

**SUPPLY CHAIN RISK MANAGEMENT AND THE  
ROLE OF ORGANISATION CULTURE:  
EVIDENCE FROM LIBYAN PORTS**

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## **DECLARATION**

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The work presented in this thesis entitled " SUPPLY CHAIN RISK MANAGEMENT AND THE ROLE OF ORGANISATION CULTURE: EVIDENCE FROM LPs" is to the best of the researcher's knowledge and belief, original. I hereby declare that this thesis is my own work and effort, and has not been previously written by another person, published or submitted for the award of any academic degree, excluding where due acknowledgment has been made in the thesis' text

Mohamed Atig

## **LIST OF ABBREVIATION:**

---

GOC	Government-Owned Company
GOPL	General Organisation of Ports and Lighthouses
GPCTC	General People's Committee for Transportation and Communications
LMTPA	Libyan Maritime and Ports Authority
LPs	Libyan Ports
MFTZ	Misrata Free Trade Zone
NPC	National Planning Council
SCM	Supply Chain Management
SCMC	Supply Chain Management Component
SCRMP	Supply Chain Risk Managamanet Practice
SCRM	Supply Chain Risk Management
SPC	Socialist Ports Company
UK	United Kingdom
USA	United States of Amirica

## **ABSTRACT:**

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Seaports are one of the main facilitators of economic growth as they create trade and jobs globally. Particularly in African countries, where they are considered as focal points for oil and gas exportation with both neighbouring and developed countries. As a result, Supply Chain Risk Management or SCRMP has become increasingly significant. This research focuses on the context of North African countries, specifically Libya, which is currently suffering from a leadership crisis, violent and political conflict, armed groups and a risky geographical location. All of which relate to and help to build connections within the context of national and organisational culture and the impact of SCRMP on Libyan Ports (LPs). By understanding these connections, these ports could then improve their working conditions, whilst becoming aware of internal and external factors and their impact on survival.

This research aims to develop and aid understanding of the impact of SCRMP on LPs and how these risk management practices are linked with both national and organisational culture. The focus will be on both internal and external factors, which may influence either positively or negatively. In order to comprehensively understand the topic, this research considers; experience, background, opinions, suggestions, situations, context, culture, and the environment. A pilot study will be conducted with 32 supervisors from four major Libyan ports; Misurata, Khoms, Tripoli and Benghazi, being interviewed. With the main findings highlighting the negative influence of factors such as high-power distance, authority, uncertainty avoidance, political involvement, centralisation, nepotism and low levels of long-term decision making on the SCRMP operations of Libyan Ports (LPs). Ultimately, a conceptual framework will be developed to aid understanding of how the top management of ports in developing countries could be improved using SCRMP.

# Chapter 1 : INTRODUCTION

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## 1.1 Research Background

This study focuses on how significant the impact of organisational culture is for supply managers and executives in SCRM. Supply distributions are increasing in number day by day and the current political circumstances in Libya are unstable, therefore managing risks has emerged as a major issue in the SCRM of its ports. The process of managing risk in a supply chain, is defined by Norrman & Jansson (2004), as the collaboration of supply chain members to ensure the continuity and profitability of organisations / industry. In addition, scholars have paid great attention to SCRM as it enables supply chain members to reduce damage and loss caused by supply interruption risks (Blos, *et al.* 2009). From a managers' perspective, it is a challenging task to mitigate risk across the entire supply chain because the SCRM of ports is directly linked with internal national circumstances and external global relations (Stevens & Vis, 2016). "*Port authorities can facilitate those effective risk managing needs and take the initiative through cooperation between neighbouring port authorities in establishing those needs can also assist in attracting specific types of customers to a region*" (Stevens & Vis, 2016, p., 262). This means that SCRM is limited to the organisational and national circumstances of the country. Whilst, there are various possible areas from which risk can be generated in a supply chain, such as external risks that can impact on operations in an organisation (Christopher & Peck, 2004). This study aims to focus on the different risks that occur in the supply chain management of LPs and SCRM issues identified through relevant structured management and authority interviews and data.

Song & Panayides (2008) reflect on the significance of national ports by stating that, "*the importance of seaports for national economies is well established in the literature. It has been held that an efficient port raises the productivity of prime factors of production (labour and capital) and profitability of the producing units thereby permitting higher levels of output, income, and employment*" (Song, & Panayides, 2008, p., 73). However, managers generally do not have the potential to maintain supply chains from all aspects, particularly while responding to supply chain disruptions (Luhmann, 1995). Moreover, current trends in business such as the globalisation of entire supply chains and a high level of outsourcing have initiated more opportunities for new risks to enter supply chains (Norrman & Jansson, 2004). While, SCRM is a cultural factor, that significantly influences risk mitigation in supply chains within the organisation (Ritchie & Brindley, 2007a). In addition, the existence of a risk management

organisational culture enables managers to effectively react to supply chain risks because such culture has the capacity to identify risks and develop plans using SCRM (Christopher, *et al.* 2011). By investigating organisational culture and its impact on supply chain risk factor minimisation, this study focuses on limiting risks and the effective management of supply chains in Libyan Ports (LPs).

Notably, strategic sourcing is a management tool that extensively focuses on promoting strategic purchasing, the effective internal synchronisation of purchasing functions (Loh, *et al.*, 2017) and effective knowledge sharing, by purchasing functions from suppliers, as well as assistant suppliers, including the supply and development of base management (Kocabasoglu & Suresh, 2006). Organisational culture induces cooperation with suppliers, whilst strategic sourcing enables the supply chain members to quickly respond to interruptions (Thekdi, & Santos, 2016). Therefore, the current study will explore the role of organisational culture and its joint contribution towards the management of supply chain risks.

## **1.2 Rationale**

Researchers and experts in SCRM are extensively focusing on the study and exploration of organisational culture from various perspectives (Botti, *et al.*, 2017; Liu, *et al.*, 2018; Loh, *et al.*, 2018). However, there are a lack of studies that focus on the impact of organisational culture and SCRM in seaports. While, most of the studies concentrate on aspects of organisational culture in supply chains such as port connectivity (Lam, & Yap, 2011), inventory risk management (Lewis, *et al.*, 2013), and its response to local markets (Sun, *et al.*, 2019), there are limited studies to answer why and how organisational culture impacts on the SCRM of seaports. In this regard, the current study aims to explore the various root causes through which organisational culture influences the SCRM of ports in Libya. Organisational culture is generally defined as a programming of mind, which differentiates one group's members from members of other groups (Hofstede, 1980). Moreover, organisational culture includes values and beliefs, on which management practices, systems and employee behaviours are based (Denison, 1990).

Another definition of organisational culture is as, "*a pattern of basic assumptions by a group as it learns to deal with internal and external problems that have worked well and, therefore, are to be taught to new group members as a correct way to perceive and think in relation to those problems*" (Schein 1985; McDermott and Stock, 1999). Furthermore, organisational culture has a strong impact on an organisation from all aspects (Denison & Mishra, 1995).

Although it can be discussed by adopting various approaches, current research tends to give more importance to Schein's approach because it has a strong theoretical background. According to Schein (1992), there are three categories of cultural aspects; espoused values, core underlying assumptions, and artefacts. Espoused values are invisible values that become visible when individuals' beliefs, they consider to be right, lead to the development of their behaviours (Russo et al., 2013). Similarly, core underlying assumptions refer to those feelings and perceptions that later become the base for actions and values (Yahyagil, 2015; Kamruzzaman et al., 2014). Whilst, the term artefact refers to behaviours that individuals can feel, see and hear when experiencing unfamiliar culture (Rak, 2015). Most operational management studies concerned with organisational culture tend to focus on artefacts as they are clearly visible (Shier & Handy, 2015). In this study, core underlying assumptions are considered as customer-oriented assumptions, because supply managers base their feelings and perceptions on their actions and values regarding local businesses and the individual community of Libya.

This research considers the espoused values of supply managers and policy makers, to explore the impact of organisational culture on internal SCRM decisions. Espoused values (as mentioned previously) are invisible values as they refer to beliefs held by the organisation's members (Nahm, *et al.*, 2004; Koval'ová, & Mackayová, 2014; Wronka-Pośpiech *et al.*, 2014). In the context of organisational culture, this study does not rely on any single or specific organisational culture theory, this is because a social constructionism epistemological position is being taken, which represents the idea that these people determine the various aspects of social reality, instead of external and objective elements. Hence, the task of social scientist is not only the gathering of facts and the measurement of frequency taking place in behavioural patterns, but also the appreciation of various meanings and constructions, which people place on experiences (Rugg & Petre, 2007). The focus is on what is thought and felt by people collectively and individually, therefore attention needs to be paid to the way they communicate with each other, whether in a verbal or non-verbal manner (Adams, *et al.*, 2014). Ultimately, this study explores the beliefs held by managers and policy makers regarding SCRM, in order to understand how decision makers' beliefs feature in organisational culture and their impact on supply chain risks.

Significantly, Libya is currently suffering from warfare and economic instability, which negatively affects its supply chains and the general operational work of its organisations (Elferjani, 2015). According to Loh, *et al.*, (2017), "*threats related to the planning of port resources require the highest level of attention. This highlights important areas for port*



*managers seeking to improve port resilience and supply chain continuity through a more prudent management of risks” (Loh, et al., 2017, p., 1367).*

Other factors that could impact on supply chains include natural disasters, for example in 2011, the world witnessed earthquakes, resulting in a tsunami in Japan and New Zealand, which directly affected many international organisations (Business Continuity Institute, 2011). Further examples of natural, physical and operational risks have affected and disrupted the work of supply chains. Given this and considering the continuous changes in the nature of the operating environments of supply chains (Jacobs & Hall, 2007), supply chain risks are becoming increasingly important topics for organisations (Haralambides, 2017) and researchers (Wang, et al., 2017). According to Loh, et al. (2017), *“the characterization of ports now includes delivering and capturing value in value-driven chain systems, facilitating the links amongst interacting parties or becoming hubs where value is generated through a whole range of activities for the purpose of customer retention”* (Loh, et al., 2017, p., 1368). Sources of supply chain risk include disruptions, delays, system breakdowns, forecasting failures and insufficient intelligence on risks (Chopra & Sodhi, 2004). Other scholars state that the main sources of supply chain risks are related to strategy, operations, supply, competition, reputation, financial markets and legal problems (Harland et al., 2003). In addition, Trkman & McCormack (2009) identify clearly that the nature of risks is numerous, depending on the supply chain design.

The diverse focus of research shows organisational investments to develop strategies and techniques to avoid, reduce and mitigate supply chain risks (Seo, et al., 2015). Some solutions include the use of question positioning approaches and the formation of dedicated industry groups (Hallikas et al., 2004; Tuncel & Alpan, 2010). Meanwhile, studies have reported that the main success factors are sustainability and consistency which is missing in many organisations (Demirbas, et al., 2014; Sanchez et al., 2015). Numerous models, tools, and techniques have been built to manage risks and barriers around the implementation of supply chains (Kern et al., 2012). Furthermore, Kern et al. (2012) outline that the concentration of supply chains has usually been to decrease cost by using cost reduction strategies and concepts, such as Just in Time (JIT), as well as outsourcing to maximize the economic benefits for partners. Whilst, applying these old values and ideologies to new markets, could lead to poor supply chain ability to keep up with environmental changes in a timely manner (Christopher & Holweg, 2011).

There is a developing intention by researchers to examine relationships between organisational cultural and SCRM (Whitfield & Landeros, 2006; Barney, 1986; Cameron & Quinu, 2005). It

is widely acknowledged that the benefits of utilizing the understanding of organisational culture in Supply Chain Management is very important. It is argued that if organisations, as part of supply chain networks, aim to remain sustainable and competitive in the increasingly turbulent markets of the coming decades, they need to fundamentally rethink the way they organise and motivate themselves and their partners, in order to enable their supply chains to become more resilient. This requires continuous motivation of staff through training and the generation of a culture that is encouraged to use these organisational needs.

### **1.3 Research Problem**

Ports represent the main link between Libya and the world, and their impact is greatly reflected on the economic, social, cultural and urban aspects of the country. Which in turn reflects on the movement and growth of other economic sectors, such as trade, industry, transport, services, tourism, fisheries and others. They are the arteries of the economy and cover vital programs and projects implemented by both the public and private sectors. Therefore, the role of LPs is no longer limited to handling, as they have become the economic engine for all productive and consumer sectors, directly related to all economic and industrial activities in all cities and regions of the country. They also play a central role in facilitating the work of all goods and services required for social, economic and industrial development.

Nevertheless, there are different kinds of risks within supply chains, when moving products or services from one place to another, including disruptions, delays, system breakdowns, forecasting failures and inventory issues (Chopra and Sodhi, 2004). Other scholars have listed issues related to supply chains, such as strategy, operations, supply, customer relations, asset impairment, competition, reputation and financial markets (Harland et al., 2003). With different risks applying to different supply chains, dependent on their design (Trkman & McCormack, 2009).

The nature of risks differs from one context to another, for example the nature of risk in supply chains in port sectors in Libya could differ from the factors examined above (Elferjani, 2015). Therefore, this study examines the nature of SCRM on Libyan seaports, from both strategic and operational perspectives. According to Lavastre *et al.* (2012) there are many techniques to reduce/mitigate and avoid risk in supply chains, such as the introduction of rewards in the absence of misconduct and faults, the centralization of decisions, and the establishment of emergency scenarios, safety stocks, and external safety stocks for those co-owned by partners (Lavastre, *et al.*, 2012: 832). Reflecting this model, the different cultural, social and regulatory

nature of Libya could influence the management process of supply chain risk. This research intends to uncover barriers encountered in the management of supply risk management and establish whether there is a relationship between the nature of SCRM involving traditional values and basic practices with difficulty in adapting effective risk strategies (Khan & Zsidisin, 2012; Wu & Olson, 2008). This question along with others has been considered in current studies, however the present study is expected to find new factors that revolve around the culture of Libyan people, that influence the management of risk in supply chains, since different impacts on supply chain performance vary according to different kinds of cultural settings. Most of the studies concentrate on describing the relationship between organisational culture and internal organisational performance. Whilst authors have described the relationship and the nature, it is identified as neither negative nor positive (Barringe & Harrison, 2000; Mello & Stank, 2005).

#### **1.4 Research Questions**

As mentioned previously, seaports represent the main link between Libya and the world, which impacts greatly on the economic, social, cultural and urban aspects of the country, becoming the economic engine of all productive and consumer sectors, directly related to all economic and industrial activities nationally. Playing a central role in the facilitation of goods and services required for social, economic and industrial development.

After reviewing the literature and looking at the economic and political problems that have occurred, which have affected the economic sector in Libya in general, the following questions have been formulated:

1. What are the important factors and processes required to successfully manage the supply chain risk of an organisation?
2. How do national and organisational culture factors affect SCRM activities?
3. What is the nature of supply chain risks in LPs and what are the challenges that must be highlighted, before offering practical recommendations for improvement in Libyan ports?
4. How does national and organisational culture impact on the SCRM of LPs?

## **1.5 Aim and Objectives**

The main aim of the study is to develop a framework that enables the structuring and managing of successful SCRM in the Libyan Port sectors.

- 1- To critically review current models and theories on the challenges hindering the implementation of SCRM.
- 2- To uncover the important internal and external factors that influence the effectiveness of SCRM activities on LPs.
- 3- To understand the role of national and organisational culture to manage SCRM of LPs.
- 4- To critically evaluate the role of cultural factors affecting SCRM activities of the ports.
- 5- To critically review the nature of risks and SCRM in LPs and to explore strategies and tools needed to manage supply chain risks.
- 6- To formulate a context-specific framework and theoretical construct to elaborate on the impact of national and organisational culture on SCRM of LPs.

## **1.6 Contribution to Knowledge**

The first contribution is to highlight the content and nature of risks encountered in supply chains in the Libyan port sector. The second contribution is to extend existing studies from a western context to include a new context in terms of strategies and operations to manage risks in supply chains. The third contribution is to offer guidance, whilst expanding existing knowledge of the barriers encountered when adopting SCRM. Fourthly, this study will attempt to stimulate studies over relationships between organisational culture and SCRM; such a contribution should act as a strong theoretical base for further study in this area for Arab and developing countries. In addition, this study will contribute to the understanding of how to use critical realism philosophy and qualitative research methods as a strategy; as such an approach is new in the field of supply chains. This present study will identify all the national, political and economic organisational infrastructures and challenges, that hinder the implementation of SCRM. As it is important to improve the relationships and coordination amongst neighbouring countries, so that weakened global SCM can be improved. It will also bring opportunities for cheap and skilled labour at competitive rates, more direct foreign investments, and a higher number of exports and outsourcing opportunities at a lower cost. Moreover, it will improve the

safety and security of port operations and open opportunities for infrastructure development at higher profits, that can enhance the current situation of LPs.

This study has identified political instability (civil war or violent conflict) and power inequalities (three parallel government controls) as major external factors, that have raised many risks in SCM. For instance, the militia and other armed groups control port activities and infrastructure, which brings delays, disruptions and risks for supply chains. While authoritative leadership styles and centralised administration control are the main internal factors that have resulted in delays for the purchasing of heavy machinery, the expansion of ports, new ships, and technology upgrades. Consequently, it is very important to transfer the decision-making powers to port supervisors because they are much more aware of the serious challenges being faced and how they can be resolved. Additionally, the present study will uncover the connection between national and organisational culture, as well as its impact on managing the risks in supply chain management. For example, the nationalisation of major organisations such as ports, has raised issues such as a lower level of capital, no competition and incompetent management, along with a lower number of financial and non-financial benefits for workers, ineffective resource management, and lower levels of private and direct foreign investments. Whilst, there are possible solutions such as the Libyan government selling port shares with the purpose of gaining more capital and competent management from the private sector. This would then open opportunities such as expansion in ports, repairs and the development of infrastructure, with skilled labour at competitive costs, lower transportation costs, more outsourcing, and higher trade activities.

Although Libya is known as a major oil exporter among African countries, there are many factors that impact on supply chain management. Such as its lower level of heavy ships, first generation technology, lower level of cargo handling capacity, shortage of functional warehouses and insufficient outsourcing facilities, which have all increased risks. These supply chain risks can be managed by attracting private investors, direct foreign investment, cheap labour from other countries, and more opportunities for outsourcing by providing the attraction of good profitability and security. These are some of the important strategies/tools that can minimise the risks and improve the profitability of LPs.

## **1.7 Significance of Thesis**

Ports are one of the main facilitators of economic growth as they create more trade and jobs in every country. In African countries, they are understood to be a main point for creating oil and

gas exports with neighbouring and developed countries. Therefore, the importance of SCRM has increased, particularly in Libya, as it is one of the North African countries that is surviving leadership crisis, violent conflicts and armed groups, political conflicts and a risky geographical location. All these factors are important when examining connections in the context of national culture, organisational culture, and SCRM Practices on LPs. Culture is a collective phenomenon as it influences the social and professional lives of people who are living in the same environment.

The literature review has suggested that the role of culture is not only observable in the context of society, but it must be understood in the context of various business functions such as SCRM port strategies. As previous studies have shown that national and organisational culture may vary between developed and developing countries, in terms of politics, timely decision making (infrastructure development and effective management of resources), power distance, authoritative management style, lower level of employee involvement in decision making, and collectivism. Therefore, the developed practices, existing theories and other results may not be applicable in a culture that is based on power distance, authoritative management style and collectivism. Although the literature discusses the importance of SCRM from the perspective of ports, there appears to be no study that explores the connections among national culture, organisational culture, and LPs. By understanding these connections, the ports can improve their current working conditions, as well as becoming aware of the importance of internal and external factors for survival.

