

Investigating the Impact of the Russian-Ukrainian Conflict on the Egyptian Market: Insights from Multiple Sectors

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Received on: 23 November 2022

Accepted on: 21 December 2022

Published on: 29 December 2022

Abstract

Purpose: This research aims at investigating the impact of the Russian-Ukrainian war on the supply chain processes in the Egyptian market. In addition to developing contingency plans that could guide the Egyptian stakeholders in achieving efficient and resilient supply during crises.

Design/Methodology/Approach: Published reports and statistical records concerning the Russian-Ukrainian war and its impact on the supply chain disruption in Egypt are reviewed. Following that, a focus group is held with Egyptian stakeholders, including high-level government participants and industrial representatives from the Egyptian Chamber of Commerce, to investigate the current situation in Egypt. In addition, three semi-structured interviews with Egyptian market representatives, including: representatives from the food sector, the oil and gas sector, and the Egyptian tourism sector, were conducted to help the Egyptian market stakeholders overcome those supply chain complexities.

Findings: The study showed that the most affected markets are the food market, the tourism sector, and the oil and gas sector. Upon which, a SWOT analysis technique is used to show the major strengths, weaknesses, threats, and opportunities in the Egyptian market. In addition, a road map is presented to producers and service managers to guide and upgrade their strategic plans to face any unexpected situations in the upcoming years and to show the gap to future researchers.

Research Implications/Limitations: The Egyptian market stakeholders in food, oil and gas, and tourism need to implement new strategies for adapting to and dealing with crisis management, renovating production operations plans, and satisfying their market needs.

Originality: The paper is the first to provide a comprehensive analysis and evaluation of the impact of the crisis and the Russian-Ukrainian conflict on the Egyptian market, as well as new alternative and contingency plans to assist Egyptian stakeholders in mitigating its negative consequences.

Keywords: Russian-Ukrainian conflict, supply chain, Egyptian market.

Introduction

The disputes between Ukraine and Russia have been obvious to the whole world since Ukraine achieved independence in 1991. On 16th of February 2022, Russia declared a war against Ukraine through missile and shelling attacks against specific Ukrainian cities (Goshwami, 2022). The Russian-Ukrainian invasion started due to geopolitical issues. In 2021, the disputes between Russia and Ukraine worsened when the Ukrainian President implored the US President to let Ukraine join the North Atlantic Treaty Organization (NATO), which is an alliance between 28 European countries and two North American countries that promotes peace and security in the North Atlantic region (Jones, 2022).

The main goal of NATO is to expand eastward towards Russia's border to be fully surrounded and spread peace, which poses a major security threat to Russia because the Crimean invention will be stopped, and hence, Russia will no longer get benefits from trading through the Ukrainian Sevastopol seaport which is considered the backbone of the Russian maritime commercial trade, as Russia's ports are in the Far East, which get frozen for some time during the year, thereby hindering and limiting Russia's maritime commercial trade and security (Chaunhan, 2020).

Accordingly, because of the Russian-Ukrainian conflicts, world imports and exports are highly influenced because Russia and Ukraine together are considered the leading export countries in the world. Specifically, in the grain industry, both countries produce almost a quarter of the world's wheat production, which is used in feeding billions of the world population, in addition to sunflower seed oil and corn. In addition to the disruptions in the tourism sector and the dramatic inflation in the oil and gas supply chain industry (Swanson, 2022).

In the Middle East, the population is highly dependent on wheat imports, which is considered the main feeding source. Egypt is the most consumer of bread country in the Middle East, and

85% of Egypt's wheat imports are from Russia and Ukraine. As a result, the Russian invasion of Ukraine has a negative impact on Egyptian wheat imports because all grain supplies are disrupted, and prices volatile (Beaubien, 2022). Moreover, Egypt depends on the tourism industry to a great extent for its foreign exchange rates and most of the tourists in Egypt are coming from Russia and Ukraine. Last but not least, the oil and gas industry is affected in Egypt and the transportation fares might get higher as Egypt depends on Russian the oil imports to some extent (Swanson, 2022).

