



How did Nestlé Portugal manage supply chain disruptions caused by Covid-19 and the Ukrainian conflict?

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Abstract:

Over the past few years, the supply chains of several organizations, including Nestlé Portugal, have been significantly impacted by two external factors, the Covid-19 pandemic and the Ukrainian War. These disruptions significantly impacted the companies' operations and changed consumer behavior, requiring them to adapt their strategies to remain competitive.

Nestlé's supply chains, including its distribution center of Avanca, one of Nestlé's most important in Europe, were severely impacted during the pandemic and the war. Workforce reductions, price hikes, and changes in consumer demand caused by these external shocks further worsened the operations. As a result, Nestlé was forced to adapt and find alternative solutions to keep its supply chain running smoothly.

This case study relied on data gathered from annual reports, studies conducted by consulting firms, and interviews with people who have been directly involved in decision-making to improve supply chain strategies. This data-driven approach highlights supply chains' importance in companies nowadays and how their inefficiency can adversely impact an entire organization.

This pedagogical study employs management and business strategy frameworks to thoroughly analyze the restructuring efforts undertaken by Nestlé Portugal to mitigate the impact of these disruptions and explore how the measures implemented during the pandemic influenced the organization during the war. The study includes comprehensive findings suitable for incorporation into management courses focusing on business strategy and crisis management.

Title: How did Nestlé Portugal manage supply chain disruptions caused by Covid-19 and the Ukrainian conflict?

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Keywords: Resilience; Agility; Uncertainty; Adaptation; Competitive Advantage, Crisis, Strategy

Resumo:

Nos últimos anos, as cadeias de abastecimento de várias organizações, incluindo a Nestlé Portugal, foram significativamente afetadas por dois fatores externos, a pandemia de Covid-19 e a Guerra da Ucrânia. Estes tiveram um impacto significativo nas operações das empresas e alteraram o comportamento dos consumidores, exigindo a adaptação das estratégias das empresas para se manterem competitivas.

As cadeias de abastecimento da Nestlé, incluindo o centro de distribuição de Avanca, um dos mais importantes da Nestlé na Europa, foram gravemente afetadas durante a pandemia e a guerra. As reduções de trabalhadores, os aumentos de preços e alterações na procura dos consumidores causados pelas externalidades agravaram ainda mais as operações. Consequentemente, a Nestlé teve que adaptar-se e encontrar soluções alternativas para manter a sua cadeia de abastecimento a funcionar.

Este estudo baseou-se em dados recolhidos de relatórios anuais, estudos realizados por empresas de consultoria e entrevistas com pessoas envolvidas nas decisões para melhorar as estratégias da cadeia de abastecimento. Esta análise destaca a importância das cadeias de abastecimento atualmente e como a sua ineficiência pode impactar negativamente toda a organização

Este estudo pedagógico utiliza conceitos de gestão e de estratégia para analisar os esforços de reestruturação empreendidos pela Nestlé Portugal para mitigar o impacto destas perturbações e analisar a forma como as medidas implementadas durante a pandemia influenciaram a organização durante a guerra. O estudo inclui uma análise detalhada adequada para ser incorporada em cursos de gestão centrados na estratégia empresarial e na gestão de crises.

Título: Como é que a Nestlé Portugal geriu as perturbações na cadeia de abastecimento causadas pelo Covid-19 e pelo conflito ucraniano?

Autor: Joana Pacheco dos Santos

Palavras-Chave: Resiliência, Agilidade, Incerteza, Adaptação, Vantagem Competitiva, Crise, Estratégia.

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Disclaimer:

AI algorithms (namely chatGPT) were used for word compression and language correctness under the supervision of my advisor. The prompt conversation is available upon request.

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List of Abbreviations:

BCP - Business Continuity Programs

BIA - Business Impact Analysis

CEO - Chief Executive Officer

DCs - Dynamic capabilities

OOH - Out-Of-Home

WHO - World Health Organization

1- Introduction

A wide variety of aspects of life have been affected by unprecedented disruptions in the last few years. Businesses experienced numerous challenges owing to the global healthcare crisis of Covid-19 and the outbreak of the Ukrainian War. The pandemic required companies to make many adjustments in several levels of operations due to disruptions in transportation, workforce reductions, and changes in consumer demand. This externality made the governments implement several new measures, such as closing borders, to contain the spread of the virus, causing delays in production and distribution that severely affect supply chains. Moreover, the ongoing conflict between Russia and Ukraine has added more problems to managing supply chains due to the widespread price increases experienced in Europe, the embargo on the trade of goods to Russia, and the challenges of importing/exporting from Ukraine. Therefore, companies needed to quickly adapt their operations to maintain their competitive advantage during these challenging times.

In effect, organizations in the food and beverage industry were also affected by these external impacts and were also negatively affected due to their countless disruptions in supply chains. Nestlé Portugal, a reliable and stable company, was not immune to these challenges and faced, among other problems, significant disruptions in its supply chains.

Therefore, to investigate the impact of these external shocks, the purpose of this case study is to explore their effects on the Nestlé supply chain in Portugal and how the company adjusted its strategies to ensure the continuity of its operations in response to these disruptions. This case study will contribute to organizational theory by providing a distinguished overview of how the company's dynamic capabilities, diversification and decentralization strategies, supply chain management practices, and business continuity programs helped the company respond to the crises with resiliency.

By studying the measures that the multinational took and the changes made to its supply operations, this thesis seeks to provide insight into how the company was able to maintain its competitive advantage by mitigating the adverse effects caused by these externalities and how it built an even more resilient and adaptable supply chain. It will also examine how Nestlé's supply chain management changes resulting from the pandemic affected its response to disruptions caused by the Ukrainian conflict.

For this to be accomplished, a qualitative case study approach was used to answer the research question, "How did Nestlé Portugal manage supply chain disruptions caused by Covid-19 and the Ukrainian conflict?" that included three relevant interviews with key supply chain managers

at Nestlé Portugal as part of the process to gather relevant data on Nestlé's supply chain management strategy. The interviewees were Hans Deubel, Supply Chain Director at Nestlé Portugal, Ricardo Diogo, Stocks and Quality Coordinator at Avanca Distribution Center, and Patrícia Relvas, Service Expansion Lead at Nestlé Portugal.

To sum up, this paper serves as a valuable case study for anyone interested in gaining insight into the challenges of managing supply chains in times of unprecedented global disruptions.

2- Literature Review

2.1- Dynamic Capabilities

We live in a world of uncertainty due to the various crises that have taken place in the last few years. Consequently, stakeholders now have different needs and priorities than before. As a result, companies must constantly adapt by pursuing new ideas or restructuring to avoid losing value due to these changes.

The concept of dynamic capabilities (DCs) is relevant in this context since it refers to the ability of a company to respond to changing market conditions by altering its internal and external resources to gain a competitive advantage (Teece et al., 1997). Teece et Al. (1997) emphasize that the most successful companies in the world can innovate at the pace of consumer preference and adapt their management capabilities accordingly. Therefore, this framework can be valuable for companies in improving their competitiveness and success during crises.

This tool was developed from the Resource Base Theory, which recognizes that to achieve a sustainable competitive advantage, a company needs to have resources that must be valuable, rare, and inimitable (Barney, 1991). However, in dynamic environments, this cannot be sustained (Eisenhardt & Martin, 2000) because previous advantages of a resource can quickly become less important due to ambiguous market boundaries and unforeseen changes (Teece, 2007). This is a common issue in companies with core rigidities that prevent them from innovating (Leonard-Barton, 1992).

Moreover, in Barreto's (2010) view, a company has DCs if it can accurately interpret the external environment to detect threats and opportunities, adjust its resources appropriately, respond quickly to external changes, and adapt to market demands. Therefore, if a company can modify its portfolio of business units easily, it will become less costly to respond to external shocks when they occur, and this can help it stay alert to new changes that may impact its business and enable the company to stay ahead of new players who might emerge as a result of such changes (Teece, 2007).

Consequently, in fast-paced, globally competitive environments, as recognized by Teece (2010), the businesses that are more likely to succeed are the firms that can learn and adjust their business models, i.e., a company with strong DCs can quickly adapt its operations to meet changing customer needs and demand patterns (Schilke et al., 2018).

In summary, if a company surpasses several crises, learning from the past will help them overcome crises more effectively and cope with the future more easily (Van Tulderet al.,2022).

In this context, awareness of changes in an organization's scope due to a crisis is essential. This will enable them to develop greater resilience to future crises (Smith & Elliott, 2007). For this reason, organizations with this resilience capacity can reduce the impact of a crisis and quickly recover. And they may even be able to take advantage to exploit new opportunities (Helfat & Peteraf, 2009) to meet the new customer's demands.

