



Theoretical study on Challenges and Opportunities in SCL Optimization of SME Cargo Companies in Muscat

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Abstract

Purpose: the aim of this study was to identify the challenges faced by SME companies, to understand the opportunities and challenges in supply chain and logistics sector and to analyze best practices and techniques in optimization of supply chain and logistics.

Design/methodology/approach: this research follows exploratory research utilizing qualitative data collection method from secondary data through analysis of relevant prior academic literature in this field of study.

Findings: Based on the study, the major challenges faced by SMEs in Oman include lack of finance, lack of marketing knowledge, operational limitations, and Lack of entrepreneurial culture and managerial skills. The opportunities in supply chain sector included the Location, Infrastructure, Economic Opportunities and Economic Diversification of Oman along with

challenges like Human Resource Competency, Competition and Connection, Technology and Transactions.

Research limitations/implications: Based on the results, it was recommended that SMEs should focus on improving their Human Resource Competency, gain competitive advantage through optimization of supply chain and logistics activities using technology and implementing optimization strategies.

Social Implications: The findings from this study have provided an academic and empirical contribution for the cargo and logistics companies and the SME community in Oman. Furthermore, provides a contextual and managerial contributions to the literature in optimization of supply chain logistics in SMEs.

Originality / Value: No prior studies were found addressing optimization challenges and opportunities faced by SME cargo and logistics companies. Through this theoretical study that researcher attempts to shed light and tackle this situation.

Keywords: SMEs Oman, Supply Chain and Logistics, SME Cargo Companies, Porter's Value Chain, SMEs Challenges, SMEs Opportunities

Introduction

In this chapter, the researcher seeks to summarize existing academic material analytically and descriptively on topics related to challenges & opportunities faced by cargo and logistics SME companies in optimization of supply chain.

Eventhough, there has been some studies in the field of logistics and supply chain within Oman there is a lack in studies that focus on the challenges and opportunities faced by SMEs in Muscat as key indicator in optimizing their logistics and supply chain performance to increase profitability and efficiency. There are many challenges faced by SMEs in Oman currently as

discussed by Hilal and Bagum (2017), these include companies include Finance, Marketing, Operation, and HR. Furthermore, the challenges and opportunities in the supply chain and logistics sector still haven't explore to an adequate extend.

The following literature review shows that supply chain optimization at any level will help organizations reduce cost, increase efficiency, enhance competitive advantage, increase profitability, and customer satisfaction.

Theoretical Framework

The theoretical underpinning of this research is based on the Michael Porter's value chain analysis theory. This was first introduced in 1985 in the book "Competitive Advantage" by Michael Porter. Michael Porter's value chain was mainly aimed at analyzing the "internal activities" of any business to identify and understand the cost of each activity which adds value to the business. According to Porter's value chain theory, this will help increase the efficiency and profitability of the business. Furthermore, the organization's activities were mainly classified into two groups- primary and secondary activities (Sutarmin & Jatmiko, 2016). The activities which directly had an impact on the service or product is referred as the primary activities, while those activities which supported the primary activities is referred as support activities. In the following table, the researcher provides a brief description of the primary activities in the Porter's Value chain analysis.

Table 1.0: Porter's Value Chain Activities

| Porter's Value Chain Activities | | |
|--|-------------------|---|
| Primary Activities | | |
| 1 | Inbound Logistics | All the business processes related to receiving, storing, and distributing inputs internally falls under this sub-activity. For |

| | | |
|---|---------------------|--|
| | | creating value, supplier relation is key factor. |
| 2 | Operations | Business transformational processes which converts inputs into outputs is focused here where operational systems create value. |
| 3 | Outbound Logistics | The activities such storage, collection, and delivery systems which deliver your service to customer. These activities can be external or internal to your business. |
| 4 | Marketing and Sales | These are activities through which your business persuades clients to choose your service over competition- benefits offered, efficiency in communication are key factors in creating value. |
| 5 | Service | The activities offered to customers after delivering of product or service. |

Source: (Vattikoti, 2018)

The following diagram depicts the Porter's value chain and its activities.



Figure 1.0: Porter's Value Chain and activities Source: (Mind Tools, 2022)

In the research by (Kumar & Rajeev, 2016) the researchers have emphasized value chain depends on the cost structure and pricing strategy. Furthermore, they concluded that it helps businesses to reanalyze their pricing on services or products encouraging them keep their competitive advantage high. For businesses to conduct a porter's value chain analysis, there are three steps according to Michael Porter (1985). Firstly, analyzing the main activities involved in providing service or product. Then, each products value must be assessed and checked if provides a cost differentiation or advantage to business. Finally, the business must develop strategies which can be used in supporting weak areas in supply chain and used to double competitive advantage.

