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"Negotiations in Supply Chain Management and the Impact of Covid-19 pandemic and the War in Ukraine: A Case Study of Greek Food Industry"

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Patras, Greece, January 2024

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Abstract

This paper presents an extensive analysis of supply chain negotiations in the Greek food industry amidst the challenges posed by the COVID-19 pandemic and geopolitical disruptions, in particular the Russian invasion of Ukraine. It offers a comprehensive examination of how these unprecedented events have reshaped negotiation strategies and practices in the industry. The research employs a methodological approach, using a questionnaire distributed to various stakeholders in the Greek food industry to collect data on the impact of these crises on supply chain operations and negotiation strategies.

The findings reveal significant disruptions in supply chain operations due to the pandemic, with stakeholders being forced to re-evaluate their negotiation strategies in response to increased costs, procurement difficulties and communication barriers. The Russian invasion of Ukraine has further complicated these challenges, necessitating a shift towards more dynamic and resilient negotiation strategies. The study highlights a trend towards technological integration and remote negotiations, reflecting an adaptive response to the limitations of physical interactions. Key lessons include the importance of effective communication, contingency planning and relationship building. Despite these insights, there is still a lack of preparedness in the industry to deal effectively with such crises. The paper concludes with recommendations for continuous improvement in supply chain negotiations, emphasizing flexibility, technology integration, and strong communication. It offers valuable insights for policymakers and practitioners, highlighting the importance of adaptability and resilience in the face of global supply chain challenges.

Keywords: Supply chains, Supply chains management, Negotiations in Supply chain, Covid-19, Russian invasion of Ukraine, Greek food products

Περίληψη

Η παρούσα εργασία παρουσιάζει μια εκτενή ανάλυση των διαπραγματεύσεων της αλυσίδας εφοδιασμού στην ελληνική βιομηχανία τροφίμων εν μέσω των προκλήσεων που θέτει η πανδημία COVID-19 και οι γεωπολιτικές διαταραχές, ιδίως η ρωσική εισβολή στην Ουκρανία. Προσφέρει μια ολοκληρωμένη εξέταση του τρόπου με τον οποίο αυτά τα πρωτοφανή γεγονότα αναδιαμόρφωσαν τις στρατηγικές και τις πρακτικές διαπραγμάτευσης στον κλάδο. Η έρευνα χρησιμοποιεί μια μεθοδολογική προσέγγιση, χρησιμοποιώντας ένα ερωτηματολόγιο που διανεμήθηκε σε διάφορους ενδιαφερόμενους φορείς της ελληνικής βιομηχανίας τροφίμων για τη συλλογή δεδομένων σχετικά με τον αντίκτυπο αυτών των κρίσεων στις λειτουργίες της εφοδιαστικής αλυσίδας και στις στρατηγικές διαπραγμάτευσης.

Τα ευρήματα αποκαλύπτουν σημαντικές διαταραχές στις λειτουργίες της αλυσίδας εφοδιασμού λόγω της πανδημίας, με τους ενδιαφερόμενους φορείς να αναγκάζονται να επαναξιολογήσουν τις στρατηγικές διαπραγμάτευσής τους ως απάντηση στο αυξημένο κόστος, τις δυσκολίες προμηθειών και τα εμπόδια επικοινωνίας. Η ρωσική εισβολή στην Ουκρανία περιέπλεξε περαιτέρω αυτές τις προκλήσεις, καθιστώντας αναγκαία τη στροφή προς πιο δυναμικές και ανθεκτικές στρατηγικές διαπραγμάτευσης. Η μελέτη αναδεικνύει μια τάση προς την τεχνολογική ολοκλήρωση και τις εξ αποστάσεως διαπραγματεύσεις, που αντανακλά μια προσαρμοστική απάντηση στους περιορισμούς των φυσικών αλληλεπιδράσεων. Τα βασικά διδάγματα περιλαμβάνουν τη σημασία της αποτελεσματικής επικοινωνίας, του σχεδιασμού έκτακτης ανάγκης και της οικοδόμησης σχέσεων. Παρά τις γνώσεις αυτές, εξακολουθεί να υπάρχει έλλειψη ετοιμότητας στον κλάδο για την αποτελεσματική αντιμετώπιση τέτοιων κρίσεων. Η εργασία ολοκληρώνεται με συστάσεις για συνεχή βελτίωση των διαπραγματεύσεων της αλυσίδας εφοδιασμού, δίνοντας έμφαση στην ευελιξία, την ενσωμάτωση της τεχνολογίας και την ισχυρή επικοινωνία. Προσφέρει πολύτιμες γνώσεις για τους υπεύθυνους χάραξης πολιτικής και τους επαγγελματίες, υπογραμμίζοντας τη σημασία της προσαρμοστικότητας και της ανθεκτικότητας απέναντι στις παγκόσμιες προκλήσεις της αλυσίδας εφοδιασμού.

Λέξεις Κλειδιά: Αλυσίδες Εφοδιασμού, Διαχείριση εφοδιαστικών αλυσίδων, Διαπραγματεύσεις στις Εφοδιαστικές αλυσίδες, Covid-19, Ρωσική εισβολή στην Ουκρανία, Ελληνικά προιόντα διατροφής

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Chapter 1: Introduction

It is an undeniable fact that Supply Chain Management (SCM) plays a vital role for the effective functioning of business processes. In the early definitions the term supply chain management used as synonymic with the term Logistics. According to Copacino (1997) ‘’Logistics and supply chain management refer to the art of managing the flow of materials and products from source to users’’. However, over the past decades, the term supply chain management is been studied deeper and larger than logistics, including also behavioral dimensions between the parties like conflict, power, and dependence (Copacino, 1997).

In our days and time, a commonly accepted definition for supply chain management is proposed as following: “Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies” (Ellram, et al., 2019).

Since supply chain management is directly related to interpersonal relationships between the involved parties, it follows that the science of negotiation plays a decisive role in the performance and development of organizations. No matter how well someone can be prepared before negotiation with the other party, unpredictable factors can occur and for this reason it is vital the key players on negotiation to be flexible and ready to adjust in order to achieve the desired results with a focus on maximizing the value derived from the negotiation (Larson & Rogers, 1998).

In subsequent chapters, this thesis will delve into the specific sectors of the Greek food and agricultural industry, providing an in-depth analysis of how SCM negotiations in sectors like dairy products, wheat, meat, and Greek beverages have been influenced and reshaped by these external challenges (Mukhamedjanova, 2019). The focus will be on identifying the key factors that drive negotiations in the food industry, especially in the context of the disruptions caused by the COVID-19 pandemic and the Russian-Ukraine conflict. The pandemic of Covid-19 causes disruptions in the food supply chain worldwide. In Greece on March 23rd the government announced full restrictions while people were able to get out of home only for essential working reasons. All restaurants, coffee shops etc. were closed. The only exception on the retail market was supermarkets and pharmacies. As far as it considers the industries were operation with stick measures to protect the health of the employees and disrupt the spread of the virus (Koukouli, 2021).

Through a comprehensive methodology, the thesis will present findings and insights that highlight the adaptive strategies employed by businesses in response to these challenges. The results section will offer a detailed examination of how these strategies have been implemented, their effectiveness, and the lessons learned. Finally, the conclusions will synthesize these insights, offering a forward-looking perspective on the future of SCM in the Greek food industry, with a particular focus on the evolving nature of negotiations in this dynamic and often unpredictable sector.

Chapter 2: Food and Agricultural Industry

2.1 Food Industry

Food industry plays a vital role in people's life since it is offering them the basics contributing to human activities (Cooper & Ellram, 1993). As soon as the crops have been harvested or other type of food been produced it has to be stored then transported to receive the retailers and after that the final users in due date not later than its self-life. According to Manning, the huge amount of 1.3 million of tons of produced food, which is almost the 1/3 of the total yearly production, has been wasted (Manning et al., 2006).

Even though food is vital for human life and resources are limited in some cases, inefficient and ineffective food supply chain management (FSCM) can lead to food waste and hunger in less developed countries. For example, in 2011 it reported that globally almost 492 million tons of fruits and vegetables were abandoned and wasted due to wrong decisions in supply chain of those products (Gustavsson, et al., 2011).

For this reason, effective food supply chain management can protect food loss. There are various parties involved in the food supply chain management such as farmers, suppliers, manufacturing companies, transport companies, wholesalers, retailers and the final consumers. Negotiations between the parties should aim to improve the performance and balance the demand with the supply in a win-win situation for all parties involved. For this specific field, there are some additional factors that should be taken into consideration and make the supply chain more complex to manage. Such factors are the limited available time, the food quality and safety (La Scalia et al., 2016).

Moreover, in our days and time, taking into account the environmental crisis, another critical factor that plays a vital role in food supply chain management and in negotiation between the involved parties is sustainability. Consumers are getting more and more aware about environmental issues and their demand and preferences are highly affected by this framework. Sustainability in food supply chain can be achieved by a combination of acts taken by the parties, starting from the farmers, raw material suppliers, manufacturing companies and the processing methods used, by transportation means reducing the emission of pollutants, etc. (La Scalia, et. al., 2016).

2.2 Greek Food Industry

It is commonly accepted that Greek Food and Beverage Industry is one of the most dynamic and competitive sectors of Greek economy. Greek Food Industry over the years managed to create a strong brand name for its products by investing in high quality, research and development (R&D) and appropriate promotional activities in the domestic market, Europe and worldwide while intensively focusing on sustainability. Greek Food Industry is dealing with new challenges arising from the impact of the pandemic of Covid-19 and war in Ukraine to its supply chain with great effect in both its production procedures and also in the demand and delivery of its products (Grunert, et. al., 2023).

While in Europe F&B processing employed 15,3% of EU manufacturing workforce in 2019, in Greece the corresponding percentage was 37.9%. In 2019, Greece also had the highest share for turnover in Europe as activities related to F&B trade recorded at 25.6% of all sales. The pandemic had an important impact on Greek Food industry and resulted to a falling turnover for 2020 around 41,7- 46.7%.(Key figures on the European Food Chain – 2022 edition) (Zhong, et. al., 2017).

Greek food industry consists of different sectors. The key sectors in Greek food industry are the following:

- Fruits & Vegetables
- Oranges
- Dairy Products
- Wheat
- Meat products
- Greek Beverages (Zhong, et. al., 2017).

In 2020, the restriction measures applied to prevent the spread of the Coronavirus led to retreat of key economic figures in food industry. More specifically, in 2020 comparing to 2019, it reported a decrease in the number of the companies that consists the food industry by -1.2% while in the field of manufacturing the decrease reported to -2%. Consequently, it also reported decrease in the total number of employees in the field by 7%. (Eurostat, Structural Business Statistics) (11)

In Greek food industry almost 87% of the companies belong to in micro-sized companies, the ones with less than 9 employees occupying around 27% of the total employees of the field. In the category of large firms, in which the number of employees is higher than 250 people, the corresponding rate is 24%. In terms of their contribution in the gross domestic product (GDP) the highest rates reported in medium and large firms (10)

2.3. Agricultural Industry

The agricultural sector is a diverse and vital component of the global economy, encompassing a wide range of activities from traditional agriculture to advanced agri-technology practices. In particular, European agriculture is characterized by diverse climates and geographical landscapes, which contribute to a rich diversity of crops and livestock. In addition to food production, European agriculture plays a crucial role in the conservation of rural landscapes and contributes to environmental sustainability (European Union).

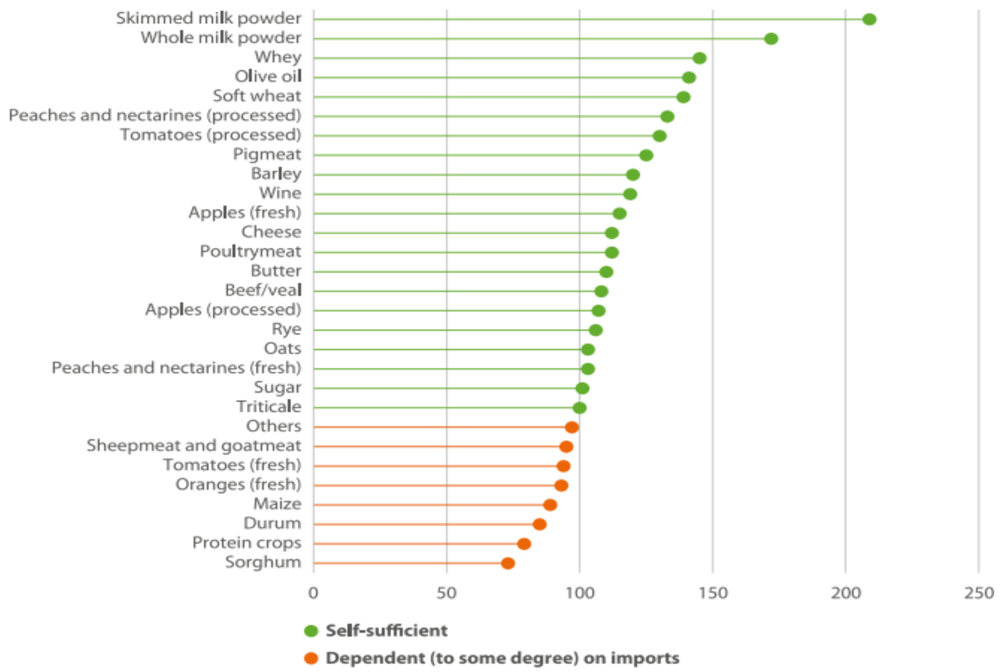
The European Union's Common Agricultural Policy (CAP) supports farmers and encourages sustainable practices, with the aim of balancing market requirements with environmental concerns. The sector faces challenges such as climate change, market fluctuations and the need for sustainable resource management. However, it continues to adapt and evolve, using innovative methods to ensure long-term sustainability and efficiency (European Commission).