The present study intends to develop understanding about SCRM of LPs, as well as how these risk management practices are linked generally with national and specifically with organisational culture. It also aims to unfold and discuss all internal and external factors, which may positively or negatively influence the SCRM of LPs. As this research cannot provide practical recommendations without first understanding the national cultural aspects, that can impact on organisational culture and SCRMP. The strategic position of LPs, as well as their role to create import and export opportunities as a major source of income for the Libyan economy will be discussed. To achieve the proposed objectives, semi-structured interviews will be conducted, as this is a more flexible data collection option in qualitative research, and it is also useful for adding more questions and understanding the nature of the problem with the help of experience, background, opinion, suggestions, situations, context, culture, and environment. Initially, the researcher has conducted a pilot study with the purpose of measuring the validity and reliability of the semi-structured questionnaire.

After analysing the samples of previous qualitative studies, 32 supervisors from four major ports of Libya, which are Misurata, Khoms, Tripoli and Benghazi have been selected. Previous studies have indicated that these four main ports (Misurata, Khoms, Tripoli and Benghazi) have all gained attention, due to their global supply chains, tourism and oil exports to other countries. On the other hand, these four ports have also been negatively influenced by illegal activities, such as weapon supply to armed groups during violent conflict, human trafficking, drug dealing, and containers holding illegal migrants. To meet the first objective of this study such as uncovering the challenges that hinder the implementation of SCRM, the results will focus on how the Libyan government faces serious violent conflict and armed control on natural resources such as oil and gas. Along with the country's inability to repair or invest in roads, an unfunctional railway system, and inadequate land transport corridors, that have been major functions in the failure/closure/ineffectiveness of LPs since 2011.

The second objective is to unfold, understand, and discuss all the internal and external factors that can influence the effectiveness of SCRM Practices on LPs. It has been found that several internal and external factors such as political instability, power inequalities, a hierarchical society, security and safety issues, state-owned organisations and control of key decisions, economic crises, and inadequate planning for future events, are all key external factors of national culture that influence the SCRM in LPs. These factors (political instability, power division among multiple parallel governments in Libya, trade volume, export of oil, communication processes, and infrastructure development activities) negatively influence the effectiveness of SCRM. To meet the third objective of this study, which is how national culture, organisational culture, and Supply Chain Management are interlinked, it has been found that high power distance, authority, uncertainty avoidance, political involvement, centralisation, unions, nepotism, inequalities, conflicts, poor long-term decision making, and cynicism all negatively influence the SCRMP/Operations at LPs. Moreover, these factors are linked to more congestion, loading/unloading delays, long ship queues, insufficient connecting roads and railway systems, and poor performance of ports that ultimately influence the SCRMP. Based on these challenges, the study will discuss various practical recommendations that can improve the SCMP. Notably, the offered conceptual framework will prove beneficial in aiding awareness of how the top management of ports and developing countries can improve the SCRMPs.

**1.8 Following figure disrcive the overall structure of this thesis that would lead to achieve research objectives**

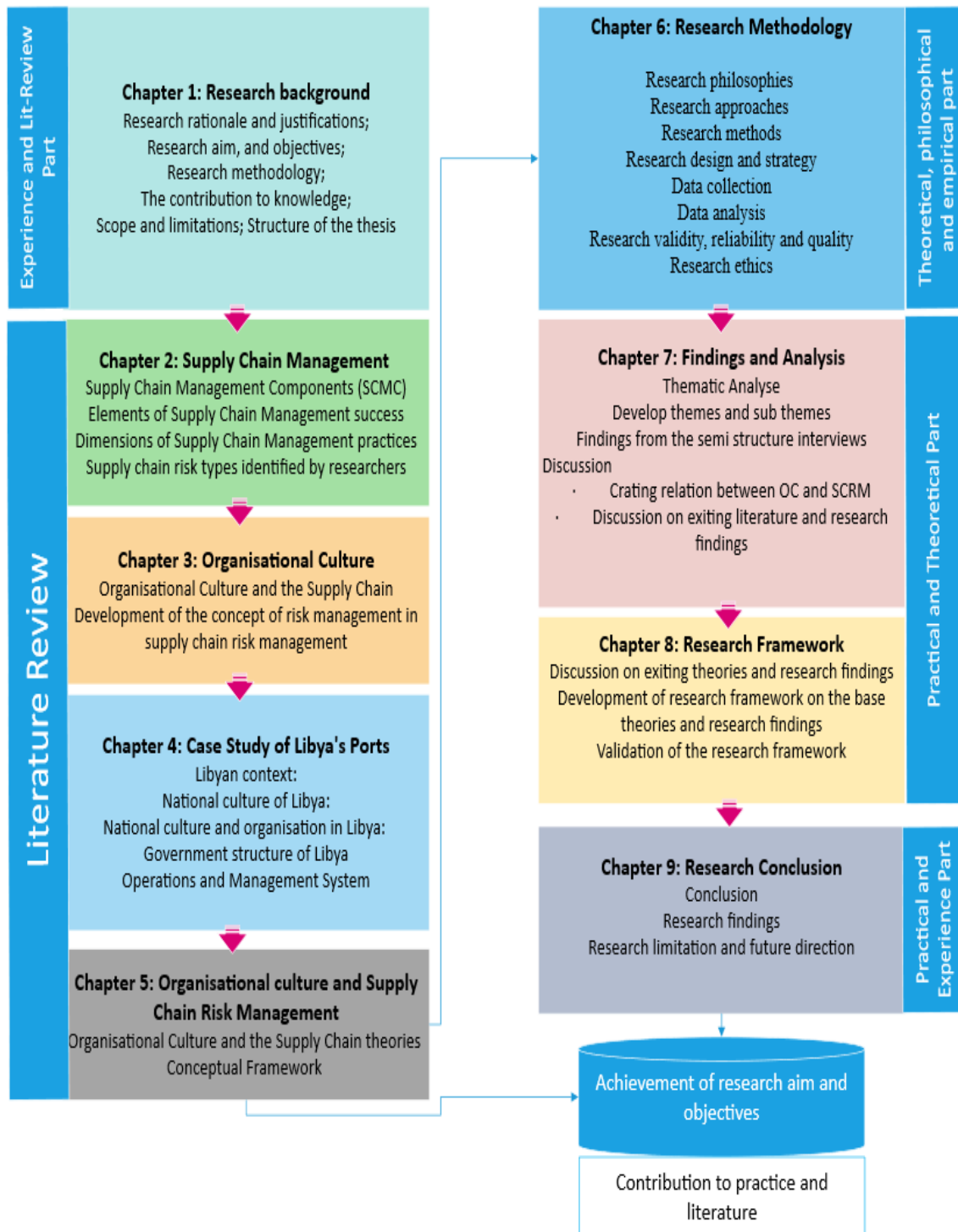


Figure 1-1 The sequence of the research



## Chapter 2 : SUPPLY CHAIN MANAGEMENT

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### 2.1 Supply Chain Management concept:

This chapter aims to providing an overview of supply chain literature, as well as highlighting gaps in it, allowing to formulate research questions. The review of theoretical literature consists of several key areas related to the concept of supply chains, supply chain management, the risks surrounding the supply chains and how to manage these risks, then conclude the chapter by formulating the research questions will aims to fill gaps in the existing literature.

Currently businesses are facing rapid changes in their internal and external environment, which requires them to pay more attention to strategic thinking that involves understanding and analysing the various elements of these environments, as well as the capabilities of the enterprise to build strategies to meet their needs. On the other hand, the technological development of the world and the rapid growing and cross-border growth of enterprises have created a state of intense competition in the business environment (Gahatebi, *et al*, 2013).

The continued success of an enterprise requires its ability to change and meet the needs of the changing world surrounding it, when the entity has less capacity to change than it does, its end is looming. In the current competitive environment, enterprises began to enter blocs and unions in order to achieve competitive advantage, which led to the need to manage these clusters and unions effectively and became the idea of SCM most important to meet the challenges of competition (Fawcett, & Magnan, 2002).

Before exploring the notion of SCRM, researchers briefly outlined the definition of ‘the supply chain’, since this crucial definition is ordered to give the reader a wider picture of the topic that is being researched. Supply chain has different definitions such as “The functions within and outside a company that enable the value chain to make products and provide services to the customer.” (Cox *et al.*, 1995). Others definition of supply chain as web of entities within which material flows. Entities could consist of suppliers, carriers, manufacturing sites, retailer’s customers (Lummus and Alber, 1997). The Supply Chain (Council,1997) stated that: "*The supply chain - plan, source, make, deliver - broadly define these efforts, which include managing supply and demand, sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels and delivery to the customer.*" (Lummus, R. J. & Vokurka, R. 1999:01). Supply chains are expected to respond quickly, efficiently and effectively to changes in the market to maintain success and create a competitive advantage in the global market by focusing on time,

flexibility and responsiveness (Thatte, *et al*, 2013).The supply chain has been defined according to different views by many authors and the following summarizes these definitions as in the following table:

*Table 2.1 Definitions of Supply Chain given by Researchers.*

<b>Authors</b>	<b>Definitions of Supply Chain</b>
(Jones & Riley, 1985)	Planning and controlling the total material flow from the supplier to the final customer through the product and distributor
Ellram, 1991	A network of interacting and interconnected companies through various flows from raw material supply to final delivery and work towards the end product or service of customers.
Lee & Billington 1992	Is a network of organisations that guarantee the functions of supplying raw materials and converting them into components and then to complete products, as well as distribution of these products and delivery to the customer
Gavirneni et al., 1999	Is a system consisting of subcontractors, producers, distributors, retailers and customers, where materials flow from suppliers to customers and information flows in both directions.
Chopra & Meindl 2001	Include all activities that directly or indirectly affect the customer's demandsandthe supply chain not only include the manufacturer and suppliers, but also the transport, warehouses, retailers, and customers themselves.
Hugos & Thomas, 2005	Include companies, business activities necessary to design, manufacture, deliver and use a product or service.
(Lambert et al., 2005)	A network of companies, or independent business units, extends from the primary supplier to the end customer.
(Chandes & Paché, 2010)	A range of activities and processes through which materials and components are supplied from the suppliers, and the conversion of

	these materials and components into intermediate or complete products, and then distributed to consumers.
(Kenyon & Meixell, 2011)	Supply chain is in integration of the product supply from raw material to end user of the product.
(Christopher et al. 2011)	Supply is concept of integration of all companies who play their role from raw material to the end user of the product and the effectiveness of the integration chain create cost and differentiation competitive advantages for the organization and increase customer values too.
(Liao and Kuo, 2014)	A collective process based on relationships and interactions among organisations and other active participants of the supply chain in achieving a common goal.

The business community is currently concerned with supply chain management, both by large multinational conglomerates or small enterprises, which have been given to supply chains a significant degree of importance in the context of the global financial crisis and economic development that need to be changed. All enterprises have refocused back on Supply Chain Management (Zhang & Wu, 2013). Global supply chains are a source of competitive advantage. Global corporate technology helps access cheap labor, relative advantage raw materials, best financing opportunities, wider and wider product markets, arbitration opportunities, and additional incentives from host governments to attract foreign capital. On the other hand, globally supply chains are more at risk compared to local supply chains because of the impact of economic, political, social and natural changes, which makes it more difficult to manage (Manuj & Mentzer, 2008). The implications of the modern business environment have played an important role in the adoption of the concept of supply chain by many enterprises involved in providing a particular product in order to support its competitive position and achieve its objectives. This requires the participation of supply chain members in the goal of reducing costs in order to reduce prices in the market and enhance the profit margin (Anderson, *et al*, 2007).

To be innovative and creative business and able to achieve its objectives efficiently and effectively, thus achieving a competitive advantage to compete with competing enterprises, it has had to look for ways to stay in the market. It has a range of practices covering the upstream

and downstream sectors of the supply chain. These practices include strategic partnership with suppliers, customer relations, information exchange and continuous flow, attention to quality of information exchanged, outsourcing, core competencies, efficient production system and inventory on time, multi-functional task forces, and internal waste-free practices with a view to enhancing the effective management of the supply chain and increasing its responsiveness quickly, efficiently and effectively to changes in the market to maintain success and create competitive advantage (Gahatebi, *et al*, 2013). On the other hand, understanding and implementing strategic Supply Chain Management is a prerequisite for improving profitability and remains competitive in the global competitive market (Thatte, *et al*, 2013). Supply Chain Management is a key issue for business organisations. It seeks to integrate business processes between the organisation and the material processors for its operations. There is no distinctive definition of supply chain management, meaning that there is no different between it and other departments except as a management with specialised content in the logistics management of the organisation through a range of operations targeting processes with suppliers, manufacturers, and warehouses.

The Supply Chain Management concept is relatively modern. Many studies have confirmed that the Supply Chain Management has become more important to meet the challenges of competition. Supply chain members have been able to follow product production from the beginning of obtaining raw materials from their sources until marketing the product and reaching the customer (Mouritsen, *et al*, 2003). There are many concepts for supply chain management, but the most commonly used as (Seuring ,2002), is that they *"Integration of activities related to the flow and transformation of commodities from the raw materials phase to the last user in order to improve supply chain relationships to achieve a sustainable competitive advantage"* (Seuring, 2002). (Zhang & Wu, 2013) believes that Supply Chain Management refers to *"The complete supply chain system which includes planning, coordination, operation, control and maximising the utilization of various activities and processes in order to produce the appropriate products required by customers in a timely manner, in the appropriate quantity and quality, in the appropriate country and the appropriate location.* (Kauffman and Crimi, 2005) believes that Supply Chain Management is *"an integrated approach to the management of supply and distribution networks, making the chain works better and at a lower cost than managing each sector independently."* In another way, Supply Chain Management is defined as *"Management of materials, services, information, funds and time through and between enterprises in their commercial relations in a manner that achieves their objectives at the lowest cost"* (Kauffman and Crimi, 2005).

Supply Chain Management also defined as *"a set of integrated management activities that start from suppliers and end with customers to the benefit of the customer and all stakeholders in the chain."* (Lambert, *et al.*, 1998). Eltantawy, (2006) describes Supply Chain Management as the department that manages the optimal flow of resources or components to the organisation from a range of appropriate suppliers and carries out a number of key responsibilities such as supplier database management, resource development to upgrade suppliers' capabilities and performance, integration of internal resources with those resources for major suppliers. Supply Chain consists of all parties involved directly / indirectly in meeting customer needs and demands, as it is not include only the manufacturer and suppliers, but include the transport process, warehouses, retailers and customers themselves. The supply chain can be defined as: a system of organisations, people, technology, activities, information, and resources required to transport products or services from one supplier to the customer. The supply chain also includes the process of converting natural resources, raw materials and components into the final product delivered to the customer and most advanced systems re-introduce products used at any stage of the supply chain and recycle it within the system (Nagurney, 2006).

(Dawei & Ventus 2011), add that Supply Chain Management (SCM) does not create new activities but offers a new way of transferring management from the internal focus of the organisation's operations to the integration between internal and external focus of suppliers, taking into account an important issue of supplier relationships, abandoning the traditional approach for the relationship with the supplier. SCM relates to managing the flow of information, materials, services and money across the supply chain itself that maximises the efficiency of operations. (Tang, 2006) describes it as a holistic and strategic approach to material management and logistics management and as an implementation of the management philosophy of securing logistics for the organisation. It is responsible for transporting and storing materials from suppliers through intermediate operations. (Sohal, *et al.*, 2002) also defined Supply Chain Management, as all activities related to the flow and conversion of raw materials into final products and their delivery to the end user as well as the flow of information. Many authors and researchers have tried to develop more comprehensive definitions of supply chain management. (Cooper, *et al.*, 2001) defined Supply Chain Management as a network of interconnected organisations going up and down through different processes and activities to deliver value to the end consumer in the form of products and services.

(Vokurka *et al.*, 2002) Believes, that Supply Chain Management represents *"all activities involved in providing a product represented in the acquisition of raw materials and parts, manufacturing, warehousing and inventory tracking, system input and system management,*

*distribution across all channels, delivery to the customer and the information systems necessary to monitor all these activities". A comprehensive definition of Supply Chain Management is "the process of coordinating the organisation and strategy of the business of the traditional enterprise through collaboration with the supply chain parties to improve the long-term performance of the company itself and the parties of the chain in general." (Mentzer et al, 2001). From the previous definitions, the researcher concludes, that Supply Chain Management is a networking that integrates all activities and links all partners in the chain. Including the company's departments and external partners including suppliers, carriers, intermediary partners and the necessary information systems, so it includes the processes necessary to create, manufacture and deliver to demand. It also includes technology for gathering information about market demands and information exchange between companies and the key point in Supply Chain Management is that the overall process must be observed as a single system, and that the views of each member of the supply chain (Suppliers, Factories, Wholesalers, Retailers, Stores, Customers and affect the overall performance of the supply chain and integrate with it. Supply Chain Management is defined according to different views by many authors, we will summarize these definitions as in the following table*

*Table 2.2 Definitions of Supply Chain Management given by Researchers.*

<b>Authors</b>	<b>Definitions of Supply Chain</b>
Jones & Riley 1985	Is an integrative approach to agreeing on planning and controlling material flows from suppliers to the end user.
Ellram, 1991	Integration of processes, systems and organisations that control the movement of goods from supplier to customer and this to achieve customer satisfaction.
Christopher 1992	Manage upstream and downstream relationships with suppliers and customers to deliver higher value to customers at the lowest cost for the entire supply chain.
Ellram & Cooper 1993	Integrated philosophy of managing the total flow of the distribution channel from the supplier to the end customer.
Berry et al, 1994	Supply Chain Management aims to build trust, to share information about market needs, to develop new products, reduce

	enterprise suppliers in order to liberalize resource management, and this to develop long-term meaningful relationships.
Cox et al. 1995	The inside and outside functions of the company enable the value chain of providing and delivering products to customers.
Thomas & Griffin 1996	Supply Chain Management is to manage the flow of goods and information within and between sites such as sales points, distribution centers, and manufacturing plants.
David Ross 1997	The continuous development of the management philosophy which seeks to unify the combined productive capacities as well as the business resources and functions that exist inside and outside the organisation, determine the importance of the supply channels in the framework of competitive advantage and synchronize the customer in the flow of products and services to the market and finally the information necessary to create excellence as the sole source of customer value.
Tan & al. 1998	Is the management philosophy that extends to traditional activities within the enterprise by bringing business partners together with the common goal of improvement and efficiency.
Houlihan & Houlihan 1999	Integrate various functional areas within the organisation to enhance the flow of goods and this is according to the immediate strategy of suppliers through manufacturing and distribution chain to the end user.
Sinchi-Levi 2000	Is the integration of the company's core operations among a range of suppliers, manufacturers, distribution centers and vendors to improve the flow of goods, services and information from the original supplier to the end customer in order to reduce costs and maintain required levels of service?
Christopher 2001	Is the management of the two-way relationship between suppliers and customers to add value to the customer's interest

	and this in order to do business at the lowest costs in case of execution of the works separately.
Leenders 2002	A systematic approach to managing the overall flow of information, materials and services from suppliers through factories and warehouses to the end customer.
Hugos 2003	Coordination of production and inventory, allocation of facilities and transport among supply chain participants to achieve the best combination of efficiency and responsiveness to the service market.
Heizer & Render 2004	Manage activities that acquire materials and services and turn them into intermediate or complete products and then distribute them through the distribution system.
Stadtler 2005	A task related to the integration of organisational units within supply chains and the coordination of materials, information and financial flows in order to meet customer requirements in order to improve the competitiveness of the supply chain as a whole.
Ahi and Searcy 2013	The creation of coordinated supply chains through the voluntary integration of economic, environmental, and social considerations with key interorganizational business systems designed to efficiently and effectively manage the material, information, and capital flows associated with the procurement, production, and distribution of products or services in order to meet stakeholder requirements and improve the profitability, competitiveness, and resilience of the organization over the short- and long-term.