Overview of SMEs In Oman

SME Definitions

SMEs are an integral part of economic development as it encourages innovation, creates employment, generates value, and contribute to country's GDP. Few notable among them are utilizing the locally available resources, generating profits, and creation of new employment (Katuka, 2018). Recently, many countries especially in the Arab world plans to adopt economic diversification and SMEs can play an apex role in economic development and diversification. According to (Thanh, 2022), there is no definition given to SMEs that is accepted universally as among countries there are differences in the social, cultural, and economic factors.

The reflection of the same in terms of SME definition can be seen within the GCC as well. The design, style of operation, physical size, and employee count vary among businesses. The resources needed to launch a firm also influence how big a market the

business will serve and how quickly investors can expect to see a return on their investment. Many entrepreneurs have started small business organizations, also known as small and medium enterprises, due to challenges related with the ease of getting resources for use in beginning a firm (SMEs). The number of employees working for a company and the total amount of income the company generates are the only factors used to classify small and medium-sized firms (Doran et al., 2018).

In Oman, the Supreme Council for Planning defines medium enterprises as businesses having up to 100 employees with an annual sale of RO 250,000 and RO1.5 million, small enterprises as businesses with five to twenty employees with annual sale between RO 25,000 and RO 250,000, while microenterprises as having up to five employees (Maria, 2016). According to (Times of Oman, 2022), the total number of SMEs registered in Oman reached 73,741 at the end of March 2022 compared to 51,663 in 2021 during the same period with an increase of 42.7 per cent. The statistics report also showed that according to NCSI, the largest number of SMEs is in Muscat at 24,977.

Table 2.0: Classification of SMEs in Oman,

| Category | Number of Employees | Financial Revenue (RO) |
|-----------------------|---------------------|------------------------|
| Micro establishments | 1 to 10 | Less than 150,000 |
| Small establishments | 11 to 50 | 150,000-1,250,000 |
| Medium establishments | 51 until 150 | 1,250,000 to 5m |

Source:(Zainab, 2020)

Ease of Doing Business in Oman

In a study conducted by (Alkhayat & Ramadhan, 2018) on the ease of doing business in the GCC, the study emphasized on the ranking index which showed that UAE is ranked first followed by Bahrain, Oman, Qatar, Saudi Arabia, and Kuwait at last position.

Furthermore, the study showed that Oman came third in overall position ranking among GCC in DB. Oman scored first position in trading across borders and Starting Business category. However, there are four low categories for Oman ranking all at fifth position when compared to the GCC countries.

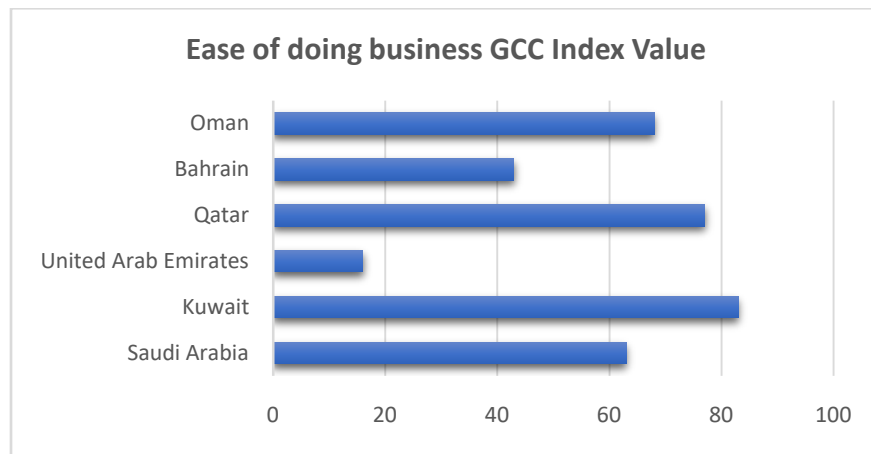


Figure 3.0: Ease of doing business index 2019, Source: (The World Bank, 2021)

Eventhough Oman has advanced its ranking by jumping 10 places to ranking 68th in 2019 compared to 78th in 2018, there are still various challenges that need to be addressed to make even greater impact on a global level. The lowest ranking categories in ease of doing business in Oman according to the report by (World Bank Group, 2020) are getting credit, resolving insolvencies, protecting minority investors, and enforcing contracts. Eventhough there are various new government initiatives to address these challenges, this has direct effects on establishment and growth of SMEs in Oman.