2.4. Greek Agricultural Industry

The term industrial agriculture is referring to the production of crops and animals. Greece among few other EU countries such as Bulgaria and Romania recorded the highest ratio of the value added of the agriculture industry to GDP in 2021. The ratio for Greece in 2021 was 3.3%. Greece’s climate plays a critical role for the growth of a big variety of vegetables and fruits. However, Greece also imports many crops that cannot be grown in its climate and mostly export processed Food products such as frozen fruits & vegetables (Privacy Shield Framework).

For 2021, EU imports from non-EU countries were valued at 58.2billion euros while the processed F&B products exported to non-EU countries valued 99.8 billion euros. The Russian invasion of Ukraine in February of 2022 has a direct impact to the supply chain of agricultural industries since Ukraine is one of the key exporters of many vegetables and crop products to Greece and Europe in general, and also Russia used to be a key destination for the export of crops and processed food products. However, EU is characterized as self-sufficient for a great variety of agricultural commodities as shown at the following table:

Figure 1. Agricultural commodities



Source: Short-term outlook report – EU-27 statistical annex, Directorate-General for Agriculture and Rural Development, European Commission

In accordance with the aim of this thesis and based on its personal involvement the author chose to analyze some specific agricultural products that have been affected by specific unpredictable factors and analyze how it affected the negotiations in their supply chain management.

2.4.1. Fruits & Vegetables

Primary agricultural production has played a vital role in Greek economy. As far as it concerns the Greek fruits and vegetables, they are exported and been consumed by various international markets. Greece has managed to expand its exports to Europe, USA, China and many other highly -growth markets (Stelzer, 2017).

Additionally, Greek food in foreign markets has been linked with healthy and tasty diet which is extremely important as it give the opportunity for future steps. There is a variety of fruits and vegetables that exported every year globally, and have maintain a high presence on the international markets. Some of the most exported and connected to the Greek origin crops are the following: Oranges, peaches, cherries, kiwi etc.

For the purpose of this dissertation on the agricultural field, we will analyze specifically the negotiation on the supply chain management of the oranges from the start level until the product arrives to the final consumer and how the affected the last years by the pandemic of Covid-19 and the invasion of Russia of Ukraine.

2.4.2. Oranges

Oranges along with tangerines, lemons and grapefruits, constitute one of the four major fruits in the expanded range category of Citrus Fruits (Enterprise Greece).

Greece is one of the major citrus and oranges producers and traders in Europe.

Following tables 1 and 2 present the total production of citrus and oranges between 2011 and 2019 in Greece, Spain, Italy and in Europe in total.

Table 1. Total production of citrus between 2011 and 2019 in Greece, Spain, Italy and in Europe in total

Total Production of Citrus									
	2011	2012	2013	2014	2015	2016	2017	2018	2019
in thousand tonnes									
Spain	5720.4	5553.8	6367.1	7043.4	5805.8	7085.8	6330.7	6776.3	6008.57
Italy	3823.6	2883.9	2678.7	2661.6	3120.9	2728.4	2791.7	2600.5	2864.97
Greece	1063.0	1093.4	1118.0	976.9	1035.2	1038.1	985.0	1120.4	1085.08
Portugal	275.6	258.1	283.7	304.0	301.5	354.2	374.4	402.8	398.83
Europe (in total)	11003.2	9924.9	10569.6	11139.5	10375.3	11389.4	10635.0	11087.1	10537.8

Source: Food & Agriculture Nation of United Nations

Table 2. Total production of oranges between 2011 and 2019 in Greece, Spain, Italy and in Europe in total

Total Production of Oranges									
	2011	2012	2013	2014	2015	2016	2017	2018	2019
in thousand tonnes									
Spain	2818.9	2942.3	3394.1	3494.5	2935.4	3673.9	3357.2	3639.9	3226.9
Italy	2469.9	1770.5	1700.8	1668.7	1905.1	1590.3	1621.7	1592.4	1650.2
Greece	847.3	849.5	875.8	754.2	808.6	805.9	727.5	866.1	849.1
Portugal	228.1	209.0	236.8	251.5	246.6	299.6	319.7	344.1	340.8
Europe (in total)	6387.1	5794.8	6231.1	6186.8	5909.3	6401.4	6056.5	6465.4	6098.5

Source: Food & Agriculture Nation of United Nations

Moreover, outside Europe, in Africa, Egypt is the biggest producer of citrus and orange with total production in 2019, 4632.7 & 3197 (thousands of tons) respectively. In Asia, number one producer is China, Mainland with the corresponding amount of 37739 & 10435.7. In Central and South America, the biggest producers are Mexico and Brazil. In Mexico, the total production of citrus in 2019 was 8413.7 and the total production of oranges 4737.7. The corresponding amount for Brazil was 19652.8 and 17073. The world's total production of 2019 was 143755.5 for the citrus and 76292 for the oranges. All of the above amounts in thousands of tones (Food and Agriculture Organization of the United Nations FAO, 2020).

Observing the above tables follows that Greece is the 3rd biggest producer of Citrus and Oranges. The biggest producer in Europe is Spain, following by Italy. Moreover, the above 4 counties cover almost the whole production of Europe with other countries such as Cyprus. Additionally, by tables 1.1 and 1.2 follows that even though there are fluctuations in production by year Spain keeps to be first and Greece 3rd. Another significant conclusion we can take from the data tables is that for the same year some countries shown raise in the amount of production while others decrease. Someone can argue that different unpredictable factors can affect the production of each country.

Those factors could be the weather, diseases or pesticides, governmental rules etc. For example, from 2013 to 2014 Spain produce lower number of oranges while Greece higher amount. In such years, the negotiation power of each country changes. The gap that created by the lower production of Spain in 2014 could be a great opportunity for Greece to negotiate higher prices and penetrate to new markets after they cover their domestic market's demand. Indeed in 2013 Greece exported 347.1 thousands of tons while in 2014 367.5 thousands of tons (Food and Agriculture Organization of the United Nations FAO, 2020).

Food industry even though it got harmed from the restriction measures and economic instability caused by the pandemic of Covid-19, it remained operating with supermarkets open and manufacturing companies as well. As far as it concerns the specific category of citrus and oranges in particular, it reported that the demand of those products shown increase. People during the pandemic were more focused on eating healthy and were looking for food that will help them to enhance the immune system. Citrus in general and oranges in particular are rich in vitamin C.

The increase in the demand and their limited availability due to the weather conditions of the previous season led to higher prices for the citrus products. (19) At the time period from October to July MY2020/2021 the average price for the European and Greek oranges were 0.74e/kilo, almost 10.5% higher than the average price of the previous five years. (EU CITRUS DASHBOARD) (20). The increase in the price was a result of the increased demand caused by the pandemic of Covid-19 and the decrease in the production due to bad weather conditions.

As far as it concerns the Greek farmers, the pandemic of Covid-19 enhances their negotiation power. Especially, farmers that have focused on sustainability and providing BIO products were in more advantageous position to negotiate with agricultural cooperatives, groceries and manufacturing companies in the domestic market and worldwide. Moreover, on 2020 EU provided additional funds to agricultural field for the recovery of the effects of the pandemic. Citrus farmers could negotiate with the government to receive the highest possible funds to reduce the production cost and taxes.

However, on the buyer's side for example Greek and European manufacturing companies their BATNA (Best Alternative to a Negotiated Agreement) had improved over farmers by the trade agreement of the European Union with the Southern Common market (MERCOSUR), including countries such as Argentina, Brazil which are some of the world leader producers of citrus and oranges, which eliminates 93% of the tariffs for those countries to export to EU. (20) This means that EU manufacturing companies could increase their imports from those countries in lower price since both buyers will have to pay much less money on import taxes.

2.4.3. Dairy Products

This section examines the dynamics of negotiations in the context of dairy supply chain management, from production to final consumer, in the context of recent disruptions due to the COVID-19 pandemic and the conflict in Ukraine.

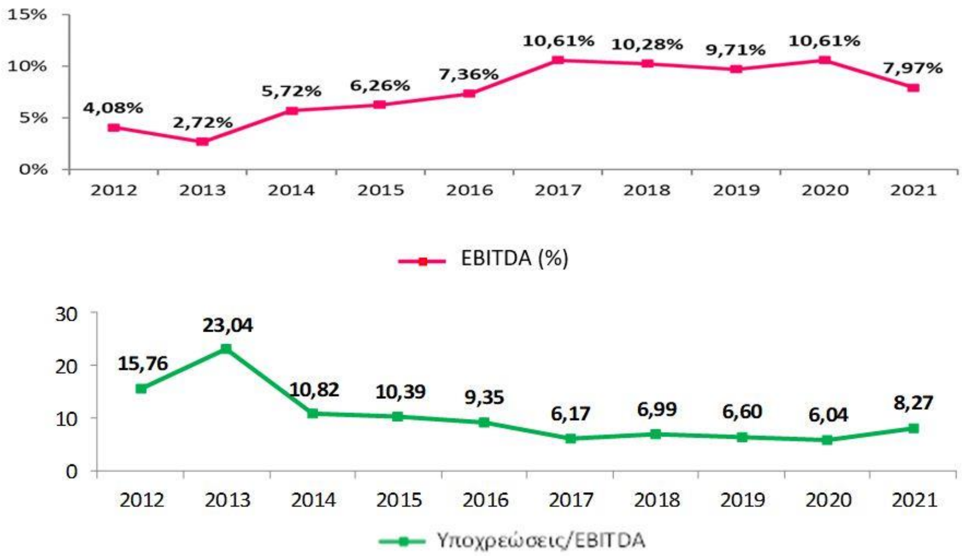
The evolution of the Greek dairy industry, in line with global trends, reflects the shift of consumers from liquid milk to butter, cheese and ice cream. This trend requires flexible supply chain strategies to adapt to these changing preferences. At the same time, increasing consumer interest in sustainability and ethical consumption has driven investment in environmentally friendly packaging and product traceability. These industry shifts are not only responses to consumer demands, but also present opportunities for innovative investments (Adams, et. al., 2022).

The supply chain of the dairy sector in Greece faced significant disruptions due to the COVID-19 pandemic. These disruptions, reflecting global patterns, resulted from complications in supply, production and logistics, promoted by lockouts, port congestion and shortages of containers and truck drivers. The resulting supply chain inefficiencies, combined with increased demand, led to shortages of key ingredients and resources, forcing Greek dairy companies to reconfigure their stockholding units and, at times, to limit distributions to customers. This scenario highlights the urgent need for enhanced digital and analytical capabilities to augment responsiveness to market fluctuations and uncertainties (Adams, et. al., 2023).

The Greek dairy industry showed resilience during the COVID-19 pandemic, with household consumption and supermarket sales compensating for losses from reduced business activities. Dairy products displayed a 'resistance' to the pandemic's impact, leading to a mild effect on the sector and an anticipated recovery in 2021. Fresh pasteurized milk, high pasteurization milk, and yogurt were significant contributors to dairy consumption. The market is highly concentrated, with major dairy companies holding substantial shares (New Money, 2022).

Financial analysis of 21 companies from 2016-2020 indicates overall sector growth, with increases in total assets, equity capital, and sales, alongside a significant rise in EBITDA and consistent profitability (Γούναρη, 2023).

Figure 2.. Financial analysis of 21 companies of industry from 2016-2020



https://www.ot.gr

In addition, the conflict in Ukraine has brought about an increase in global raw milk prices, significantly affecting Greece. This increase is partly due to the interruption of dairy exports from Ukraine and Belarus, important suppliers of dairy products. The conflict not only disrupted these exports, but also stimulated "panic buying" in the global dairy market, resulting in further price escalation (Dairy Industries, 2022).

Ukraine, as a major external food supplier to the EU, plays a vital role in the dairy supply chain. The conflict has led to a significant loss in global dairy supply, estimated at around 1.2 billion kg/year of raw milk equivalent. This deficit is projected to initially cause an increase in global dairy prices (Cornall, 2022).

In summary, negotiating the management of the dairy supply chain, from origin to final consumer, has been critically affected by recent global events, requiring adaptive and innovative strategies to maintain efficiency and meet evolving market demands.

2.4.4. Wheat

This section focuses on the negotiation processes within the wheat supply chain management, from its initial stages to the point of reaching the final consumer, highlighting the impacts of the COVID-19 pandemic and the Ukraine-Russia conflict.