## 2.2 Supply Chain Management Components:

Based on a set of core components SCM formed the structure of supply chain interactions and movements as follows:



### **2.2.1 Supply Chain Activities or Operations:**

Supply Chain Management process requires a regular flow of information and data to ensure the integration of a range of vital activities of supply chain management, these activities are (Hahn, *et al*, 2000):

- Customer Relationship Management: Requires the need to identify relationships with a group of key clients.
- Management of the service provided to customers: This requires the need for an effective and fast communication system.
- Demand management for the products of the establishment: This activity refers to inventory control.
- Implementation of customer orders: that is, balancing production, distribution and transportation plans.
- Management of production processes: where flexibility must be taken into account.
- Supply: It includes the need for coordination with suppliers.
- Product Development: Preferably involve both suppliers and customers in the process of developing new products.
- Returns management and sales returns: it represents the reverse trend in the supply chain.

### **2.2.2 Supply Chain Determinants:**

Effective Supply Chain Management requires to identify and understand the determinants of the supply chain and then comes the role of Coordination and harmonising these determinants, and these determinants is (Hugas, 2006):

- Production: Supply chain energy is intended to produce and store products, and necessarily guarantees the management of production facilities, factories and warehouses.
- Inventory: the inventory is one of the elements of supply chain, whether it is ore, under-operation or finished goods.
- Locations: refer to the locations of supply chain facilities that have a significant impact on the cost of the chain.
- Transportation: refers to the movement or moving of everything from raw materials, parts and finished products between facilities and parties within the supply chain.
- Information: is the basis on which decisions are taken on the four previous engines.

The availability of resources, processes and determinants within the supply chain does not guarantee the success of supply chain management. Rather, it is necessary for the supply chain to use its resources efficiently and effectively. This is achieved by reducing the cost of supply, providing high customer service and rapid response, so studies have identified four elements or dimensions of Supply Chain Management is the engine for the good performance of supply chain operations (Mentzer, et al, 2001):

- Inventory: researcher mention the need to balance the risks of inventory and its benefits.
- Transport: It is noted in this regard that there is a strong relationship between transport and inventory and response time, which requires the need to balance the cost of transport and the cost of inventory.
- Facilities: researcher must determine what these facilities is, and where they are and how they are managed in order to achieve the highest level of performance of the supply chain.
- Information: It is intended to trade information internally and externally between the members of the supply chain and has a pivotal role to perform the supply chain functions properly.

### **2.2.3 Supply Chain Structure:**

The structure of the supply chain is a network of members who are linked to each other by flexible linkages as a result of the relevance of the objectives and interests of these different parties.

The emergence of globalisation and international competition mechanisms has complicated the supply chain structures in the past decade with the entry and participation of multiple companies and stakeholders. This has led to the emergence of the so-called Expanded Supply Chain, which includes the following parties (Hugos & Thomas, 2003):

- Basic suppliers of raw materials.
- Producers: they are the responsible organisations for the manufacture of products, both dealers in the manufacture of raw materials or finished goods.
- Distributors: they are the organisations that handle stocks during the supply chain, whether in the field of raw materials or finished.
- Retailers: they are dealers with the general public of the end consumers who are the closest to the market and the closest to determining the demand needs.
- Customers: they are organisations or individuals who buy and use products within the supply chain.

- Service providers: they are all organisations that provide services to producers, distributors, retailers and consumers within the supply chain.

The structure of the supply chain is a kind of building a partnership or alliance between several partners or parties. This naturally requires building a state of mutual trust and a high degree of reliability, building a system of good communication between the parties of this chain and finally creating cooperative relationships and strategic alliances among the supply chain members. Ensuring the success of the agreed structure of this supply chain (Handfield & Nichols, 2002).

### **2.3 Supply chain objectives:**

(Kulmala, *et al.*, 2002) described the supply chain as primarily aimed at reducing the costs of supply chain outputs and improving the competitive position of the supply chain. While Kajuter (2002) sees that the main objective of the supply chain is to improve the efficiency of supply chain members. (Monczka and Morgan 1997) pointed out that the goal of Supply Chain Management is to integrate processes to deliver higher value to customers, improve customer responsiveness by accelerating the development of new products and putting them on the market, improving IT usage, reducing inventory investment, reducing costs and reducing time Production cycle. These objectives can be achieved through better use of the capabilities of suppliers and internal and external customers. Researcher believes, that the former goals are to improve supply chain performance to support the competitive position, but the achievement of the previous advantages is not the responsibility of one member of the supply chain members or the responsibility of the last member In the supply chain, it is in fact the responsibility of all members of the supply chain. Customer satisfaction (the final consumer) and cost reduction is a solidarity responsibility involving supply chain members. Cost reduction cannot be viewed from an internal perspective but must extend to the external environment (all supply chain parties) in order to improve the performance of supply chain parties to remove any kind of competing interests among supply chain members.

From the above, the main objective of supply chain attention is the final consumer who is imposing the specifications of the products that he wants to consume.

### **2.4 Elements of Supply Chain Management success:**

As the organisation begins to integrate with the supply chain, this must be accompanied by fundamental changes in the traditional way in which managers' deal with supply chain

problems. They must realise that the success of their organisations comes through the effective management of the supply chain, which can contribute to the achievement of minimal product development time, cost minimization and flexibility of the production system so that it can respond quickly to customer requirements. In order for such integration to succeed, several key elements need to be taken into account which is (Randall, *et al*, 2003):

- Accurate definition of the meaning of supply chain integration.
- Identification of FAO strategic plans and policies.
- Organisation structure.
- Configure internal and external supply sources across the supply chain.
- Standards for assessing behavior across the organisation.
- A strategic approach to costs.
- Develop human resources and managers for the new approach in dealing.
- Integration of information systems and technology.
- Strategic relationships with customers and suppliers.
- Increased efficiency of the development and delivery of new products and services.
- Building attraction system built on orders.
- Markets.

Taking these elements into account, this fulfills several key objectives of Supply Chain Management which is (Boubekri, 2001):

- Speed of delivery and product development.
- Efficient use of available technology.
- Minimise the volume of investments with resources.
- Make inventory as low as possible and provide the best service to the customer.
- Cost minimization.
- Speed response to customer requirements.

Supply Chain Management can use processes, that deal with client requests made through the system, and effective Supply Chain Management enables management of information decisions along the supply chain from raw materials to manufacturing products to the distribution of ready-made products to the customer, and at each stage there is a need to make the best choice about what your clients need and how you can meet their requirements at the lowest possible cost.

## **2.5 Supply Chain Management Importance:**

Supply Chain Management is becoming increasingly important for many reasons which are (Tarn, *et al*, 2002):

- Supply Chain Management is a collaborative effort that involves several parts or processes in the product life cycle.
- Supply Chain Management can cover the entire product life cycle from delivering raw materials to the point at which the customer purchases from the product.

In the past, most organisations had paid little attention to their supply chains, although they tended to focus on their operations and direct suppliers, and there were a number of factors that made them desirable for today's business organisations like (Stevenson & Spring, 2007):

- Need to improve processes.
- Increase levels of external sources.
- Competition pressures.
- Increasing interest in electronic commerce.
- The complexity of supply chains.
- The need for inventory management.

Several studies like (Kauffman & Crimi 2005, Zhang & Wu 2013, Christopher & Gattorna 2005), had pointed out the importance of supply chain management, as follows:

- The implementation of Supply Chain Management has become an inevitable choice for aspiring entrepreneurs.
- Implementation of Supply Chain Management helps to reduce costs especially transaction costs.
- Implementation of Supply Chain Management facilitates the exchange of information, and enterprises can maintain a high degree of market sensitivity.
- Implementation of Supply Chain Management helps to effectively respond to market uncertainty requirements.
- The implementation of Supply Chain Management is an indispensable requirement for corporate social responsibility.
- Providing knowledge through the diversity of methods, processes, techniques and systems that can be used in Supply Chain Management which helps to improve supply chain performance.

- Studying private supply chains helps identify possible areas of improvement.
- Evaluate changes and make revisions as needed, and practice continuous improvement by reviewing periodic performance and value analysis.

(Kauffman & Crimi 2005) believes that there are several objectives of supply chain management, including common objectives: reducing waste and non-add value activities, ease of access to inventory, responsiveness to customer demands (reducing costs), and improved supply chain (In terms of speed, timeliness and accuracy of information exchanged), reducing product life cycle time (eg new product development, waiting time for supply), and improving and coordinating efforts (through continuous improvement and understanding of objectives).

According to (Ellram, 2002) the objectives of Supply Chain Management include obtaining continuous flows of materials, money and information throughout the chain, reducing costs, reducing product life cycle, reducing risk and uncertainty and improving customer satisfaction. Chain performance and joint planning for display systems and initiatives, reducing the number of suppliers and carriers and reducing investment costs in inventory.

(Ozlan, 2013) indicated that the level of implementation of Supply Chain Management in SMEs in Bosnia was good, and there is weak use of information technology, and there is a relationship between customer relation management and supply chain management, this suggests that Supply Chain Management Mission-level performance of companies.

(Hasan, 2013) aimed to validate sustainable Supply Chain Management and demonstrate its impact on environmental performance and operational performance in major Australian companies and found that sustainable Supply Chain Management has an important positive impact on environmental performance and operational performance.

(Ageron, *et al.*, 2012) study aimed at discussing supply chain strategies and innovation, developing a conceptual structure to identify key components of supply chain innovation and its impact on competitive supply chains, the study most important results of this study was that managers should know that the logistics issues of the Supply chain is a key limitation of successful supply chain strategies and innovation.

(Dubey and Charkrabarty, 2011), study has conducted a pilot study on how innovative practices in the supply chain in conjunction with the overall quality management that will help the company to reduce cost and improve customer satisfaction, which in turn reflect the high profitability and better market share, as well as to know the extent of the impact of creativity

supply chain and total quality management in the performance of cement manufacturing companies in India, and the results revealed clearly that the cement industry in India is still in its early stages in the adoption of innovative management in the supply chain.

The researcher believes that Supply Chain Management has become essential and essential for organisations seeking to meet the challenges of competition in the business environment today.

## **2.6 Prerequisites for supply chain management:**

That Supply Chain Management strategies should focus on business relationships that are characterised by the following (Swanson, *et al*, 2010):

- Long term.
- Cooperation by nature.
- Prove that the system is open in the sense that information must be shared between all elements of the supply chain.
- Look for end-to-end relationships with suppliers of products and services.
- Looking at the ultimate goal that ensures that the supply chain manager is not just a functional specialist but a relationship manager who focuses objectively on both internal and external relationships.
- The pursuit of modern information technology exploitation to raise the competitive advantages of all members of the supply chain.

Some detailed requirements are also required for Supply Chain Management to function efficiently and effectively:

### **2.6.1 Customer Satisfaction:**

Customer Satisfaction is a desired final result of the Supply Chain Management Strategy and the typical measurement of customer service, is the ability of the company to deliver orders in a timely manner or its ability to deliver products to customers within the agreed delivery time (Brave, 2011).

### **2.6.2 Inventory:**

Industrial entities have a stockpile of raw materials, products under operation and finished products. In addition, there are often stores or distribution centers between different levels of the supply chain, and there is no doubt that the stock is a capital disruption. Moreover, the cost

of stock retention is often 20:40 % of the inventory value. It is also desirable to avoid what is known as idle stock (Sohel, *et al*, 2015).

### **2.6.3 Flexibility:**

Flexibility in general the ability to respond to environmental changes. In the case of a product that depends on the manufacturing process, flexibility is the ability to change outputs in response to changes in demand. In the supply chain, flexibility in one element of the chain depends largely on the flexibility of the other elements from which the inventory flows (Quesada, *et al*, 2012).

## **2.7 Dimensions of Supply Chain Management practices:**

(Alvarado & Kotzab, 2001) noted, that Supply Chain Management practices refer to the range of activities undertaken by the business organisation and are involved in enhancing the efficiency and effectiveness of supply chain management.

The dimensions of Supply Chain Management practices represent a multi-dimensional building. Combining theoretical and practical applications in the supply chain, these dimension as follow:

### **2.7.1 Strategic Relations with Suppliers:**

The relationship between supply chain partners is highly important and sensitive due to several considerations: (Li *et al.*, 2006):

- Conflict of interest.
- Each Party sought to obtain benefits at the expense of the other Party.
- Product quality considerations.
- Price considerations and consequential cost of final product.
- Considerations relating to the amount of capital to be invested.

The decisions must determine the mechanisms to be taken by the Organisation, regarding its desire to produce certain manufacturing components internally, or to purchase them from a supplier outside the Organisation. The mechanisms by which the organisation will select the suppliers, it will deal with in the future. Such strategic decisions are usually made through the product design phase (Slack & Lewis, 2002), as the organisation finds itself needing to answer a range of questions to make the right decision about how to choose a particular supplier. Such as quality issues, costs and technology, safety issues, environment, delivery and storage. The strategic partnership with suppliers is defined as "*the long-term relationship between the entity*



*and its suppliers designed to take advantage of the strategic and operational capacities of individual enterprises involved in the supply chain to help them achieve many and continuous benefits"* (Li *et al.*, 2006). In order to make a choice of suppliers, the organisation sets competitive priorities for the development of the list of performance criteria, which will be used to select the appropriate supplier, as well as the criteria for starting relations with suppliers such as price, quality and delivery on time. At present, enterprises are finding more benefits if they work together not working independently from each other. Strategic partnerships with suppliers organise efforts and create a network of qualified suppliers. These include all activities needed to improve the current and future performance of suppliers, and design strategic partnerships with them to achieve Integration of operational and strategic capabilities of enterprises and suppliers to help achieve greater benefits (Swink, *et al*, 2007).

A strategic partnership with suppliers is a long-term partnership that encourages coordination of efforts to solve mutual problems. It is a critical factor to guide supply chain management, based on the primary objective of the strategic partnership with suppliers, which is to increase the desired functionality of the supplier (Li *et al.*, 2006). Strategic partnership decisions with suppliers are the basis for identifying key supply sources in the supply chain, the choice of supplier and the effective integration of businesses to acquire the appropriate additional skills are important in this context, which improves supply chain performance and reduces costs (Hamister, 2012). Christopher & Juttner, 2000) tried to build an integrated conceptual framework for the formation and management of long-term relationships within the supply chain to create cooperative relationships between the parties. This study was implemented in the form of a case study between a large retail establishment of forty (40) suppliers. The study identified five (5) vital dimensions and necessary for the process of interaction and good relationship between the parties to the chain, namely:

- Selection and classification of the partner.
- Training the operators of interactive processes and responsible for mutual relations.
- Internal coordination with the partners administratively and at the level of human resources.
- Finding external support.
- Follow-up and evaluation of the relationship.

(Romers, 2000) aimed at developing a conceptual framework for supply chain evaluation to support organisations in ways and means that contribute to the development of solid, established relationships with suppliers, as well as designing systems to measure the integration of supply

chains of the surveyed organisations. The study was conducted on a community of (131) medium and different industrial companies. The study adopted the method of case study for data collection. The study found, that many of the problems faced by contemporary organisations are the product of thinking through inefficient systems. In the sense that the surveyed companies take into account the consequences of their business movements more important than the results related to the rest of the chain and the total supply system. These companies have ignored integration issues among the entire chain. In comparison to companies operating at the level of the market mechanism in their relationships, the study showed that a number of companies explored and immersed in cooperative relationships included common standards for the development and integration of relationships, and these companies try to maintain the methods of performance evaluation bilaterally to emphasise joint operations.

(Dainty *et al.* 2001) sought to find better ways to manage the supply chain by looking for a concept that transcends conventional relationships, the study concluded that the concept of alliance could be applied to the field of the construction industry in England. The study found that common alliance relationships between supply chain members, i.e., (Contractors, Suppliers or Contractors, and subcontractors) could be made to improve supply chain performance. The researcher believes that the Dainty 2001 studied is similar to the current study in an attempt to find better ways to manage the supply chain, but we will reflect this on the risks. (Kamman and Bakker, 2004) consider that the organisation selects its suppliers according to specific conditions such as the availability of documented financial and administrative systems at the supplier. And that the supplier has systems for determining the responsibility for quality and the availability of authority with a member of the senior management team to implement such systems. As well as, the ability to deal with renewable technology and innovations, the availability of technical capabilities to meet the supply requirements in terms of quantities, the supplier's prices to be competitive and fair to the organisation, and are committed to supply and delivery timetables, the supplier's ability to make decisions related to options and methods of transport, delivery, communication and follow-up, the fulfillment of his contracts and commitments. As well as, the availability of systems for periodic review and how to solve the dilemmas that may arise from time to time and having programs to improve quality. The process of selection of suppliers usually goes through three stages as follows:

### **2.7.2 Suppliers' Evaluation:**

There is no single mechanism / method for selecting and evaluating suppliers, therefore the process of assessing suppliers is one of the most important aspects and dimensions of building

relationships with them. The evaluation process is usually aimed at identifying professional suppliers or those with the potential and capabilities that the organisation will deal with in the future to become its main suppliers. This process needs to develop a set of criteria that include specific measurement engines based on the needs of the organisation, given the importance of the selection process of suppliers. If suppliers are not selected for raw materials or components and services based on scientific and normative grounds, this will cause many problems for the organisation, the most important of which is the exit from markets in the future (Yao & Chiou, 2004).

### **2.7.3 Suppliers' Development:**

This aspect relates to the extent to which the supplier is able to integrate with the various activities of the organisation, when it is discovered that such a supplier has the capacity and requirements to continue with it through future supply relationships such as quality requirements, delivery, procurement and training policies, and information exchange (Yang, *et al.*, 2004). The organisation will develop this supplier through different methods and within its capabilities to integrate this supplier with its various activities.

### **2.7.4 Negotiations:**

(Heizer and Render 2000), mentioned that negotiations are the last stage in the selection process of suppliers. Negotiations generally depend on the strategies that the organisation will pursue as entry points to start and develop future relationships with those suppliers, which usually take a form of three forms: Market-Based Prices - Cost-Based Prices - Competitive Bidding. However, (Handfield, *et al.*, 2005) believe that there are broad dimensions that negotiation processes may require, such as quality levels, contract size and costs, special packaging requirements, the method and terms of payments, and completion times for different operations. Other dimensions and issues may be negotiated, such as protection of intellectual property and information, sources needed to develop close relationships, commitment to capacities and guarantees, as well as responsibility for faulty supply, handling of returns, and supplier's ability to add value to customers and parties involved in the supply chain. We find that organisations generally seek to build long-term relationships with suppliers based on transparency, commitment and cooperation, and that each party seek the assistance of the other party to the fullest potential.

## 2.8 Customer Relationship:

One of the most important aspects of business organisations is to achieve successful customer communication, build long-term relationships with them and be able to acquire them, manage customer complaints and meet customer satisfaction. (Gilaninia *et al.*, 2011). Customer relationship is defined as *"a complete set of practices used to manage customer complaints and to build long-term relationships with them to meet their demands and improve satisfaction."* Customer relationships consist of all methods used to monitor and manage customer complaints and their satisfaction. Customer relationship management is an important component of strategic cost management and provides good benefits. Developing customer expectations in customer relationship management is important to the survival and sustainability of the enterprise. On the other hand, good relationships with the supply chain members, including customers, are important to manage strategic costs successfully. This indicates the distinctiveness of the products offered to them compared to the competitors (Li *et al.*, 2006).