Consequently, the main aim of this research is to investigate the impact of the Russian-Ukrainian war on the Egyptian market through assessing the current situation of the Egyptian market after the Russian-Ukrainian war and how to deal with it through crisis management techniques in addition to establishing proactive strategic plans to deal with any shortage and maintain its price by avoiding price fluctuations. The research starts by giving a brief introduction about the war and the main research aim and objectives, followed by a review of the previous studies regarding the crisis management. Then, the methodological section leads into the secondary data analysis through reviewing the Egyptian statistical records and the primarily data analysis and findings are presented through a series of focus group and semi structured interviews. Finally, the research concludes with a roadmap and recommendations for further research.

Crises Management in Supply Chain

Supply chain is considered as a complex network as it is composed of a series of processes in which products and services flow through different steps to fulfill the requirements of the customers and the main goal of logistics which is to minimize total costs (Cuervo et al., 2010). In case of human related crises, the supply chain and logistics activities are interrupted, and a

major disruption of the normal flow of goods or services might cause a severe disruption (Hittle and Leonard, 2011).

Therefore, the affected stakeholders should apply a proactive crises management approach to avoid crises harmful effects. Although, most of the previous crises case studies did not have any crisis management proactive plans and the stakeholders are still following the typical crisis management by applying its systematic process that comprises mainly three practices which are crisis assessment and evaluation and planning of different recovery scenarios (Ponisa and Ntalla, 2016). Also, stakeholders rely on different approaches to cope with crisis situations such as employee's reduction, cost reduction, outsourcing, and developing collaborative consumption (Diallo and Kaswengi, 2018).

From the supply chain perspective, crises have severe negative impacts on the supply chain practices. First, direct impact from crises is on manufacturing plants that need to shut down if their workforce is affected. Not only individual plants and production lines but also entire industries have been affected by such events. Second, indirect effects were felt through the supply chain, especially where alternative suppliers could not be found, or worse, and were impacted simultaneously. Further indirect effects appeared quickly on the horizon as a combination of export and travel bans, and later due to large-scale unemployment through a reduction of consumption (Dubey and Gunasekaran, 2016).

In addition, to compete in global supply chains between mega monopolies, implementing supply chain integration mechanisms will lead to reducing supply chain costs, time in supply operations, quality control, and the costs of several operations in addition to improving the accuracy of demand forecasts by all partners. (Elwakkad and Deselnicu, 2021). Therefore, the triple-A supply chain is a propitiate solution in disaster relief to respond rapidly to short-term changes through agility, that helps organizations to respond flexibly to demand fluctuations by, for instance, stock availability and access and also through adaptability by adapting to complex dynamic environments, and finally through alignment by integrating and coordinating processes with all participating partners (Kovács and Sigala, 2021).

Particularly, in domestic supply chain in developing countries, despite the significant innovations and achievements in supply chain management methods and tools, manufacturers and suppliers are still struggling to mitigate the possible impacts of the un-resilience supply chain due to crises and disruptions (Tsiamas and Rahimifard, 2021).

Therefore, as stated by Tsiamas and Rahimifard in (2021), stakeholders who are managing and operating supply chains should apply the following steps that could be shown in Figure 1 to minimize the probability of any negative impact resulting from crises and supply chain disruption.

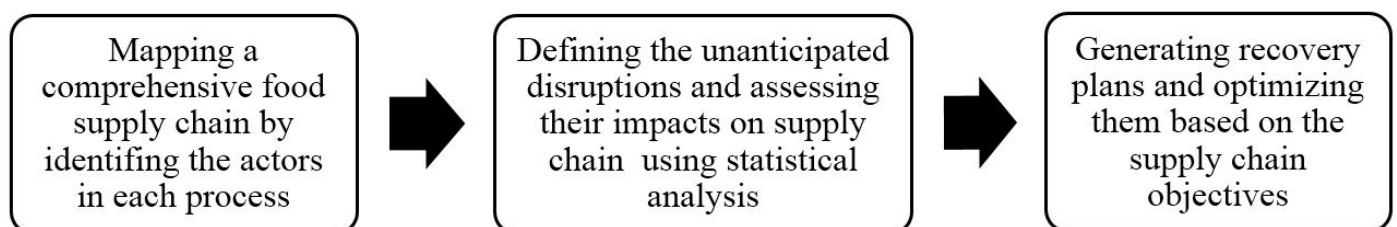


Fig. 1. Crises Management in Supply Chain

Source: (Tsiamas & Rahimifard, 2021)