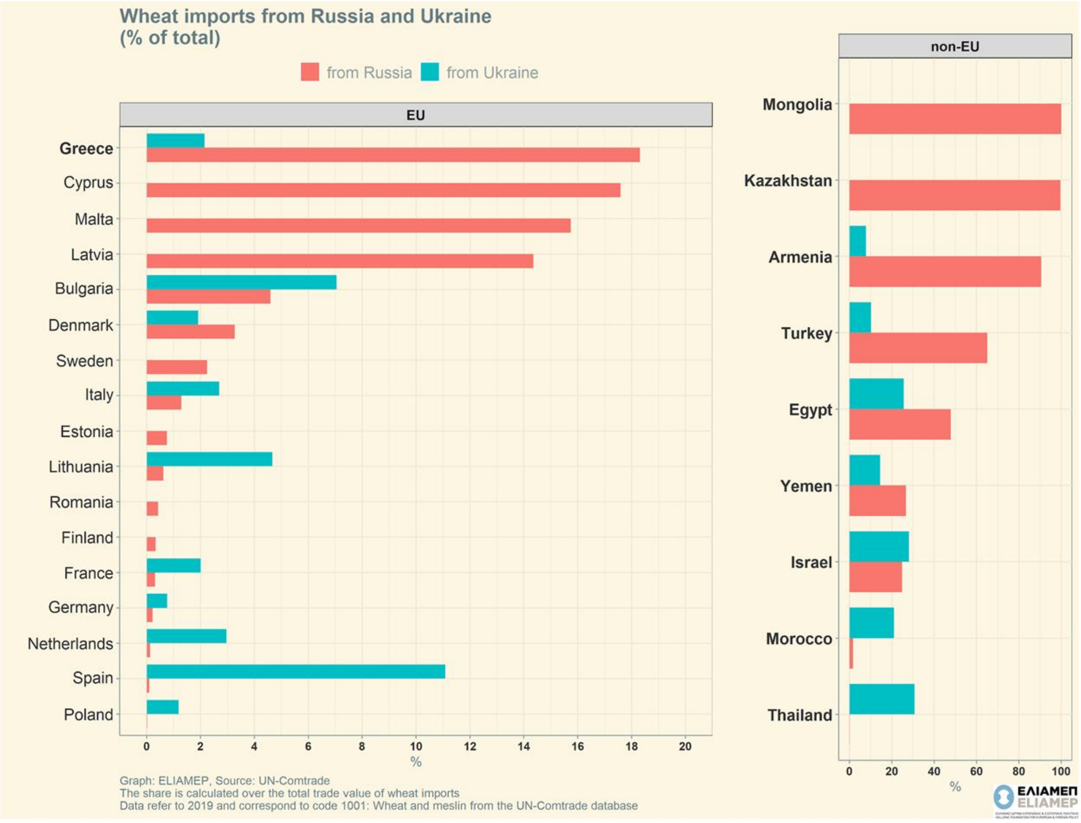
Initially, the onset of the COVID-19 pandemic prompted major grain-exporting countries, including Russia, Ukraine, and Kazakhstan, to consider or impose restrictions on wheat exports. These protectionist measures stemmed from a global rush for dollars and the imperative to preserve local supplies amid the pandemic (Cornall, 2022). Consequently, concerns arose about disruptions in the global food supply chains. Despite the ample world stocks of wheat, more substantial than during the 2007 commodity boom-bust cycle, the challenge lay in transporting these stocks to the regions where they were most needed (Mallory, et. al., 2020).

Furthermore, grain prices witnessed a dramatic surge following the pandemic's onset. In the United States, the Producer Price Index (PPI) for grains increased by 73.5% from December 2019 to February 2022, a stark contrast to the 14.9% rise in the two years preceding the pandemic. This significant increase in grain prices was attributed to various factors, including disrupted production chains due to global lockdowns, shifts in consumer spending habits, and changes in producers' strategies to adapt to new demands (Kroeger, 2023).

The Ukraine-Russia conflict has further escalated the complexity of the situation. The region, being a key player in global wheat exports, raised concerns about disruptions in the global supply chain. This was particularly alarming for low-income countries heavily reliant on grain imports. A protracted conflict could severely impact wheat production and availability, thereby intensifying the existing challenges in the global food market (Mallory, et. al., 2020).

The war in Ukraine has significantly impacted wheat prices in Greece, exacerbating the food crisis. Greece, heavily reliant on wheat imports from Russia and Ukraine, faces challenges due to the disruption in supply. This reliance is reflected in the substantial percentage of wheat imports from these countries, making Greece particularly vulnerable to market fluctuations caused by the conflict. The resultant increase in wheat prices contributes to higher food costs, placing additional economic pressure on Greek consumers and the broader food market (Manalis & Matsaganis, 2022).

Figure 3. Wheat Imports from Russia and Ukraine by country



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In conclusion, the recent years have seen significant challenges in wheat supply chain management in Greece, profoundly influenced by the COVID-19 pandemic and the Ukraine-Russia conflict. These events have necessitated intricate negotiation processes at various levels of the supply chain, affecting market dynamics, including production, pricing, and distribution (Mallory, et. al., 2020).

2.4.5 Meat Products

This section examines the negotiation mechanisms within the meat supply chain, from production to the end consumer, under the impact of the COVID-19 pandemic and the Ukraine-Russia conflict.

The pandemic initially triggered a surge in meat prices, attributed to reduced production and heightened demand, partly due to panic buying. Subsequently, lockdown measures and diminished consumer purchasing power led to a decrease in both production and demand, resulting in lowered meat prices. Notably, meatpacking facilities were significantly impacted, with many closures due to COVID-19 outbreaks among workers. This situation led to disruptions in meat processing and distribution, exacerbated by reduced workforce availability, animal movement restrictions, and alterations in local and international export regulations (Ijaz, et. al., 2021).

The Ukraine conflict further intensified these challenges. The war disrupted the global meat supply chain, causing short-term price increases. The immediate impacts included the cessation of dairy exports from Ukraine and the potential halt of Belarusian dairy exports due to Western sanctions. This scenario affected the global dairy market, contributing to increased dairy commodity prices. Additionally, the conflict influenced the global energy market, subsequently affecting dairy farm operations through escalated energy and fertilizer costs (Cornall, 2022).

In response to these events, the meat industry has faced heightened production costs, supply chain disruptions, and fluctuating demand. To navigate these challenges, the industry has had to adapt through various strategies. These include reassessing organizational goals and ambitions, forging beneficial partnerships, and exploring new markets and consumer trends (Nortjé, 2020).

In conclusion, the management of the meat supply chain in recent years has been marked by complex negotiations at various stages, driven by the need to respond to the unprecedented challenges posed by the COVID-19 pandemic and the Ukraine conflict. This has necessitated a multifaceted approach, encompassing operational adjustments, strategic alliances, and market adaptation to ensure industry resilience and competitiveness in a dynamic global market.

2.4.6. Greek Beverages

The Greek beverage industry, renowned for its diverse and traditional products, has faced significant challenges in its supply chain management in the wake of the COVID-19 pandemic and the Ukraine conflict.

Initially, the COVID-19 pandemic significantly disrupted the supply chain for Greek beverages. The imposition of lockdowns and social distancing measures led to the closure of key consumption spaces like restaurants and bars, which are vital for the distribution of Greek beverages, particularly in the tourism sector. This resulted in a marked decrease in demand and disrupted the traditional routes through which these products reached consumers. Additionally, the pandemic affected the import of raw materials and the export of finished products due to global shipping delays and increased transportation costs, further straining the supply chain (Κοντονής, 2023).

The Ukraine conflict has compounded these challenges. Greece, though not directly involved in the conflict, has felt the ripple effects in its beverage industry. The conflict has led to increased energy and raw material costs, which are crucial components in beverage production. This situation has resulted in higher production costs, impacting profitability and pricing strategies for Greek beverage companies. Furthermore, the conflict has disrupted some export markets, particularly in Eastern Europe, where Greek beverages had a growing presence (Sial, 2023).

In conclusion, the Greek beverage industry has navigated a complex and dynamic environment in recent years, shaped by the COVID-19 pandemic and the Ukraine conflict. These events have necessitated strategic adjustments in supply chain management, from sourcing to consumer reach, ensuring the resilience and adaptability of the industry in a changing global landscape.

Chapter 3: The importance of Negotiations in Supply Chain Management and in Greek Food Industry

In the global landscape of food supply chains, businesses, especially in the Greek food industry, are involved in complex negotiations that span international borders. These negotiations involve a wide range of stakeholders, including farmers, suppliers, transport companies and customers. A critical aspect of effective supply chain management in this context is the accurate forecasting of demand for different product categories. This demand forecasting is essential for negotiating agreements with suppliers of raw materials and packaging materials, calculating production costs and preparing price offers that include delivery and payment terms (Karipidis et al., 2017).

Such negotiations must be able to adapt to unforeseen changes in demand, whether it be an increase or a decrease. This adaptability is vital to maintain the efficiency and sustainability of the supply chain in the face of various challenges and changing market conditions (Mukhamedjanova, 2019). The importance of supply chain relationship characteristics, particularly the quality of primary materials and sourcing costs, has been highlighted in the Greek food industry, highlighting the need for close collaboration between producers and food companies to enhance export performance (Karipidis et al., 2017).

3.1. What is Supply Chain

The supply chain involves the integrated process of moving goods from their original point of origin to the final consumer. It involves the management and coordination of a network of interconnected activities, including the sourcing of raw materials, production or manufacturing, inventory management, transport, distribution and retailing. Effective supply chain management aims to optimize these processes, ensuring that products are delivered efficiently, economically and within the desired timeframes (Ηλιόπουλος, 2023).

It plays a critical role in maintaining the flow of goods and services in the global economy, directly affecting business operations, consumer availability and overall market dynamics. The integration of technology and digital systems has further enhanced supply chain efficiency by providing real-time monitoring, data analysis and better decision-making and negotiation capabilities (Κατσίπης, 2016).

3.2. The importance of Supply Chain Management (SCM)

Effective management of Supply Chain Management (SCM) significantly benefits customers, the environment and businesses. SCM is vital to customer satisfaction, ensuring a wide range of quality products and services at competitive prices. The emergence of green supply chains, which focus on the utilization of returned products, is an example of environmental management and adds value to businesses (Christopher, 2007).

The key business benefits of SCM include reducing operating costs, minimizing waste, optimizing product pricing, and increasing cash flow and profits. SCM also enhances the efficiency of material and information flow and strengthens supplier relationships. In addition, it plays a critical role in controlling quality and reducing supply chain risks. Ultimately, effective SCM practices lead to increased customer satisfaction, boosting brand loyalty and increasing sales. This chapter highlights the importance of effective negotiation in SCM, vital to navigating these various aspects and maximizing their benefits (Himanshu S. Moharana, 2012)

3.3. The Importance of Negotiations in Food Industry and Key Factors

In the world of the food supply there are many factors that should be studied as they play a vital role on food supply chain management. The most common ones are the followings:

1. PRICE
2. QUALITY
3. QUANTITY
4. FOOD SAFETY
5. RESPONSE TIME
6. DELIVERY TIME
7. COST & CHARGES

In the complex web of global food supply chains, every participant, from farmers to suppliers and transport companies, is involved in complex negotiations. These negotiations aim to maximize value and profit, while navigating a landscape that includes diverse factors such as pricing, quality, quantity, food safety, response time, delivery time, cost and charges. Thus, each node in the food supply chain aims to maximize value and profit, and these factors are critical because they determine the final outcomes from the negotiation between the parties (Christopher, 2016).

Primarily, as far as pricing is concerned, it is a critical aspect where buyers seek the lowest possible cost while sellers aim for the highest possible prices. This dynamic is closely linked to production costs, quality and product availability. As regards product quality, it may vary depending on the use and type of product. For example, apricots used for frozen fruit or for decoration in confectionery products should be of better quality than apricots used for jams or juices. Therefore, depending on their use, the quality requirements are different and of course the price negotiation is different for different product qualities (Diabat, et. al., 2020).

Food safety can be ensured through certification and product specifications. However, nowadays farmers and suppliers could benefit from the trend in which customers and end-users pay a lot of attention to environmentally friendly products and sustainability and offer innovative organic products with recycled packaging and strengthen their position. Negotiations also revolve around volumes, where larger quantities can increase the buyer's bargaining power. Responsiveness and delivery time could also play a vital role in the negotiation. Companies that anticipate demand and are flexible and responsive to last-minute demands can gain an advantage over the competition and achieve an even higher selling price (Christopher, 2016).

In addition, companies that will be able to meet a last-minute demand while resources are limited can gain a great advantage to penetrate new markets and build long-term relationships with new customers. Delivery time is critical for manufacturers and customers to negotiate with transport companies. Even if customers are looking for full truck or part trucking companies that offer frequent shipping routes may have better bargaining power. Of course, sometimes one party's gain can lead to a loss for another and therefore the above factors create conflicts between stakeholders. At this point, negotiation is the best way to resolve any conflicts that arise.

There are various negotiation tactics and strategies depending on the nature of the negotiation, the specific actors and parties to the negotiation, their likely relationship of existence, their bargaining power, the origin of the parties and unforeseen factors that could arise at a particular point in time and radically change the context and circumstances. In our time and in our days, technological development plays a crucial role in our lives. Since technology is widely used by businesses and individuals, it is also a valuable tool in negotiations. It helps stakeholders to do research and collect data and useful information that can be used to prepare the negotiation strategy (Goel, et. al., 2011).

In addition, multi-agent simulation is gaining more recognition from academics and practitioners. Technology-based systems can negotiate and also evaluate results. Multi-agent systems (MAS) can be used in dynamic, complex environments, where many parties are involved, from different geographical locations, resource availability changes over time and also end-user requirements change rapidly, in order to help organizations reduce negotiation time, improve negotiation efficiency and also optimize overall supply chain management (Yang & Sun, 2019).

