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*Figure 4.0: Oman's Strategic Location, Source: (Taderera et al., 2018)*

As for (Taderera et al., 2018), in their study aimed at analyzing the supply chain practices in Oman vs global best practices describes Oman's location as the jewel of the Middle East and strategic location of GCC on the Gulf of Hormuz which is involved heavily in supply chain. In addition, the importance of Oman's location is emphasized by Mohsin and Daud (2018) as Oman is the only member of the GCC to be located beyond the Gulf of Arabia and thus avoid passing via the politically sensitive Strait of Hormuz is crucial to the country's standing in this regard. Thus, Oman has a substantial opportunity with its unique location, geopolitical allocation, strong economic relations, global investments and the economy being naturally into the seaport logistics and global supply chain.

## **Infrastructure**

Several mega projects have been implemented by Oman related to infrastructure development. Infrastructure networks have become increasingly important in recent years enabling its logistics connectivity through connecting a nation's territorial and economic system (Bulletin, 2017). The construction of infrastructure that enables the development of various industries, private sectors, and regions is one of the pillars of economic growth (Azolibe & Okonkwo, 2020). According to Virgilli (2018), the logistics sector was granted the status of infrastructure in November 2017. A significant qualitative shift in the SCL sector was undertaken in providing road networks linking all parts of region. By building a road network that connects all the country's regions and portions, the logistics and supply chain sector in Oman participated in a significant qualitative transformation. New Muscat Airport, Salalah Airport Improvements, and Duqm & Sohar Ports are the most important recent projects. Oman's infrastructure in the year 2016 grew by 3.4% compared to 2015 (Mohsin et al., 2018). In the report by Mark (2017), illustrated that heavy investment has led to a steady flow of projects in non-oil industries like infrastructure for rail, transport, power, and construction.

## **Economic Opportunities**

Creating more employment opportunities in the process of shifting towards SCL and boosting economic diversification, is one of the key objectives of Oman government. According to Virgilli (2018), this shift creates growth in specific sectors by 15-40% per year and employ over 45 million people across the nation. Furthermore, as per (Mohsin et al., 2018) creation of more job opportunities and providing low costs in export and import activities will be possible. Moreover, the OSS initiative in the freezones helps SMEs set up and operate their businesses effectively and efficiently. OSS offers several essential

services through a single window with improved resources to provide high-quality services (Mark, 2017). Free zones in four different locations that are connected to modern ports, accurate, flexible, and quick clearance of goods, all present business potential for SME freight and logistics operations.

### **Economic Diversification**

As there exists fluctuations in oil prices last few years, high production cost, and deterioration in production capacity Oman economy was described as dangerous in the study by (Mohsin et al., 2018). To enhance economy and settle earnings economic diversification is crucial. According to (Mubeen et al., 2017), Oman must employ plans and policies on economy diversification, employment opportunities, controlling inflation, and creation of new technologies. This is beneficial for SMEs as they have the capacity to undertake this requirement.

## **Challenges in the Supply Chain and Logistics Sector in Oman**

### **Human Resource Competency**

There are various challenges existing in the SCL sector in Oman. These challenges pertain as a hurdle in achieving the establishment and growth of SMEs in the logistics sector. The lack of qualified workers with expertise and training in the logistics and supply chain industry is Oman's first challenge. In the study by (Al-Wahaibi & Humaiyid, 2019) aimed to investigate the relationship between political uncertainty in Gulf and logistics hubs in Oman in Gulf, the author emphasized on the logistics sector not being an attractive field for the local population due to long working hours, poor wages, and lack of automation in the industry. This is applicable to SMEs as they will be facing these same challenges with lesser resources. (Taderera et al., 2018) justifies this as the shortage of educational institutions in Oman and lack of link between career environment and

higher education intuitions. Furthermore, he added that without a supporting university to provide a constant flow of highly skilled personnel and to exchange international research expertise, no industry can prosper.