2.2- Diversification and Decentralization

Diversifying and decentralizing can improve an organization's capacity to reduce the impact of uncertainty on its operations. Teece et al. (1997) point out that diversification is viewed differently from a resource-based perspective because it combines resources according to the changing business environment (Montgomery & Hariharan, 1991) and market demands. Therefore, firms should evaluate which type of market they want to enter to gain a competitive advantage (Chatterjee & Wernerfelt, 1991) and examine the consumer demands that they want to target to determine whether they can meet those needs by offering new products and services (Teece, 2010), and assess the potential for value creation that doing so will offer.

In addition, Rumelt (1974) notes that companies can engage in two types of diversification: unrelated and related diversification, and argues that related diversification can easily outperform unrelated diversification. However, firms can also perform well following unrelated diversification if they have strong “*management skills*” (Rumelt, 1974). Notwithstanding, an organization should pursue diversification as a strategy only if it creates synergy between the different businesses (Rumelt, 1974). As a result, according to Montgomery and Hariharan (1991), most companies with plenty of resources will employ diversification as a strategy. Consequently, it will be easier to enter various markets, as it can adjust its resources to the multiple needs of each market.

Furthermore, as an enterprise expands, it would be beneficial to adopt a decentralized structure whereby power, assets, and obligations are transferred from upper-level administration to lower-level management (Bardhan, 2002). Chandler (1956) also suggested that businesses prioritizing a market-driven strategy usually decentralize their operations according to geographical location. This should be adopted to be more flexible (Teece, 2007) to better sense opportunities and threats and create a competitive advantage (Rumelt, 1974). So, if a corporation has a decentralized structure, it will be easier to manage different operations effectively (Teece, 2007).

In light of these considerations, a firm can more easily cope with uncertainty caused by external shocks and gain a competitive advantage if it adopts diversification and decentralization strategies.

2.3- Business Continuity Programs

When disruptions occur in the supply chain, they are often unknown and unpredicted, and therefore, they cause uncertainty regarding how a firm is supposed to respond.

To lessen the impact of the uncertainty that disruption can cause, it is crucial to have business continuity programs (BCP). They are a proactive approach that helps firms develop strategies to mitigate risk and create procedures for an unexpected disruptive event (Zsidisin et al., 2005).

In this manner, to have a BCP, firms must develop a comprehensive risk management plan (Zsidisin et al., 2005). To accomplish this, they must follow a business impact analysis (BIA). This analysis consists of identifying the critical business functions and determining the impact of a disruptive event on them (Engemann & Henderson, 2011). As part of the BIA, leaders from all business units need to analyze and prioritize enterprise operations (Foster et al., 2005). After that, they will start developing the BCP plan. Based on the BIA, they need to develop a detailed plan highlighting the steps to respond to a crisis (Engemann & Henderson, 2011).

Moreover, this plan should have processes for emergency response so that the corporation is prepared for a possible external shock that can negatively impact its business, reducing the gap that can emerge (Azadegan et al., 2019). Then they need to regularly test and update the plan to ensure it remains practical and relevant (Azadegan et al., 2019). Finally, they must continuously train their employees to ensure they know how to act during disruption and are prepared (Azadegan et al., 2019).

It can be concluded that it is critical to have a resilient system (Foster et al., 2005) that can re-establish a balanced state and correct the adverse effects when a disruption occurs. Additionally, to minimize the negative consequences of supply chain disruption, companies must plan for such occurrences to minimize adverse effects (Zsidisin et al., 2005). Because as Chopra et al. (2014) observe, it is essential to understand that the costs associated with mitigating the effects of disruptions can be lower than if a company did not apply "risk mitigation strategies" in the first place.

2.4- Business Strategies, Importance of Managerial Proactivity and Sustainable Supply Chains

According to Teece (2010), a business model *"[...] defines how the enterprise creates and delivers value to customers and then converts payments received to profits."* To achieve this, a company must first assess the target market's demands, future competitors, and the external environment that may impact their business to achieve the best possible outcome.

During times of significant change, companies may need to evaluate their strategy comprehensively. They need to know how the new reality that emerges after a disruption can impact themselves and their customers (Teece, 2010). In addition, supplier-customer relationships may also be affected because of the constantly changing needs of consumers. Consequently, as Teece (2010) noted, companies need to quickly learn about the external environment and adjust their businesses to meet the changing needs. Therefore, in disruptive times, companies must determine what customer needs have changed, how to meet them, and how to provide them in time.

Notwithstanding, it is also important to have managers who can notice what the future desires of their consumers could be and find a better way to meet those demands. In order to accomplish this, managers cannot have cognitive inertia, as this leads to an absence of innovation and an inability to adapt to changing market conditions, leading to diminished competitiveness and a decline in overall performance (Damanpour, 1991). Furthermore, they must be able to foresee the expenses associated with restructuring their business model, such as restoring their supply chains. In addition, to mitigate the negative impact of these disruptions, managers need to have a long-term perspective to constantly keep their commitment to innovate their businesses. Failing to take proactive measures will result in higher costs in the future in case of the appearance of an unforeseen external shock (Chopra et al., 2014). Consequently, managers should not take a short-term view because it may appear expensive at first glance as they do not recognize the future benefits these changes can bring (Chopra et al., 2014).

In addition, during periods of disruption, companies often experience significant challenges in their supply chains that can affect their ability to deliver products on time. So, an organization must adopt a sustainable supply chain management strategy to meet its customers' demands, as this explores the effective management strategies and techniques required to navigate through unexpected *"[...] changes, risks, and opportunities in the market and how to influence and control their environment to achieve a competitive advantage."* (Beske, 2012).

Moreover, Tan et al., (1999), state that *"[...] truly integrated supply chains may consist of multiple organizations in a chain working together to bring the latest technological innovations and products to customers at the lowest cost in the shortest time."* For this reason, having good

supply chain management in a business model is crucial because it encompasses all activities involved in producing and delivering a product to the consumer. In addition, to ensure that all social and environmental standards are guaranteed throughout the supply chain, suppliers must interact in a flexible manner (Gold et al., 2010). However, it is imperative that the companies can track external trends (Kirci & Seifert, 2015) and that the supply chains are aligned with the firm's strategy (Tan et al., 1999). Therefore, as Tan et al. (1999) emphasized, establishing effective supply chain management over the long term is vital for achieving sustained success. All things considered, crises may be an excellent way to find out what are the organization's weaknesses because they not only bring them to light but also force the organization to "[...] *consider the unthinkable in pursuit of its goals* [...]" (Smith & Elliott, 2007).

3- Nestlé Overview

3.1- Company Overview

Nestlé, one of the world's oldest companies in the food and beverage industry, was founded in Switzerland in 1866 by Henry Nestlé. The company started selling milk powders, which later became a success in Switzerland. In this way, the company began to expand into other markets and expand its product portfolio to create different products for all age categories.

Nowadays, the company has more than 150 years of experience in nutrition and wellness, and it has built up a vast portfolio of patents and owns more than 2000 brands in more than 180 countries (Nestlé, 2022). For this reason, this global presence made it necessary to pursue a strategy of decentralization that allows a better adaptation of its products to the specific needs of local markets. This approach has involved the establishment of numerous factories and distribution centers across the world. Each factory specializes in manufacturing certain products, which are exported to Nestlé's distribution centers, referred to as inter-market supply, located in various countries. This decentralized structure enables Nestlé to tailor its product offerings to meet the unique requirements of different markets while leveraging local manufacturing capabilities for efficient distribution on a global scale.

Nestlé's operations focus mainly on the food and beverage industry, (see appendix: Image 1), a constantly growing industry with a dynamic and highly competitive environment. Therefore, to maintain its strong brand recognition and leading market position (see appendix: Figure 1), the company needs to constantly innovate and look for new growth opportunities by expanding into new markets and product categories. Notwithstanding that, it is necessary to constantly analyze changing consumer preferences and market trends to maintain its competitive advantage.

However, before becoming this successful multinational, it had to overcome several economic recessions, wars, and public health crises. From these, the corporation learned valuable lessons that helped it strengthen its operations and change them according to the market demand. So, by overcoming all these difficult times with a culture of learning and adaptation, this corporation has strengthened its business and, above all, demonstrated its resilience.

Regarding the company's financial performance, Nestlé has shown strong financial performance over the years by having consistent revenue growth. In 2022, as reported on the annual report, the revenue was 94 CHF billion, with organic growth of 8.3%. However, it is necessary to take into account that this growth was partly caused by price increases resulting from the high inflation experienced globally in recent years. This sustainable financial

performance is mainly explained by the company constantly innovating and investing in its research and development teams to create more innovative products to adapt to changing consumer habits.