In the realm of food supply chain negotiations, outcomes are often unpredictable, even with well-structured strategies. Negotiations can result in mutually beneficial agreements, deadlock or impasse on specific issues (Clark, 2014). When deadlocks arise, it becomes imperative to explore alternatives. The dynamics of these negotiations are influenced by a number of factors, including the bargaining power and strategies of the parties involved. Sometimes, negotiations can lead to equitable economic benefits for all parties involved, and most often, depending on bargaining strategy and power, there is a winning party which, at the end of the day, benefits more than the other (William, et. al., 2020).

More often, however, one party may emerge with greater advantages, influenced by its bargaining prowess and strategic positioning within the supply chain power dynamic. This reality underlines the importance of flexibility, strategic planning and the ability to adapt to changing circumstances in the context of supply chain negotiations (Clark, 2014).

In view of the above, Ophélie Dubois' article, which analyses the common causes of disputes in the food industry and explores alternative methods of conflict resolution, is closely aligned with the topic of this paper. Dubois' research, which shows that pacifist alternatives, such as prevention and negotiation, are more effective than judicial and binding approaches, resonates with our research on negotiation tactics in the food industry. This finding underscores the importance of negotiation as a preferred method of conflict resolution in the food industry, reflecting the emphasis on negotiation in the food industry. It highlights the importance of understanding and addressing the underlying causes of disputes and using strategic, non-confrontational approaches to resolve conflicts (Dubois, 2019).

Research in the food industry sector highlights the critical role of negotiation in managing and resolving conflict in this sector. For example, in the context of food systems resilience, as described in a Nature Food article, the concept of negotiated resilience emerges as a vital approach. This concept includes a focus on process, inclusivity and participation and recognizes the inevitability of contestation and politics in the food industry. It highlights the importance of negotiation with various stakeholders to enhance systemic resilience, especially in the face of challenges such as pandemics (Hansen, et. al., 2020).

In addition, a study on the authenticity of food heritage in consumer culture highlights the dynamic relationships between consumer, market and food industry actions. Research in the food industry highlights the critical role of negotiation in managing and resolving conflicts in this sector. This research suggests that negotiation plays an important role in shaping food culture and heritage authenticity, demonstrating the importance of negotiation processes in the sector. The study also focuses on the role of institutions, businesses and consumers as stakeholders in the food authenticity process, emphasizing the negotiation of food heritage authenticity within the context of consumer culture (Shahrin & Hussin, 2023).

The importance of negotiations in the supply chain in Greece, particularly for agricultural cooperatives and small-medium enterprises, is crucial. These negotiations are key in enhancing competitiveness against the dominance of larger companies in the market. Effective negotiations within networks can provide better market access, improve external competitiveness, and enhance internal efficiency for these smaller entities. Sergaki (2012), highlights that successful collective action and networking are essential for these cooperatives and enterprises to thrive in the competitive Greek agrifood market (Sergaki, 2012).

Moreover, negotiations in the supply chain in Greece, particularly within the shipping industry, are of paramount importance due to the complex interplay of various stakeholders involved. The potential application of blockchain technology (BCT) in these negotiations could revolutionize the process by enhancing transparency, efficiency, and security. Although the Greek shipping industry has shown reluctance towards adopting BCT, mainly due to existing enterprise resource planning systems and concerns over information sharing, the technology's ability to streamline operations and reduce paperwork could offer significant advantages. The adoption of BCT in supply chain negotiations could lead to more streamlined, secure, and efficient processes, thereby enhancing competitiveness in the global market (Papathanasiou, et. al., 2020).

In the next chapter, we will analyze how some unforeseen events, such as in this case the Covid-19 pandemic and Ukraine's war with Russia, can affect negotiation power in the supply chain management. In particular, we will take as a case study the Greek Food Industry.

Chapter 4: The impact of unpredictable situations like the pandemic of Covid-19 and Russian invasion of Ukraine on negotiation in Supply Chain Management: A case study of Greek Food Industry

The impact of unpredictable situations such as the Covid-19 pandemic and the Russian invasion of Ukraine on supply chain management negotiations reveals several critical aspects that highlight the complex dynamics of supply chain negotiations during crises. This analysis, enriched with relevant references and studies, will delve into how these two unprecedented events reshaped negotiation strategies and practices in supply chain management in Greece (Allam, et. al., 2022).

4.1. Impact of Covid-19 on Supply Chain Negotiations in Greece

The Covid-19 pandemic, as a global health crisis, significantly disrupted supply chains in various sectors in Greece and around the world, including food. One of the primary challenges was the sudden change in demand patterns, with panic buying leading to short-term shortages and supply constraints. This situation required rapid and strategic negotiations between suppliers, distributors and retailers to manage inventory, pricing and distribution in an environment of uncertainty (Sodhi & Tang, 2020).

The readiness of Greek food industries to meet the challenges of COVID-19 was mixed. While the pandemic significantly disrupted global food systems, including Greece, the response varied across industry sectors. Some companies were able to adapt quickly, leveraging digital technologies and modifying operations to maintain supply chains. However, others faced challenges due to their reliance on traditional practices and difficulties adapting to rapidly changing market demands and security protocols (Galanakis, 2020).

However, during the pandemic, the Greek food industry demonstrated the greatest degree of adaptability and resilience in meeting the challenges. The industry managed to maintain supply chains and meet consumer demands despite the unprecedented conditions. Emphasis was placed on health and safety, ensuring that food production and distribution continued with minimal disruption (Skalkos, et al., 2021).

The Greek food industry's response to the challenges of COVID-19 was multifaceted, including adjustments in both supply chain management and consumer behavior. Despite facing labor shortages and disruptions in food production and distribution, the industry has shown resilience. The pandemic brought about significant changes in consumer buying habits, including increased demand for long-life products and the tendency to stockpile food supplies. These changes required a rapid and flexible response from the food industry to meet evolving demands and ensure food availability. The situation highlighted the need for robust systems and flexible strategies to maintain operations and consumer confidence in the face of unprecedented challenges (Raptou, et. al., 2022).

Greek companies adapted to the disruptions of the pandemic, reconfiguring workplaces and business models to ensure safety and continuity. The crisis accelerated digital transformation in the industry, leading to more electronic operations and reduced physical document exchange. This shift towards digital media is expected to continue after the crisis, highlighting the lasting impact of the pandemic on supply chain negotiations and operations in Greece (Γούτα, 2020).

Therefore, as supply chain negotiations have accelerated the need for technological integration and reconfiguration of traditional supply chain models, the integration of blockchain technology into supply chain management, as highlighted in the study by Queiroz, et. al. (2020), has become increasingly important globally. The ability of the blockchain network to promote transparency, efficiency and traceability in supply chains becomes vital when global supply chains are disrupted by unprecedented challenges such as those posed by Covid-19. Therefore, blockchain technology, with its potential for real-time monitoring, secure data exchange and reduction of intermediaries, presented a valuable solution to these challenges (Queiroz, et al., 2020). The adoption of this network was able to improve transaction processes within the supply chain by providing reliable and unalterable data, thus enhancing trust between stakeholders, although Greece was not particularly willing to invest in such technologies (Papathanasiou, et. al., 2020).

Another way in which the pandemic affected supply chain negotiations was that it prompted firms to adopt strong countermeasures to deal with disruptions. Butt's (2021) study highlights that manufacturers were forced to improve production schedules to cope with production challenges, suggesting a change in the dynamics of negotiations to adapt to capacity fluctuations. Distributors, on the other hand, have responded by partnering with secondary suppliers to address inventory shortages, reflecting a shift in negotiation strategies towards diversification of supply sources. Subsequently, supplier firms have focused on assessing and adapting to immediate fluctuations in demand, requiring a more flexible and responsive approach to their negotiation strategies. This includes preparing for changes in channels, opening additional communication channels with key customers and prioritizing customers' immediate requirements. The pandemic thus forced supply chain entities to reassess and renegotiate terms to maintain operational continuity, emphasizing flexibility and agility in their negotiation processes (Butt, 2021).

Furthermore, the impact of COVID-19 on supply chain management negotiations in Greece can be carefully examined through the lens of the socio-economic impacts observed. In Greece, the pandemic led to significant disruptions in supply chains, which necessitated critical adjustments to negotiation strategies. Firstly, Greek firms probably had to renegotiate terms with suppliers and distributors. This would include adjusting production schedules to address challenges in the manufacturing sector and working with alternative suppliers to mitigate stock shortages (Ghellab, et. al., 2022).

The immediate impact of COVID-19 necessitated a shift in focus towards short-term supply and demand strategies. Greek firms, particularly in sectors such as tourism, trade and transport, which experienced significant contraction, had to renegotiate terms in the light of rapidly changing market conditions and consumer behavior. The need for open and continuous communication with key customers became essential during the pandemic. Greek companies had to implement more flexible communication strategies to understand and prioritize the immediate requirements of customers (Ghellab, et. al., 2022).

4.2. Impact of Russian Invasion in Ukraine on Supply Chain Negotiations in Greece

The Russian invasion of Ukraine has had a deep and widespread impact on global supply chains, with significant implications for countries like Greece that are part of these networks. The conflict has upset the export markets of both Ukraine and Russia, leading to major changes in the dynamics of global trade. Ukraine, prior to the conflict, was a major exporter of agricultural and industrial products, with the European Union as its main export destination. The war severely restricted Ukraine's grain exports, with significant reductions in key agricultural commodities such as sunflower oil, maize and wheat. This disruption has led to a readjustment of supply chains as countries seek alternative sources for these key commodities (Hamilton, 2023).

Russia's role as a key supplier of fuel and energy products, metals, machinery, equipment and chemicals has also been significantly affected. The imposition of economic sanctions and the conflict itself have led to a reduction in exports of these products. In particular, the shortage of natural gas and coal has significantly increased prices, affecting countries dependent on these resources for energy. In addition, the US and other countries have faced restrictions on the supply of base metals such as platinum, titanium and nickel, which are vital to various industries. The agricultural sector has been particularly affected, with Russia and Ukraine facing a number of problems. Reduced supply and increased costs for food manufacturers and consumers are contributing to rising inflation in Europe and beyond. This scenario is further compounded by the disruption of Ukraine's food supply chains due to the conflict, which is affecting farm supplies, production facilities and transport infrastructure (Shaw, 2022).

In the context of Greece, the disruptions caused by the Russian invasion of Ukraine made it necessary to strategically re-evaluate supply chain agreements and seek alternative sources of raw materials. This response was necessitated by the significant increase in commodity prices and shortages of key commodities such as cereals, energy resources and metals. Greek companies and government agencies are thus forced to adjust their supply chain negotiations and strategies to meet these challenges. To mitigate the risk of supply chain exposure, Greek companies and government agencies have adapted their supply chain strategies. This includes being transparent about the supply chain ecosystem, building flexibility into operating models, and maintaining commitment to corporate values and the ESG agenda. Logistical disruptions, such as delays, cancellations and infrastructure damage, require companies to assess commodities for immediate challenges and diversify supply chain inputs (KPMG).

To address rising input costs, Greek firms have considered mergers, acquisitions, joint ventures or partnerships with localized sources of supply. They also reviewed contractual rights, and used negotiation levers as well as analyzed data for rapid decision making. Building resilience in supply chains involves assessing geopolitical exposure, finding alternative suppliers, scenario planning for potential events, and creatively addressing supply chain disruption issues (KPMG).

Therefore, it is clear that this war had a significant impact on the supply chain negotiations in Greece, which led to a strategic reassessment and a search for alternative sources of supply. At the outset, European companies, including those in Greece, sought alternatives without radically changing their global supply chain value chain. For example, shipping companies explored new routes to bypass the affected areas. Over time, the need for deeper supply chain reconfiguration became apparent, influenced by the severe disruptions in Ukrainian production and blocked Russian supply chains. This situation echoes historical patterns seen in civil conflicts, where supply chains adjust by reducing exports from conflict zones and increasing imports from alternative sources. Readjustment involves renegotiating trade agreements with new suppliers and managing the associated costs and challenges of changing business partners. This shift aims to stabilize trade without returning to pre-conflict arrangements, potentially leading to a new "logistical order" in supply chains, incorporating previously non-engaged markets and necessitating a more political approach to supply chain management (Paché, 2022).

The impact of the war on Greece's supply chain, especially in the food sector, extends beyond the immediate disruptions. Greek food businesses are now forced to explore new sources of agricultural products, adjust their supplies and logistics to bypass disrupted routes and reassess their dependence on the affected areas. This readjustment is crucial to mitigate the risk of prolonged shortages and price escalation. Moreover, the situation underscores the need for supply chain resilience, pushing companies to innovate and diversify their supply chain models to better withstand future geopolitical disruptions. The conflict between Russia and Ukraine has significantly affected the food supply chain by also disrupting the exchange of basic agricultural commodities. Greece, known for its rich Mediterranean agricultural products such as olive oil and fruit, is heavily dependent on Ukraine for cereals, vital for various food products. In contrast, Ukraine, exports significant quantities of wheat, corn and barley to Greece (Jagtap, et. al., 2022).