Therefore, a company's most valuable and crucial asset is its human resources and investing in human resources is regarded as the cornerstone and can significantly contribute to the growth and development of SMEs.

### **Competition and Connection**

Oman faced several external and internal challenges in the logistics sector. The competition and connection in the SCL services has increase over the past years. There are many numbers of players in the sector both SMEs, large organizations, and MNCs. This has led service providers to provide steady and attractive offers. One of the main internal challenges is the connection of network of roads, freezones, and ports. This was confirmed by Tanfeedh (2017) when the report emphasized on the existing issue of limited connections to freezones, airports, and ports in Oman than other GCC countries. Furthermore, (Mohsin et al., 2018) also shed light on the poor land transport infrastructure and connectivity between other GCC countries and Oman.

Therefore, the external global and internal competitive and connective challenges affect in the development and growth of SMEs.

### **Technology and Transactions**

According to (Ilin et al., 2019), resistance to change when a new technology is introduced in an organization due to need to transform working habit and process is almost inevitable. Several scholars also pointed out that the global economy had been significantly and successfully shaped by technological development and digital

transactions. Referring to one of the most important infrastructures for the logistics trade, the changes in business practices & how they affect all of it. As for (Dębkowska, 2017), he stated that the growing competition and increasing demand of the market has forced technology based innovative solutions to support processes maximally in SCL.

Eventhough technology such as automation helps companies build competitive advantage and create new opportunities, (Virgilli, 2018) indicated that adopting modern technology and new market trends transection is one of the most considerable challenges for organizations. Furthermore, the report emphasized that market trends and challenges need t be accepted by logistics companies. As (Hamed Al-Wahaibi, 2019) pointed out that logistics operations by 2040 will be heavily relied on technology to stay competitive and cut costs. It is important that SME logistics companies also drive towards technological adoption within their SCL activities so that they are not let out of the action. According to (Chaudhari, 2019) in SCL, automation technologies, information, and communication have significantly boosted the speed of data processing, identification, transmission, and analysis while maintaining high accuracy.

Hence, with increasing number of new SMEs and competition from already existing logistics companies adopting technology various SCL activities and sub-processes is crucial to gain advantage over competition.

### **Overview of SCL Optimization and Best Practices**

Supply chain optimization can simply be defined as operating a supply chain at peak efficiency. In a study by (Pečený et al., 2020)aimed at addressing the optimization of transportation process within the logistics chain, they emphasize that the main goal of supply chain optimization is delivering products to customers at the highest level of profit with the lowest cost. The study is mainly based on secondary sources of data collected through an extensive review of academic

literature already available. When there is a significant event, like a merger or acquisition, or when there are concerns about financial performance, businesses frequently think about supply chain optimization. Optimization of business processes such as In-bound Logistics, Operations, Out-bound logistics, warehousing, marketing, sales, and services will help the organization manage resources more efficiently and reduce the cost of operations. Furthermore, the study concludes that optimization is more focused around effective utilization of technology, human resource, and transportation means.

In Oman however, the increasing competition, limited resources, and the need for better standards within SME cargo and Logistics companies brings up the need for optimization of supply chain for having the competitive advantage, increased profits, lower costs, and better customer services (Syverson, 2020).

### **SCL Optimization Techniques**

In recent years, there has been significant developments and breakthroughs in the field of SCLM to make it more effective and efficient. However, there will always be room for more improvements as logistics is considered the backbone industry having direct or indirect effect on everything within any nation. This can include improvements that need long term commitments or are quick wins. The entire flow in supply chain, from the procurement of raw materials to the delivery of goods to final consumers, is included in the scope of logistics optimization. In the study aimed at systematically reviewing published papers on optimization strategies integrating production, inventory, and distribution by (Mirabelli & Solina, 2022), the authors emphasize more on the potential of transportation and warehousing improvements. The study is purely using qualitative methods for analysis. In the study the author separates optimization levels into one of the most classical ways for understanding the opportunities. These are as follows.