The objectives of improving customer relations are as follows (Niknia, 2013):

- Identify new business opportunities and minimise missed opportunities.
- Increase customer loyalty and reduce their loss.
- Improve customer service and improve the image of the organisation.
- Reduce costs and increase revenue

SCM helps the organisation achieve this, because the chain simply begins and ends with the customer, by knowing what he wants? And when he wants to? Speed and delivery of products to him? But in the first place, the organisation must answer the following questions:

Who are the most important clients of the organisation? Where are these customers? In the beginning, the organisation must determine who is the most important customer, the type of products purchased and the number of times of purchase, and the areas of presence of these customers, by keeping the organisation database includes all the information of them, so that you can back to when you need to Improve customer satisfaction, which is the desired end result of the organisation.

## **2.9 Level of Information Sharing:**

It is about the company's ability to share knowledge and information with members of the supply chain efficiently and this level has a close relationship with competence and responsibility. Information exchange has two aspects: quantity and quality, both of which are important for Supply Chain Management practices. Information Sharing refers to the extent to which information is exchanged and transferred along the supply chain. Effective Sharing reduces information from misunderstanding, improves decision-making and achieves flexibility and responsiveness (Hamister, 2012). Thus, information plays an crucial role in influencing the supply chain, as the abundance and sharing of information both quantitative and qualitative among the members involved in the supply chain plays a critical role and works to reduce inefficient performance levels of the supply chain. In fact, the poor quality of information leads to numerous errors in estimating the volume of requests and inventory, and the inability to coordinate among the members involved in the chain. (Premus & Sanders 2001) aimed to reveal a correlation between the negative effects of Supply Chain Management and the amount of information that the supplier shares with the organisation. The study population consisted of different supply companies in the United States. The study sample consisted of 2,000 organisations and the response rate of the organisations surveyed was 86%. The study found that the more information the suppliers receive from the organisation, the lower the negative effects of supply chain management. The study showed that 86% of respondents' responses confirm that information sharing plays an important role in distinguishing the performance of the organisation and that there is a high positive correlation between information sharing and the negative effects of the overall supply chain. The study of Premus & Sanders shows that information sharing is a factor in improving supply chain performance within US supply companies, while the current study will explore several other dimensions as well as exchange and share information to improve the performance of the chain within the LPs.

(Adebisi, 2004) aimed at examining the correlation between information sharing for both the industrial sector and the organisation and the benefits gained from the application of information technology through case study and observation, through documented records and constraints, and opinions of industry experts and using personal interviews. The study showed a positive correlation (60%) between information sharing for both the industrial sector and the organisation and the benefits gained from the application of information technology, the study found negative behaviors in the surveyed companies leading to inefficient manufacturing processes and activities in companies such as: poor confidence, resistance to change, fear of

new technology, low level of learning, weak financial and administrative capabilities, and barriers to information sharing. The study found that the organisations' supply structures are heterogeneous and that the benefits of effective supply chain performance can be achieved as a result of mutual trust, transparency of information and positive thinking about doing business both within the organisation itself between the functional divisions or between the organisation and the organisations involved in the chain. The level of information sharing demonstrates the ability of an entity to effectively and efficiently share knowledge and information with its supply chain partners. Information sharing is an interactive supply chain system that includes information between direct partners and the entire supply chain network. The level of information sharing is closely related to the quality of the accounting system, and the supply chain partners who regularly sharing information are more capable of working together as if they are a single enterprise and are better able to understand end consumer needs and respond quickly to changes in the market. On the other hand, effective use of timely and appropriate information by all partners in the supply chain is a competitive factor (Li *et al.*, 2006). Each stage of the supply chain needs to be provided with complete, transparent and clear information to enable members to work together to harmonize their activities using real, honest and high-quality information, rather than relying on misleading information (Gilaninia *et al.*, 2011)

## **2.10 Quality of Information Sharing:**

The importance of information to Supply Chain Management is determined by the extent to the successful cooperation between different parties and common supply chain. It expresses all information must be available about the product, starting with the type and quality of the materials used, the production tables and the available production capacity. This is in addition to the means by which this information is provided, which must be accurate, efficient, transparent and confident in order to achieve the objectives of the supply chain (Gilaninia, *et al.*, 2011). Quality of information refers to the accuracy and reliability of information shared by business partners. Accurate and timely sharing of information is also an important factor in improving performance across the supply chain. Distorted information creates a significant burden in the supply chain, contributing to higher costs. Information sharing between supply chain members must be modern, reliable, accurate, timely and credible (Li, *et al.*, 2006). Comprehensive demand and supply planning, raw material procurement and production, inventory control, warehousing, product distribution and information management are important activities in the supply chain. Therefore, the facility should be able to consider the request for inventory according to the number of products, and to plan the production and

production schedules before ordering the raw materials. This depends on the quality of information shared between the members of the supply chain (Ou, *et al*, 2010). Lead time for different operations also plays an important role in causing variation in supply chain information, as it accompanies longer lead times changes in demand estimation, leading to significant changes in the level of safe stock, which also leads to an imbalance in estimates of demand distortion.

(Levi & Kaminsky, 2003) mentions two key dimensions of information control by the members of the supply chain:

- Availability of direct outlets among partners.
- Validity of information in terms of time.

## **2.11 Outsourcing:**

Outsourcing is a new term that has been added to the terminology used in the field of information technology in the context of its rapid, growing and cross-border development. This term simply reflects a new field of providing IT services and modern business systems management services through a specialised intermediary with the capabilities and technical expertise that enable him to do so. The outsourced entity may be an independent entity or a wholly-owned subsidiary of the parent entity, knowing that the outside entity has competitors and that, under the outsourcing, the parent entity remains fully in control of the operation in terms of their precise identification and determination of what to do. Recently, outsourcing has expanded and become a stand-alone industry that generates enormous profits and contributes to the broadening of the technological expertise of its staff (Beaumont & Sohal, 2004). There are many activities that industrial companies outsource, perhaps the most important outsourcing of the following three activities (Kenyon & Meixell, 2011):

## **2.12 Transportation and storage:**

The transfer process involves the transfer of raw materials from the supplier to the factory, as well as the transfer of finished goods from the factory to the warehouses and other customer locations. The storage process in the industrial companies involves the storage of components, raw materials and manufactured goods.

### **2.12.1 Distribution and Processing:**

The distribution process involves the management of goods in the physical path between productions Consumption.

### **2.12.2 Packaging:**

The packaging process involves the packaging of finished products to protect them during Handling in warehouses and transport vehicles. Outsourcing has many benefits, the most important of which are (Garret, 2006):

- Reduce costs by using more efficient suppliers capable to reduce costs.
- Improving the quality of the services provided by providing services to specialists.
- Access to technical competencies and access to new technology.
- Improving financial performance.
- Helping to serve customers better and with higher quality.
- Focus on core activities.
- Risk distribution, especially when the investment is large and here the risk is distributed among a number of suppliers.

### **2.13 Internal Lean Practices:**

The use of internal Lean Practices is another practice of Supply Chain Management practice and this practice refers to the consumption of fewer resources with the same large volume of production and more diversified offers to customers. One of the basic ideas in the internal Lean Practices is the elimination of excess (over-production). Production without loss and timely production systems is intended to improve operations was first designed at Toyota Japan in 1950 (Ou, *et al*, 2010).

### **2.14 Just in Time Production (JIT):**

Just in time (JIT) production is a concept developed by Bose Corporation and used extensively in the United States. And is based on the connection between the supplier and the client through the computer at the same time to perform the engineering activity synchronized with the customer engineering department within the client company to manage the inventory and automatic renewal of the required materials. This method is used when the client uses a large number of materials and this requires continuous cooperation between the seller (the supplier) and the buyer (customer) to meet the needs of the buyer, and therefore a long-term partnership agreement with the client implemented (Kauffman & Crimi, 2005).



## **2.15 Postponement:**

The supply chain consists of many stages, from the beginning of the supplier through the producer with specific technological capabilities and finally to the dealer or distributor, so it is necessary to focus on the operations at each stage of the chain. The product lifecycle achieves the integration through the central network that enables the organisation to collaborate with customers, suppliers and partners to achieve information sharing through the chain stages to the final product. This may be done by merging one or more phases of the supply chain into a later stage to help customers achieve the right product for them, and to launch more innovative products faster and with minimal cost reduction (Li *et al.*, 2006).

## **2.16 Strategies for postponement:**

There are following common strategies postponement strategies.

### **2.16.1 Delay Collection Activity:**

The importance of the supply chain for suppliers, manufacturers and customers and the benefits that will accrue to them as a result of cooperation. This encourages all parties in the supply chain to invest in developing their relationship, which affects profitability, either by increasing sales or by reducing cost. It was necessary to find out how to manage the supply chain and how to enhance the competitive position of all members of the supply chain.

The researcher believes that Supply Chain Management practices are important in several aspects:

- The selection and effective integration of suppliers is important for improving supply chain performance and reducing costs.
- Good relationships with supply chain members including customers and suppliers are important for information sharing and successful strategic cost management for the supply chain.
- Effective information sharing reduces misunderstanding, improves decision-making and achieves flexibility and responsiveness which enhances the competitiveness of the supply chain.
- Previous practices cover the supply chain flow up (strategic cooperative partnership with suppliers), supply chain flow down (customer relations), information flow throughout the supply chain (information sharing and quality of information sharing) And internal supply chain processes (Internal Lean Practices).

## **2.17 Content and nature of risk in the supply chain:**

Modern companies depend on their success on others. Historically, institutions spent less than a third of their budgets on goods and services purchased, depending on their internal sources. Today, many institutions spend most of their budget on goods and services procured, largely because of the advantages they have found in modern strategies such as globalization, outsourcing, Just-on-time delivery and lean production and while globalisation, expanded supply chains and strengthened relationships with suppliers offer many advantages in efficiency and effectiveness, they can make supply chains more fragile and can increase the risk of supply chain disruptions (Council, 2011). The supply chain is subject to a variety of risks due workflows, the nature of the product, the diversity of flows, performance objectives, ways of exchanging information, conflicting interests of partners, etc. And from different types and sources, some of which are expected, and some are unexpected, so it is no longer easy to ensure success and profit and the invasion of foreign markets, so it requires constant vigilance and wisdom and great intelligence by the organisation, in order to identify these risks and its different sources, Including the development of a risk management strategy. The business community is currently concerned with the management of supply chain risks. SCRM has developed rapidly, especially from institutions operating in international environments, supported by numerous conferences held in this regard. ISO has issued a new set of standards related to the supply chain like ISO 28000 to manage the enterprise supply chain security from the start point to the point of sale, which identifies the risk levels in the various supply chain processes and then carries out the risk assessment and applies the necessary controls with the supporting management tools. While supply chains for business organisations have become broader and more flexible, the potential for disruption of logistical supplies for the organisation is possible, and supply chain analysis and prioritisation have become a major challenge for supply chain management. Researchers have developed many techniques that deal with Uncertainty and addressing issues arising from the Organisation's external processes to reduce supply chain disruption possibilities (Culp, 2013). (George, 2003) identifies supply chain risks as risks that affect the flow of the organisation's supply and the resources required to accomplish operations. These risks are termed as input risks. In the same content. (Tummala & Schoenherr 2011) defined, supply chain risks as hazardous events that adversely affect the organisation's operations, service levels and cost across the supply chain, and uncertainty is the primary source of chain risk. (Jüttner, *et al.*, 2003) note that supply chain risks are the potential for disturbances affecting information flows, materials or products of the organisation, and their impact extends to the mismatch between supply and demand, and sources of risk are unpredictable variables.

The ability to identify and prioritise supply chain risk types is the first step in supply chain risk analysis, in order to take appropriate strategies to mitigate these risks and their effects. Although there are many systems that can be adopted in prioritising supply chain risk, there are shortcomings in this aspect of some in business organisations. (Christopher, *et al.*, 2011), in his study of supply chain risk, noted that many organisations still do not have an organised management covering supply chain risk, and that many managers ignore the fundamentals of managing and evaluating supply chain risk. In recent years, supply chain risk has been pushed to the fore, initially due to concerns about potential disorders of the "millennium bug" Y2K. Which seems to have passed without problems, and despite the widespread unrest caused by fuel protests and then foot and mouth disease in the UK, terrorist attacks on the United States have highlighted the weakness of modern supply chains, and despite the increased awareness among practitioners the concepts of vulnerability In the supply chain and SCRM is still in its infancy, so authors continue to clarify the concept of SCRM and provide a practical definition of it (Jüttner, *et.al*, 2003). When people talk about the risks of supply chains, they usually refer to "external" threats, (Manners-Bell, 2009) stressed that the relationship between external and internal risks is very close. For example, higher levels of inventory of internal risks (redundancy, wastage), However, it mitigates the external risk (a subversive event on the supply) and vice versa. Reducing "internal" risk can increase "external" risk. For example, Toyota's problems with the brake pedal design were blamed the supplier, one of the estimates indicated the total cost of this supply chain disaster to Toyota was \$ 2 billion, including loss of consumer confidence. In recent years there have been many cases and examples of supply chain disorders on corporate performance, and the case of Ericsson is well known in this area because of a fire at the Phillips semiconductor factory in 2000, and the disruption of production, resulting in the eventual loss of Ericsson 400 Million dollars (Chopra and Sudhi, 2004). The catastrophic floods that hit Thailand in October 2011 on the supply chains of computer factories that rely on hard drives, and disrupted supply chains of Japanese automobile manufacturers in Thailand (Chopra and Sudhi, 2014). Historical and modern events have demonstrated the need to identify and mitigate these risks. The Tohoku earthquake in March 2011 and the aftermath of the tsunami in Japan showed how an event could disrupt many elements of global supply chains, Including supply, distribution and communications (Lee and Pierson, 2011). The earthquake, tsunami and subsequent nuclear crisis in Japan in 2011 led to a reduction in Toyota's production by 40,000 cars, which cost \$ 72 million daily profits (Pettit et al., 2013).

SCRM is a new methodology that embodies both operations and financial aspects of decision making. SCRM is generally a relatively new concept in most developing countries, and many

companies have not even begun to consider the formal management of their supply chain. Some believe that the cause is organisational behavior: the structure of departments and bad communication, however Supply Chain Management is growing rapidly every day, many senior professionals have expressed that the SCRM will have a broader role in the future (Blos, *et al*, 2009). Business risk sources are many and emerging within and outside the organisation, and SCRM has become an integral part of risk management in general (Ghadge *et al*, 2012). (Colicchia & Strozzi 2012) noted, that operational risk is not the only type along the supply chain, since the complexity of supply chains and the uncertainties of the business environment increase the likelihood of chain-wide rupture. Over the past decade, many companies have faced supply chain risks that have reached the breaking point. Both natural disasters and large economic fluctuations have posed significant challenges across the supply chain, and these challenges and risks are continuing and not decreasing (Gligor, *et.al*, 2013). Supply chain risks can be defined as disruptions in the various flows (materials, information and cash) that occur between the supply chains. A key feature of supply chain risk is that it exceeds the boundaries of a single organisation (Jüttner, 2005).

Risk sources include environmental, regulatory and supply chain variables that have an impact on supply chain results and cannot be predicted with certainty. Environmental risk sources include any uncertainties arising from the environmental interactions of the supply chain such as socio-political actions and sources of regulatory risks within the supply chain Uncertainty in production, strikes and downtime, and network-related risks arise from sub-optimal interactions between supply chain parties (Jüttner, *et.al*, 2003). (Manuj and Mentzer, 2008) study examined the development of a model of global SCRM strategies by proposing three factors influencing the selection process: time focus, supply chain flexibility, supply chain environment. The study indicated that the correlation between these factors will affect the choice of strategy, the study also suggested that managers adopt risk management strategies: qualification, speculation, framing, control, participation, security, avoidance, taking into consideration the conditions of risk management, complexity of the processing chain, and scope of organisational learning. The different global supply chain because it does not affect the choice of strategy, the study also proposed the formation of risk management team, while the composition of the team shall be of the relevant functions. (Jankaweekool, *et al*, 2017) aimed to identify the problems facing the production of auto parts. The study confirmed that there are many accidents related to the product that are produced without risk analysis in the supply chain. In general, risks in the supply chain consist of external risks and internal risks, the impact of the economy, natural disasters, terrorism or even production risks The results of the study showed that the types of

risks that arise in the automotive supply chain at a very high level and which must be solved urgently are the risk factors of production technology and risk factors for quality control. (Braithwaite, 2003) described the nature of supply chain risks faced by companies during the acquisition of raw materials, describes the nature of the risks faced by companies during the procurement of raw materials, and describes the operational and strategic capacities that can be exploited to reduce these risks, The study was based on several variables that were divided into internal variables and external variables (External: demand risk, supply risk, external business environment risk) and (internal: operations, control and supervision, contingency plan) The most important results is that the exploitation of information technology leads to a reduction in the cost of shipping and supply, which may reach 70%, in addition to reducing the time required for the completion of various operations. Avoidance of mediation in the procurement of raw materials and the distribution of manufactured materials and dealing with suppliers and distributors directly leads to the mitigation of the risks of global supply. A contingency plan must also be developed to deal with the various potential supply-side situations and mitigate their negative effects on the company's performance.

Global supply chains and transport networks have been the backbone of the global economy, fueling trade, economic growth and consumption. Trends such as lean production, globalisation, and geographical concentration of production have made supply chain networks more efficient but have also changed the risk. Most organisations have risk management protocols that can address local disturbances, however recent high-level events have highlighted how risks beyond organisations control can have sequential and unintended consequences that cannot be contained in a single organisation. This is why the supply chain and the interruption of transport are no longer regarded as the sole competence of operational risk managers (Chacon, *et al*, 2012).

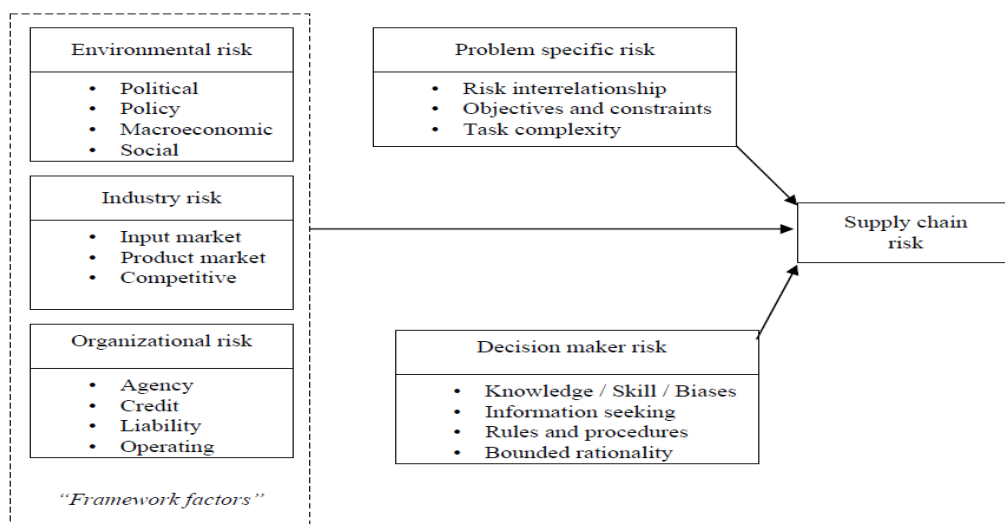


Figure 2.1 Risks Surrounding the Supply Chain

The following figure (2.1) shows the most important risks surrounding the supply chain (Rao & Goldsby, 2009). These risks are divided into five main types: Environmental risk, Industry risk, Organisational risk, Problem specific risk, and Decision maker risk.

### **2.17.1 Environmental Risks:**

It is a set of variables that affect business across different industries and are associated with uncertainties related to: political aspects (eg changes in political systems), economic (eg price fluctuations and economic activity), social such as beliefs, values and attitudes that come from members of society), and natural (eg earthquakes, floods, fires).