This side-by-side relationship underlines the mutual dependence in the food sector, where Greece imports basic grains from Ukraine for its domestic needs, while exporting its signature products such as wine and olive oil. The war has caused significant shortages of raw materials such as cereals and gluten in Greece, affecting the bakery, confectionery and alcohol production industries. These shortages stem from damage to Ukrainian agriculture, highlighting the interconnected nature of global food supply chains (Βαραγιάννη, 2014).

Chapter 5: Methodology

This section briefly describes the methodology of the research. First, a brief description of our sampling method and an overview of the structure and content of the questionnaire of the study, providing the initial context for the upcoming data. After it's referred the development and preliminary testing of the research instrument, which consists of a questionnaire, highlighting its role in the accuracy of data collection. In addition, the methods of coding our data, which are an integral part of the analysis process, are mentioned. Finally, the statistical methods used are described, ensuring that our analysis is both rigorous and reliable.

5.1. Sample and data collection

The use of a questionnaire as the main tool for obtaining data in this research is based on its suitability and effectiveness for collecting comprehensive information on negotiations an impacts uptake at different levels of supply chain. The questionnaires are particularly capable of facilitating the rapid collection of data from a wide range of participants, making them particularly conducive for research efforts that require extensive scope (Taherdoost, 2021). Nayaket al. (2019) discuss the advantages of online survey platforms, such as Google Forms, citing their effectiveness in rapidly and cost-effectively engaging a large audience, alongside promoting uniformity in response formats.

The questionnaire's focus on quantification to evaluate food supply chain negotiations aligns with established methodological standards, highlighting the urgent need for structured data collection instruments to collect accurate, quantifiable data, as described by Creswell & Creswell (2017). This approach is particularly important for examining the multifaceted nature of the impacts of unprecedented supply chain disruptions in order to distinguish variations in levels of bargaining.

Moreover, the dissemination of the questionnaire to different parts of the supply chain allows for a detailed and holistic examination. The use of formal communication channels increases the likelihood of extracting authentic and reliable responses. In addition, required completion of all sections and questions of the questionnaire is a strategic measure to mitigate concerns about data insufficiency, which is a key factor in shaping the survey design.

5.1.1. Structure and content of the questionnaire

The questionnaire is divided into several questions, each of which is designed to explore different aspects of supply chain negotiations in the Greek food industry in the midst of Covid-19 and the Russian invasion of Ukraine. These questions range from background information to impact assessments and strategies for managing change in negotiations (section 4.3.2).

5.1.2. Distribution and method of data collection

The questionnaire will be distributed electronically, using platforms such as Google Forms, to ensure a wide reach and standardized response format. Selective and snowball sampling methods will be used, targeting professionals in the Greek food industry and then expanding the reach through referrals.

5.2. Sampling methodology

5.2.1. Sampling design

A hybrid sampling strategy was used in this study, which combines the methods of purposive sampling and avalanche sampling. The methodology starts with a purposive approach, focusing on individuals directly involved in supply chain management in the Greek food industry. The scope is then extended through snowball sampling to document a more comprehensive range of supply chain services. Initially, the purposive method targeted specific individuals based on criteria such as their direct involvement in supply chain management, the scope of their organization and their geographical location within the Greek food industry. This focused approach is important for gathering relevant data from key entities, as Palinkas et al. (2015) points out. This was followed by the snowball sampling phase, where initial respondents were encouraged to refer the study to their professional contacts, thus extending the scope of the research to the logistics sector. This strategy, as described by Parker et al. (2019), enhances the diversity of perspectives included in the study.

5.2.2. Considerations and limitations

However, a notable limitation of this approach, as identified by the researchers, is the possibility of over-representation of certain cohorts in the sample. This could lead to an accumulation of homogeneous responses, which may affect the diversity and overall representativeness of the sample (Lopez & Whitehead, 2013). The integration of these two sampling techniques was designed to achieve a balance by combining the collection of specific data from targeted individuals with the broader knowledge gained from the extensive networks of respondents. The aim of this methodology was to facilitate a comprehensive understanding of the dynamics in supply chain management in the Greek food industry.

5.3. Measurement tools and scales

5.3.1. Quantitative analysis

In this research, the methodology includes a quantitative approach, mainly to allow for a more structured and objective analysis related to the complexity of innovation and technological assimilation in the public sector. As Creswell & Creswell (2017) highlight, reliance on empirical and quantifiable data is crucial to draw unambiguous conclusions. The research instrument incorporates a variety of measurement scales, including Likert scales for standardized collection of responses, multiple-choice questions for specific options, and short open-ended questions to capture nuances. This mix of different types of questions is designed to enhance the robustness of the data collection process. The use of Likert scales provides a consistent framework for assessing attitudes and perceptions, significantly reducing interpretive ambiguity. At the same time, multiple-choice questions help the collection of categorical data, while open-ended questions offer respondents the opportunity to provide more in-depth, personalized information. This multifaceted approach is key to enhancing the data's comparability and reliability, thus enriching the overall validity and completeness of the study.

5.3.2. Structure of the questionnaire

The questionnaire, which designed for this study, is divided into several distinct sections, each of which is adapted to capture a wide range of information. It begins by establishing the background of the respondents, including their specific roles and geographical locations within the supply chain of the Greek food industry. This is followed by a section assessing the impact of critical global events, such as the Covid-19 pandemic and the Russian invasion of Ukraine, on supply chain operations and negotiation strategies.

Subsequent sections explore in greater depth the range of challenges facing negotiations due to these unforeseen circumstances, including difficulties in procurement, increased costs and communication barriers. Respondents are also asked to reflect on changes in power dynamics in their negotiations and to articulate their preparedness for such events.

A central part of the questionnaire focuses on the strategies adopted to manage and adapt to these changes. This includes exploring ways such as supplier diversification, long-term contracts and flexibility clauses, which are vital for effective supply chain management during crises.

Further, the questionnaire explores the degree of change in communication with supply chain partners and the criticality of adaptability for successful negotiation outcomes. This is followed by an assessment of the economic impact of pandemic and geopolitical conflicts on negotiations, and the impact of supply and demand fluctuations on stock and pricing strategies.

Technological integration in negotiation processes is another important aspect that is covered, exploring the extent of technology use and its perceived effectiveness. The questionnaire also asks respondents to identify changes in negotiation practices that they believe will become permanent after the crisis.

Towards the end, respondents are asked to select key lessons learned during these difficult times, reflecting on aspects such as the importance of communication, the necessity of contingency planning and the value of building resilient relationships.

Finally, the questionnaire concludes with an open-ended section, providing respondents with the opportunity to offer their views on the future prospects of supply chain negotiations in the Greek food industry and to suggest recommendations for continuous improvement in this area.

5.4. Analytical techniques for data interpretation

5.4.1 Coding and review process

Following the collection of relevant data, an extensive coding and review process was carried out to extract key information. Initially Excel spreadsheets were used to uniquely identify, review and code each record, which were later processed for analysis

5.4.2 Descriptive statistics

In this section, descriptive statistics will be used to methodically analyses the data collected from the questionnaire. This analysis will involve a combination of quantitative summaries and detailed interpretations. Each question from the questionnaire will be analyzed separately, using a combination of descriptive techniques to explore the data (Carpino et al., 2019).

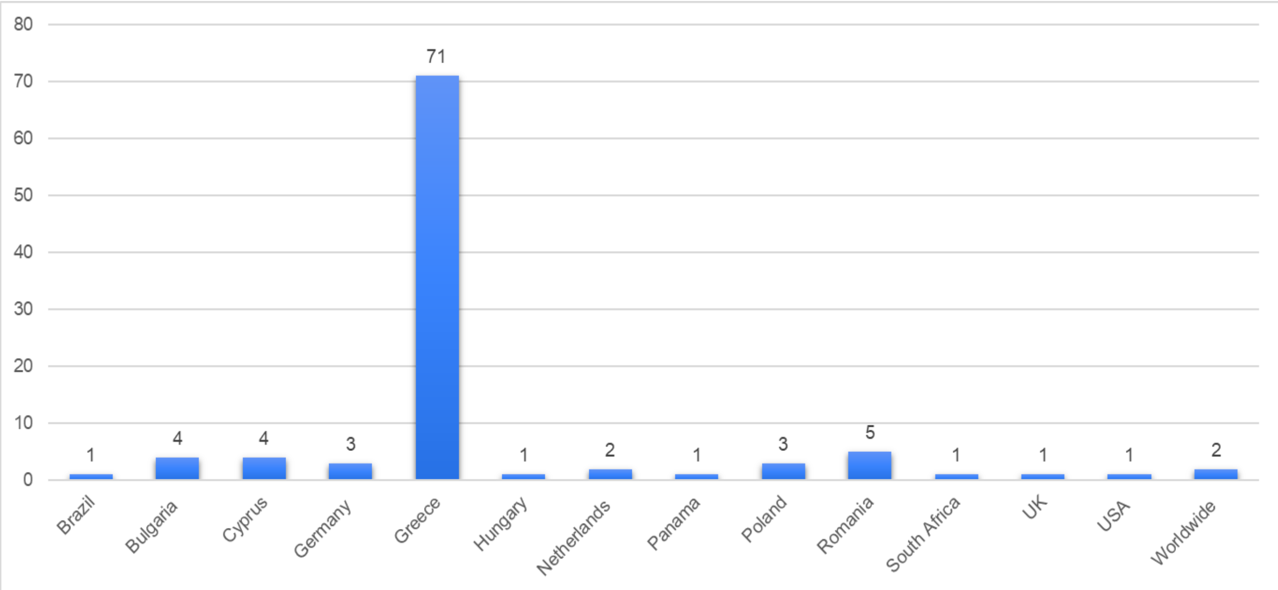
The approach will include the calculation of key statistical measures such as frequencies, percentages, means and standard deviations to summaries the responses. This quantitative summary will be complemented by a thorough interpretive analysis to understand the underlying patterns and trends within the data. For example, responses to questions about the impact of Covid-19 on supply chain operations, changes in negotiation strategies due to geopolitical events, or the adoption of technological tools in negotiation processes will be systematically analyzed to draw meaningful conclusions.

In addition, the analysis will be visually supported by charts, graphs and other graphical representations. These visual aids will not only improve the clarity and comprehensibility of the findings, but will also highlight important trends and correlations in the data. This combination of descriptive statistics and detailed analysis for each questionnaire item ensures a comprehensive understanding of the various aspects covered in the survey, providing a solid basis for drawing informed conclusions and making evidence-based recommendations.

Chapter 6: Analytical Results of Questionnaire

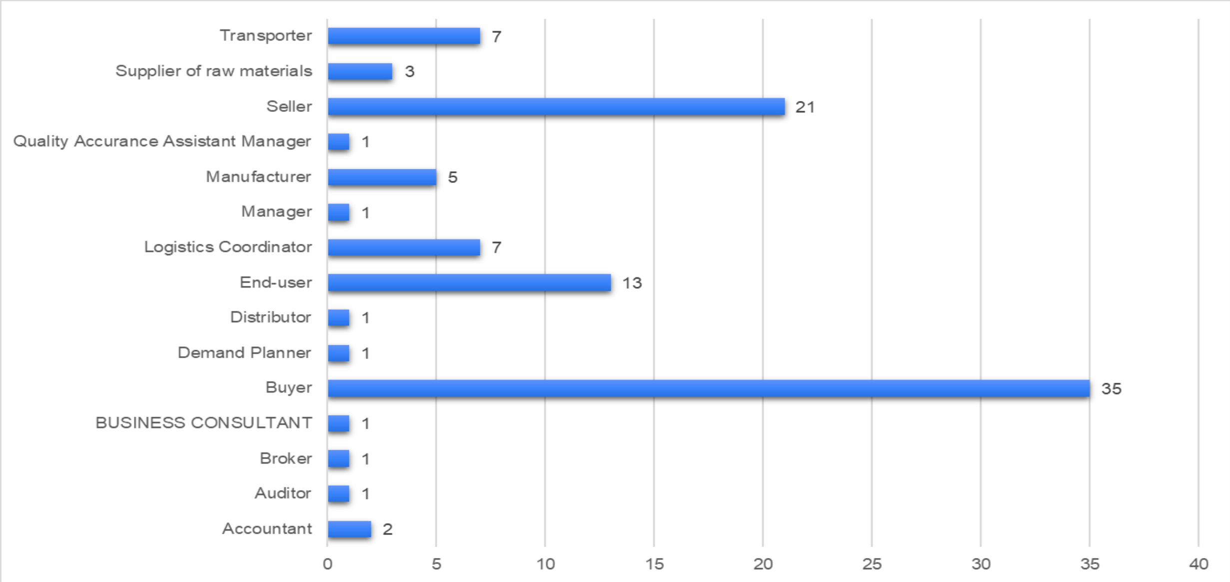
Chapter 6 provides a detailed analysis of the survey data collected to understand the different dimensions of supply chain negotiations in the food industry. It looks in depth at the geographical distribution of participants' activities, their roles within the supply chain and the profound impact of COVID-19 and geopolitical tensions on the dynamics of the negotiations. The chapter goes in-depth into the challenges posed by increased costs, procurement difficulties and communication barriers, revealing the need for strategic adaptability and robust contingency planning. The insights drawn provide a comprehensive overview of the negotiating landscape, which is affected by unpredictable global events.