## **Strategic Level Optimization**

The aim of this level is to identify solutions that are long term which generates highest impact within a period of 3-5 years. These are usually done by consultancy firms externally or the in-house strategy department. In larger context, the project involves everything from logistics benchmarking research to evaluating market entry potential and deciding whether to outsource or insource certain tasks.

One most common type among all strategic level projects is Supply chain network optimization (NO) where complete supply chain nodes like manufacturers (MFG), flow of goods, and distribution centers (DC) are evaluated. This will help organization to solve pain points and become more transparent with SCL.

One of the main challenges of this level is poor data quality and companies need to allocate enough resources and budgets for data collection. In addition, understanding and defining constraints of optimization is important which is a challenge to most companies.

## **Tactical Level Optimization**

The aim of this level is more focused about specific business unit or regions within a period of 1-3 years. This is crucial as it can contribute to regional or departmental excellence eventhough there is no dramatic SCL changes. One of the typical challenges of tactical level is how to get buy-in from other departments (internally and externally). For example: waiting for a container to fill up might delay the order but also will reduce the shipping cost.

## **Operational Level Optimization**

This level is relatable as it addresses most people in warehousing, transportation, planning, customer service, and others. This section explains how the strategy will be

implemented in practical terms through policies, plans, and programs. In order to increase operational efficiency, the plan assigns resources and measures performance. Operational planning includes activities that are scheduled and kept track of on a daily, weekly, or monthly basis, depending on the activity.

There are three main challenges in this level. First is lack of relevant skillsets and knowledge. Secondly, excessive dependence on experience by professionals especially experienced professionals. Finally, the employee's willingness and desire to change and improve quality of operations.

Therefore, the researcher concludes that generation of positive results is inevitable no matter which level of optimization is embarked by company such as lower logistics costs, loyal customers, improved and efficient processes, more revenue, and happier employees.

### **Conclusion and Critical Evaluation**

This chapter carries out a detailed academic literature review on various aspects related to SMEs, SCL, and SCL optimization. The chapter started to define the definition of SMEs, where there is no globally accepted definition. The definition of SMEs is based on the number of employees and the financial income of the company. Furthermore, it emphasizes on the ease of doing business in various GCC countries and found that ease of doing business in Oman lies in the middle range compared to other GCC countries such as Dubai with being the easiest and Kuwait being the hardest among the ranking. However, there are certain challenges that businesses especially SMEs face in Oman. The researcher emphasizes that these challenges should be looked addressed in detail with the number of SMEs almost increasing by 42.7% as of 2022.

According to various research carried out related to challenges and opportunities faced by SMEs, these studies emphasized that the main challenge faced by SMEs in Oman are lack of financial

resources, Human resources, skilled labor, unavailability of loan due to lack of collateral, delay in loan approvals, and lack of entrepreneurial culture among locals.

Furthermore, the researcher also describes the various opportunities and challenges in the Supply chain and Logistics sector in Oman. The main Opportunities include the strategic location of Oman referred to as the Jewel of Middle East, Infrastructure, economic opportunity, and diversification. However, there are certain challenges in the sector as well. This includes lack of technology and transactions, competition and connection, and human resource competency.

In addition, the researcher also provides an overview on the SCL optimization and best practices in the industry. Finally, the research sheds light on various techniques that can be used for optimization of SCL.

However, future research into the various challenges and opportunities faced by the SME cargo and logistics companies in optimization of supply chain activities in Muscat is needed to develop effective strategies and solutions to help them increase profitability and efficiency of the supply chain and logistics activities as the researcher discovers that availability of research or study specific to SMEs in the cargo and SCL industry as none. Through the research investigation, researcher found that optimization of SCL activities in SME cargo and Logistics companies can help them in terms of improve competitive advantage, lower costs, manage resources efficiently, better customer experience, and provide faster services.

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