### **2.17.2 Industry Risks:**

They are variables that do not affect all economic sectors but on specific industrial sectors. Such as the risks associated with the acquisition of insufficient quantities of input needed for the production process and of lower quality, as well as the demand for the product, and factors surrounding the competition within the industry.

### **2.17.3 Regulatory Risks:**

Regulatory risks include uncertainties surrounding employment conditions from specialised labour and other inputs, customer commitment to repay their debts to the enterprise, and uncertainty about agency relationships within the enterprise such as managers seeking to maximise their benefits at the expense of the owners' benefits.

### **2.17.4 Problem Specific Risk:**

These problems are affected by one or more procedures such as the overall risk structure, understanding key variables, mutual relationships, risks associated with the goals and constraints that affect the problem, and complexity of the decision function in its various dimensions.

### **2.17.5 Decision Maker Risk:**

It is related to the decision maker himself, whether an individual or group within the enterprise, and it is related to the knowledge, skills and experience of the decision maker, the behaviour of the search for information by decision maker, the rules and institutional procedures for decision making and the limited guidance of the decision maker. (Francisco *et al.* 2012) emphasised that there are several factors that create supply chain risks:

- **Demand Factors:** uncertainty factors in the market, such as fluctuations in demand and in consumer numbers.
- **Supply Factors:** these factors are related to supplier conditions.
- **Process Factors:** factors in production sites, such as production capacities, flexibility in production distribution, and utilization of available energy.
- **Network Factors:** these factors are related to the relationship with suppliers such as the level of integration with suppliers and the level of service and leadership.
- **Environmental Factors:** they are caused by unpredictable external issues such as natural disasters.

Supply chain risks appear to arise from partial or total factors, resulting in several different types of risk. (Stevenson, 2009) demonstrated the types of supply chain risk for these factors as follows:

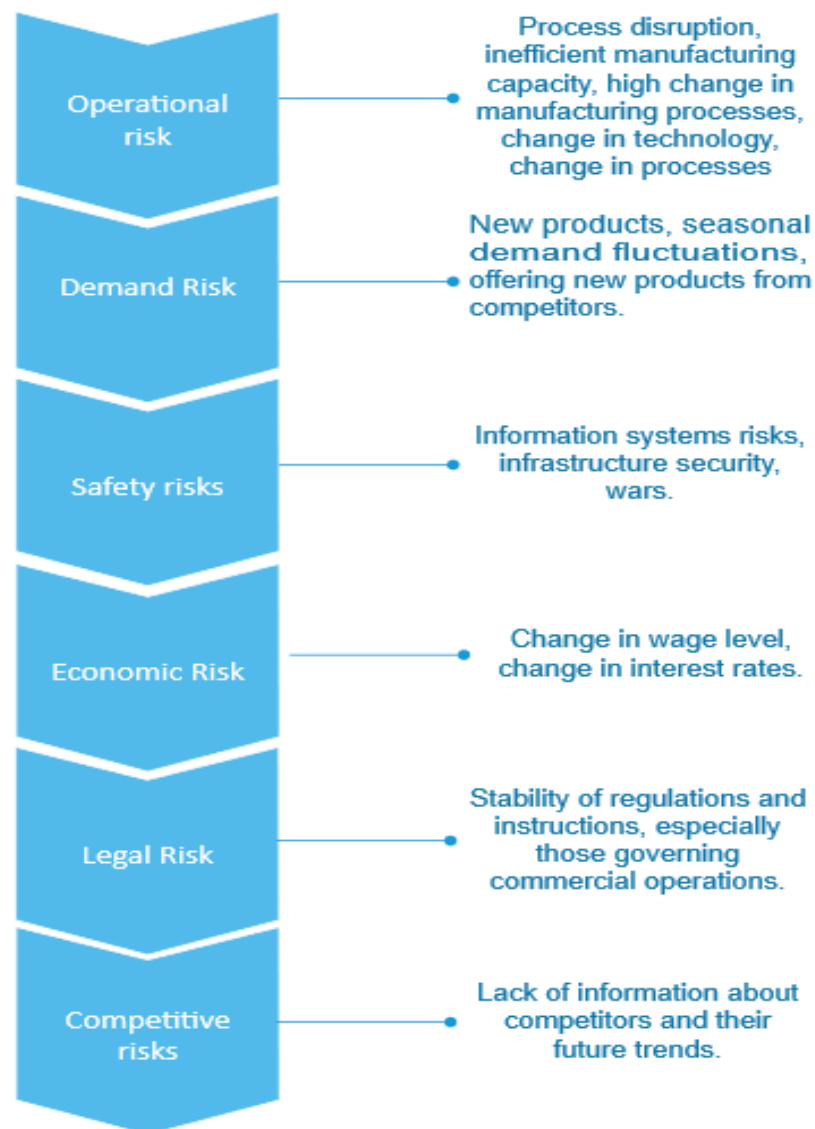


Figure 2.2 Types of Supply Chain Risk (Stevenson, 2009)

## 2.18 Supply chain risk types identified by researchers:

(Cavinato, 2004) classified supply chain risks into: Physical, Financial, Informational, Relational and Innovational risks. (Tang, 2006) divided the supply chain risk into two types. The first is Operational Risk, including uncertainties about customer demand, uncertainty about supply, Cost uncertainty, and second Disruption risk including Earthquakes, Floods, Hurricanes, Terrorist attacks, and Economic crises. (Trkman and McCormack, 2009) classified supply chain risks into: Endogenous risks: Market and Technology turbulence, Exogenous risks: discrete events (e.g. Terrorist Attacks, Contagious Diseases, Workers' Strikes) and continuous risks (e.g. Inflation Rate, Consumer Price Index Changes).

(Olson and Wu, 2010) divided supply chain risk into: Internal risks: available capacity, Internal Operation, Information System Risks, and External risks: Nature, Political system, Competitor and Market risks. While (Tang and Musa, 2011) classified supply chain risks into: Material flow, financial flow and information flow risks. (Tummala and Schoenherr, 2011) classified Supply Chain Risks into: Demand, Delay, Disruption, Inventory, Manufacturing (process) Breakdown, Physical Plant (capacity), Supply (Procurement), System, Sovereign and Transportation Risks .While, (Chopra and Sodhi, 2004) have identified nine risk categories in the context of the supply chain, which is (Disruptions, Delays, Systems, Forecast, Intellectual Property, Procurement, Receivables, and Inventory and apacity risks). The following table lists the most important supply-chain risk distributions.

*Table 2.3 Supply Chain Risk Types identified by Researchers.*

<b>Authors</b>	<b>Definitions of supply chain</b>
Jüttner, Peck, and Christopher (2003)	Environmental risk, Organisational Risk and Network-Related Risk.
Harland, Brenchley, and Walker (2003)	Strategic, Customer, Operations, Supply, Asset impairment, Competitive, Rreputation, Regulatory, Financial, Fiscal and Legal Risks.
Chopra and Sodhi (2004)	Disruptions, Intellectual property, Delays, Systems, Forecast, Procurement, Receivables, Inventory and Capacity Risks.
Cavinato (2004)	Physical, Relational, Financial, Informational and Innovational Risks
Christopher and Peck (2004)	External to the network: Environmental Risk, External to the firm but Internal to the Supply Chain Network: Demand and Supply Risks, Internal to the firm: Process and Control risks.



Tang (2006)	Operational Risks: Uncertain Customer Demand, Uncertain Supply and Uncertain Cost. Disruption Risks: Earthquakes, Floods, Hurricanes, Terrorist attacks, Economics crises
Wu, Blackhurst, and Chidambaram (2006)	Internal Risks: Internal Controllable, Internal Partially Controllable, Internal Uncontrollable External Risks: External Controllable, External Partially Controllable, External Uncontrollable
Bogataj and Bogataj (2007)	Supply, Process (Production or Distribution), Demand, Control and Environmental Risks
Blackhurst, Scheibe, and Johnson (2008)	Disruptions/Disasters, Logistics, Supplier Dependence, Quality, Information Systems, Forecast, Legal, Intellectual Property, Procurement, Receivables (accounting), Inventory, Capacity, Management and Security Risks
Manuj and Mentzer (2008)	Supply, Demand, Operational and Other Risks
Tang and Tomlin (2008)	Supply, Process, Demand, Intellectual property, Behavioural and Political/Social Risks
Wagner and Bode (2008)	Demand Side, Supply Side, Regulatory and Legal, Infrastructure Risk and Catastrophic Risks
Trkman and McCormack (2009)	Endogenous Risks: Market and Technology turbulence Exogenous Risks: Discrete Events (e.g. terrorist attacks, contagious diseases, workers' strikes) and Continuous Risks (e.g. Inflation Rate, Consumer Price index changes)
Kumar, Tiwari, and Babiceanu (2010)	Internal Operational Risks: Demand, production and distribution, supply risks External Operational Risks: Terrorist attacks, Natural disasters, Exchange Rate Fluctuations
Olson and Wu (2010)	Internal Risks: available capacity, Internal Operation, Information System Risks External Risks: Nature, Political System, Competitor and Market Risks
Ravindran <i>et al.</i> , (2010)	Value-at-risk (VaR): Labour Strike, terrorist attack, Natural Disaster Miss-the-target (MtT): Late Delivery, Missing Quality Requirements

Lin and Zhou (2011)	Risk in the External Environment Risk within the Supply Chain Internal Risk
Tang and Musa (2011)	Material Flow, Financial Flow and Information Flow Risks
Tummala and Schoenherr (2011)	Demand, Delay, Disruption, Inventory, Manufacturing (Process) Breakdown, Physical Plant (capacity), Supply (Procurement), System, Sovereign and Transportation risks
Samvedi, Jain, and Chan (2013)	Supply, Demand, Process and Environmental Risks

## 2.19 Supply chain risk management:

One of the main characteristics of Supply Chain Management is the coordination of activities between interconnected organisations, that form the supply chain and that successful Supply Chain Management not only determines the immediate risks of their operations, but the risks that affect other organisations in the supply chain as well as the risks of linkages between those organisations. Supply Chain Management has several tools and strategies in SCRM, even if they are different, remain at the center of risk analysis, prioritisation and mitigation strategies to reduce those risks. Thus, (Jüttner, 2005) identifies four key aspects of SCRM:

- **Assessment of Risk Sources for the Supply Chain:** a clear understanding of the risks of different supply chain structures.
- **Identify Potential Negative Impacts:** investigate the various supply chain risk from a comprehensive perspective of the various entities in the supply chain, develop a special approach to SCRM.
- **Identify the leading risks of Supply Chain Strategy:** promote better understanding of the development of supply chain strategy, review implementation processes, and develop approaches that help managers track weaknesses in existing strategies.
- **Mitigating Supply Chain Risk:** investigating how trade-offs are managed in the supply chain and developing processes that drive decision making.

In a similar way, (Jan and Van, 2010) described SCRM as an integral part of the operations strategy and define four steps to manage supply chain risk:

Risk identification	Identifying potential sources of risk.
Risk assessment	Assessing the degree of risk associated with each type of risk, prioritizing risks and summarizing their overall impact on the organization.
Tactical Decision Making	This step describes the appropriate decisions to be made for the risks likely to occur, or for the risks that have already occurred. these decisions are called crisis management decisions.
Implementation of hedging strategy or risk mitigation	In which future exposure is reduced

Figure 2.2 Steps to Manage Supply Chain Risk (Jan and Van, 2010)

(Tang, 2006) mentioned out that SCRM is through coordination or collaboration between supply chain partners to maintain their profitability and sustainability. (Manuj and Mentzer, 2008) defined it as *"identifying and evaluating supply chain risks and losses and implementing appropriate strategies through coordination among chain members with the aim of reducing one or more losses: event speed, speed of loss, time to detect event or loss, Leads to the desired results"*. The risks of the various supply chains - business, strategy, and functional - are managed through the development of a range of strategies depending on the complexity of the chain. The four most important strategies are (Manuj and Mentzer, 2008):

### 2.19.1 Postponement:

Intended delay of supply chain activities, requiring the actual commitment of resources to maintain flexibility and costs resulting from delays. The postponement is often used by enterprises to deal with complex or changing patterns of demand, and the delay reduces the associated uncertainty cost. The postponement is seen as a dynamic input based on managers' desire to coordinate activities outside the individual enterprise, and the postponement usually takes place in two formal and time-delay ways. Formal postponement depends on demand

modification, component cost, product lifecycle, and is associated with manufacturing, assembly and packaging activities. The time delay is related to the timing of the movement of goods from the factories that have been manufactured and after receipt of customer requests.

### **2.19.2 Speculation:**

It seeks to manage risk selectively and it is a risk management strategy for the demand side and reversing the postponement strategy. Speculation of events such as inventory substitution in the markets of countries includes the pre-purchase of finished goods or the inventory of raw materials and early product commitments in anticipation of future demand.

### **2.19.3 Hedging:**

An introduction to managing an aspect of supply risk and dependent on an internationally spread portfolio of suppliers and facilities for individual event interviews such as currency price fluctuations and natural disasters that do not affect all facilities in the chain at the same time and / or the same amount.

### **2.19.4 Outsourcing:**

Enterprises often resort to vertical and horizontal integration, contracts and outsourcing agreements to manage supply chain risk in varying degrees.

## Chapter 3 : ORGANISATIONAL CULTURE

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Success and survival of the organisations today depends on innovation, creativity, and discovery. An effective response to these demands leads not only to changes, in individuals and their behaviour but also to innovative changes in organisations to ensure their existence (Read, 1996). It appears that the rate of change is accelerating rapidly as new knowledge, idea generation and global diffusion increase (Chan Kim and Mauborgne, 1999; Senge, *et al.*, 1999). Creativity and innovation have a role to play in this change process for survival. The result is that organisations and leaders try to create an institutional framework in which creativity and innovation will be accepted as basic cultural norms during technological and other changes. Authors like Pheysey 1993, Ahmed 1998, Schuster 1986, Martell 1989 and Robbins 1996) have confirmed the importance of organisational culture in this context. Organisational culture appears to have an influence on the degree to which creativity and innovation are stimulated in an organisation.

It's evident that the approach of organisations, constituting supply chains, are often unsuited for the effective management of risks in today's ever-changing markets. In fact, the literature review has exhibited that the ideologies that are applied to orchestrate today's supply chains are reflective of those modalities that have been developed for the stable markets of the past as outlined by (Christopher and Holweg, 2011) for example. As a result of this mismatch. (Kleindorfer and Saad 2005) stated that the levels of risk organisations are facing in today's increasingly volatile markets are amplified. Moreover, literature exhibits that a fundamental barrier to improving the management of risks in the supply chain resides in the way organisations think about, and evaluate supply chain performance (Christopher & Holweg, 2011; Girotra & Netessine, 2011). Taking this further, certain stream of literature indicate that cultural change is necessary to enable more effective SCRM (Sheffi, 2005; Taleb et al., 2009; Christopher & Holweg, 2011). Owing to literature reviewed it has become evident that this cultural change must originate from organisations themselves, as these form supply chains by collaborating, in pursuit of delivering superior customer value.

Indeed, (Kaplan and Mikes, 2012) point that numerous risks and certain operational risks are at best managed by steering people's behaviours and decisions across the desired criterion. Standard, worth, and beliefs, amongst other things an organisations' culture.

### **3.1.1 Culture in a Broader Social Context:**

In its very broadest sense, culture serves to delineate different groupings of people on the basis of the extent to which each group is perceived and perceives itself to share similar ways of seeing and interacting with the animate, inanimate and spiritual world (Benedict 1934; Kluckhohn & Strodtbeck 1961; Trompenaars 1993).

(Trice & Beyer 1993) mentioned, that cultures serve to give people a sense of belonging through collective identity and thus break down the intrinsic isolation of the individual. It is also important to realise that culture can also define differences between groups. Culture identifies particular groups by their similarities as well as their differences. Although cultures are dynamic to the extent that changed circumstances can lead to the incorporation of new patterns of behaviour or ideologies, typically these are overlaid on existing core assumptions and thus a culture may exhibit what seem to be complex ambiguities or paradoxes (Aslam, *et al.*, 2018c; Trice & Beyer 1993) until such time new behavioural adaptations to the environment give rise to a new belief system and set of core assumptions. This can be clearly seen in the case of egalitarianism, a value that is probably associated with a core assumption that life should be lived cooperatively, rather than competitively.

### **3.1.2 Organisational Culture Defined and it`s Role in Organisations:**

Organisational culture is defined, in numerous various ways in the literature. Maybe the most commonly known definition is “*the way we do things around here*” (Lundy and Cowling, 1996). In this research, organisational culture is defined as the deeply seated values and beliefs shared by personnel in an organisation.

Organisational culture appears in the typical characteristics of the organisation. It therefore points to a group of basic assumptions that worked so well in the past that they are accepted as valid assumptions within the organisation. These assumptions are maintained in the continuous process of human interaction (which manifests itself in attitudes and behaviour), in other words as the right way in which things are done or problems should be understood in the organisation. The components of routine behaviour, norms, values, philosophy, rules of the game and feelings all form part of organisational culture (Hellriegel *et al.*, 1998; Smit and Cronje, 1992).

(Furnham and Gunter, 1993) summarise the functions of organisational culture as internal integration and coordination. Based on a literature study of the functions of organisational culture, internal integration can be described as the socialising of new members in the organisation, creating the boundaries of the organisation, the feeling of identity among

personnel and commitment to the organisation. The coordinating function refers to creating a competitive edge, making sense of the environment in terms of acceptable behaviour and social system stability (which is the social glue that binds the organisation together) (Martins, 2000). Organisational culture offers a shared system of meanings, which forms the basis of communication and mutual understanding. If the organisational culture does not fulfil these functions in a satisfactory way, the culture may significantly reduce the efficiency of an organisation (Furnham and Gunter, 1993). Organisational culture fills the gaps between what is formally announced and what takes place. It is the direction indicator that keeps strategy on track (Martins, 2000).

### **3.1.3 Organisational Culture Models:**

Several models have been developed to describe the relationships between phenomena and variables of organisational culture. Some examples are the model of organisational culture as part of organisation reality developed by (Sathe, 1985), which focuses on the influence of leadership, organisation systems and personnel on the actual and expected behaviour patterns, the effectiveness, therefore the organisation and the level of personnel satisfaction brought about by these behaviour patterns. The criticism of this model is that it does not examine the influence of external factors on the organisational culture. (Schein, 1985) model depicts the levels of organisational culture, namely artifacts, values and basic assumptions and their interaction. Schein's model is criticised for not addressing the active role of assumptions and beliefs in forming and changing organisational culture (Hatch, 1993).

Some researchers see that the organisational culture in organisations against the background of the systems theory developed by (Ludwig von Bertalanffy 1950) adapted by several authors such as (Katz and Kahn who initially applied the systems theory to organisations in 1966 (French and Bell, 1995, Kast and Rosenzweig 1985 and Kreitner and Kinicki 1992) for application in the organisational development field. The systems approach offers a holistic approach, but also emphasises the interdependence between the different sub-systems and elements in an organisation, which is regarded as an open system (French and Bell, 1995). The organisation system model explains the interaction between the organisational sub-systems (Goals, Structure, Management, Technology and Psycho-Sociology). This complex interaction, which takes place on different levels, between individuals and groups within the organisation, and with other organisations and the external environment, can be seen as the primary determinant of behaviour in the workplace. The patterns of interaction between people, roles,

technology and the external environment represent a complex environment which influences behaviour in organisations.