Figure 4. Countries of operations of sample



Question 1 aimed to determine the geographical distribution of respondents' activities. The bar chart reveals that the vast majority of respondents (71 respondents) operate in Greece, indicating a significant concentration of respondents in this region. The remaining respondents are scattered in various countries, such as Brazil, Bulgaria, Cyprus, Germany, Hungary, the Netherlands, Panama, Poland, Romania, South Africa, the United Kingdom, the United States, and some with a global operational reach.

Figure 5. Primary roles in the supply chain of sample



Question 2 categorized participants according to their primary role in the supply chain. The results show a dominant representation of salespeople, with 21 respondents identifying as such. The roles of transporter and logistics coordinator were also significantly represented, with 7 respondents each. In addition, there are 5 manufacturers and a range of other roles, including raw material supplier, assistant quality assurance manager, end user, distributor, demand planner, buyer, business consultant, broker, auditor and accountant. The data suggest a diversified participation from different parties in the supply chain, with a strong presence of sellers, which could indicate a significant interest from the sales side in the negotiation processes.

Question 3: Effects of COVID-19 on Supply Chain Operations

Question 3 describes the perceived impact of pandemic COVID-19 on supply chain operations among respondents. Overall, 51% of respondents rated the impact as high, with 31% rating it as 4 out of 5 and 20% giving a maximum impact score of 5. This majority marks a significant disruption to supply chain operations as a consequence of the pandemic. In contrast, 28% of respondents reported a moderate impact (scores of 2 and 3) and 11% perceived the impact as minimal (score of 1). This allocation demonstrates a predominantly significant impact, which requires significant adaptation measures within the supply chain to mitigate the impact of the pandemic.

Question 4: Impact of the Russian Invasion of Ukraine on Negotiating Strategies

In question 4, respondents assessed the impact of the Russian invasion of Ukraine on their negotiating strategies. The aggregate data show a mixed impact, with 40% of respondents reporting a high to extremely high impact (scores of 4 and 5). It is worth noting that 12% of respondents perceived the impact as extremely high (score of 5), suggesting that for some the invasion had a profound effect on negotiation strategies. The data also reveal a gradual distribution of perceived impact levels, with 36% of respondents indicating low to moderate impact (scores 1 and 2) and 24% identifying neutral impact (score 3). This range of responses reflects a complex interaction between geopolitical events and negotiation dynamics, where the extent of impact varies across different entities within the supply chain.

In addition, an aggregate analysis was conducted regarding the perception of the impact of Covid's unexpected disruption and the Russian invasion of Ukraine on the negotiating strategies based on each country in the sample.

For the case of Covid-19, Greece has the predominant response among 71 subjects indicates a significant perception of the impact, with a significant number rating it at level 4, indicating significant disruption. Bulgaria, Cyprus, Germany, Germany, Poland and Romania, despite lower response rates, show a comprehensive spread on the impact scale, indicating varying levels of disruption, from minimal to severe. The unique responses from Brazil, Hungary, the Netherlands, Panama, South Africa, the United Kingdom, Hungary, Panama, South Africa and the United States provide unique insights into the levels of impacts in these countries, ranging from moderate to extremely significant disruption. Particularly notable are the worldwide businesses responses, both of which rate the impact at the highest level of 5, indicating extremely significant disruption on a global scale.

On the other hand, for the case of Russian invade Greece, has a significant number of 71 responses, shows a wide range of impact levels. Noteworthy is that a significant number of these responses are concentrated at the higher end of the scale, with 20 entities scoring impact at 4, suggesting significant influence on their negotiating strategies. Other nations, such as Bulgaria, Cyprus, Germany, Poland and Romania, show different perceptions of impact, despite the lower number of responses. For example, in Cyprus, responses shifted towards higher levels of impact (4 and 5), indicating a significant change in negotiation strategies. This contrasts with Germany, where responses are more moderate (mostly 2 and 3), indicating less severe impacts. Individual responses from countries such as Brazil, Hungary, Panama, South Africa and the US offer specific information ranging from minimal to extreme impacts, thus highlighting the different nature of geopolitical events in different geographic regions. The responses of worldwide operations are particularly revealing. One response rates impact as a 4 and another as a 5, highlighting the perception of significant to extreme impact on a global scale.

Question 5: Challenges in Negotiations Due to Unforeseen Situations

Question 5 of the survey explores the challenges encountered in negotiation contexts due to unforeseen situations. The data reveals that increased costs are the most frequently cited challenge, with 40% of participants identifying this as a significant barrier. This suggests that unexpected financial burden was a predominant concern, most likely due to disruptions in supply chains or increases in material and logistics costs.

In addition, difficulties in procurement were identified by 27% of respondents, either as a stand-alone issue or in combination with increased costs. This highlights the struggle to secure supplies or services, which can be attributed to a number of factors, including logistics disruptions, lack of resources or increased competition for materials.

Communication barriers also emerge as a significant challenge, cited by 5% of participants individually, but cumulatively noted by 10% when combined with other issues such as increased costs and procurement difficulties. This suggests that the ability to effectively share information and dialogue is hampered, possibly due to remote working conditions or interrupted communication channels.

In addition, a small proportion of responses reflect more specific challenges, such as delays and the need to reduce raw material prices, which indicate the complexities of supply chain management during crises. It is noteworthy that only one response mentions an increase in the income of the shipping industry, suggesting the different impacts of these unforeseen events on different sectors.

Question 6: Changes in Balance of Power in Negotiations

Reactions to changes in the balance of power during the negotiations since the start of the unforeseen events showed a mixture of increased, decreased and unchanged dynamics. This variation points to the fact that the influence of external events on bargaining power is context-dependent, with different entities experiencing different effects.

Respondents' perspectives on the change in bargaining power due to unforeseen events, as reported in question 6. The data reveals a distinct shift in the balance of power in negotiations, with different experiences among participants.

Decrease in bargaining power: The frequency data reveals that 36% of respondents have perceived a decrease in bargaining power since the onset of unforeseen events. This significant portion of the sample may be facing challenges such as reduced leverage, increased competition or supply constraints that have negatively impacted their bargaining power.

Increased bargaining power: In contrast, 40% of respondents reported an increase in their bargaining power. This suggests that a slightly larger proportion of the sample may have taken advantage of changing conditions to strengthen their bargaining position, possibly due to strategic stockpiling, diversified supply chains or the ability to provide scarce resources during disruptions.

Stability of bargaining power: Meanwhile, 24% reported no change in their bargaining power dynamics. This suggests that a notable portion of the industry has been able to maintain its status quo, possibly due to a combination of preparedness, resilience measures and possibly less exposure to the impact of these events.

Question 7: Preparedness for Unforeseen Events

Preparedness for unforeseen events was assessed on a scale from 1 to 5. The diversity of ratings across this spectrum signifies a range of preparedness levels among participants, suggesting that while some entities are well-prepared, others may need to enhance their contingency planning.

The responses to Question 7 provide insights into the preparedness levels of participants to handle unforeseen events:

1. ***Low Levels of Preparedness:*** A cumulative 27% of respondents indicated low levels of preparedness (ratings of 1 and 2), signifying that more than a quarter of the participants might lack adequate strategies or resources to effectively respond to unexpected disruptions.

2. ***Moderate to High Levels of Preparedness:*** A majority, 47%, rated their preparedness at a moderate level (rating of 3), suggesting that while there may be some measures in place to handle disruptions, there is still room for improvement in their crisis management strategies. An additional 18% felt well-prepared (rating of 4), and 8% felt very well-prepared (rating of 5), cumulatively accounting for 26% of respondents who are confident in their ability to manage unforeseen events.

Question 8: Strategies Adopted to Manage Change

The strategies reported by respondents to manage changes in negotiations included the diversification of suppliers, long-term contracts, and flexibility clauses. The frequency of these strategies among the responses indicates a strategic pivot towards risk mitigation and adaptability in negotiation practices.

The responses to Question 8 of the questionnaire provide a quantitative overview of the strategic measures employed by participants to navigate changes in negotiation landscapes. These strategies encompass diversification of suppliers, implementation of long-term contracts, and the inclusion of flexibility clauses within agreements.

6.1. Strategic Themes

- Diversification of Suppliers

As the primary individual strategy, diversification of suppliers is cited by 20% of respondents. When combined with flexibility clauses, this strategy is endorsed by an additional 21%, bringing the cumulative emphasis on supplier diversification to 41%.

This suggests a significant trend towards reducing reliance on single sources and expanding supplier networks to mitigate risk and ensure continuity.

- Incorporation of Flexibility Clauses

Flexibility clauses as a sole strategy are favored by 16% of respondents, indicative of a move towards more adaptive contractual terms that can accommodate dynamic market conditions. In combination with long-term contracts, flexibility clauses are part of the strategy for 4%, cumulatively emphasizing the role of contractual flexibility in 75% of the responses when considered with the previous point.

- Long-term Contracts

Long-term contracts alone are utilized by 18% of participants, reflecting a preference for securing stable supply channels over extended periods. When combined with diversification and flexibility clauses, this approach is adopted by 11%, suggesting that a composite strategy is preferred for its compounded security and adaptability, evidenced by the cumulative total reaching 59%. The cumulative emphasis on long-term contracts, reflecting a preference for predictability and stability in supply arrangements, is evident in 93% of the responses.

- Composite Strategies

A holistic approach incorporating diversification, long-term contracts, and flexibility clauses is adopted by 11% of respondents, which, when combined with those who have chosen any of these strategies individually or in dual combinations, demonstrates a comprehensive strategy to manage negotiation changes effectively.

- Specific Contractual Adjustments

An interesting outlier is the single response highlighting a blend of long-term contracts for fixed income and flexible terms in anticipation of future market shifts, underscoring a nuanced, forward-thinking approach to contract structuring.

Question 9: Communication Shifts with Supply Chain Partners

Analysis of the data on changes in communication with supply chain partners reveals that a significant 59% of respondents have experienced a moderate to significant change (scores of 3 and 4), while a cumulative 93% identify some degree of change (including scores of 5). This strong change indicates that a significant majority of supply chain participants have been forced to change their communication strategies in response to recent events, demonstrating the need for more flexible and robust communication protocols in times of disruption.

Question 10: The Imperative of Adaptability in Negotiations

When assessing the criticality of resilience to negotiation outcomes, the data shows that a majority of 59% of respondents consider resilience to be highly critical (scores of 4 and 5), with a cumulative 100% identifying some level of significance. The focus on adaptability is particularly indicative of the current supply chain negotiation climate, where traditional static strategies are less effective and the ability to quickly adapt to new conditions is critical to success.

Question 11: Economic Impact of Global Crises on Negotiations

The economic impact of the pandemic and geopolitical conflict on negotiations is reported to be moderate to highly significant by a vast majority of 63% of respondents (ratings 4 and 5), with a striking 51% assigning a rating of 4. This suggests that more than half of the respondents are contending with considerable economic challenges in their negotiation processes as a direct result of these events, underscoring the extensive reach of the pandemic and geopolitical conflicts into the economic sphere of negotiations.

Question 12: Fluctuations in supply and demand

The answers to question 12 of the questionnaire describe the strategies adopted by stakeholders in the Greek food industry in response to the fluctuations in supply and demand caused by recent global events.

6.2. Themes in the strategic response

1. **Price adjustment:** A significant number of respondents mentioned price increases as a direct strategic response to supply and demand fluctuations. This suggests that respondents have experienced inflationary pressures due to cost pushes, most likely due to disruptions in supply chains or increased production or procurement costs, which have necessitated the transfer of these increased costs to the consumer.

2. **Product alternatives:** The search for alternative products is another recurring theme, indicating a strategic shift towards diversification of product supply and offerings. This shift is most likely the result of supply chain disruptions that have made

it difficult to access traditional products or raw materials, forcing companies to seek substitutes to maintain business continuity.

3. Inventory management: A number of respondents report an increase in inventories, reflecting a strategic emphasis on inventory management. This could be interpreted as a proactive measure to prevent potential bottlenecks in the supply chain and to ensure that supply fluctuations do not unduly affect the ability to meet customer demand.

Question 13: Integration of Technology in Negotiation Processes

Question 13 shows the degree of integration of technological means in the negotiation processes. A remarkable 46% of respondents rated this integration as 4 or more, indicating significant integration of technology in their negotiation processes. This reflects a significant trend towards digitalization within the negotiation process, likely in response to the challenges of remote interaction and the need for effective communication platforms. However, 26% rated integration at lower levels (1 or 2), indicating a segment of the industry that remains less influenced by technological developments in its negotiation practices.

Question 14: Permanency of Changes in Negotiations

In question 14, respondents were asked which changes in the negotiations they believe will be permanent. The evidence shows a strong leaning towards distance bargaining (23%) and flexible contracts (28%), which adds up to 71% when responses combining these elements are taken into account. This points to a strategic shift in the Greek food industry towards the adoption of distance engagement and flexible contract structures as permanent features of the bargaining landscape. In addition, diversified sourcing was mentioned by 10% of participants, suggesting recognition of the need for more tailored approaches to sourcing as a permanent outcome of recent events.

Question 15: Key Lessons Learned from Negotiations

The responses to Question 15 reveal the key lessons learned from negotiations during the recent global events. The emphasis on the importance of communication was highlighted by 17% of respondents, while the combination of communication, contingency planning, and relationship building was identified by 24% as central learnings. These insights, representing 49% of respondents cumulatively, underscore the strategic imperative of robust communication, preparedness, and relational networks as pillars of effective negotiation practice in times of crisis.