Finally, the multinational aims in the future to include a heightened focus on sustainability, so it wants to achieve zero net greenhouse gas emissions by 2050 and “*cut virgin plastic in [...] packaging by a third in 2025*” (Nestlé Annual Report, 2022). Additionally, to follow the evolution of technologies, the company aims to become more present in the digital to enhance consumer engagement, so it is highly investing in data-driven digital transformation. In fact, Nestlé allocated 55% of total media expenses from 2022 to digital media (Nestlé Annual Report, 2022), reflecting its commitment to further leveraging its digital presence to empower connections with its customers.

3.2 – Nestlé Portugal

Nestlé Portugal was founded in 1923 by Egas Moniz and has been present in the country for 100 years. The company experienced significant growth in Portugal over the years and offers a diverse range of products that have earned the trust of the Portuguese people.

It started with a powdered milk factory in Avanca, later becoming the company's distribution center. In the years that followed, Nestlé began to commercialize iconic brands still present in the lives of the Portuguese, such as Nestum, Cerelac, and Nescafe. This proved to be a great success in people's lives, so the brand became more trustworthy in the eyes of the Portuguese people.

From the 70s onwards, they began focusing on commercializing brands targeted only to the Portuguese. For example, they created the “Mokambo” coffee brand to make coffee more accessible to all due to its lower price than other brands. Moreover, in 1978 began, the operation of the Avanca distribution center, which today is one of the company's most important distribution centers in Europe.

After the company had made a successful entry into the market, in order to penetrate even more in the Portuguese market, the organization brought new brands marketed in other countries and developed a more environmentally friendly company that is more concerned with its consumers by introducing increasingly healthy options, following the changing eating habits of the public. In 2021, it launched several new products, and 74% were sustainable and organic products (Nestlé Portugal Annual Report, 2021). Equally important, it is constantly aware of the local

market and adapting its products, such as removing some brands that are no longer relevant and introducing/creating new products better suited to the Portuguese market.

Nestlé Portugal is also committed to contributing as a responsible corporate citizen to the Portuguese community. It employs more than 2400 people and intends to continue to support sustainability initiatives. The CEO of Nestlé Portugal stated on the company's website that it works directly with Portuguese farmers to influence the quality of raw materials and help them become more sustainable (Nestlé, 2023). Currently, 53% of the company's purchases are made from Portuguese companies, (see appendix: Image 2), and it collaborates with local organizations and initiatives to promote social and economic development.

In 2021 the company achieved a market share of 35.4% which increased in comparison to 2020 (Nestlé Portugal Annual Report,2021), which shows that the company is increasingly present in the lives of the Portuguese. Additionally, it is worth noting, according to Hans Deubel, Supply Chain Director at Nestlé Portugal, that Nestlé's sales in Portugal are primarily driven by the Sonae and Jerónimo Martins groups, which together account for 60% of the company's sales. Therefore, Nestlé places great emphasis on maintaining consistent communication with these major Portuguese groups through its dedicated customer service.

3.3- Nestlé Portugal Supply Chains

Nestlé, as mentioned, has experienced significant growth in Portugal in recent years. To follow this evolution, the company needed to establish a strong supply chain to ensure the circulation of goods and services. Hans Deubel, Supply Chain Director at Nestlé Portugal, stated that their supply chain involves various activities, from product development, sourcing, control, planning, production, and distribution, and throughout these, they are committed to being as sustainable as possible. This process ensures that the products are delivered on time to consumers across Europe, Russia, Asia, and Africa.

To produce its products, the company owns two factories in the country, one in Porto that produces several products of coffee and one in Avanca that produces various breakfast cereals, cereal drinks, powdered milk, and chocolate. However, these facilities work accordingly to the instructions given by the headquarters of Lisbon (see appendix: Image 3), which defines what they need to produce. Then a production plan needs to be made in each factory.

Additionally, one of the most important facilities of the company's supply chain is located in Avanca, which serves as a hub for its logistics operations, where 80% of Nestlé's businesses come from (Nestlé, 2021). The distribution center plays a critical role in ensuring the timely

delivery of Nestlé products. According to Ricardo Diogo, Stocks and Quality Coordinator at Avanca, it currently employs 115 workers. It can store more than 40 thousand pallets housing more than 1000 references of products, with over 100 trucks entering and leaving the facility daily.

In this same location, as mentioned earlier, there is also a factory in Avanca that accounts for 50% of the distribution center's stock, with the remainder being distributed to other distribution centers worldwide.

As a result, these two facilities being located side by side makes the supply chain more efficient and reliable, minimizing distribution time. As they possess a conveyor belt that connects the facilities passing the manufactured products to the distribution center ready to be delivered, this system optimizes transportation routes, reduces waste, and minimizes the environmental impact of their operations. This is a strategy managed to ensure that its products are delivered on time and in excellent condition.

Once products are stocked at the distribution center, meticulous transport planning takes place to deliver them to customers efficiently. This involves optimizing routes to ensure profitability, such as maximizing truck capacity while safeguarding the quality of goods and minimizing spoilage risks. However, despite not having its own fleet, the organization relies on a dedicated hub that allocates and defines intermarket supply routes and delivers products to customers. This hub plays a pivotal role in coordinating logistics operations, ensuring efficient transportation and timely deliveries to meet customer demands.

In conclusion, it is noteworthy that about 50% of the products sold in Portugal are produced in the country, while the remainder is mainly imported from Spain.

3.4- Challenges faced by the food industry

The food and beverage industry is highly competitive, with companies always striving to gain as much market share as possible. Therefore, companies must look for possible entries and constantly innovate their products to follow the current trends. In order to accomplish this, they must constantly invest in their departments, such as marketing, branding, research, and development, to gain more trust from their consumers.

Managing supply chains can also be challenging, as they involve multiple stakeholders and often span across various countries. Moreover, managing a company's supply chain to maintain product quality and reduce environmental impact can increase its complexity. Consequently, supply chain management can be a critical area in the food and beverage industry due to its

dynamic nature and the need to make constant improvements. Therefore, it requires effective coordination, communication, and collaboration among various parties while navigating regulatory and cultural contexts.

In addition, in recent years, consumer habits have changed significantly due to Covid-19. This disruption has caused an increase in demand for healthier products as people have become more aware of their health and well-being. For this reason, companies needed to adapt their product portfolio by offering healthier options, adopting sustainable packaging practices, and being actively concerned about their environmental impact by minimizing it as much as possible.

In conclusion, the food industry faces numerous challenges that demand proactive and strategic approaches for success. They must constantly innovate and adapt to meet the customers' changing demands, adopt sustainable practices and manage their supply chains effectively.

4- Case Study

4.1- Impact of Covid-19 on Supply Chains Worldwide

The global impact of the Covid-19 pandemic has resulted in massive dysfunction for many supply chains worldwide, making it difficult for companies to deliver their products on time due to the high limitations of their supply chains, and urged them to analyze their strategy thoroughly.

According to Hans Deubel, Supply Chain Director at Nestlé Portugal, one of the most severe consequences of the pandemic was the unprecedented surge in demand for goods leading to a situation where demand outstripped supply. This sudden and unexpected increase in “*panic buying*” has led to shortages in many markets, disrupting supply chains as companies could not restock quickly enough due to the unforeseen surge in demand. As a result, companies were pressured to keep up with the rising demand and maintain smooth operations in their supply chains.

Moreover, as highlighted earlier, the pandemic has significantly altered consumer behaviors. According to a study conducted by Kantar, a consulting firm specializing in consumer knowledge, consumers visited physical stores less frequently but made larger purchases per visit. In 2020, compared to 2019, there was a decrease of 12% in-store visits but an increase of 8% in purchases per visit (Kantar, 2020). As a result, the reduced frequency of store visits and increased purchases per visit has led to depleted stocks for retail companies. This, in turn, has

put much pressure on their suppliers in the food and beverage industry, leading to a decrease in their stocks as well. Consequently, the shift in consumer behavior has profoundly affected this industry, forcing companies to adjust their business models to keep pace with changing purchasing patterns and keep up with consumer expectations.

Additionally, the widespread transmission of the virus has resulted in many employees being unable to work, leading to significant delays in the delivery and manufacturing process of goods. Furthermore, it caused many transportation disruptions due to lockdowns, travel restrictions, and increased transportation costs (PWC, 2020). Moreover, as per a study conducted by International World Transportation, there was a 40% increase in the shortage of truck drivers in Europe in 2021 (IRU, 2022). And according to Ricardo Diogo, this problem has had a significant impact on supply chains in Portugal for the movement of goods and services.

Overall, the global pandemic has created a climate of uncertainty, making forecasting tasks even more difficult. As a result, companies have had to adapt their strategies to ensure that their supply chains are more agile, with the ability to quickly adjust to future disruptions that may occur. Therefore, having a resilient supply chain has become imperative for companies to mitigate future risks and ensure uninterrupted flow (Moosavi et al., 2022).