Against this, background and the work of (Schein, 1985, Martins 1987) developed a model to describe organisational culture, based on the typical ideal organisation and the importance of leadership in creating an ideal organisational culture. Martins' model is based on the interaction between the organisational sub-systems (Goals and Values, Structural, Managerial, Technological and Psycho-Sociological Sub-Systems), the two survival functions, namely the external environment (Social, Industrial and Corporate Culture) and the internal systems (artifacts, values and basic assumptions), and the dimensions of culture. The dimensions of culture encompass the following (Martins, 1987, 1997):

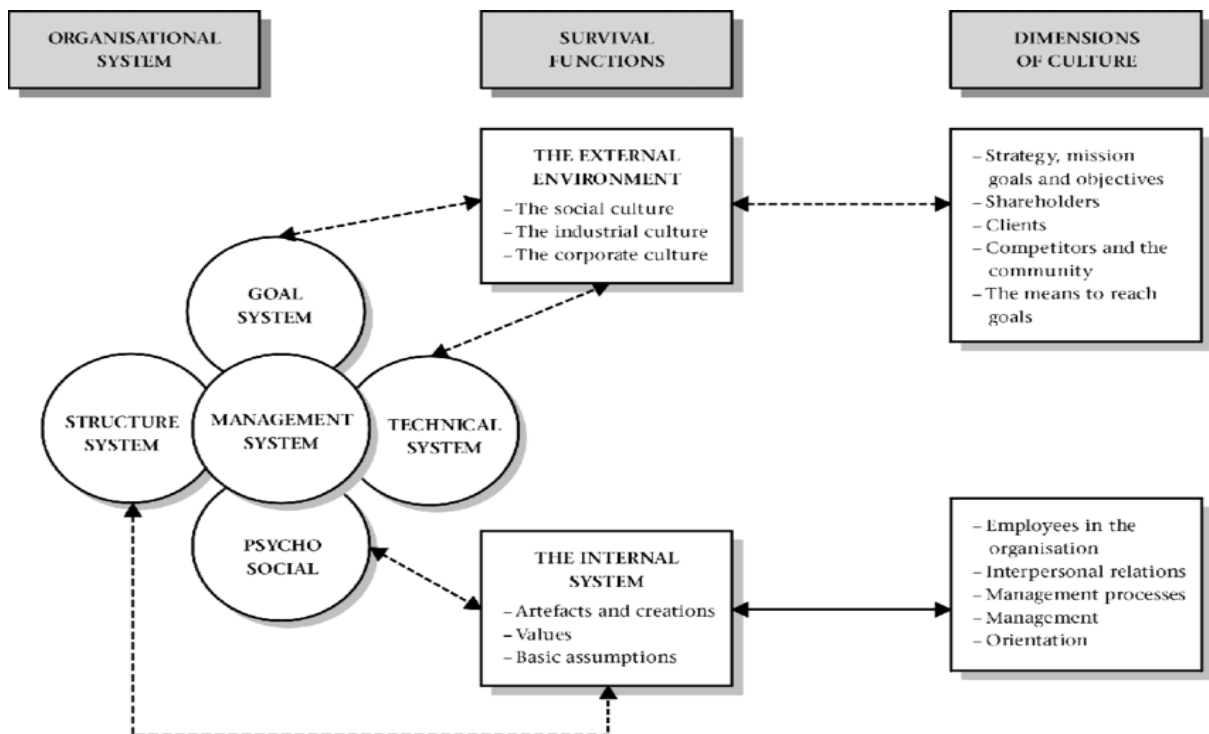


Figure 3.1 A Model of Organisational Culture (Martins, 1989, p.92).

From Figure 3.1 it is clearly shown that the two main variables that must be taken into account in assessing the culture of an organisation are the problems of survival and adaptation of the organisation to the:

- (a) External environment
- (b) Internal organisational system.

Dimensions of culture are subdivided into two categories those that relate to the external environment and those that relate to the internal environment (See Figure 3). Dimensions relating to the external environment are:



- a) Strategy, Mission, Goals and Objectives.
- b) Shareholders, Customers, Competitors and Community.
- c) The means to reach goals.

Dimensions relating to the internal environment are:

- a) Employees in the Organisation.
- b) Interpersonal Relations.
- c) Management Processes.
- d) Management Orientation.

Organisational Culture is a key determinant for employee and organisational behaviour and thus a change in organisational culture may effectuate behaviour overall

### **3.1.4 Organisational Culture and the Supply Chain:**

Considering the different components of the literature review so far, a key question is, why do some supply chains respond to disruptions more effectively than others? According to (Sheffi, 2005) the answer to this question is not the differentiated design of some supply chains, but the DNA of organisations that makes up supply chains. More specifically, (Sheffi, 2005) explicitly researched the impact of the concept of organisational culture on the resilience of organisations internally, not the supply chain. In this sense, (Sheffi, 2005), refers to an organisation's DNA as the code that provides instructions for the development and the running of an organisation to members. In an organisational sense, the DNA represents the organisational culture, which provides a basis for decision-making (Andriopoulos, 2001). Whilst this research also considers organisational culture to play a significant role in the behaviours of organisations generally, this research goes beyond the contexts of (Sheffi's, 2005) research in that it researches the impact of an organisation's culture on the supply chain beyond its organisational boundaries. Moreover, Sheffi does not apply a method or model to identify or distinguish between different cultures.

In fact, (Whitfield and Landeros, 2006), outline that based on the significance of organisational culture in supply chains, increasing amounts of research have attempted to uncover the relevance of inter-organisational cultural fit on the performance of supply chains as a whole. In fact, research by (Barney, 1986), as well as (Cameron and Quinn, 2005) has outlined the

benefits of harnessing an organisation's cultural qualities in the context of managing supply chains. Whilst potential benefits of harnessing cultural aspects in supply chains are significant, this process requires a detailed understanding of organisational cultural traits of supply chain partners (Fawcett et al., 2008; Shub & Stonebarker, 2009), which can be complex. Moreover, for the maximisation of benefits based on organisational cultures along a supply chain, all partners must be willing and able to synchronise the desired cultural aspects along a supply chain (Barringer & Harrison, 2000; McIvor & McHugh, 2000). Considering the complex nature of supply chains as well as the tacit nature of culture, this can present a hugely difficult task.

Further evidence for the relevance of organisational culture in a supply chain context is provided by an early piece of research by Bates et al., (1995), who advocate that organisational culture has a substantial influence on manufacturing strategy. Taking this further, (McAfee *et al.*, 2002) enunciate that supply chains need to synchronise corporate cultures along a supply chain before commencing operations. This is in line with research outlining that cultural factors have a significant impact on supply chain planning and decision making (Cooper & Ellram, 1993; Lassar & Zinn, 1995; Cooper, *et al.*, 1997; Mentzer, *et al.*, 2001; McAfee, *et al.*, 2002; Min *et al.*, 2007). In contrast to the work of (Barringer and Harrison 2000 and Mello and Stank 2005) outline that incompatible cultures along a supply chain can have differing impacts on the performance of a supply chain. They explained that performance can in some instances be high even if little synchronisation of cultural values exists amongst partners (Mello & Stank, 2005).

A different approach is taken by the work of (Homburg and Pflesser, 2000) who concentrated on depicting the relationship between organisational cultural fit in the context of organisational performance, rather than investigating the synchronisation of organisational culture and supply chain performance as depicted in figure 3.2.

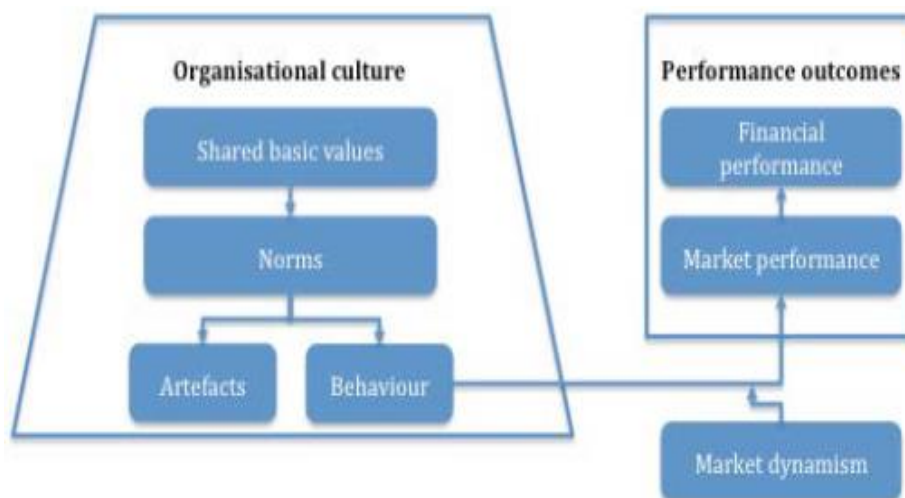


Figure 3.2 multiple-layer Model of Market-Oriented Organisational Culture: Measurement Issues, by Homburg and Pflesser (2000).

When reviewing figure (3.2), it becomes apparent that an organisation's culture has a clear impact on the financial and market performance of a supply chain. In fact, the authors outlined that through shared values of an organisation's population norms are generated, which provide the basis for decision-making. This in turn leads to the level of performance in the market place and thus impacts the financial performance of an organisation. Whilst the authors have identified a link between the concept of organisational culture and financial performance, the nature of the relationship, negative or positive, is not outlined. Moreover, whilst literature does feature studies on the relationship between general cultural aspects and supply chain performance the field has only relatively recently received attention. Compared to other fields it has received very little attention.

Beyond this, it transpires that whilst some research has been undertaken to identify the relationship between organisational culture and supply chain performance, less research has been undertaken to investigate the impact of organisational culture on the management of risks in the supply chain. Despite the fact that research on the whole outlines that there is some form of relationship between SCRM and organisational culture, no research was found that outlines this relationship in any detail. The cultural of some organisations enable supply chains to deal with disruption more effectively than others and the organisational culture has an impact on supply chain behaviour and performance, also, the relationship between organisational culture and risk management are not explored in any detail. In this research, the researcher will attempt to explore this relation.

### **3.2 Development of the concept of risk management in SCRM:**

The conceptual framework of this research will be proposed and explained through this conceptual framework presents a general envisage to implement SCRM in LPs however, the reliable framework has not crystallised yet. The initial conceptual framework of this research illustrates three phases designed to help LPs to get start and move towards better SCRM. The conceptual framework took into consideration most of the factors that create supply chain risk as well as the types of risk surrounding the supply chain process that have been discussed in the literature review.

#### **3.2.1 Determining the Main Concepts:**

Based on the discussion derived from a literature review, the previous studies dealt with several issues and several points were drawn. The first is the concept of supply chain management, which shows development of this concept and shows the importance of this concept and the

extent of interest that researchers have about it, And then the Supply Chain Management components were displayed, the researcher noted that these components were summarised in (supply chain activities or processes, supply chain determinants, supply chain structure), and then the researcher shows the studies focused on the objectives of the supply chain, as well as the studies that attempted to know the elements of the success of supply chain management, as well as the importance of supply chain management, and the studies that dealt with the basic requirements of supply chain management. Then there are studies on the dimensions of Supply Chain Management practices.

### **3.2.2 Factors That Create Supply Chain Risk:**

Following, the second phase of the development of the conceptual framework, the identified the issues and the factors that create supply chain risk based on literature that:

- Demand Factors: uncertainty factors in the market, such as fluctuations in demand and in consumer numbers.
- Supply Factors: these factors are related to supplier conditions.
- Process Factors: factors in production sites, such as production capacities, flexibility in production distribution, and utilization of available energy.
- Network Factors: these factors are related to the relationship with suppliers such as the level of integration with suppliers and the level of service and leadership.
- Environmental Factors: they are caused by unpredictable external issues such as natural disasters.

### **3.2.3 Risk Surrounding the Supply Chain:**

The content and nature of the risks in the supply chain were then analysed and divided into five categories (environmental risk, industry risk, regulatory risk, problem risk, decision-making risk). Which may help our current study. The indicator pointed out that the supply chain risk in the Middle East and North Africa region has recorded the highest rate since the first quarter of last year, but it is too early to predict the level of improvement that may occur after this, and it was necessary through this information to explore the nature of risk and chain Supply risk management, strategies and processes used to overcome these risks in LPs, as well as supply chain risk management challenges in these ports.

### **3.3 Summary:**

The previous studies dealt with several issues and a number of points were drawn. The first is the concept of supply chain management, which shows development of this concept and shows the importance of this concept and the extent of interest that researchers have about it, And then the Supply Chain Management components were displayed, the researcher noted that these components were summarised in (supply chain activities or processes, supply chain determinants, supply chain structure), and then the researcher shows the studies focused on the objectives of the supply chain, as well as the studies that attempted to know the elements of the success of supply chain management, as well as the importance of supply chain management, and the studies that dealt with the basic requirements of supply chain management. Then there are studies on the dimensions of Supply Chain Management Practices, most of these studies were applied to companies in contrast to this study which will be applied on ports. The content and nature of the risks in the supply chain were then analyzed and divided into five categories (environmental risk, industry risk, regulatory risk, problem risk, decision-making risk) and the factors affecting these risks, which may help our current study, after that studies that illustrated the types of supply chain risk and how they can be managed were represented, and then strategies were introduced to manage supply chain risk, and finally supply chain risk management. After presenting all these critical aspects of literature in the subject, the researcher found that supply chains risks are increasing in number and effect, as for the Supply Chain Supply Index, supported by Dun & Bradstreet, showed a significant increase from 371 points to 406 points in the second quarter of this year despite Britain's vote to exit the European Union. And the global supply chain risk also rose to 80.8 points in the second quarter of this year, which is one of the highest since 1995, which means that the global supply chain risk trend continues to trend upward. It is worth to be mentioned that Supply Chain Risk Index in the Middle East and North Africa region monitors the impact of economic and political developments on the stability of global supply chains.

The indicator pointed out that the supply chain risk in the Middle East and North Africa region has recorded the highest rate since the first quarter of last year, but it is too early to predict the level of improvement that may occur after this, and it was necessary through this information to explore the nature of risk and chain Supply risk management, strategies and processes used to overcome these risks in LPs, as well as SCRM challenges in these ports. Previous studies had showed, that tools and models used to manage supply chain risks cannot be generalized but must be adapted to the situation, from here, we try to reach another goal, which tools and models in the Supply Chain Management is valid for applying to the LPs. It has been noted that, there

are significant difficulties in the SCRM process. The literature outlines that there are significant difficulties facing effective management in the SCRM process and that there are ways to assess these risks, traditional and modern, these methods must be appropriate to the reality of current development, where serious consideration should be given to how assess those risks?

Some researchers have also suggested that the ability to adapt quickly to global market environments becomes a major competitive advantage, therefore, it was necessary to topple this system on the ports for its economic importance, and how to employ the management of these risks and adapt them globally to become competing ports. These studies also show that there are factors influencing the performance of risk management, these factors should be investigated in the performance of risk management in ports so that supply chains can respond more effectively and efficiently. From here, author try to reach another goal, which is the relationship between these ports and the performance of risk management, and which factors are more effective in trying to understand the mechanisms of improvement of risk management.

Previous studies have made a significant difference in the importance of supply chains as well as their risks. It has also been noted that there is a lack of studies in addressing the challenges that impede the implementation of SCRM, and factors related to SCRM, which in turn has a gap to address this and apply it to the port of Libya. As well as the effective implementation of SCRM in ports has not been addressed despite its economic importance and relevance to the nature of supply chains.

## Chapter 4 : CASE STUDY OF LIBYA'S PORTS

### 4.1 Libyan context:

As it has been discussed in chapter 3 that the organisational culture is directly linked with the local national culture. This chapter is going to discuss the local context of Libya and libyan ports that would make it easy to explore the organsitional cultural in context of SCRM strategies. This research case study is of Libyan ports and this chapter is going to create the case for this research, which would also be discussed as the organisational structure and port context of Libya. There are 18 ports along the Libyan coast, which is approximately 2000 km long in North Africa Ports and Maritime Authority (LMA, 2017). Ports in Libya are classified by the National Planning Council (NPC) into commercial ports, oil ports and industrial ports. There are few LPs that share in dealing with all kinds of goods. LPs are classified into major ports and secondary ports, the major ports are Tripoli, Khomas, Misurata and Benghazi, while the ports of Sirte and Zuwara and Tobruk are classified as secondary ports (National Planning Council, 2017).



Figure 4.1 the location of Libya's Ports (Ghashat, 2012)

In order to classify ports, UNCTAD (1992) proposed a set of criteria for the classification of ports based on its development phase, with three models being the first, second and third generation.

Table 4.1 Models of Integration

1	First generation ports, the role of the port is the traditional trading of goods and the use of traditional methods of loading and unloading depending on the labor intensity as well as storage, provision of navigational services and guidance and provide some services for ship repair, catering and fuel for vessels harboring the port.
2	Second generation ports, these ports are more advanced as they offer many additional functions along with those that include traditional industrial and commercial activities.
3	Third generation ports are considered as multi-service logistics centers and are modern and well-equipped ports.

The UNCTAD model (1992) for port classification was criticised. where, (Beresford *et al*, 2004) considered, the UNCTAD model to be unrealistic and inaccurate as the proposed approach did not consider the various factors that might affect port development including port size, geographical location, the extent of private and public-sector participation, the culture of labor, but it is clear that UNCTAD classified the port on the basis of physical development. This classification would be commensurate with the size of the various ports, regardless of the nature of the governance structure and the culture of work.

(Drewry, 1998) classified ports into small, medium and large ports on the basis of the number of containers handled. Medium ports handle less than 1 million containers, while large ports handle more than 1 million containers. (Alazabee, 1997) classified the port as a commercial or transit port, as well as the division of commercial ports into subdivisions by type of goods to be handled; oil, containers, general cargo. (Abu Madina, 2000) classified, the ports of Libya on the basis of its location in the eastern, western or middle section of the Libyan coast and the distance between them, the nature of the activities carried out in the port and the relative importance of the port according to the volume of goods handled in each port. The National Planning Council NPC has classified the ports of Libya on the basis of the activities carried out in each of them and whether it is a port or a terminal.

## 4.2 National culture of Libya:

(Hofstede, 1980) perceived culture as a construct which is found in an organisation by virtue of the location of that organisation in a specific society. Hofstede conducted the survey involving 88,000 responses in 66 countries involving IBM employees to argue that culture comprise four



dimensions: uncertainty avoidance, individualism vs collectivism, power distance, and masculinity vs femininity. Study was regarded as one of the most significant studies conducted on the relationship between organisation culture and national culture (Dabbous-Sensenig, 2006). The same can then be borrowed in respect of Libyan culture. The findings of Libyan culture are also referred to in Hofstede’s study involving IBM in 66 countries. (Dabbous-Sensenig, 2006) study shows, that national culture influences the organisation culture in a society. In this study the attitudes which the employees held are being examined in different IBM branches including the one in Libya. In Libyan culture there is high masculinity, high power distance, low individualism, and high uncertainty avoidance (Gabb, 2006). Hofstede believes that these elements negatively influence the communication among the staff members for arriving at a decision. Scholar also argued that majority of the managers in that region possessed high power distance and high uncertainty avoidance due to which the communication is not smooth, and decision is affected in Libyan organisations (Lee, 2005).