Therefore, from the reviewed literature, this research aims at investigating the impact of the Russian-Ukrainian war on the Egyptian

market supply chain and find alternatives to satisfy the Egyptian domestic demand. This section highlighted the importance of crises

management from the supply chain perspective. In the following sections, the methodology of this research will be explained to find solutions and alternatives to the Egyptian supply chain problems through conducted interviews, focus group, and published statistical records. Finally, suggested recommendations will be presented through a roadmap to be used as guidance to overcome this severe problem.

Methodology

To investigate the impact of the Russian-Ukrainian conflict on the Egyptian supply chain uncertainties, an empirical study is conducted through a combination of data and knowledge from different sources which helps increase the transparency, reliability and objectivity of a case study that allows other research to apply the case measures and end up with the same conclusions.

As shown in Figure 2, this research used two data collection methods. First, the secondary data collection method is used through reviewing the previous reports and the statistical records that have been conducted on crisis management by focusing on the Russian-Ukrainian war and its

impact on the supply chain uncertainties and risks. Afterwards, primary data collection methods are used through conducting an online focus group with a group of experts and stakeholders including high level participants and representatives from the Egyptian Chamber of Commerce, with the aim of discussing the challenges and supply chain interruptions that Egypt might face in the coming era and assessing the current situation of the Egyptian market. Based on the focus group discussion, a SWOT analysis is established to show the Egyptian market strengths, weaknesses, opportunities, and threats.

Moreover, three separate semi-structured interviews were conducted with two importers from two Egyptian importing companies in several sectors, including grains and sugar sectors as they are considered as the main Egyptian food sources, in addition to Egyptian two traders from oil and natural gas companies, and two owners of Egyptian tourism companies, with the aim of developing contingency plans to guide the Egyptian importers and producers towards adaptable, flexible, and more efficient supply chain strategies and proposing recommendations to avoid any shortages in the Egyptian market through a proposed roadmap.