Nevertheless, according to the consulting firm EY, supply chains have finally started to “have a voice” within companies, with managers now recognizing their critical role. This has led them to increase their focus and investment in supply chain optimization to achieve efficiency and effectiveness. As highlighted in a study conducted by the consulting firm, the first priority for the companies is to increase efficiency in the coming months, (see appendix: Figure 2) (EY, 2023).

4.2- Impact of Covid-19 on Nestlé Supply Chains

4.2.1- Impact of the increase in demand

Despite its success, Nestlé Portugal has not been immune to the significant impacts of Covid-19. The pandemic has posed numerous challenges and disruptions to Nestlé Portugal's operations. These challenges have required the company to adapt and implement strategies to mitigate the impacts of the pandemic on its operations and ensure business continuity. As per Hans Deubel, Nestlé Portugal faced significant challenges during the early days of the pandemic, mainly due to the surge in demand for their products.

To provide insights into the sudden growth of demand during the lockdowns, relevant studies conducted by the consultancy firm Kantar will highlight the changes in consumer habits in Portugal that further support the increase in demand. Firstly, during the initial months of lockdowns, Portuguese consumers sought comfort in chocolates, as per Kantar's research in 2022. Although this desire decreased after the lockdowns, the chocolate segment performed better than in 2019. In addition, coffee for consumption at home was one of the categories that benefited the most during the two lockdowns (May 2020 and February 2021), the category had a remarkable "growth of 50% compared to the homologous period" (Kantar, 2022). These factors, partly explain why Nestlé products have experienced increased demand during lockdowns. However, the increased demand led to supply constraints, resulting in low stocks or stockouts and delays in customer deliveries. This posed a significant problem for Nestlé Portugal as they could not cope with the sudden surge in orders during the pandemic's peak. This caused difficulties in making stock predictions due to the uncertainty involved.

Moreover, the pandemic has also placed a higher emphasis on sustainability among Portuguese consumers. Kantar's study in 2021 revealed that almost half of the Portuguese now consider sustainability issues more important. Furthermore, as depicted in the table below, Nestlé is the brand they consider more concerned with the environment and the society in Portugal.

Brands, in Portugal, that consumers consider to show concern for the environment and society, 2021

	Environment	Society
1	Nestlé	Nestlé
2	Delta	Natura
3	Natura	Delta
4	Skip	Unilever
5	Coca-cola	Purina
6	Garnier	Avon
7	Nespresso	Sonae
8	Renova	L'oréal
9	L'oréal	Pedigree
10	Compal	Coca-cola

Source: Kantar

4.2.2- Impact of the decreased workforce

Additionally, in Portugal, the onset of Covid-19 occurred on March 2nd, 2020. On March 17th, the government declared a sanitary siege in Ovar, restricting residents from leaving the municipality for work. As a result, the Nestlé factory and distribution center in Avanca were severely impacted as many of their employees were residents in Ovar. Overnight, these establishments experienced a significant decrease in their workforce, with up to 30% fewer employees available when the demand for their products increased substantially. According to Ricardo Diogo, Stocks and Quality coordinator at Avanca, this sudden reduction in workforce posed significant challenges to Nestlé Portugal's supply chain operations, requiring quick adjustments and adaptations to overcome these challenges. Furthermore, Nestlé faced additional challenges in its supply chain due to the request from one of its largest customers, Jerónimo Martins, to deliver products store by store. This added complexity to the delivery process, requiring further adjustments and coordination to ensure timely and efficient delivery to each store.

4.3- Measures to mitigate the adverse effects of Covid-19

Nestlé Portugal implemented new measures to mitigate the pandemic's adverse effects. Initially, it adopted teleworking, a method that had not been previously used in the company. As a result, 1300 employees started to remote work from their homes. Additionally, as stated by Patrícia Relvas, Service Expansion Lead at Nestlé Portugal, the company had to plan several possible scenarios; and revise and update market trends more frequently to better plan the procurement of the raw materials required to produce their products. Additionally, they realized that it was essential always to have alternative suppliers, so they increased their network of suppliers to avoid running out of raw materials and having greater bargaining power. Furthermore, the customer service department had an important role during the pandemic by constantly communicating with customers. They had to proactively inform customers about potential delivery delays and work with them to find suitable substitutes in case of product shortages. This close collaboration with customers was crucial in managing the increased demand and supply constraints, ensuring customer satisfaction, and maintaining positive customer relationships.

Simultaneously, in Avanca, several new measures were implemented. As a result of the Covid-19 pandemic, the Avanca establishments have intensified their efforts to strengthen their BCP, which was previously deemed weak, as stated by Hans Deubel. According to the Stocks and Quality coordinator at Avanca, they had to readjust their work methods. This entailed distributing the workload so that some workers at the distribution center had to handle 20% of

the operational tasks and 80% of the administrative tasks, enabling them to cover the operational tasks for absent colleagues impacted by Covid-19, making the work more flexible. They had to demobilize workers from the factory to the distribution center to help monitor workers' temperatures to comply with government-imposed measures. As a further measure implemented in response to the pandemic, the distribution center extended its working days from five to seven days a week. This decision was made due to the reduced workforce availability during the pandemic, necessitating additional working days to maintain operations and meet the increased demand for Nestlé products. In this way, according to Ricardo Diogo, if another disruption appears, the establishments are ready to face it and overcome it successfully due to this BCP.

Moreover, the pandemic prompted the establishments in Avanca to digitize a significant amount of paper documentation, to facilitate remote work. Furthermore, due to Avanca's crucial role in Nestlé Portugal's distribution chain, a significant portion of the company's investments in 2020 were directed toward the site's production area (Nestlé Portugal Annual Report, 2020). These investments included the acquisition of new equipment and improvements in the production lines, all aimed at enhancing the efficiency and effectiveness of Nestlé Portugal's operations at Avanca.

Then, one of the initiatives implemented to reduce the pressure on the distribution center was to move part of the production to a logistics operator of Luís Simões, which is used by Nestlé Spain, based in Guadalajara. This involved moving around 10 thousand pallets to the Spanish facility for four months, significantly easing the Portuguese distribution center's operations. According to the Supply Chain Director at Nestlé Portugal, this support was crucial in ensuring the continued operations at the Avanca center. Without it, the challenges would have been much more significant. Moreover, he also stated that the assistance provided by the logistics operator enabled the company to meet the demands of its major client, Jerónimo Martins, by delivering products directly to its largest stores in the country.

Finally, in the later stages of the pandemic, the distribution center managers recognized the need for increased resilience by having multiple stock points and realizing that they often had an overflow of products, necessitating the rental of additional storage space. As a result, the decision was made to move the entire stock of Purina, the only imported category, to a warehouse operated by logistics provider Carreras in Porto Alto. This move provides the company with more than one stock point, which enhances its ability to withstand future external

shocks. Despite the higher variable cost, the decision to proceed with this strategy is expected to yield benefits. As a result, transport studies were conducted to optimize prices.

Overall, the challenges posed by Covid-19 taught Nestlé Portugal valuable lessons that made them improve their operations and prepared them for future crises that may arise and forced Nestlé Portugal to adapt and become more resilient.

4.3- Impact and Measures to Mitigate the changing consumption habits

In addition, the changing consumption habits of consumers during the pandemic also significantly impacted the company. Firstly, sales of out-of-home (OOH) product categories decreased significantly, while the consumption of goods for home use increased significantly. However, according to data from the Nestlé Portugal annual report from 2020, this increase in home consumption helped to offset the impact on OOH categories.

Nestlé Portugal was able to neutralize the negative impact on their OOH product categories because it focused on turning some of its traditional products into more organic and focus on "100% natural" products to better align with changing consumer preferences (Nestlé Portugal Annual Report, 2020). This strategic shift in product offerings partially explains how Nestlé Portugal increased its market share in 2021, showcasing its ability to adapt to changing consumer demands during the pandemic.

4.4 - Impact of the Ukrainian War

Unlike the external shock of Covid-19, which caused an exponential increase in demand for Nestlé products, the war in Ukraine had the opposite effect.

This war has led to a global price increase, affecting several countries, including Portugal. The country faced a rise in inflation, as never seen before in this century (see appendix: Figure 3). Due to these circumstances, Nestlé and numerous other companies found themselves compelled to increase the prices of their products. In fact, in 2022, as the supply chain director observed, the company had to raise its prices twice to keep up with the rising costs. In this way, managers had to find measures to minimize some costs. For instance, according to the interviewees, some measures they took to mitigate the impact of the cost increase were reducing some marketing expenses and focusing on producing the most successful products in each category to optimize its expenses.