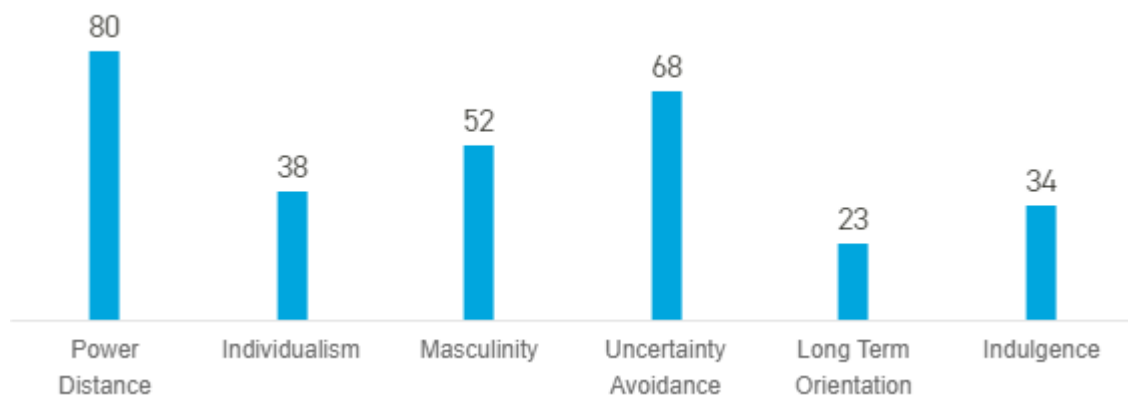


Figure 4.2 Hofstede Cultural Dimensions of Libya (Hofstede, 2019)

**Power Distance:** This dimension represents the unequal status of individuals in society meaning thereby that not everyone is equal to everyone else. Power distance is regarded as the extent whereby the members of the organisations and institutions, who are less powerful accept and expect that there is unequal distribution of power. For example, Libyan society has a power distance score of 80, which shows that it is a hierarchical society in which there is power distribution with respect to status and not everyone is equal (Hofstede, 2019). Everyone has a place or a level in hierarchy. Hierarchy shows unequal power distribution whereby the subordinates are expected to follow the orders of their boss (Hofstede, 2019).

**Individualism:** The main issue which this dimension has addressed is the extent whereby society maintains the interdependence among its members. It also deals with the self-image of the people and is defined in terms of “We” or “I”. People belonging to individualist societies are supposed to look after their nearest ones only. However, in collectivist societies

there is wider circle of family which one is supposed to look after (Hofstede, 2019). For example, Libyan society scored 38 which shows that it is a collectivist society as people here not only have big families but also extended family and extended relationships. This society is marked with loyalty as is also so in other collectivist societies (Hofstede, 2019). Strong relationships are fostered among individuals and everyone undertakes the responsibility for group members. The offence in collectivist societies attracts shame from dearest ones and loss of reputation as well. The relationship between employer and employee is taken as that of family and the management is done on the pattern of managing the groups (Hofstede, 2019).

**Masculinity:** If the score in this dimension is higher (masculine) it implies that the society is driven by achievement, competition, and success. The success is underpinned by the winner and the concept of winning is conceptualized in the minds of people from early stages such as schools and it continues. If the score in this dimension is lower (feminine) it implies that the values in society are to care for others and develop the quality of life. In feminine society the life quality represents the success factor. The question then arises that what motivates people to align along the masculine dimension and what motivates them to align along the feminine dimension. Since in Libyan context, the score is 52 which is neither masculine nor feminine, there are no cultural preferences (Hofstede, 2019).

**Uncertainty Avoidance:** This dimension represents the manner of dealing with the fact that there is uncertainty about future i.e., it is never known what lies ahead in future. The question then arises that whether, one should exert efforts or just let things happen. This ambiguity brings anxiety and there are different ways whereby different cultures deal with such an ambiguity. The score on this dimension indicate whether the people tend to avoid uncertainty or tend to exert efforts to deal with the ambiguity.

In Libyan context the score is that of 68 which shows that Libyan people have high uncertainty avoidance tendency (Hofstede, 2019). They tend to avoid uncertainty. In countries in which the uncertainty avoidance score is higher, they have rigid codes to comply with orthodox behaviour and do not tolerate unorthodox behaviour. In such societies the need for emotional control exists and people have the urge to comply and make others comply with the orthodox beliefs. However, the drawback is that innovation may get resisted in this in such societies (Hofstede, 2019).

**Long Term Orientation:** In this dimension the way some societies have to maintain links

with their history is determined alongside the need to deal with current and future challenges. Different societies respond differently in this regard. Those societies with low score are the ones where their ancient traditions are still alive, and they see change with caution and do not approve of change immediately (Hofstede, 2019). Those societies with high score, they develop a pragmatic approach and encourage modernism and change in the society. Since Libyan society has a low score of 23 on this dimension it shows that they are a normative society where traditions hold profound value for people. People in this society have a strong urge for keeping with their ancient traditions. In such societies people respect their traditions. They do not accept change immediately and proceed with caution towards modernism (Hofstede, 2019).

**Indulgence:** One of the issues, which has confronted humanity in the past and even to date is the extent to which children must be socialised. The social beings as much as human beings. This dimension is regarded as the extent whereby people control their impulses and desires on the basis of the way they are being raised. A tendency whereby the control is weak is called “Indulgence”. However, if the control is strong then it is called “Restraint”. Cultures can be regarded as Restrained or Indulgent (Hofstede, 2019). Those societies which have low score e.g. Libya, they have a tendency towards pessimism. The emphasis of restrained societies is not on enjoying leisure time. Instead they tend to control the desires. People belonging to this dimension believe that their social actions must be controlled for common good by virtue of social norms (Hofstede, 2019).

Researchers have acknowledged that criticism, which has also been levied against the model (McSweeney, 2002; Hampden-Turner & Tropmenaars, 1997; Williamson, 2002; Signorini, *et al.* 2009). Major criticism levied against the model is that culture cannot be studied in the context of nation for nations represent a large unit to be studied accurately thoroughly; the dimensions are limited in number compared to the breadth of culture; cultures evolve with the passage of time (Shore & Cross, 2005). Once these questions are considered seriously, it is concluded that there are reasons for which the study will not be affected despite such criticism (Keillor, *et al.* 2009). Firstly, the study is focused on international projects for which the context of ‘nations’ is suitable (Kanagaretnam, *et al.*, 2011). Secondly, although number of dimensions are limited, Hofstede’s model nevertheless is broadly being recognised and accepted in management (Meng, 2013). Existing studies showed that there are correlative links among all five dimensions. Whereby, there are risks in the industries (Kanagaretnam, *et al.*, 2011; Kanagaretnam, *et al.*, 2011; Keillor, *et al.* 2009). For example, by employing the Hofstede’s theory, it is indicated by Meng (2013) that the risk management is influenced by all dimensions

of the model. Further, (Rees-Caldwell & Pinnington, 2013) observed that there is a positive relationship between the PDI of country and risk of the project. (Li *et al.*, 2012) and Kanagaretnam *et al.* (2011) observed that high IDV societies undertake more risks. It has been suggested by Das & Teng (2001) that low relational risk is being managed by top management which possesses futuristic vision. Lastly, the most pressing and sound view is that of (Hofstede, 2001) that unless an extremely dramatic event takes place, the culture cannot be changed or that it can be changed over a very longer period of time. Therefore, the observation of (Hofstede, 2010) is taken as valid.

Findings reveal that the theory proposed by Hofstede can be employed in research. However, there are also some paradoxes found in the light of existing researches (Kanagaretnam *et al.*, 2011). (Simon & Delerue, 2006) observed that MAS positively influences the risk perceiving among biotechnology organisations. However, (Bredillet *et al.*, 2010) had argued that MAS does not have any effect with regards to risk perception. (Griffin *et al.*, 2009), (Li *et al.*, 2012), (Kanagaretnam, *et al.*, 2011) and (Kreiser, *et al.*, 2010) observed that there is relationship between UAI and corporate risk taking; but (Rees-Caldwell & Pinnington, 2013) observed the opposite of it. However, the existence of such paradox only brings meaningfulness to the current research. It is because various such researches did not regard the difference between organisation's culture and national culture. For example, (Kreiser *et al.*, 2010) had argued that there is interrelationship between risks taking in national culture.

This is also in line with the view proposed by (Leat & El-Kot, 2007) who stated that (Hofstede's, 1980) findings are in line with the Islamic ethics at workplace and Islamic values generally found in Muslim societies. The findings of (Hofstede, 1980) are also reiterated by (Twati, 2006). Researcher found in his study that there is still high uncertainty avoidance, high masculinity, and high-power distance score in Libyan society.

Just like different studies conducted on culture, the Hofstede's theory has also attracted criticism. (Leat & El-kot, 2007) argued that the results in Hofstede's theory are generalised in some instances such as that they are taken to be applicable in all Arab societies. However, various cultures have some similarities, yet there are different from one another (Vandewalle, 2006). There are cultural groups found in a culture comprising the dominant social group and subordinate social group. This is true in respect of various countries in which Hofstede study was conducted (Mead, 1998). It is also important to note that Hofstede conducted study only with respect to one computer organisation and a single multinational company i.e. IBM. In various countries which were being examined, there is a small group who is taken as sample

and it comprise educated people belonging to middle class living in cities (Mead, 1998). Besides, there were also some technical problems related with Hofstede approach regarding changing behaviour of participants. For example, powerful people in cultures with high power distance score pretend that they are not as powerful as they really are. Moreover, even the cultures with high masculinity score had men who recognized the rights and roles of women in the organisations (Twati, 2006).

(Scheper, 2006) argued, that the concepts of collectivism and individualism are oversimplified in Hofstede's approach. When it comes to historical development, Hofstede (2001) believed that change in culture with passage of time is vital which can change the score along the dimensions as well.

### **4.3 National culture and organisation culture in Libya:**

Libyan culture is regarded as traditions oriented. There are large tribes composing the Libyan society and there is family system prevalent in the culture, also Islamic influence in the society. (Hall, 1969) observed that, Libyan culture comprise a contact culture and as such the public contact between opposite gender is looked down upon. Therefore, when it comes to communication in organisations the same pattern is followed i.e. same genders communicate with each other as compared to opposite genders. For example, personal space is a very sensitive matter in organisations when it comes to opposite genders and if there is less space, it can cause embarrassment for two people from opposite gender (Samovar and Porter, 2015).

Another feature of the Libyan culture is that office doors are not closed when two opposite genders are meeting up as it gives wrong signal to other people. It is because the meeting between opposite genders is looked down upon unless, it is for something important or necessary (Hofstede, 2003). The uncertainty avoidance score is higher again due to Islamic values. As the Muslim workers believe that they are to be rewarded by God for their good actions and deeds. Therefore, they work hard and leave the rest to God (Ali, 1988). They believe God who bestows success or failure (Akbar, 2003).

(Leat & El-Kot, 2007) argued that individuals in Arabian societies regard keeping themselves busy in jobs in rightful manner as part of worshipping God. This is labelled as uncertainty avoidance by Hofstede. (Jandt, 2004) argued that the people in Arab cultures use the term "Insha'Allah" meaning God willingly. This they do to motivate themselves that results are from God and that they have to put in their efforts. This phrase is used commonly all across Muslim societies. Therefore, if someone employs this term in his speech then the other person

should not feel ignored as the person saying this phrase is undertaking to put in efforts for undertaking the task. This phrase is regarded as “Yes” in Libyan culture. (Leat & El-Kot, 2007) observed that social relationship and communication is significant at workplace. Furthermore, relationship maintenance and harmony are main elements of Arabian culture (Jackson, 2002). Therefore, it is vital to cooperate with different individuals to coexist with them in organisation and in society (Hanky, 2004).

#### **4.3.1 Cultural Values and Organisational Hierarchy:**

(Nydell, 1996) argued that there are different pressures which organisations face in Arab countries as compared to the pressure that faces in developed countries. This affects their cultural values and the way people are behaving in workplace. Since western technology is widely being utilized, it has also brought in western culture in the organisations. People belonging to cultures with higher distance are concerned about face and clarify their behaviours (Westwood, *et al.*, 1992). Therefore, in such cultures face in work communication strategies is employed as per the type of message. For example, when negative message is to be delivered then indirect communication style is employed by the sender but when positive message is to be delivered then direct face work strategies are employed (Merkin, 2006).

For verbal communication in cultures with high context such as in Libya, fewer words are used in delivering a message. This is in contrast with cultures with low context such as in US (Hofstede, 1997). Furthermore, formal behaviour is of paramount importance in cultures with high power distance score. This formality is required to maintain the distance between higher authorities and subordinates in the organisation or in society. For example, formal title is being employed by members of staff while communicating with their leaders such as Doctor, Sir, Ma’am, etc. (Hofstede, 2001). This stems from tradition to respect the elders, elders in status and in age (Abouhidba, 2005). This shows that it is vital to understand the national culture as it influences the management of organisations. (Hanky, 2004)

Cultures with high power distance score have respect and obedience as fundamental elements. It is because the subordinates are not included in decision making process in such cultures (Lee, 2005). Unequal distribution of power is accepted by individuals in such cultures whether in society or in organisation. This can lead to the usage of formal and powerful language in communication with organisation (Hofstede, 1997). Therefore, it is argued by (Peter, 2007) that participation in goal setting and decision making is founded on relationship between leader and employees. But due to cultural characteristics, managers in organisations in Libya regard opinion and suggestion from subordinates as a negative element

for running the organisations. Therefore, in such society or organisations in such society the feedback from subordinates is looked down upon (Twati & Gammack, 2007). Resultantly, this leads to centralised management of organisations and a process of decision making which is central in nature. Delegation is also rare in Libyan organisations. Generally, the authority vests with one person and he takes all the key decisions without consulting his subordinates.

#### **4.3.2 Cultural Values and Harmony in Organisations:**

People operate in the context of their culture, which involves historical, social, political, psychological, political, and experiential elements. (Summerill, 2010) argued that those individuals, who are operating in collectivist societies they are more concerned about the significance of belonging to a cohesive group (Summerill, *et al.*, 2010). This is to protect themselves in return for their conformity and loyalty with the group. However, same is not true in respect of individualistic culture whereby individuals are rewarded for undertaking risks on their own initiatives and achieving on their own (Jondle, *et al.*, 2013). The individuals in individualistic cultures are also encouraged to develop their opinions and theories (Hofstede, 2003).

Therefore, it is difficult in Libyan culture for staff to work in line with the culture of the organisation, if that culture is not aligned with the national culture. This means that national culture in Libya influences the culture of the organisations operating in Libyan society. The relationships and communication taking place inside the organisations are influenced by the external culture (Burleson, 2003).

(Donno & Russett, 2004) observed that the Muslim women allowed to educate as much as, they want and work according to Islam, but it is due to social and political reasons that women are afforded limited participation in academic and professional fields (Dabbous-Sensenig, 2006). Their role in public and private organisations are limited. This shows that gender influences the flow of communication in the organisation (Merkin, 2005).

(Johnson *et.al.*, 2005) reiterated (Burleson's, 2003) point of view that women during employment are more concerned with developing relationship compared to their male counterparts and are concerned with improving their relations with the leader of the organisation. They also observed that men undertake extra work to maintain their relationship in the organisation. The Libyan culture is dominated by masculinity where male influence is higher, and women generally work in selected positions. The workers in Libyan organisations seek sanction for their work in the light of Islamic values, faith, and ethics (Abouhidba, 2005).

Therefore, (Dabbous-Sensenig (2006) observed that Muslims dress according to their Islamic values. Their behaviour with one another is also influenced by Islamic values. This cultural background and social structure are influenced by the communication and relationship within Libyan institutions.

In general, religion plays a pivotal role in governing the social relations and with respect to dimensions, such as Power Distance, Masculinity, and Collectivism in Libyan culture (Twati, 2006). For example, obedience to elders is considered a part of worshipping God in Korean culture (Abouhidba, 2005). This casts a direct relationship between social culture and organisational hierarchy in the organisations working in Libyan society (Twati & Gammack, 2007). Furthermore, it is also widely being recognized that conforming behaviour is widely recommended in Libyan culture and in any collectivist culture (Hofstede, 2001). Since Libyan culture is collectivist in nature, therefore, this is also true in respect of Libyan culture. The managers in such organisations care about their subordinates but subordinates are not included in decision making process as being collectivist they respect their seniors (Twati & Gammack, 2004).

The communication behaviour is also strongly influenced by these cultural dimensions in Libyan organisations in addition to influencing the organisational hierarchy in Libyan organisations. From literature review it can be concluded that Libyan culture is marked with masculinity, high power distance, low individualism and high uncertainty avoidance. The Arabian culture referred to in most of the studies is regarded as single culture across all the Arab countries. It is because Arab countries share common characteristics across different Arab countries. However, the Arab culture should not be generalised across the Arab world as there are differences in different Arab countries. Firstly, there are different political systems in the Arab countries. Different Arab countries were occupied by different nations previously giving rise to different cultural elements despite appearing same *prima facie*. That is why it is suggested to study the Arab countries differently. Libya, on the other hand, has not been thoroughly researched. Therefore, it is vital that more empirical studies are being conducted for investigating the cultural problems in the context of Libya. In future, the research will investigate the impact of organisation culture and style of leadership on organisational commitment and job satisfaction and for examining the extent to which organisation strategies aim to achieve match between national and organisational values.

Other authors have advocated the significance of existence of organisation culture so that the performance of the organisations is sustainable. The performance of the organisation is



determined in the light of its achievements and key indicators of performance (Heesen, 2015). These key indicators of performance and organisation goals constitute a subset of different process of strategic management and they also evaluate how the organisation is changing its strategy into executable actions for its sustainability. It has been explained earlier that turning the strategy into actions is called strategy implementation. Therefore, by virtue of integrated nature between strategy implementation and organisation performance, it can be stated that culture of organisation is fundamentally important for execution of strategy (Ahmadi, *et al.*, 2012).

The extent to which the performance of the organisation and execution of strategy is associated with culture of organisation is based on how well the integration of culture has taken place into organisation and the effectiveness of beliefs, values, and behaviours in the organisation (Hopkin, 2012). It has also been suggested by some researchers that the link between culture and performance is on the basis of the ability of the organisation to align their culture with changes arising in the environmental conditions. There must be distinct qualities of culture which cannot be copied (Rose, 2008). The achievement refers to the extent. Whereby, the organisation aligns itself for success and strives to achieve the best standards in support and performance for implementing the challenging goals encouraging the employees to stretch themselves towards excelling higher (House, *et al.*, 2001). An organisation which values the cultural dimension of achievement must also value the efforts of workers by rewarding them (Alamsjah, 2011).

The dimension of achievement is strongly related to strategy execution and performance of the organisation. It is because it gives rise to sense of ownership regarding the goals of the organisation in its employees (House, *et al.*, 2004). This ownership sense enhances the performance of the employees and their intrinsic motivation and their self-efficacy feeling (Merna, & Al-Thani, 2011). Therefore, drives the workers to work towards achieving the goals of the organisation (Alamsjah, 2011). Those organisations which place higher value on the dimension of culture also give rise to environment, whereby employees are motivated for finding solutions so that strategy execution is enabled even when the market conditions are tough (Jordan, 2006). This also refers to the innovation factor, whereby a core element is considered by researchers for execution of risk management strategy. The monetary rewards aspect is a sweetener for employees for keeping them intact through hard times of the organisation to recognise their effort to dealing risk activities of organisation (Zhao, *et al.*, 2014). It also gives a sense of recognition to do extra efforts to execute risk management strategies (Griffith, *et al.*, 2014). In summary, it can be stated that cultural dimension of

achievement is closely related with strategy execution and performance of the organisation. It is one of the most significant aspects which correspond to the inherent need of workers to be successful so that goals of the organisation can be delivered.

#### 4.4 : Classifications of Libyan ports

Libyan ports were divided into two categories based on the classification criteria presented below, LPs were classified into major and secondary ports. In terms of their development stage, all LPs can be considered as between the first and second generation. In the following table, the LPs are classified by the National Planning Council.