Question 16: Preparedness of the Greek Food Industry

For question 16, a significant 67% of respondents believe that the Greek food industry was not prepared to respond to the challenges created by unforeseen events, indicating a perceived lack of preparedness to deal with crises in the industry. In contrast, 33% felt that the industry was prepared, which may reflect the resilience and adaptability of some parts of the industry. This divergence of views illustrates the variation in readiness in the industry and calls out the importance of evaluating and strengthening crisis response mechanisms.

Question 17: Optimism about the Future of Supply Chain Negotiations

Question 17 shows that optimism varies among respondents, with 59% expressing medium to high optimism (scores 3 to 5). However, a notable percentage of respondents show caution, with 29% expressing lower levels of optimism (scores of 1 or 2). This range of optimism suggests that while there is a general confidence in the industry's ability to meet future challenges, there is also an awareness of the complexities and uncertainties that lie ahead.

Question 18: Open Questions for recommendations

Respondents to question 18 of the survey provided a plethora of recommendations for strengthening negotiations in the Greek food industry's supply chain, presenting a mix of strategies focusing on collaboration, diversification and technological innovation. In general, the need for a holistic approach is mentioned, where producers, suppliers and retailers move in a coordinated manner, emphasizing the symbiotic nature of their relationships. This perception extends to the political and economic sphere, advocating the strengthening of links with key international players, possibly in order to isolate disruptions in the supply chain.

A repeated theme is the call for increased flexibility and adaptability within supply chain practices, highlighting the criticality of contingency planning as a pillar of negotiation resilience. The importance of building solid, ethical relationships is highlighted as a key factor for successful negotiations, with trust and transparency serving as a foundation for long-term partnerships.

The role of technology as a key driver is clearly recognized, with respondents supporting the integration of sophisticated management software to facilitate real-time communication and informed decision-making. At the same time, the need for ongoing training is recognized, suggesting that equipping negotiation teams with advanced communication and strategic thinking skills is essential to navigate the complex supply chain landscape.

Ethical conduct and transparency of transactions are also identified as vital components of negotiation, suggesting that these practices not only enhance trust but also pave the way for fair and effective agreements. A collaborative problem-solving ethos is supported, where challenges are tackled together, promoting solutions that benefit all parties involved.

Readiness is another focus, with strategic stockpiling and cultivating skilled staff identified as keys to strengthening negotiating positions in the face of crises. Innovation is not overlooked, with flexibility in product development seen as an essential response to evolving consumer demands and market changes.

Finally, with regard to the economic competitiveness of the industry, the recommendations suggest a review of production methods and the adoption of a flexible, just-in-time approach to production in line with the monopolistic competition in the global market.

Chapter 7: Conclusions

This concluding chapter summarizes the findings from the comprehensive analysis of the survey data as presented in Chapter 6. The primary objective of the conclusions is to condense the prevailing attitudes, strategies and lessons learned that stakeholders gathered in the context of the food industry supply chain negotiations, amidst the challenging backdrop of the COVID-19 pandemic and geopolitical disruptions, and more specifically the war in Ukraine with Russia.

7.1 Synthesis of supply chain dynamics

The research conducted in the context of this study clearly demonstrated the profound impact of recent global events on supply chain operations. The empirical evidence gathered presents a clear narrative. The COVID-19 pandemic was a catalyst for major disruptions in the supply chain sector. A significant majority of survey respondents reported experiencing significant operational impacts as a direct consequence of the pandemic. These impacts ranged from disruptions in logistics and distribution channels to acute shortages of key materials and workforce disruptions.

At the same time, the geopolitical situation, in particular the Russian invasion of Ukraine, has introduced an additional level of complexity to supply chain negotiations. This development has forced stakeholders to reassess and re-evaluate established negotiation strategies and approaches. The need for such reassessment stems from new challenges that have emerged, such as increased volatility in commodity prices, uncertainties in transport and logistics due to geopolitical tensions and the reconfiguration of global trade routes. As a result, these conditions have necessitated a shift from conventional methods to more dynamic, flexible and resilient negotiation strategies capable of adapting to the rapidly evolving geopolitical and pandemic-affected landscape.

7.2 Strategic changes and adjustments

The prominent challenges identified, such as escalating costs, procurement difficulties and communication barriers, catalyzed a strategic realignment within the industry. There is a distinct trend towards supplier diversification and the adoption of long-term contracts, reflecting an effort to mitigate risk and ensure continuity. Moreover, the inclusion of flexibility clauses in contracts is recognized as a critical strategy, highlighting the need for adaptive frameworks capable of responding to unforeseen market dynamics.

7.3 Technological integration and distance negotiations

A central finding of this study is the industry's penchant for technological solutions, with a significant proportion of stakeholders using digital tools to improve negotiation processes. This digital transition, accelerated by pandemic constraints on physical interactions, is expected to continue, positioning remote negotiations as a key component of the supply chain landscape.

7.4 Lessons learned and industry preparedness

The survey data reveals vital lessons from this period, in particular the paramount importance of effective communication, the imperative of contingency planning and the value of cultivating strong relationships. However, perceptions of the industry's preparedness to deal with such crises remain mixed, with the majority expressing a lack of preparedness to meet the challenges posed by unforeseen events.

7.5 Outlook for the future

Respondents present a spectrum of optimism about the future of supply chain negotiations. While some demonstrate confidence, bolstered by the resilience developed through crisis management, others maintain a cautious attitude, aware of the potential ongoing challenges and the need for continuous improvement of negotiation strategies.

7.6 Recommendations for continuous improvement

In light of these findings, the final recommendations for continuous improvement in supply chain negotiations argue for an integrated strategy. This includes promoting collaborative efforts, increasing flexibility and adaptability in supply chain practices, and strengthening links to international markets. The industry is recommended to leverage technological advances for real-time communication and informed decision making, in addition to investing in staff training to equip negotiation teams with sophisticated skills.

7.7 Industry adaptation and future directions

The Greek food industry's supply chain negotiations have been deeply affected by the recent global crises. The industry has undergone a necessary adjustment, re-evaluating its strategies and practices. The way forward, as outlined by the survey responses, includes adopting flexibility, strengthening communication and relationships and integrating technological developments. There is a general emphasis on preparedness and adaptability as fundamental pillars for future negotiation success.

7.8 Implications for policy and practice

The insights gained from this research have important implications for both policy and practice. Policy makers are encouraged to take the findings into account when formulating regulations and support for the food industry, particularly in areas related to supply chain resilience and crisis management. For practitioners, the study highlights the importance of adopting a dynamic approach to negotiations, underlined by an understanding of global interdependencies and the unpredictable nature of modern markets.

7.9 Limitations and directions for future research

This research is not without limitations, which stem mainly from the specific context of the Greek food industry in a period of unprecedented global turmoil. Future research should aim to broaden the scope of the research, possibly exploring similar dynamics in different geographical areas or in other sectors, in order to enrich our understanding of supply chain negotiations in different contexts.

In conclusion, this study provides a comprehensive overview of the current state and future prospects of supply chain negotiations in the Greek food industry amidst global crises. It highlights the need for strategic adaptability, technological integration and a focus on strong communication and relationships. These elements are critical for navigating the complexities of modern supply chain negotiations and ensuring resilience in the face of future challenges.

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Appendix A: Questionnaire: Supply chain negotiations in the food industry

1. In which country do you operate ___________

2. Select your primary role in the supply chain:

Buyer/Seller

Logistics Coordinator

Transporter

Other (specify): ___________

3. On a scale of 1 to 5, rate how significantly Covid-19 has impacted your supply chain operations:

1 (Not at all)

2

3

4

5 (Excellent)

4. On a scale of 1 to 5, rate the impact of the Russian invasion of Ukraine on your negotiating strategies:

1 (Not at all)

2

3

4

5 (Extremely)

5. Select up to three challenges faced in negotiations due to unforeseen situations:

Procurement difficulties

Increased costs

Communication barriers

Other (please specify): ___________

6. Since the start of these unforeseen events, how has the balance of power in the negotiations changed?

Increase

Decreased

Remained the same

7. How well prepared are you to deal with any unforeseen event?

1 (Not at all)

2

3

4

5 (Very much)

8. Select up to three strategies adopted to effectively manage change in negotiations:

Diversification of suppliers

Long-term contracts

Flexibility clauses

Other (please specify): ___________

9. Rate the degree of change in communication with supply chain partners following these events:

1 (No change)

2

3

4

5 (No change)

10. How critical has adaptability been to achieving successful outcomes in the negotiations?

1 (Not critical at all)

2

3

4

5 (Extremely critical)

11. Assess the economic impact of the pandemic and geopolitical conflict on your negotiations:

1 (No impact)

2

3

4

5 (No impact)

12. How have fluctuations in supply and demand affected your inventory and pricing strategies?

Increase in stock

Increase in prices

Search for alternative products

Other (please specify): ___________

13. Have technological tools been incorporated into your negotiation processes?

[ ] Yes, significantly

[ ] Yes, to some extent

[ ] No, not to a large extent

[ ] No, not at all

14. Indicate which changes in the negotiations you believe will be permanent:

[ ] Remote negotiations

[ ] Flexible contracts

[ ] Differentiated procurement

[ ] Other (please specify): ___________

15. Select up to three key lessons learned from the negotiations during these events:

Importance of communication

Need for contingency plans

Value of building relationships

Other (please specify): __________

16. Do you think the Greek food industry was prepared and ready to meet the challenges created by unforeseen events?

[Yes]

[No]

17. Please rate your level of optimism about the future of supply chain negotiations in the Greek food industry following the pandemic and geopolitical disruptions:

[ ] 1 (You are not optimistic)

[ ] 2

[ ] 3

[ ] 4

[ ] 5 (Very optimistic)

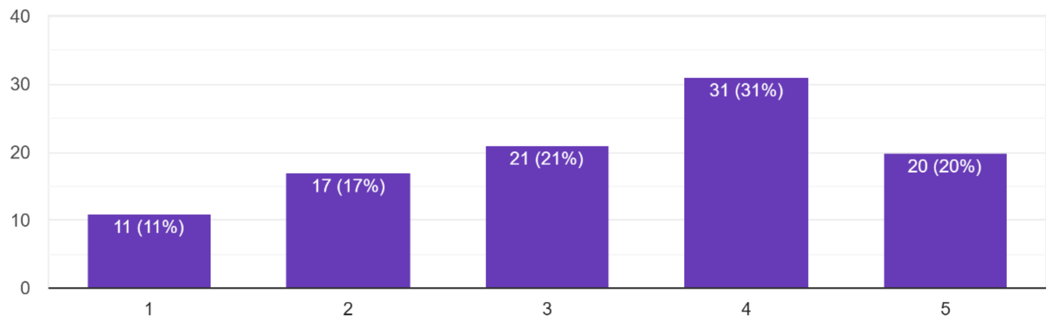
18. In an effort to continuously improve negotiations in the supply chain of the Greek food industry, what is the most important recommendation you would suggest?

____

Appendix B: Statistics and Charts of questionnaire

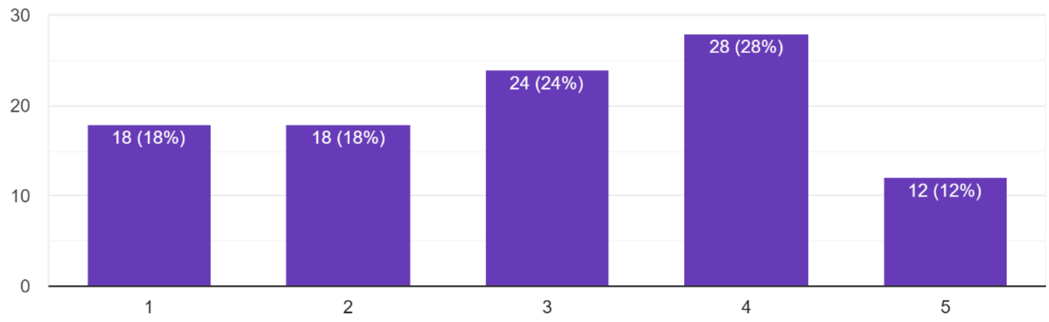
3. On a scale of 1 to 5, rate how significantly Covid-19 has affected your supply chain operations

100 απαντήσεις



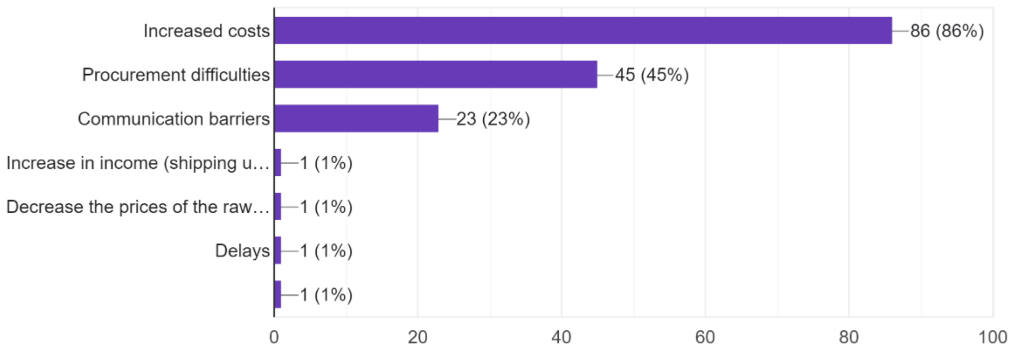
4. On a scale of 1 to 5, rate the impact of the Russian invasion of Ukraine on your negotiating strategies