In addition, the household disposable income of Portuguese families has decreased. This is evidenced by comparing the second quarter of 2021 with the third quarter of 2022 (see appendix: Figure 4). For this reason, consumers have become more thoughtful about purchasing. Therefore, as per the insights provided by all interviewees, this shift has led to a surge in the consumption of private-label products, typically known for their affordability compared to Nestlé's offerings. As a result, the demand for Nestlé products has declined, resulting in the need to adjust sales and stock forecasts. Moreover, several scenarios had to be developed again to predict the impact of the cost increase on the business and determine which direction the company must follow in the long term.

This Ukrainian War negatively affected Nestlé's supply chain, although it did not have as much impact as the pandemic. One reason for this is that most cereals they import come from Spain, and due to Covid-19, they increased their supplier network, which meant that they always had alternative suppliers if one did not have the necessary raw materials. Therefore, they did not experience shortages of raw materials for production.

Regarding exports and imports, Nestlé Portugal was also impacted. The company exported a significant amount of Starbucks coffee to Russia and imported noodles from Ukraine, negatively affecting its operations. However, a company manager predicted the onset of the war and the resulting supply chain risks. Therefore, as a precaution, the company stocked up on inventory worth two to three months of noodles to prevent any potential disruptions in stock.

In conclusion, the measures implemented by the company, such as expanding its supplier network and stockpiling inventory, proved successful in maintaining a steady flow of raw materials and minimizing disruptions in production. Despite the challenges posed by the Ukrainian conflict and the subsequent increase in global prices, Nestlé navigated these difficulties and adapted to changing market conditions due to what they had learned from the negative impact of Covid 19.

4.5- Conclusion

This case study suggests that despite the adverse effects, Nestlé Portugal demonstrated remarkable resilience in the face of the two disruptive external factors. By implementing innovative strategies, the company could mitigate the negative impact and sustain its competitiveness and market share.

In addition, the measures taken by the company during the outbreak of Covid-19, such as extending its supplier network, monitoring the supply risk, and constantly forecasting future demand, not only helped the company to survive the crisis but also proved helpful in overcoming the challenges posed by the Ukrainian conflict.

Overall, this highlights the importance of a company being proactive and always alert to possible disruptions that may eventually occur and highlights, as well, the importance of a company having strategic planning and flexibility in supply chain management, particularly in times of crisis.

5- Teaching Note

5.1- Synopsis

This case study aims to evaluate the company's measures to overcome the consequences of Covid-19 on its supply chains and how these affected its performance in overcoming the consequences of the Ukrainian War.

The outbreak of Covid-19 and the Ukrainian War significantly impacted global supply chains, causing many disruptions in the food and beverages industry. The business disruptions experienced by Nestlé due to the two external shocks yielded divergent outcomes. The onset of the Covid-19 pandemic caused a surge in demand as consumers rushed to supermarkets to stockpile essential goods. In contrast, the onset of the conflict led to a reduction in consumer demand due to the increased inflation. Consequently, the company was compelled to adopt new strategies to alleviate the unfavorable consequences.

This section necessitates students to apply theoretical frameworks in examining the company's implemented strategies for navigating these disruptions and assess the potential long-term implications of these strategies on its operational landscape. By studying this real case of Nestlé Portugal, students can acquire valuable insights into managing businesses during challenging times.

5.2- Teaching Objectives

This case study section aims to help students understand how the company successfully surpassed these crises by applying theoretical concepts of DCs, diversification, business continuity programs, and sustainable supply chains. By examining this case study, students can learn how companies adjust their business models to suit market conditions and remain competitive and relevant.

It is worth noting that the present case study was conducted in 2023 when the Ukraine conflict was still ongoing. Consequently, certain aspects of this pedagogical case may require updates to reflect the latest developments in the geopolitical situation. It should be emphasized, as well, that the answers provided within the context of this study are offered as suggested solutions. Therefore students can have different approaches and perspectives in their analysis.

The target audience for this thesis encompasses students pursuing undergraduate or graduate degrees in management and business, with a specific emphasis on those specializing in strategic management.

5.2.1- Assignment Questions:

1. How did Nestlé Portugal's dynamic capabilities help the company to adapt to the challenges posed by the Covid-19 pandemic on its supply chains?
2. To what extent did Nestlé Portugal's product diversification strategy mitigate the negative impact of the pandemic and the Ukrainian War on its supply chains?
3. Comment on the importance of having a BCP in the distribution center of Avanca and how did it contribute to ensuring operational continuity during the global healthcare crisis
4. How did Nestlé Portugal's good management practices contribute to the company's ability to navigate the challenges posed by the pandemic on its supply chains?
5. Comment on the significant adjustments made to the supply chain and the future impact it will possibly bring to the company.

5.3- Analysis and Discussion

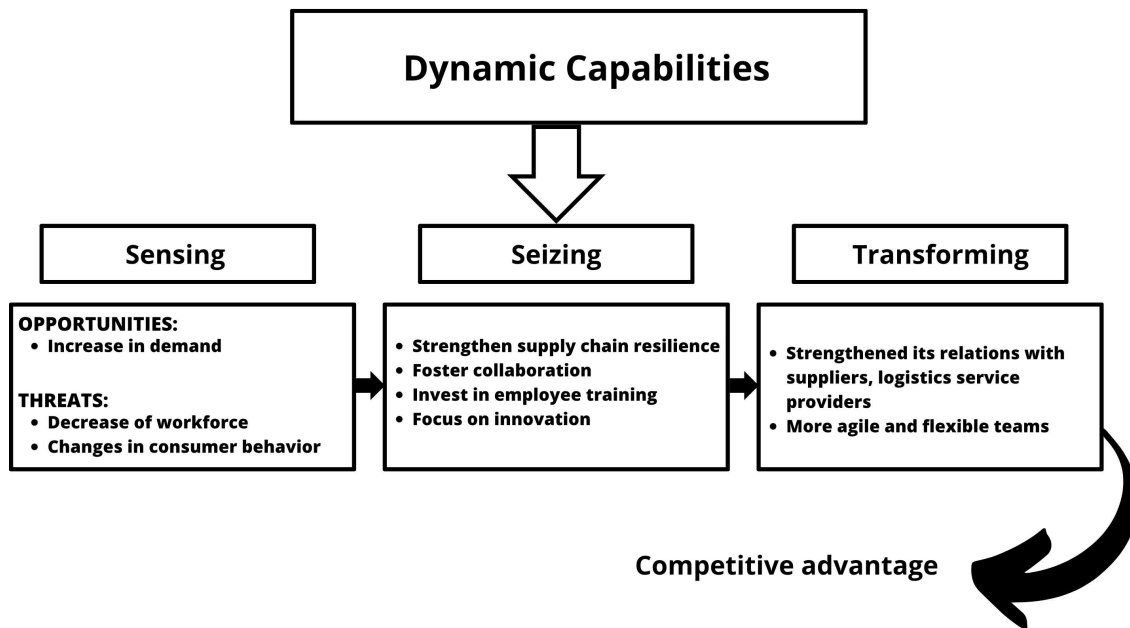
1. *How did Nestlé Portugal's dynamic capabilities help the company to adapt to the challenges posed by the Covid-19 pandemic on its supply chains?*

Students should analyze how Nestlé leveraged its dynamic capabilities to respond to the supply chain disruptions caused by the pandemic. They should examine the actions and strategies taken by the company, such as the optimization of its supply chain operations and the adaptation of digital technologies, to overcome the challenges imposed by this external shock. They also should examine how the organization restructured its resource base to remain competitive.

Dynamic Capabilities are valuable to improve the competitiveness and success of a company during times of crisis because they refer to a company's ability to adapt its resources to overcome difficult times and gain a competitive advantage.

Throughout the case study, it becomes clear that Nestlé remained competitive over its 100 years of existence in Portugal, mainly due to its ability to adapt, improve, and reconfigure resources. Furthermore, its DCs played an important role in helping the company overcome the difficulties the two crises brought.

Process of dynamic capabilities of Nestlé Portugal throughout the pandemic:



Source: author

As we can see in the image above, it is first essential to identify the opportunities and threats that the pandemic brought to the company. The surge in demand and a reduced workforce posed several challenges, including the inability to meet delivery timelines. In this way, changing the company's supply chains was required to leverage its DCs. To achieve this, they first had to implement new measures to mitigate potential disruptions and enhance the supply chain's resilience. This included diversifying the supplier base, switching to digital documents making it easier to work from home, and training its employees. And improving weaknesses, such as relying on a single distribution center before the pandemic. The company realized this strategy was not always advantageous, as seen during the siege of Ovar. Therefore, they reevaluated their distribution strategy and moved the Purina category to another distribution center to increase its resilience. So, in case of another disruption, these changes will make it less costly for the company to overcome the challenges.

These actions helped ensure a consistent and uninterrupted supply of products to their customers. Furthermore, the company quickly adjusted production and distribution by increasing the workdays from 5 to 7 and moving workers from the factory to the distribution center because it needed help to make timely deliveries.

