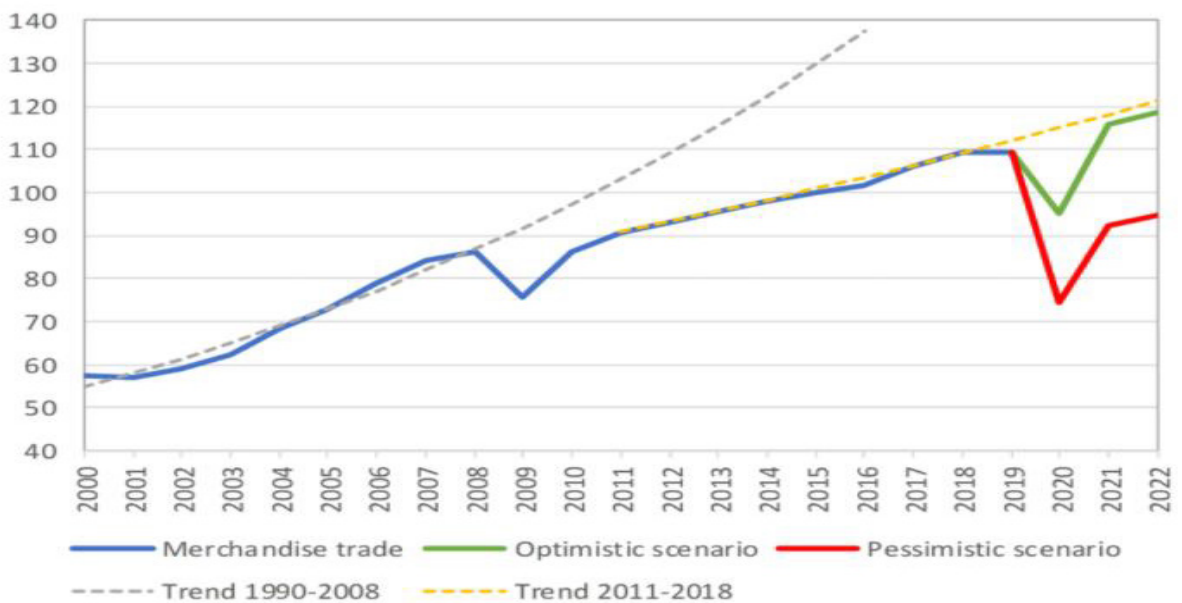


Figure 1: Volume of international trade in goods (2000-2022).

Source: Adapted from the WTO (2020).

and punctuate the form of management that is being carried out in case it is necessary to remodel its way of acting.

Therefore, as Correia (2010) says, it is relevant that companies have the ability to identify a rupture occurrence and take the necessary action for their resilience. It means that the company must be able to make information flow quickly and increase its response capacity in the face of disruption and, consequently, reduce its consequences.

CONCLUSION

It is concluded that, with globalization, it is possible to perceive that events anywhere on the planet have a direct impact on the production and services of any nation. The Covid19 pandemic brought great commercial instabilities. The effects of the pandemic on supply chains have generated huge losses for all countries. There was a lot of stoppage in the production of manufacturing, goods and services in the world due to blockages, cancellation of orders, lack of stocks, delay in payment to suppliers and, mainly, because China is a highly industrialized country and is sensitive to interruptions in their logistics chains. This is because China is a nation that is the largest exporter in the world and the shutdown of its factories, because of the restrictive measures to combat Covid19, harmed the global economy. This crisis highlights a major problem that is China's dependence for supply in much of the world. Rethinking a way of not being dependent on China is not an easy task, as the country has created a great infrastructure and good relations that make it possible to exchange supplies with the rest of the world, in addition to having ports and airports dedicated solely to exports.

Organizations that had not yet implemented risk management plans, today, see the possibility of planning their supply

chain in order to withstand any crisis. It is essential that managers dedicate time and study to all the essential chains for their business and improve their planning to know which link is at greater risk of disruption due to a supply crisis.

To combat the risk of lack of supply in the logistics chain, some organizations are already mobilizing in the possibility of creating policies aimed at mapping suppliers, opening space for new suppliers and substitute inputs, risk-sharing contracts and training sustainability audits in the chain. of supply chain, formation of joint venture for research and development in the chain and formation of training teams where older employees, knowledgeable of the mechanics of the supply chain train younger employees so that knowledge is not lost. Therefore, it is clear a management that contemplates diverse needs in an organization to maintain its continuity in the face of the intemperances of a globalized world.

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