Investigating the Impact of COVID-19 on the Oil and Gas Supply Chain in the Middle East:
A Case Study of Egypt

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EXECUTIVE SUMMARY

The oil and gas supply chain (OGSC) significantly impacts numerous operations in multiple industries. However, lately, it encountered myriad disruptions like global oil supply and demand mismatch due to COVID-19. Therefore, the case studies the oil and gas supply chain in Egypt during COVID-19 as Egypt is Africa's largest oil exporter outside of the Organization of Petroleum Exporting Countries (OPEC) and the continent's third-largest natural gas exporter, and its economy is heavily reliant on the oil industry. The unique organizational structure that makes up the OGSC in Egypt is fully controlled by the Egyptian Ministry of Petroleum, which deals with all the disruptions that occur in the Egyptian petroleum sector differently. The case investigates the disruptions that OGSC faced in Egypt due to the pandemic and provides researchers with an understanding of the challenges in the sector and the proposed solutions by the sector in Egypt, in addition to the recommendations provided by experts in the sector.

INTRODUCTION

The oil and gas industry is one of the key industries in the energy market that significantly impacts the

global economy as the world's primary fuel source. Oil and gas production and distribution processes and chains are very complicated, capital-intensive, and need advanced technology. OGSC has different characteristics from the regularly known supply chain. The oil and gas sector is to an extent distinguished with some features from other sectors in terms of its supply chain. These are some distinctive features of OGSC: long product life cycle, non-perishable products, less unsteady demand, static product mix, methods of valid transport are limited, inventory is mutually interchangeable, discontinuous supply chain, bulk inventory that is process-based, reversed production flow, legal and environmental regulations, inflexible assets, cost-effective transportation (Wan Ahmad et al., 2016). The oil and gas supply chain (OGSC) has more obstacles, uncertainties, and hazards than any other industry, particularly in the supply chain management area. Supply chain disruption is one of the most critical problems in OGSC. (Queiroz et al., 2020). Therefore, it is important to investigate and thoroughly understand the disruptions that disturb the streamlined flow of the oil and gas supply chain and how the oil and gas businesses are dealing with these disruptions through supply chain strategies. Lately, Oil and gas supply chains encountered a myriad of disruptions including operational instability, political upheavals, lack of organizational support, poor route selection, and a pandemic that adversely affect the streaming of oil and gas supply chain activities (Sakib et al., 2021).

EFFECT OF COVID-19 ON THE OIL AND GAS INDUSTRY GLOBALLY

The oil and gas industry has faced a two-pronged crisis: the oil price war between Russia and Saudi Arabia and the impact of COVID-19 that caused a dramatic drop in worldwide demand. The oil price war occurred when "Organization of Petroleum Exporting Countries" (OPEC) and Russia failed to reach an agreement on output cutbacks, which was reached in an attempt to stabilize sliding prices. To stabilize sliding prices, OPEC, and its partners (OPEC+) decided to reduce its combined output by 9.7 million barrels per day in May and June from the agreed baseline (OPEC, 2020). The arrangement comes at a time when the global crude oil market has cruder than it can utilize or potentially store. Moreover, as a result of the industrial slowdowns and the travel restrictions set due to the COVID-19 crisis, the global oil supply, and demand mismatch was developing in tandem with the reduced demand for chemicals and refined products (Abegunde, 2020).

The viral COVID-19 pandemic was first reported in December 2019 in Wuhan City, Hubei Province, People's Republic of China (WHO, 2020). Covid-19 had already spread beyond China's borders by the beginning of 2020. It was declared a public health emergency of worldwide concern by the World Health Organization on the 30th of January 2020, and a global pandemic on the 11th of March 2020 (WHO, 2020). The virus eventually spread to a reported all nations and territories throughout the world. COVID-19 has caused widespread disruption in all economic sectors and businesses throughout the world. Lockdown procedures are executed throughout the world as a health policy to reduce the impact of the pandemic's spread because of the disruptions (El Baz & Ruel, 2021).

The pandemic has put pressure on the international oil sector in a multitude of ways. Oil prices plunged during the onset of the pandemic due to a dramatic drop in worldwide demand, particularly due to the effect of COVID-19 on the economy of key crude users: the EU, China, and the US. Consequently, on Sunday, the 12th of April 2020, the 10th (Extraordinary) OPEC and non-OPEC Ministerial Meeting was conducted via videoconference (OPEC, 2020). All the countries that took part in the event agreed to adjust their entire crude oil production by 9.7 million barrels per day beginning the 1st of May

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