Additionally, the Covid-19 pandemic made consumers increasingly interested in consuming sustainable and organic products. In response to this trend, Nestlé reorganized its resource base in 2021 to launch several new products aligned with these preferences.

However, it is imperative to acknowledge that the absence of an own transport fleet poses a persistent threat to the company's operations. The dependency on a third-party organization to carry out transportation tasks leaves Nestlé Portugal vulnerable to potential disruptions that may arise within the transport sector. In such an event, the organization may be forced to alter its transport strategy to mitigate the consequences of the disruption and ensure continued operations.

Considering Nestlé's performance, it can be concluded that Nestlé has high levels of DCs, not only to overcome a crisis but also to achieve a competitive advantage. Due to its ability to reconfigure its resource base was able to quickly adjust production and distribution schedules to meet changes in demand and supply chain disruptions. Moreover, we can also conclude that its DCs played a fundamental role in overcoming the crisis, as in 2021, it was able to increase its market share at a time when all companies were facing difficulties and was able to collaborate with suppliers and logistics providers to identify risks and opportunities.

2. *To what extent did Nestlé Portugal's product diversification strategy mitigate the negative impact of the pandemic and the Ukrainian War on its supply chains?*

This question aims to understand better how diversification strategies can mitigate the impact of crises and how a company can exploit new opportunities. The students should analyze the case of Nestlé Portugal and evaluate how the company's product diversification strategy helped it to overcome the negative impact of both crises on its supply chains. They should examine the changes in consumer behavior during the crises and how the organization adapted its strategies.

Diversification is a common strategy numerous companies use to penetrate new markets, expand their product portfolio, and spread risks among the goods. In the last few years, customers' demands shifted because of the crises, requiring companies to adjust their strategies to cope with these changes.

The case study shows that Nestlé Portugal's product diversification strategy helped reduce the negative effects of the pandemic and the Ukrainian War on its supply chains.

During the early days of the pandemic, a substantial increase in demand put much pressure on global supply chains. It caused stock-outs of many goods, creating difficulties for companies and their customers. However, Nestlé Portugal's product diversification strategy allowed them

to navigate this difficult period more successfully. They had several substitute products available, which was crucial in managing the increased demand and supply constraints. When they had low stock or ran out of a product, the customer service department would contact the customers to replace those products with substitutes. This department had a significant role because it helped to ensure that customers could still purchase products that met their needs, even in the face of supply chain disruptions.

Still, during the pandemic, out-of-home sales were heavily impacted, while the consumption of goods for home use increased. For this reason, the company was able to neutralize the negative impact on its OOH product categories by improving its channels and products of its products for home consumption. This involved a strategic shift towards more sustainable and organic products that better aligned with the changing consumer preferences.

During the Ukrainian War, Nestlé Portugal faced a different situation where the demand for its products steeply declined due to the widespread price increase. As a result, the company had to implement measures to cut expenses and optimize its production, like prioritizing the production of its most successful products in each category, aiming to reduce costs, as consumers will be more likely to accept price increases on their preferred products.

This highlights the importance of diversification in reducing the impact of uncertainty on operations and how it can help companies better manage crises and unexpected events. Overall, Nestlé Portugal's strategy of diversifying its products played a crucial role in easing the adverse effects of the pandemic on its supply chains. By observing market changes and adapting its product line, Nestlé Portugal remained competitive.

3. *Comment on the importance of having a BCP in the distribution center of Avanca and how did it contribute to ensuring operational continuity during the global healthcare crisis*

This question emphasizes the importance of having a business continuity plan and how it can ensure operational continuity during crises. Students are expected to evaluate the impact of having and not having a BCP and to analyze the future implications for the distribution center.

A BCP is a proactive approach that helps firms to mitigate risks in the eventual appearance of an external shock that can affect the business. It involves creating and implementing procedures that a firm must follow to overcome challenging times.

Before the outbreak of Covid-19, the distribution center had a business continuity plan in place that was deemed weak. Therefore, when the pandemic hit, the lack of a well-defined strategy to adapt its operations posed a challenge to its overall operations, which hampered its ability to respond effectively.

As a result, the center took decisive action to improve its BCP by developing a risk management plan and identifying critical business functions. Therefore, they start by investing in employee training. This included training in remote work, health, and safety protocols. This was necessary to ensure they had the required skills and knowledge to operate effectively in the new environment. Additionally, they are now prepared to reorganize their work methods in case of another external shock, enabling the employees to work 20% operationally and 80% administratively.

By developing a more robust BCP, the distribution center will be able to handle better the future crises that may appear, and it will allow it to respond proactively to changes in the environment and quickly adapt its operations to the new conditions to ensure that it can continue to serve its customers effectively even during challenging times. However, managers must regularly update and test their BCP to remain relevant and ensure their employees receive continuous training.

4. *How did Nestlé Portugal's good management practices contribute to the company's ability to navigate the challenges posed by the pandemic and the Ukrainian war on its supply chains?*

This question requires a depth analysis of the management practices taken by the managers of Nestlé. It is crucial to examine their ability to forecast potential supply chain risks, adapt to changing market conditions, and take proactive measures to prevent any potential disruptions in stock.

In times of uncertainty, it is essential to have managers that can forecast the risks that an external shock can cause to the company. To accomplish this, they cannot have cognitive inertia, which leads to an absence of innovation and an incapacity to adapt to evolving market conditions.

Throughout the case study, it can be concluded that the company's good management practices played a critical role in navigating the challenges imposed by the pandemic and the Ukrainian War. In particular, because the managers were proactive in identifying potential risks.

During the global healthcare crisis of Covid-19, the decision of the managers to increase their supplier network ensured that the company did not experience any shortages of raw materials for production during both the pandemic and the Ukrainian War. Furthermore, by quickly adjusting their work methods and distributing the workload to enable the workforce to cover the operational tasks for absent colleagues, they demonstrated their ability to adapt the company's operations to the changing market conditions, allowing them to meet the increased demand.

Furthermore, as a proactive measure to address potential disruptions in the supply chain, Nestlé's management strategically decided to relocate the Purina category to a different distribution center near Lisbon. While this adjustment incurred immediate costs, it is projected to yield significant long-term advantages in the face of future disruptions. The managers have demonstrated a forward-thinking approach by prioritizing the long-term benefits that this decision will bring. Such an approach is vital for effective supply chain management and reflects the company's dedication to establishing a resilient and stable supply chain system by now having two stock points.

Throughout the ongoing conflict between Ukraine and Russia, the managers also showed their ability to forecast potential risks by taking a proactive approach of stocking up on inventory of noodles to prevent potential disruptions on this product.

In summary, Nestlé Portugal's management practices played a critical role in overcoming the challenges because of their ability to anticipate potential risks and take proactive measures to minimize risks. These practices helped the company to ensure business continuity without significant disruptions and maintain competitiveness.

5. *Comment on the significant adjustments made to the supply chain and the future impact it will possibly bring to the company.*

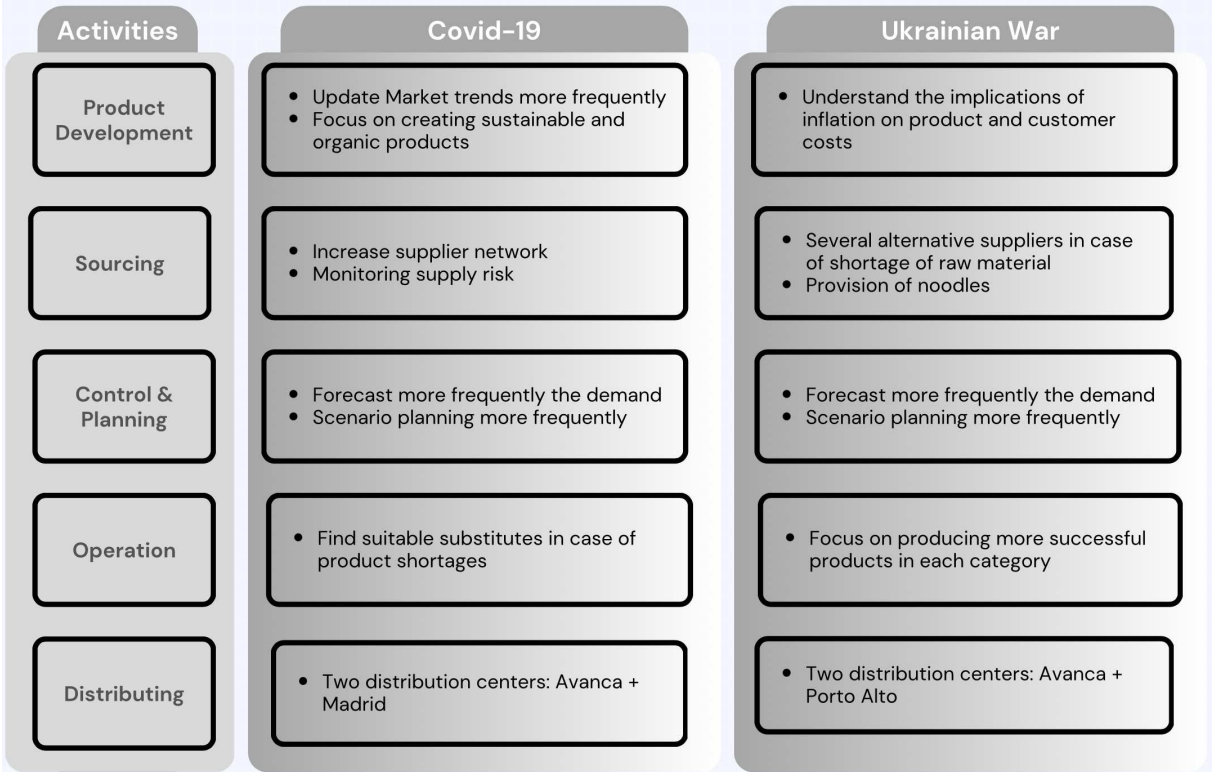
Students should consider all the supply chain adjustments made during the Covid-19 pandemic and the Ukrainian War. Through a comprehensive analysis of the company's response during periods of disruption, they will better understand the importance of supply chain management. Furthermore, they need to recognize that for long-term success, Nestlé had to swiftly adjust its business model and supply chains to address evolving consumer demands and enhance its competitive positioning effectively. Finally, it is important to discuss how the changes made