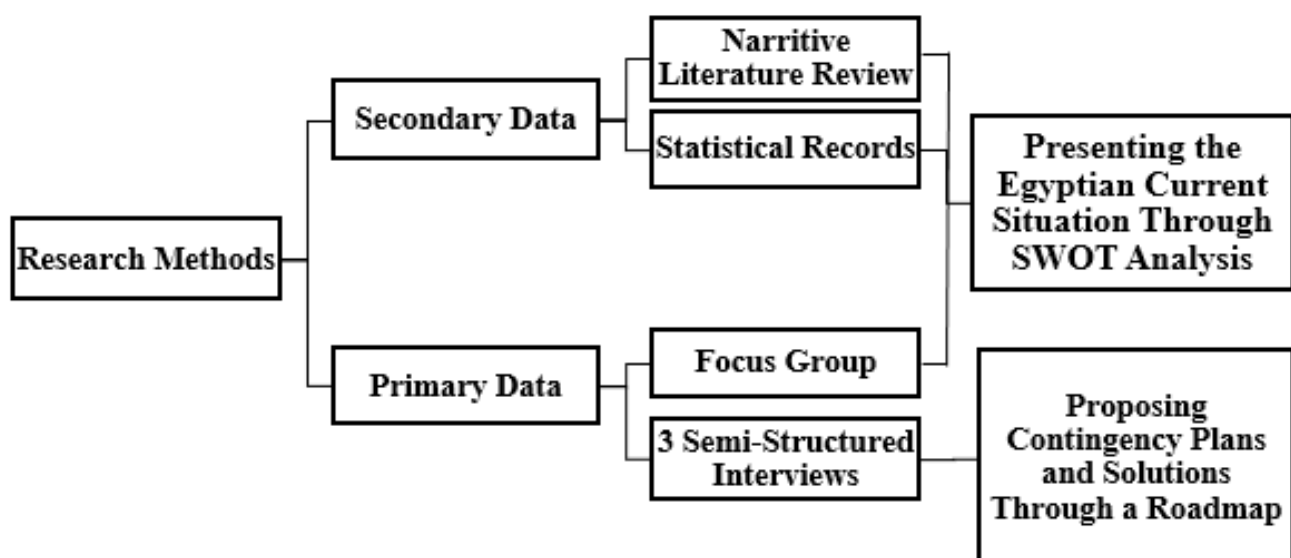


Fig. 2. A visual representation of the research steps

Source: by the authors, 2022

Discussion and Results

Assessing the Current Situation of the Egyptian Market after the Russian-Ukrainian War

Recently, in February 2022, after Russia’s attack on Ukraine, food supply chains are disrupted and

threatened, especially grain supply chain, as both countries account for third of the world’s wheat exports, as shown in Figure 3, a fifth of its corn trade and almost 80% of sunflower oil production. The most affected trade due to this crisis is wheat exports as it depends on maritime transport because all the inland commercial vessels are banned and all the surrounded seaports to these two countries stopped their operations (Terazono et al., 2022).

World's top wheat exporters, export & production share, 2017-21

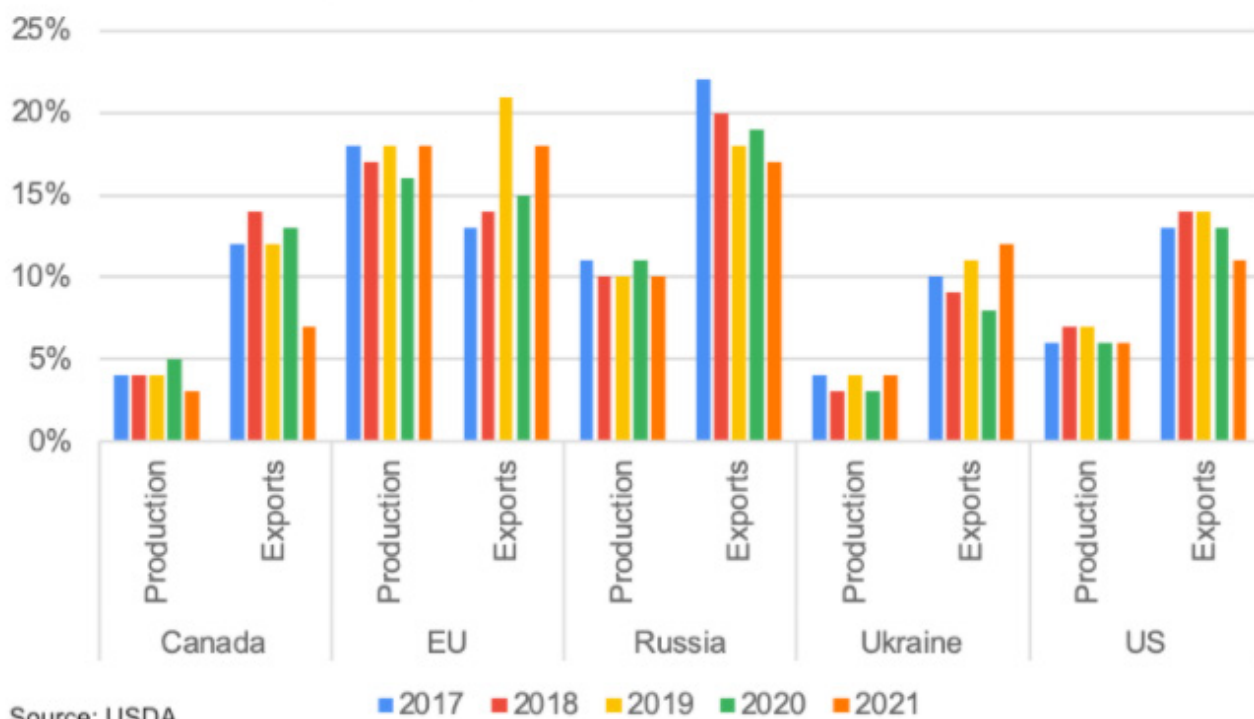


Fig. 3. The world's top wheat exporters
Source: (Foreign Agricultural Service, 2022)