100 απαντήσεις



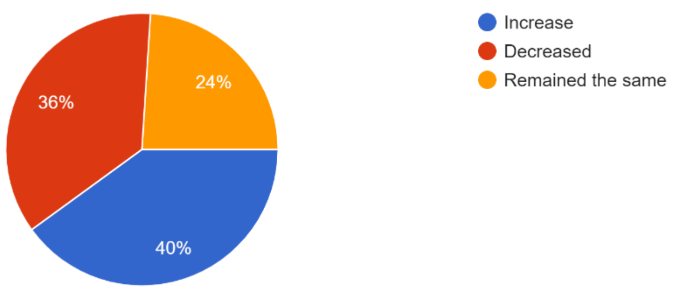
5. Select up to three challenges that negotiations face due to unforeseen situations

100 απαντήσεις

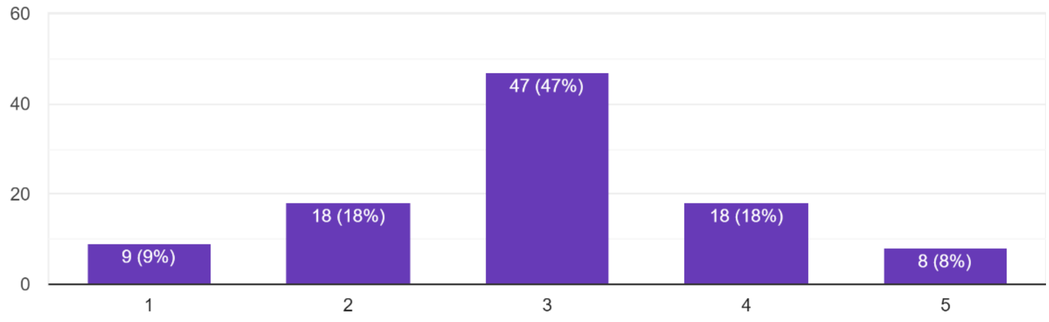


6. Since the beginning of these unforeseen events, how has the balance of power in the negotiations changed?

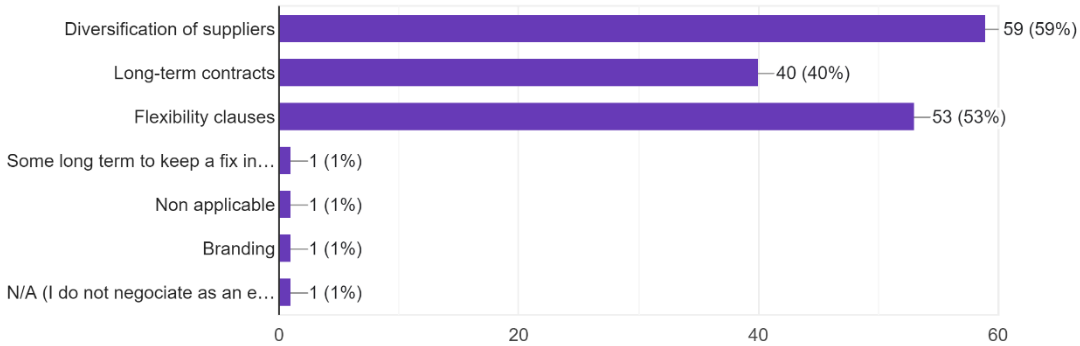
100 απαντήσεις



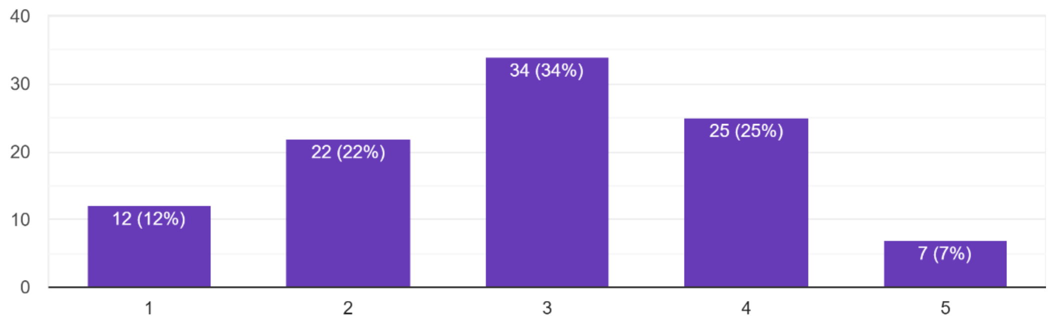
7. How well prepared are you to deal with any unforeseen event?
100 απαντήσεις



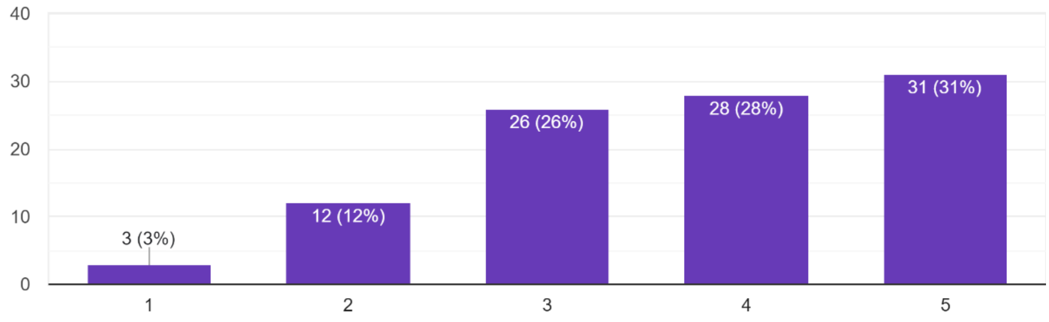
8. Select up to three strategies adopted to effectively manage change in negotiations
100 απαντήσεις



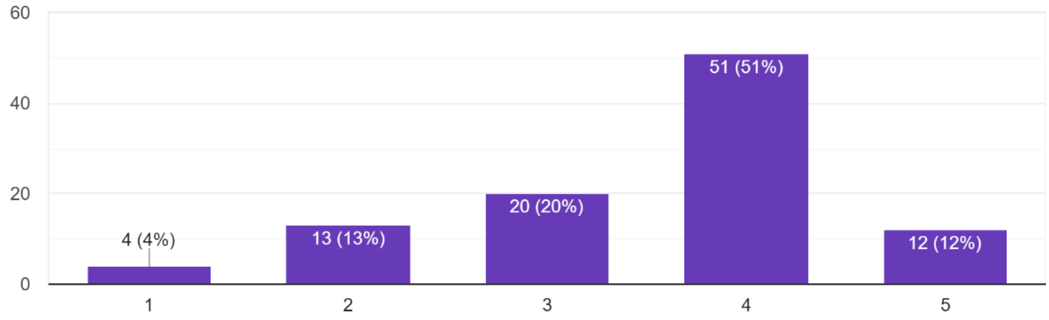
9. Rate the degree of change in communication with supply chain partners following these events
100 απαντήσεις



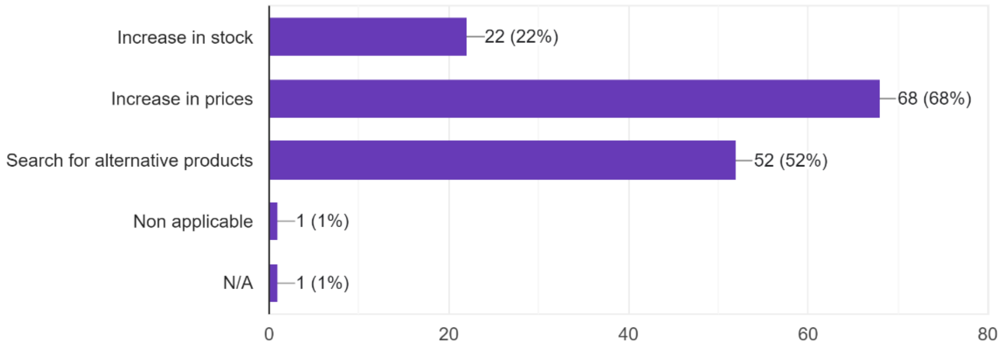
10. How critical has adaptability been to achieving successful outcomes in the negotiations?
100 απαντήσεις



11. Assess the economic impact of the pandemic and geopolitical conflict on your negotiations
100 απαντήσεις

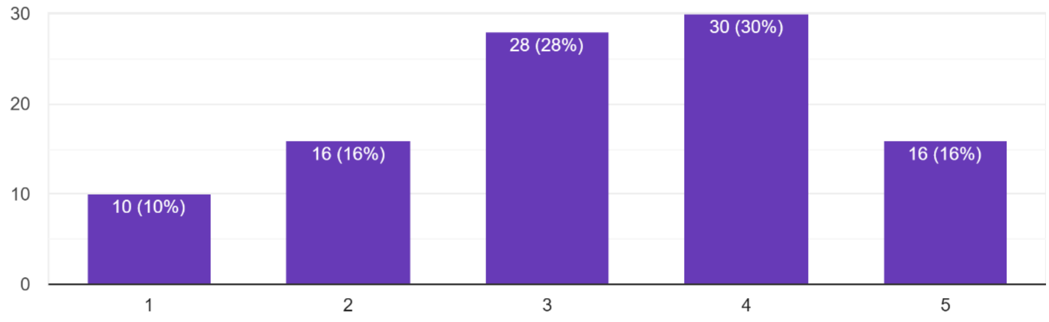


12. How have fluctuations in supply and demand affected your inventory and pricing strategies?
100 απαντήσεις



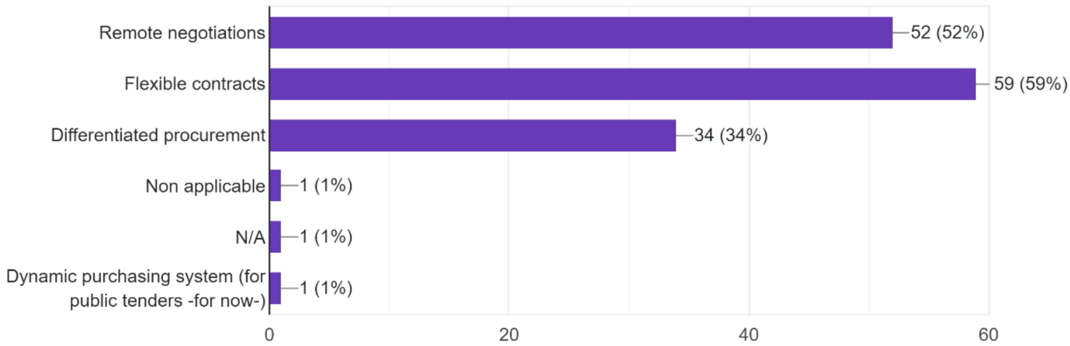
13. Have technology instruments been integrated into your negotiation processes?

100 απαντήσεις



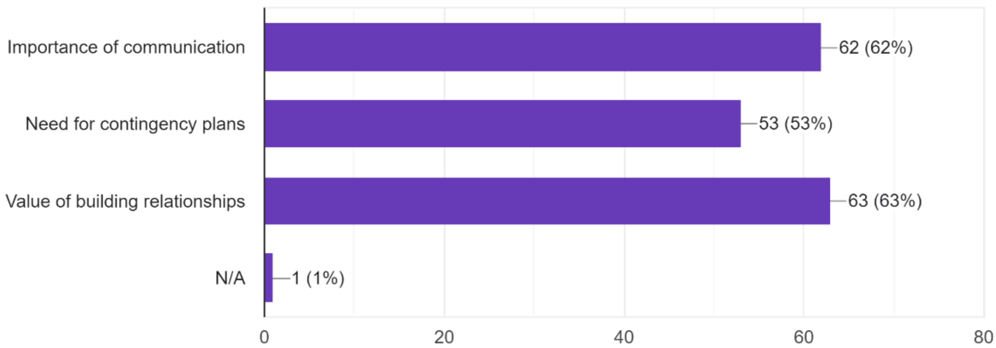
14. Indicate which changes in the negotiations you believe will be permanent

100 απαντήσεις



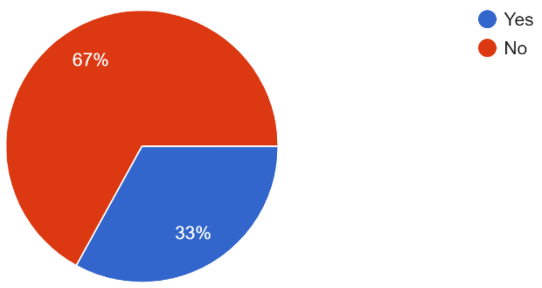
15. Select up to three key lessons learned from the negotiations during these events:

100 απαντήσεις



16. Do you think that the Greek food industry was prepared and ready to respond to the challenges created by the unforeseen events?

100 απαντήσεις



17. Rate your degree of optimism about the future of supply chain negotiations in the Greek food industry after the pandemic and geopolitical disruptions

100 απαντήσεις