Challenges and Opportunities for SMEs in Oman

SMEs globally play a crucial role in fueling the economic growth. They help in terms of creation of new job opportunities, expanding the tax bases, and driving the bandwagon of innovation. Furthermore, SMEs heat up the market scenario by increasing the competitiveness among the peers which helps both the consumer and the provider as there is a constant battle for supremacy

to bring out the best in a business. Promoting SMEs especially in Oman is crucial to maintain a thriving and stable economy in the long run as they act as the backbone for any long-term success and sustainability of economy. According to ICSB, SMEs account about 15% of GDP making up an average for 70% of total employment and over 90% of all firms and account (Kutty, 2022).

Eventhough SMEs benefit the economy in a crisis or recession by innovating and adapting as per circumstances changes, in Oman SMEs can be most vulnerable in part due to lack of resources to adapt to changes (Cherian, 2020). SMEs in Oman has seen an increase of 46.9 per cent by 2022. However, there are various challenges faced by SMEs such as securing adequate finance, infrastructure, training, and lack of entrepreneurial culture. These challenges if not addressed could limit growth of SMEs and even lead to shutting down before they cross the five-year threshold.

In considering the challenges for SMEs in Oman, Mubarak and Mondal (2019) observe that SMEs are facing some serious challenges in terms of lack of skill and administrative knowledge, access to finance, and administrative challenges. The study was conducted using both qualitative and quantitative data which targeted around 250 SME owners from Nizwa, Muscat and Al-Modhabi. The study established that 34% of SMEs agreed to having lack of competent and adequate management and managerial skills. These SMEs have been deploying their strategies through trial and error based on operational procedure rather than strategic plans. SMEs are not able to acquire or retain qualified personnel due to lack of resources. In addition, the study emphasized on the SMEs having limited access to credit facilities and enough financial backup. This is because SMEs most of the time find it difficult to meet minimum requirements stipulated by the bank or banks are not willing to extend credit facilities as SMEs lack collateral to guarantee loans. The period taken for approval of loan is also relatively high. Furthermore, the study also

addresses lack of marketing strategy, changing government policies, lack of entrepreneurial culture, and lack of morale support as key challenges faced by SMEs in Oman

As for Ramachandran and Ali Al Yahmadi (2019) , their study aimed to identify challenges faced by SMEs in Oman identified the main challenges of SMEs as lack of basic business knowledge, adequate finance, market information and knowledge, and the delay and complicated procedures in loan disbursement. The study investigated on the reason for failure of acquiring a bank loan and identified poor business performance and inadequate business planning as the main hurdles. Furthermore, the researcher emphasized on the SME needs in terms of adequate finance, training, and teaching of entrepreneurial culture within students.

In a study by Hilal and Bagum (2017) on Growth strategies of SMEs in Oman, aim to determine the major challenges and issues related to growth strategies in SMEs. Through qualitative and quantitative approach, the researchers emphasized on four major constraints of growth including constraints in human resource, marketing, financial and operational management. The research concluded the following as factors that create issues and challenges for SME's growth.

Table 3.0 SME growth strategies factors

| Major constraints | Challenges and issues |
|--------------------------|--|
| Finance | <ul style="list-style-type: none">- Lack of long-term loans and credit facility- Cost of finance- Working capital management |
| Marketing | <ul style="list-style-type: none">- Lack of marketing knowledge and budget- Inability to identify new markets due to lack of R&D |
| Operations | <ul style="list-style-type: none">- Lack of basic business function knowledge- Technological limitations |

| | |
|----|---|
| | - Environmental Issues |
| HR | <ul style="list-style-type: none"> - Lack of entrepreneurial culture and managerial skills - Lack of professionalism - Lack of resources and knowledge to hire related employees |

Source: (Hilal et al., 2017)

The literature shows that there is some shared agreement among various researchers and scholars on the existence of certain challenges for SMEs. However, the relevance and applicability of these prior researcher are limited to a broader audience and does not address the SMEs Cargo and Logistics companies.

Opportunities in the Supply Chain and Logistics Sector in Oman

In the coming years especially with infrastructure integration in various crucial sectors, it is expected by most economists that Oman will emerge as a leader in the logistics and supply chain sector. As in addition to Oman government outlaying billions in optimizing and advancing SCL sector to reach the nations targets, and Oman already having excellent trade agreements and international economic relations with most vital world countries of business, this allows Oman to advance its SCL sector even further.

Location

With connections from the Indian subcontinent to the east, and Middle East to Pakistan, Africa to the south, and Iran to the north Oman has long been recognized as a major trading hub. But Oman has only recently begun to fully capitalize on its advantageous location and seize the opportunities afforded by positioning itself as a major Middle

Eastern logistics hub with hopes of becoming a significant worldwide player in this industry, following the implementation of the "Tanfeedh" program (Simpson, 2018).



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 even though 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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