On the other hand, according to the published statistical records of Trading Economics in 2022, Egypt is considered one of the most importing countries of agricultural products; mainly wheat and maize and they accounts for around 24% of the Egyptian imports. While in 2018, wheat was the leading imported commodity in Egypt with about 47 billion Egyptian pounds, the total import

value across commodities of Egypt is 1.5 trillion Egyptian pounds (Galal, 2021).

Consequently, after the Russia-Ukraine war, the Egyptian economy is exposed to a severe threat. In addition to the Egyptian food security because the Egyptian agricultural sector is facing inability to produce enough grains, especially

wheat, and oil seeds to meet even half of the country's domestic demand. It also counts on large volumes of heavily subsidized imports from Russia and Ukraine, around 85%, to be able to ensure sufficient along with affordable supplies of wheat to produce bread. Furthermore, the war also jeopardizes the Egyptian wheat supply because Egypt was mainly depending on its imports (Singh, 2022). Hence, Egypt is in need of finding alternative suppliers and wheat production strategies to fulfill its needs by taking urgent and decisive action (Tanchum, 2022).

Furthermore, Russia is considered as the world's third largest oil producer. It supplies 14% of the global production which accounts for nearly seven to eight million barrels per day of crude oil to markets worldwide. However, due to the Russian-Ukrainian conflict, the prices of oil and gas have increased dramatically in March 2022 compared to 2021 prices (Singh, 2022). This price boost could be shown in Figure 4:

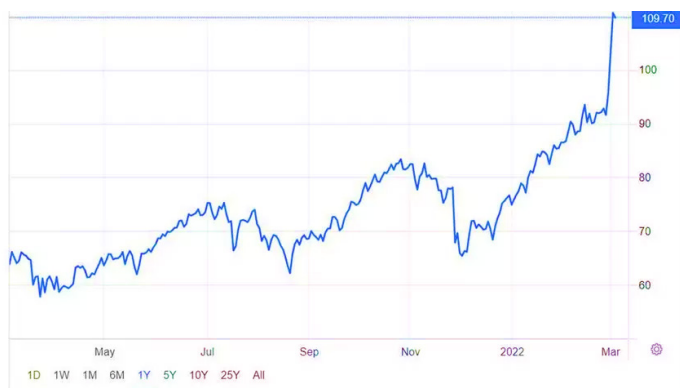


Fig. 4. Oil prices changes in 2021 and 2022

Source: (Trading Economics, 2022)

Besides, the tourism sector is also affected as a result of the crisis. The tourism supply chain involves many components, not just accommodation, transport and trips, but also bars and restaurants, food productions, waste disposal and the infrastructure that supports tourism in destination (Karadima, 2022). It is considered as a network of tourism organizations involved in a series of diverse activities, ranging from providing an entire spectrum of components of tourism products or services, such as flights, accommodations at the tourism reception desk, and ending with the sale of tourism products in

the tourism region (Puwanendram and Ganeshan, 2021). According to the Russian-Ukrainian conflict, the tourism sector is negatively affected and exposed to a severe risk as the Russian and Ukrainian tourists had been making up a larger proportion of tourists in many European, Asian, and Middle Eastern countries over the past couple of decades (Karadima, 2022).

Thus, in order to assess the current situation of the Egyptian market more comprehensively, an online focus group was conducted in May 2022 with the Egyptian stakeholders, including high-level of participants from the government and industrial representatives from the Egyptian Chamber of Commerce as shown in the following section:

- **The Russian-Ukrainian conflict effect on the Egyptian economic situation.**

The interviewees stated that the Russian-Ukrainian war will negatively affect the whole world and that its bad impacts have not been fully noticed yet. They also stated that it is dramatic that the world has not fully recovered from the COVID-19 and Omicron Coronavirus subvariant bad impacts yet. As a result of the trade restrictions in the Black Sea, the whole world will be negatively affected, especially Egypt, as its economy greatly depends on sea imports from Russia and Ukraine. A lot of Egyptian industries and sectors will be affected, which will affect the Egyptian economic situation. However, all the ships that were supposed to operate in the Black Sea will reroute and shift their directions to pass through the Egyptian Suez Canal, which will increase its revenues.