during Covid-19 helped the company overcome the negative consequences of the Ukrainian War.

Supply chain management is crucial for a company to succeed in the long term, encompassing several tasks and processes necessary to deliver products and services to consumers efficiently. For this reason, to maintain a sustainable supply chain, companies must be flexible and adaptable to possible changes that an external shock can bring and interact flexibly with all the stakeholders.

Covid-19 and the Ukrainian War were two significant events that profoundly impacted supply chains worldwide. In response, Nestlé Portugal had to make several adjustments to its business model and supply chain to succeed during these unprecedented times.

Changes made on the supply chain:



Source: author

During Covid-19, several changes were made, which later helped the company succeed during the war. The image above presents the most significant changes to the supply chain to meet customer demands and maintain a competitive advantage. The fact that the company increased its supplier network during the pandemic was helpful later during the war, as it allowed the company to have several alternative suppliers in case of a shortage of raw materials.

Additionally, monitoring supply risks made the company quickly adapt to the new situation and ensured the provision of noodles before the war began.

Furthermore, relocating some of the products to Madrid during the pandemic was a strategic move that proved valuable for the company, as it allowed the company to realize that it needed to relieve the distribution center in Avanca, which led to the subsequent relocation of the Purina category to Porto Alto.

Furthermore, it is noteworthy that the company's investments in 2020 were primarily directed toward the distribution center. This highlights the growing awareness regarding the crucial role of supply chains in enhancing operational efficiency within the organization.

In conclusion, the adjustments made to the supply chains during the pandemic and the Ukrainian War highlighted the importance of supply chain management for the organization's success. The company's investments in increasing its supplier network, updating market trends, and enhancing forecasting and scenario planning allowed it to adapt to sudden changes and minimize supply risks, which proved valuable strategies that helped the company succeed during challenging times. Therefore, the company's supply chain will better overcome the adversities if there are other future disruptions.

6- Conclusion & Limitations

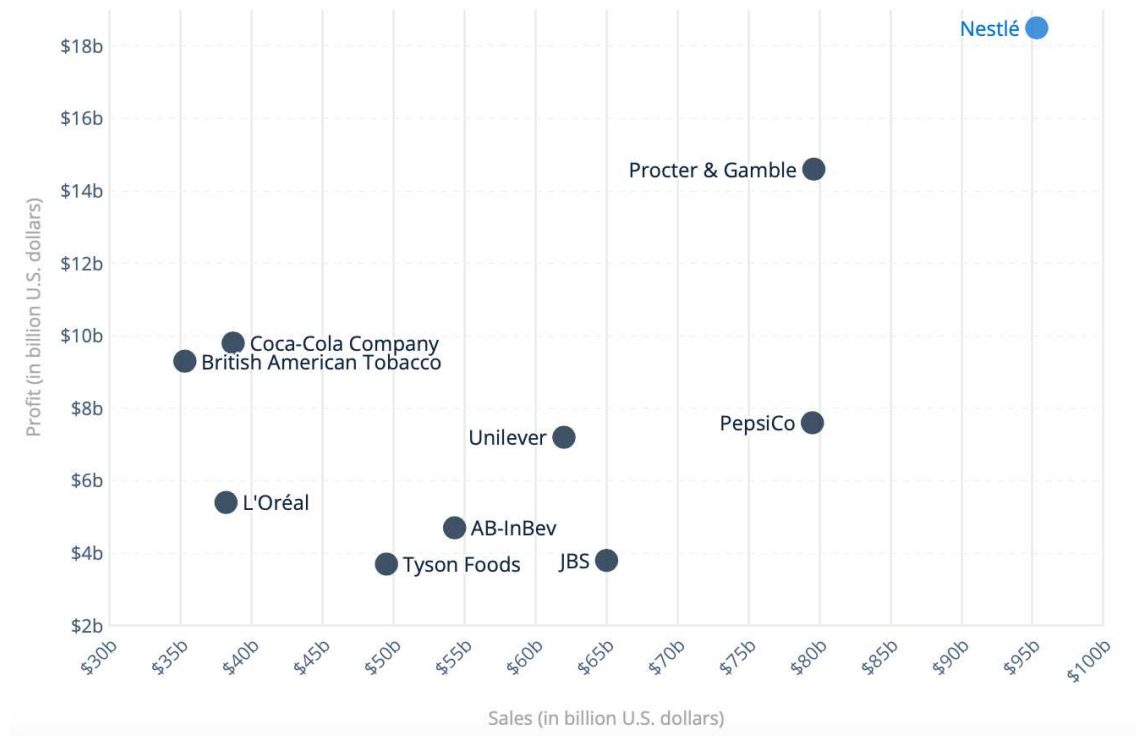
This case study is relevant because it emphasizes the crucial role of efficient supply chain management, especially during the recent disruptions. In this way, it applied management concepts to study the impact of the Covid-19 pandemic and the Ukrainian War on Nestlé's supply chain in Portugal. The findings demonstrate that even a solid and stable company such as Nestlé is vulnerable to external shocks and highlights the importance of robust strategies to mitigate such adverse effects. In addition, the case study showed that the changes Nestlé Portugal made in response to the Covid-19 pandemic positively impacted the company's ability to handle the challenges created by the Ukrainian conflict more effectively.

Notwithstanding, it is essential to recognize the limitations of this case study. The sample size of only three interviews with supply chain managers may not provide a comprehensive view of the impact of the supply chain disruptions on other services within Nestlé Portugal. In addition, it is necessary to consider that this case study was written while the war was still ongoing, making it challenging to ascertain the full magnitude of its influence on society and the company's operations. Moreover, this research employed a qualitative analysis methodology. A quantitative approach could be used to evaluate the financial implications of these disruptions and provide a more comprehensive understanding of the costs and benefits that restructuring the business model in response to these external shocks has had on Nestlé's supply chains. Moreover, it should be noted that this case study was conducted at the beginning of 2023 without access to Nestlé Portugal's 2022 annual financial report.

Finally, this paper provides valuable insights into the strategies and practices that Nestlé Portugal implemented to ensure business continuity and offer lessons to other companies with complex and global supply chains that faced similar challenges. Additionally, this case study can serve as a benchmark for future research and contribute to a better understanding of how companies navigate challenging times.