- **The Russian-Ukrainian conflict effect on the products prices and availability.**

The interviewees stated that some products' prices have increased due to the Russian-Ukrainian conflict, such as wheat, yellow corn, and sugar. However, this increase results mainly

from the retailers' and Egyptian suppliers' exploitation. As for the availability, Egypt does not face any shortages of any products and it has sufficient stocks for all products. Moreover, the interviewees declared that there are three major markets that are affected in Egypt including the food market, the tourism sector and the oil and gas industry.

- **The Russian-Ukrainian conflict impact on the Egyptian wheat supply chain.**

The interviewee commented that Egypt depends on wheat imports to a great extent. Due to the Russian-Ukrainian war, there were two huge wheat ships coming to Egypt, and unfortunately, they were affected by the war shrapnel. One of them is totally lost and the other will come to Egypt at any risk without insurance as all the insurance companies have stopped their insurance contracts. However, Egypt has a huge tonnage of wheat that can be sufficient for the coming six months. In addition, in Egypt, there is a problematic mindset that the wheat prices have been increased as a result of the retailer's counterfeit only. There is no economic reason for wheat to increase as the country has a stable demand and sufficient wheat. Moreover, the wheat season is so close that it will solve any shortage that might happen.

- **The Russian-Ukrainian conflict impact on the Egyptian sugar supply chain.**

The interviewee declared that Egypt has no problems with the Egyptian sugar supply chain. In 2020, Egypt will start the largest agricultural industrial project for sugar and crops in the world. In addition to the agricultural areas for sugarcane in upper Egypt which record a huge annual production that satisfies the Egyptian domestic demand.

- **The Russian-Ukrainian conflict impact on the Egyptian corn supply chain.**

The interviewee stated that the Russian-Ukrainian conflict has negatively affected the corn supply chain because of the Black Sea closure as Egypt imports ten million tons of corn annually from Russia and Ukraine. Consequently, all the food industry will be negatively affected as the animals highly depend on the grains as a source of food, and hence, the prices of meat will also increase in the long run.

- **The Russian-Ukrainian conflict impact on the tourism industry in Egypt.**

The interviewee stated that Egypt depends to a great extent on Russian and Ukrainian tourists in the Red Sea resorts; both together are considered the major markets for the Egyptian tourism industry. Especially during COVID-19 pandemic from 2020 to 2022, most of the tourists in Egypt were Russians and Ukrainians. Hence, they were an essential source of foreign exchange earnings and helped Egypt in its recovery process from the pandemic. According to the Russian-Ukrainian conflict, the tourism industry in Egypt has been negatively affected as the number of tourists from Eastern Europe visiting Egypt has noticeably decreased as they fear flying. Moreover, air bans in Russia and Ukraine have forced several airline companies to either suspend or reroute their flights.

- **The Russian-Ukrainian conflict impact on the Egyptian oil and gas supply chain.**

The interviewee stated that the Russian-Ukrainian conflict will benefit Egypt's Liquefied Natural Gas (LNG) supply chain. Russia is the world's leading country in exporting LNG, and it is considered a threat to Egypt as well. Due to the Russian-Ukrainian conflict, Egypt can take the opportunity to be the number one exporter of LNG to the whole world because Egypt has achieved self-

sufficiency and has the infrastructure for the transport and handling of natural gas, which includes the pipelines, as well as distribution networks and twenty-nine gas treatment plants, in addition to two LNG facilities.

Though for the petroleum and gas supply chain industry, it could be considered a double-edged sword, the positive impact is that investors will be encouraged to enter the Egyptian oil and gas market and boost discovery and extraction because Egypt has a lot of petroleum sources. Furthermore, the increased global demand for oil and gas has the potential to increase shipping movements through Egypt's Suez Canal. On the other hand, the Russian-Ukrainian crisis imposed many challenges to the Egyptian oil and gas market because of the oil price fluctuations, which require the development of new action plans.

• **Suggestions to deal with the Russian-Ukrainian conflict to avoid any losses.**

The interviewees agreed on some recommendations that could help in overcoming

the negative impacts of the Russian-Ukrainian conflict. First, to use smart technology by creating a secure database to gather the Egyptian government, importers, the Egyptian carriers, and the interested stakeholders from the industry to cooperate and share reliable information to maintain a secure and efficient supply chain. Second, to use Private Public Partnerships (PPP) to cooperate in regional production and shift to exporting rather than importing. Third, to develop and continue the inland infrastructure and support it with logistics services and digitalized platforms. Finally, monitor the retailers' prices to avoid fake price fluctuations.

According to the conducted focus group, and the statistical records, it has been revealed that Egypt has a lot of opportunities and strength points that could positively protect the Egyptian market from being exposed to any shortage or loss due to the Russian-Ukrainian conflict, as well as some weaknesses and threats that could influence and interrupt the Egyptian supply chain's efficiency. Accordingly, all the Egyptian strengths, opportunities, weaknesses, and threats are summarized in a comprehensive SWOT analysis. It could be shown in the following table:

Table 1: SWOT Analysis for the Impact of Russian-Ukrainian War on the Egyptian Market and Supply Chain Interruptions

<p style="text-align: center;"><u>Strengths</u></p> <p>Wheat safety stock. The new agricultural-industrial projects. Government incentives to the Egyptian farmers. New agreements on wheat imports. Hotels offers to the Russian-Ukrainian tourists. The good infrastructure of the Egyptian oil and gas transportation.</p>	<p style="text-align: center;"><u>Weaknesses</u></p> <p>Lack of digital supply chain. Lack of digitalized infrastructure. Bureaucratic rules and regulations. Retailers' fraud and exploitation. Absence of efficient logistics services.</p>
<p style="text-align: center;"><u>Opportunities</u></p> <p>The opportunity to be the leading country in exporting LNG. The opportunity of making new partnerships with foreigners to help in the Egyptian oil extractions. The increase of Suez Canal profits.</p>	<p style="text-align: center;"><u>Threats</u></p> <p>Shortage of foreign currency if the Russian-Ukrainian tourists stopped their travel to Egypt. Grain shortage. Economic shocks and instability.</p>

Source: By the authors

<http://apc.aast.edu>

Contingency Plans for the Egyptian Market Stakeholders

Contingency Plans for the Egyptian Food Market

- **The Egyptian food industry contingency plan to maintain supply chain processes continuity during the Russian-Ukrainian conflict.**

The interviewees declared that Egypt has implemented several contingency plans. First, Egypt has signed a contract with Romania for a wheat shipment that will be considered as a recovery export country instead of Russia and Ukraine. Moreover, for the wheat imports, Egypt tried to sign a contract with France, but unfortunately, their wheat prices were too expensive, and Turkey has cancelled its exports to the whole world to satisfy its domestic needs. In addition, the Egyptian government will give incentives to its farmers to encourage them to increase grain production and to maintain the prices and availability.

- **The lessons learned from COVID-19 pandemic to maintain the Egyptian food supply chain processes continuity.**

The interviewees stated that COVID-19 pandemic has had a tremendous influence on the food supply chain in general, not only in Egypt. The most important lesson is that Egypt is shifting from being an importing country to being a self-producer country by depending on Egyptian productions. Therefore, agriculture infrastructure investments have taken place in the last couple of years, and a lot of agriculture projects have been constructed to achieve this aim and to be a leading exporting country.

Contingency Plans to the Egyptian Tourism Industry

- **The Egyptian tourism sector contingency plan to maintain tourism level during the Russian-Ukrainian conflict.**

The interviewees declared that the ministry of tourism compelled the Egyptian three-star hotels to accommodate the tourists as well as provide a full board service. Especially the tourists who come from Russia and Ukraine without asking them to pay additional fees to encourage them to travel to Egypt in order to maintain the tourism level. Additionally, the Egyptian hotels have allowed the already existing Ukrainian and Russian tourists to stay in the hotels until they can safely return.