7- Appendix

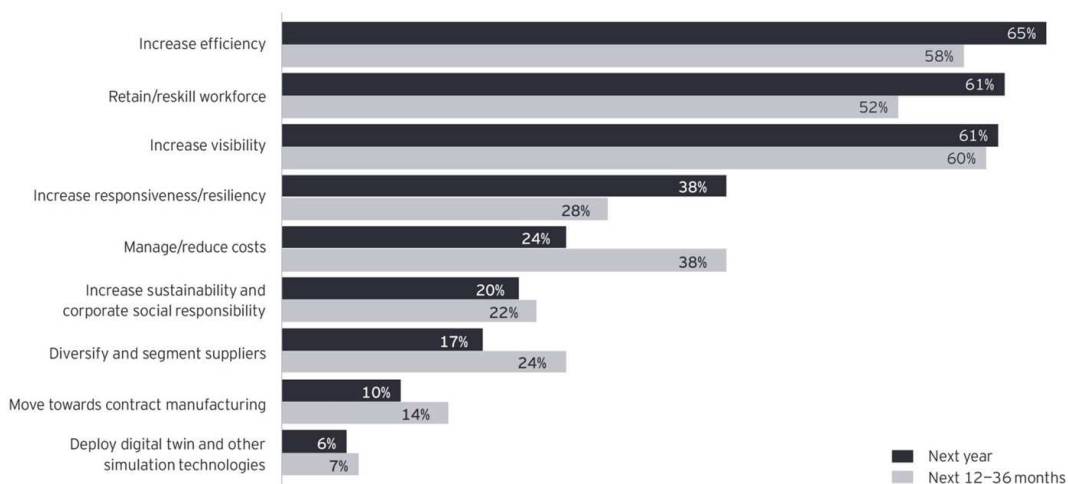
Figure 1: Results of 10 fast-moving consumer goods companies worldwide in 2021



Source: Statista

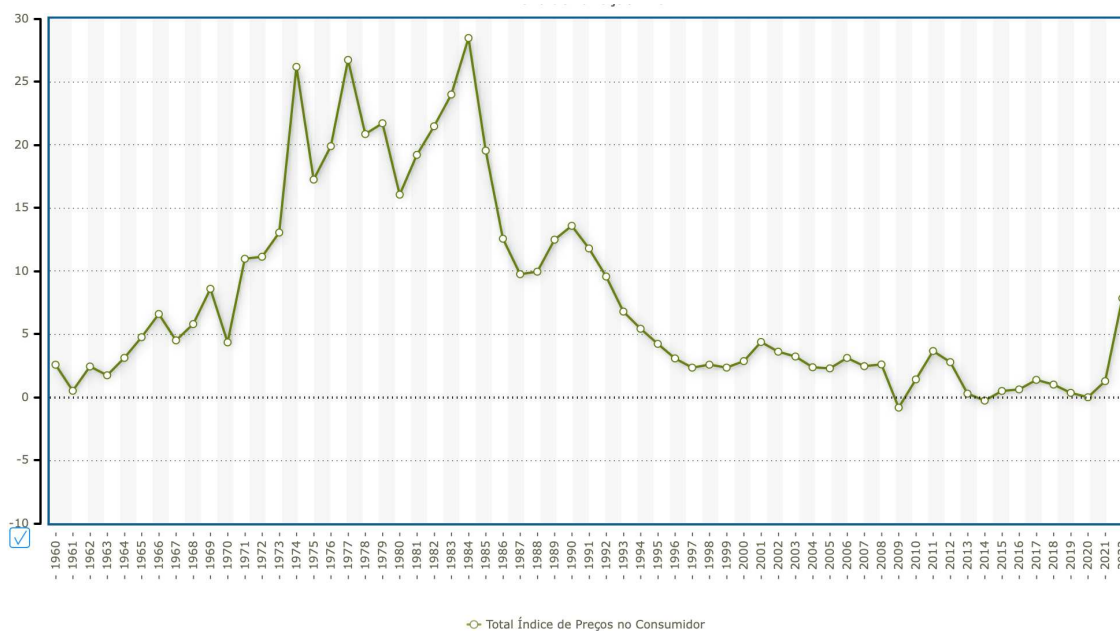
Figure 2: Increased visibility is the top priority over the next 12-36 months and a top 3 priority in the next year

Increased visibility is the TOP priority over the next 12-36 months and a top 3 priority in the next year.



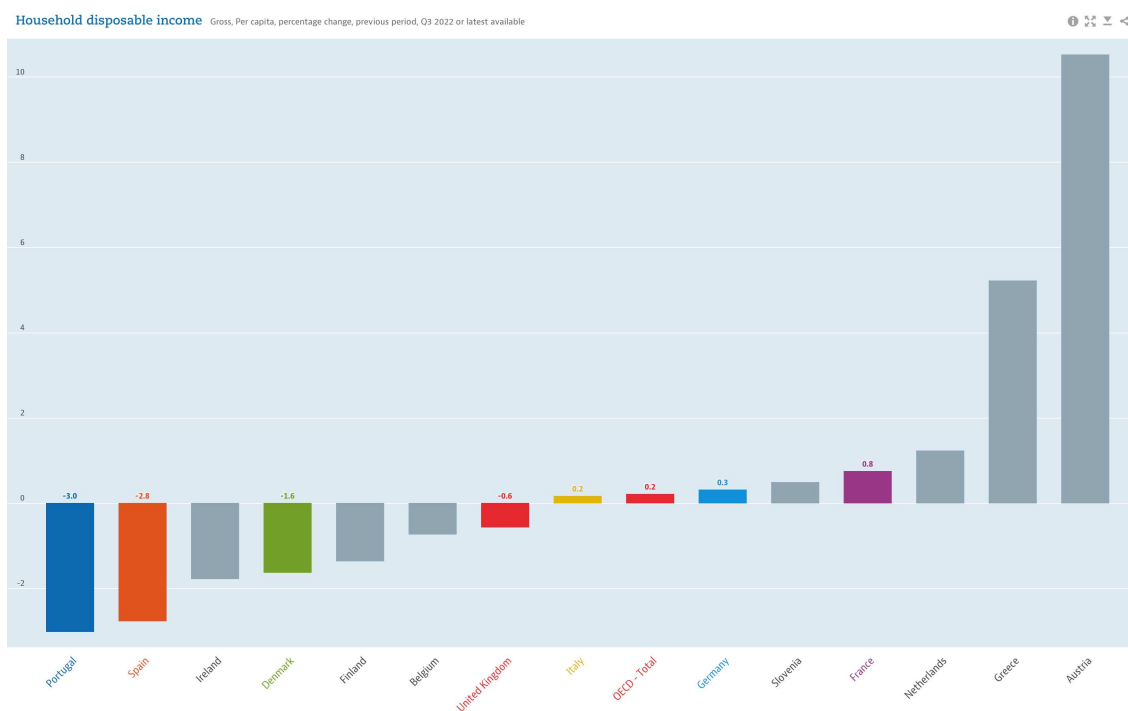
Source: EY

Figure 3: Inflation Rate (Rate of Change of the Consumer Price Index): total and by individual consumption by objective



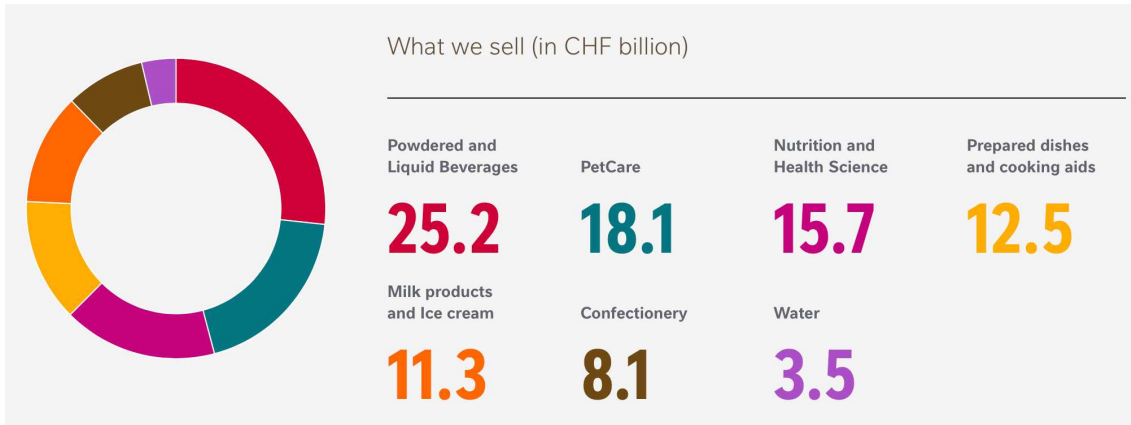
Source: Pordata

Figure 4: Household disposable income Gross, Per capita, percentage change, previous period, Q3 2022.



Source: OECD

Image 1: What Nestlé sells (in CHF billion)



Source: Nestlé

Image 2: Nestlé Portugal in numbers



Source: Nestlé

Image 3: Distribution of factories and distribution center in Portugal

1 **Campus Nestlé**, Linda-a-Velha

2 **Fábrica do Porto**
Café Torrado e Moido

3 **Fábrica de Avanca**
Cereais para Nutrição Infantil,
Cereais de Pequeno-Almoço,
Produtos do canal HORECÁ,
Bebidas de Cereais, Leite em Pó

4 **Centro de Distribuição
de Avanca**

Delegações:

- | | |
|---------------------|--------------------|
| 5 Carnaxide* | 8 Madeira** |
| 6 Loulé* | 9 Porto** |
| 7 Coimbra* | |

*Centros de Entrega Direta do canal Fora do Lar
**Todos os Negócios



Source: Nestlé

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