- **The lessons learned from COVID-19 pandemic to maintain the Egyptian tourism levels.**

The interviewees commented that Egypt is counting on the tourism sector by 30% to get an advantage in its foreign currency. During the era of COVID-19, tourism level in Egypt as well as in the whole world has declined as the tourism industry is very sensitive to international and regional crises such as deadly diseases and wars. Accordingly, a return to pre-pandemic tourism growth patterns will take time and Egypt has not totally recovered from COVID-19 effects. However, there are some lessons learned from the pandemic, including: depending more on digital and reliable transformation, crisis resilience in travel and hospitality companies, and encouraging purchase of travel insurance.

Contingency Plans to the Egyptian Oil and Gas Supply Chain

- **The Egyptian oil and gas industry contingency plan to maintain the**

gasoline and oil prices during the Russian-Ukrainian conflict.

The interviewees declared that Egypt is working on a joint agreement with Cyprus, Israel, and Greece to export gas to maintain its economic status and avoid any negative impacts from the Russian-Ukrainian war. In addition to conducting seminars that help the Egyptian population understand the concept of savings as Egypt consumes a great amount of gas and petroleum on a daily basis.

• The lessons learned from COVID-19 pandemic to maintain the Egyptian tourism levels.

The interviewees mentioned that the oil and gas industry is the major industry that is exposed to uncertainties, global supply chain disruptions, and volatility in demand. According to COVID-19

pandemic that has disrupted the world, some lessons have been derived, including predictability actions, anticipating change in demand, reducing costs, depending on regional production rather than importing from foreign countries, and investing on other sources of renewable energy such as solar energy, hydropower, and wind energy.

Since the unpredictable crises have a severe negative impact on supply chain practices, consequently, the affected stakeholders should rethink their plans and strategies by applying flexible supply chains. According to the findings, there are some problems that the Egyptian stakeholders face that might be a major issue in the long run due to the Russian-Ukrainian war. The following roadmap provides some recommendations that could help in overcoming these problems and help in achieving efficient and proactive performance during crises:

Table 2: Roadmap for Overcoming the Russian-Ukrainian Effects in Egypt and Help in Achieving Efficient and Proactive Performance During Crises

Problems	Recommended Solutions
<i>Prices and demand fluctuations</i>	Use proactive strategies to avoid price fake manipulations. Use price approvals from the government. Maintain product control. Apply data sharing platform to share prices with all interested stakeholders. Government incentives.
<i>High dependence on imports</i>	Encourage regional production. Follow export promotion strategies. Adopt new trade agreements. Government subsidies to domestic businesses.
<i>Lack of Internet of Things (IoT) technology</i>	Upgrade virtual transactions. Develop a digitalized infrastructure. Use artificial intelligence. Develop secure databases.
<i>Lack of crises management strategy</i>	Create contingency plans. Establish monitoring systems. Use proactive strategies. Keep emergency planning up to date.
<i>Local supply chain constraints</i>	Increase flexibility and adaptability measures. Develop new supply chain scenarios and evaluate it. Improve the logistics network. Invest in supply chain planning and control.

Source: By the authors

<http://apc.aast.edu>

Conclusion

In conclusion, this research contributed to knowledge by providing an overview of the current situation of the Egyptian market; especially in three sectors including: food supply chain, oil and gas industry and tourism sector. Obviously, the Russian-Ukrainian war had positive and negative impacts on the Egyptian market as illustrated in the previous sections. Hence, this research provided all the positive impacts and recommended some solutions through a roadmap for the negative impacts such as implementing new strategies for

adapting to and dealing with crisis management, renovating production operations plans, and satisfying the market needs.

Furthermore, for further research, researchers could use the roadmap as a guide to investigate each recommended solution and its impact on the market on the long term. In addition, researchers could assess the impact of the Russian-Ukrainian war on other developing countries and consider this research to be a comparative case study.

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