*Table 4.2 Libyan Port Classification and activities)*

Serial	Name	Type	Main Activities	Major Port	Secondary port	Location or city
1	Abukammash	Terminal	Industrial			Abukammash
2	Mellela	Terminal	Oil			Mellela
3	Zwara	Port	Container &GC		•	Zwara
4	Azzawia	Port	Oil			Azzawia
5	Tripoli	Port	Container &GC	•		Tripoli
6	Elkhoms	Port	Container &GC	•		Elkhoms
7	Misurata	Port	Container &GC	•		Misurata
8	Iron-steel Misurata	Terminal	Bulk			Misurata
9	Sirte	Port	Container &GC		•	Sirte
10	Ras lanuf	Port	Oil / Container &GC		•	Ras lanuf
11	As Sidra	Port	Oil			As sidra
12	MarsalBurygah	Port	Industrial / Container &GC 1		•	Alburygah
13	Azzuwaytinah	Port	Oil			Azzuwaytinah
14	Benghazi	Port	Container &GC	•		Benghazi
15	Ras almengar	Terminal	Oil			Benghazi
16	Darnah	Port	Container &GC		•	Darnah
17	Tobruk	Port	Container &GC		•	Tobruk
18	Alharega	Port	Oil			Tobruk

*Source: Derived from the General Planning Council Report (2005), accessed 2009*

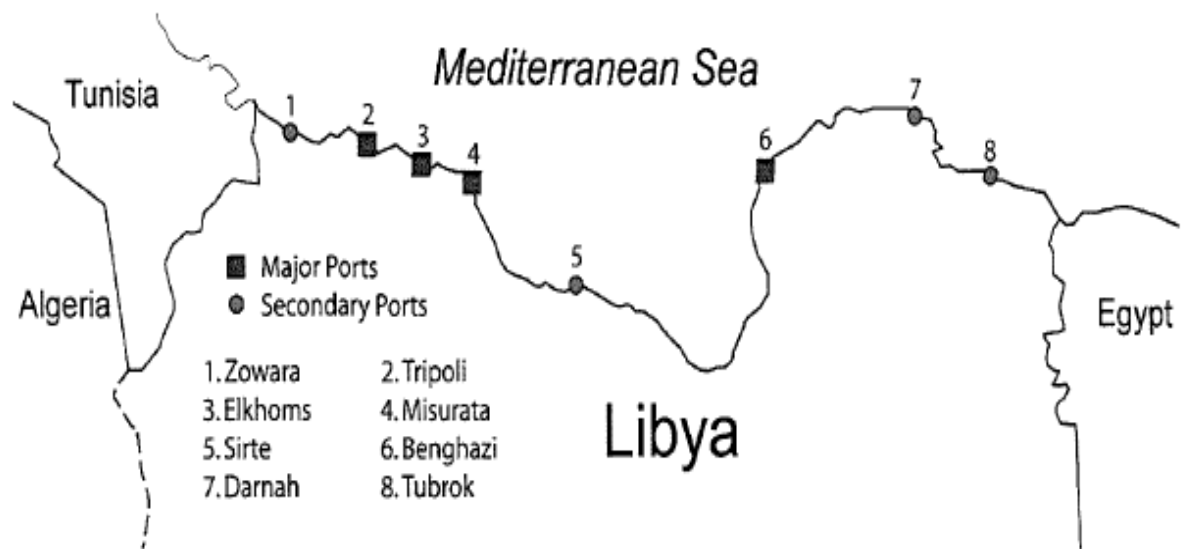


Figure 4.3 The Geographical Distribution of Libya's Major and Secondary Ports (Ghashat, 2012)

#### 4.5 Operational strategy:

All LPs provided the main operational characteristics, services provided and equipment in each port. However, the current operational characteristics of the LPs are contrary to the technical requirements of new vessels, most importantly, with the strategies of shipping lines. In addition, LPs in general are still poorly performing in terms of their capacity and responsiveness to customer demands, and the sector continues to receive government support for major rehabilitation and investment activities (Ghashat *et al.*, 2010; Ghasaht, 2012).

Table 4.3 Operational Characteristics of Libyan Ports (Ghasaht 2012)

Port	Max water depth	total quay length with max depth	Container handling equipment	Services			
				Pilotage	Towage	IT, container tracking	Bunkering
Tobruk	9m	125m	X	√	√	X	√
Darnah	9m	333m	X	√	√	X	√
Benghazi	11m	778m	X	√	√	X	√
Alburaygah	9.2	200m	X	√	√	X	√
Ras lanuf	14m	250m	X	√	√	X	√
Sirte	under rehabilitation						
Misurata	11m	1100m	√	√	√	X	√
Elkhoms	12m	225m	X	√	√	X	√
Tripoli	10m	1251m	X	√	√	X	√
Zowara	4m	120	X	√	√	X	√

Ports seem to operate on the basis of efficiency strategy (Cost Management), because only provide basic services and have not adopted any other strategy, such as differentiation or concentration, so it can be stated that the operational strategy of LPs is efficiency, although this is less than the expectations of Ports users (Ghasaht, 2012).

## **4.6 Governance Structure:**

### **4.6.1 Ownership and Administration:**

The central government owns the port infrastructure, but it is managed by another entity. In 1970, two separate entities controlled the maritime sector in general. One of these entities is the General Organisation of Ports and Lighthouses (GOPL) which was established under Law 82/1970. This entity considered as a legal administrative organisation within the Ministry of Transport and is responsible for all port functions.

The other entity is the General Organisation for Maritime Transport, which was established under Law No. 86/1970. This entity is responsible for shipping activities in general, including planning and setting tariffs for maritime transport and implementation of international agreements signed by Libya. In 1975 this foundation was abolished by Law No. 33/1975 the responsibility of shipping activities was transferred to the General National Shipping Company (GNMTco), which operates under the supervision of the Maritime Affairs Bureau, which is controlled by the General People's Committee for Transportation and Communications (TCGPC).

In 1985, the Socialist Ports Company (SPC) was established by Law No. 21/1981. The company is a 100% government entity and is a government-owned company (GOC) that takes the form of a company. The company has been responsible for all types of activities and services provided by the ports it operates. The company has represented a port authority for all Libyan commercial ports under the supervision of the General People's Committee for Transportation and Communications (TCGPC). It is responsible for providing the necessary superstructure and infrastructure for operating this sector. Based on the legal articles the company is responsible for:

- Managing, operating and maintaining the ports and their facilities.
- Coordinate with the various parties involved in the ports in terms of security and organise their duties in relation to firefighting, environmental protection and so on.
- Providing safe navigation, in addition to handling goods and storing imports, exports and goods in transit.
- Improve and develop the operation and management of the sector in addition to enhancing the work skills and supplying ports with manpower required.
- Operating tourist facilities in ports.

In 1993, the Libyan Maritime Transport and Ports Authority (LMTPA) was established by Law No. 170/1993 by the General People Committee. The new entity was authorised to carry out administrative functions and activities, including planning, providing infrastructure, collecting port dues. In other words, the landlord and the regulatory activities are under the control of the Libyan Maritime and Ports Authority (LMTPA), while the Socialist Ports Company (SPC) manages the operational activities in all general cargo and container ports in Libya.

In 2006 Misrata Port was transferred to Misrata Free Trade Zone (MFTZ) under Resolution 33/2006 by the General People Committee and the new entity became responsible for all port functions. In other words, Misrata Free Trade Zone (MFTZ) became the owner, manager and operator of the port. Misrata Free Trade Zone (MFTZ) is a government-owned company and is expected to operate in a commercial manner.

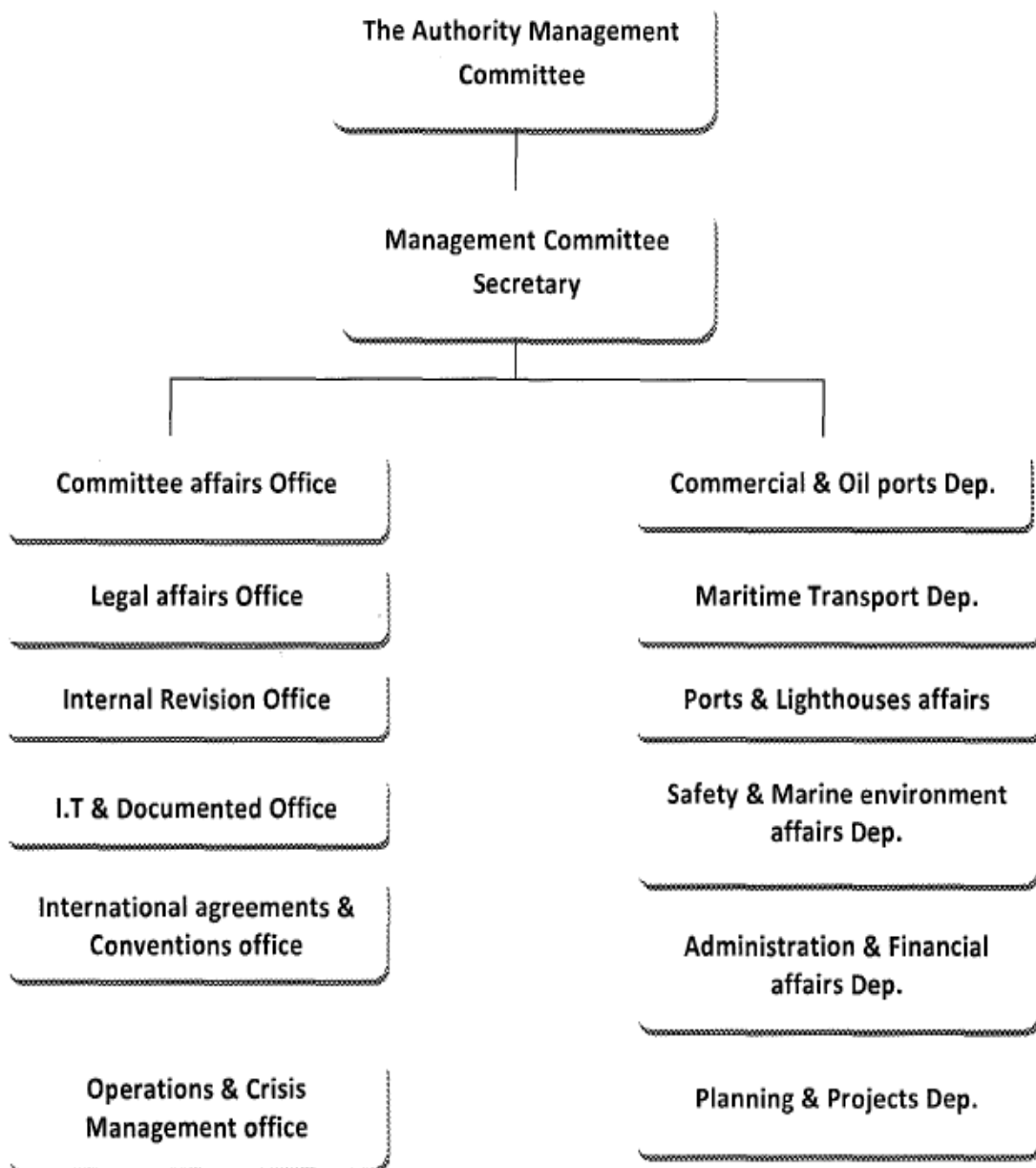


Figure 4.4 Structure of the Libyan Maritime Transport and Port Authority

In the same year, the General People Committee issued resolution No. 280/2006 concerning the appointment of a General Manager for all LPs except for the port of Misurata. Manger was authorised to supervise most of the regulatory functions in the ports. However, the Libyan Maritime Transport and Ports Authority are still weak in their role. There was overlap in the authorities between the Libyan Maritime Transport and Ports Authority and the Socialist Ports Company. The year 2008 witnessed a great deal of reorganisation of the hierarchy of port management in Libya and the distribution of responsibilities among entities involved in this sector (resolution 81/2008). In the case of Misurata port, the ownership of Misratah Free Trade Zone was recently transferred to the Economic and Social Development Fund Company (ESDFC) under resolution No. 721/2009 by the General People Committee, while the Misurata port assets are owned by the Government via the Public Property Department (PPD).

The various bodies involved in the LPs industry report to various administrative bodies at the national level. The following figure shows the hierarchical structure of the sector as of June 2011. Libyan Maritime and Ports Authority (LMTPA), and the Socialist Ports Company (SPC) both report to the Secretary of Transportation. These two entities are directly responsible for all container and general cargo ports in the country. Misurata port is the only exception. The port is operated by the Misrata Free Trade Zone (MFTZ) which is owned by Economic and Social Development Fund Company (ESDFC), and the ESDFC is owned by the General People Committee.

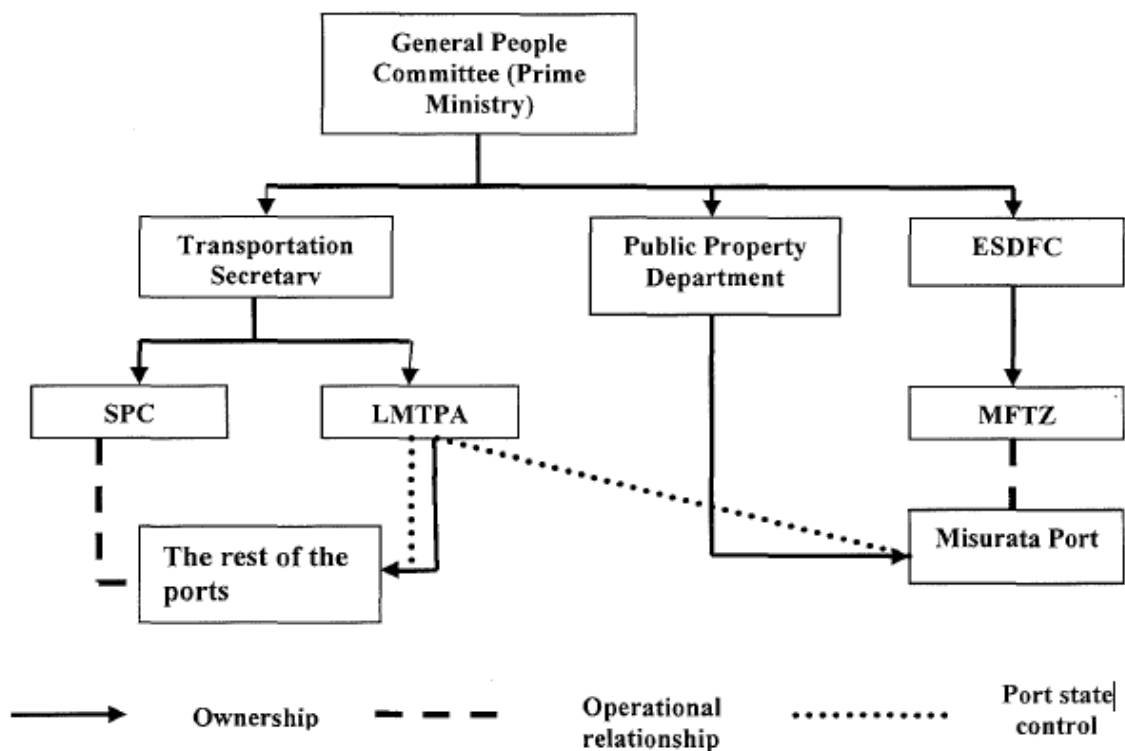


Figure 4.5 the Hierarchical Structure of Libya's Ports as for 2010

## **4.7 Operations and Management System:**

Prior to 2008, the Socialist Ports Company (SPC) was the main organisation in the sector and worked as the owner of the sector, which tends to contract with some of the jobs in the sector. For example, the Socialist Ports Company (SPC) contracted with Germa Shipping Company.

Based on the ownership of the port and its operational structure, there are three types of port operations (Cass, 1999):

- First: service Port where the port authority provides all services to ships and cargo owners.
- Second: tool port where ownership, development and maintenance of the infrastructure of the port and superstructure is the responsibility of the port authority in addition to the operation of some port services, while the private sector is responsible for providing the rest of services such as cargo handling.
- Third: Landlord port: where the authority of the port is responsible for the provision and maintenance of infrastructure, while the private sector is responsible for the superstructure and the provision of all port services.

Recently, the situation in the LPs is somewhere between the categories "service" and "tool" where the role of the Socialist Ports Company (SPC) is limited to operational functions (Ghashat, 2012).

### **4.7.1 Operational Environment:**

Since the lifting of United Nations sanctions on Libya, which was imposed in the early 1990s, the country's economy has witnessed remarkable growth (Otman and Karlberg, 2007).

This growth has put pressure on the ports sector in general, as the country's foreign trade has increased, leading to the need for efficient and productive ports (Ghashat, 2012).

Another change in the business environment in Libya since 1997 has been the Government's reform efforts to reform its regulatory and institutional framework in preparation for the move towards a market economy. In addition, considerable focused efforts have been made to involve the country in the global economy and to improve the efficiency and productivity of the State-owned enterprises (Otman and Karlberg, 2007).

The isolation of the country during the years of sanctions has delayed development plans and improved state-owned enterprises. This in turn, applies to containers and general cargo ports in

Libya, as ports are currently unable to cope with the remarkable developments in the shipping industry in terms of ship size and cargo handling technology, briefly, current operational characteristics within Libya do not match the technical requirements of new vessels (Ghasat, 2012).

Other factors affecting the environment include the country's political situation, economic conditions and technological development. (Salama and Flanagan, 2005) reported that climate conditions and political stability play an important role in attracting foreign investors.

Recently, the development of the relationship between Libya and other countries in the global community mean that much potential exists to enhance the country's position in the international market (Ghashat, 2012).

The Mediterranean basin is considered one of the most competitive in the world because many ports strive to attract a high proportion of transit transport to become trade hubs between East, West, North and South, and it is relatively difficult for these ports to function as a hub for the entire basin because of the vast area and wide distance Between hub ports and the intended ports, the Mediterranean basin is divided into three distinct regions namely western, central and eastern regions (Zohil and Prijon, 1999).

The basin handles about 22 million TEUs annually, and there are several important ports located in these regions operating as hubs including; Valencia and Barcelona in the western regions, Taranto and Marsaxlokk in the central region, Izmir, Damietta, Limassol, Port Said and Alexandria in the east (Ghashat, 2012).



Figure 4.6 location of Libya's ports in relation to the nearest hubs Ghashat (2012).



As shown in the previous figure LPs are located in the central part of the basin, meaning that they are located in the most competitive area of the basin, more specifically it can be said that the country is located within a triangle of major ports in Egypt, Italy, Malta and the Western basin ports, However, Libya is mainly depending on feeder ships to serve the country's trade, so the country's ports are not in competition with the rest of the region's ports for transshipment. Though the sector does lose some of its share to neighbouring ports (Ghashat, 2012).

Over the past decade, the region has witnessed significant expansion and restructuring. Recently, many countries have been struggling to turn their ports into hubs, including Tunisia (running directly to Libya) and reached the final stage of the tender to build 5 million TEUs in the port of Enfida (Gouveral *et al*, 2005). The port of Tangier in Morocco is another example. In addition to Algeria and Syria. These trends towards innovation make the environment more dynamic and competitive.

(Ghasaht, 2012) stated that Libya's ambition to turn two of its principal ports into a hub for the region means that these ports will open up to competition with other ports in the region for cross-border trade. This competition makes the external operational environment of the selected ports more dynamic and highly unstable, with regard to the port's operational characteristics and management structure in order to address these complex environmental issues and achieve national strategic objectives.

#### **4.8 Libyan ports Problems:**

There are many problems facing the LPs and the most important of these problems are the following (AL-Sharif & Rmeni, 2011).

1. The ports of the first generation, as many of the ports of Libya are old and therefore represent only points of "load interruption" ends when the load of materials for shipment or unloading.
2. Lack of equipment and machinery: Ports suffer from a large shortage of heavy machinery
3. The high number of workers: there is a surplus in the number of workers, which necessitates measures to convert some of them into other jobs or to grant them retirement.
4. Low performance of ports: which contributes significantly to the cessation of activities at night, especially with regard to cargo handling.

5. The length of the administrative procedures: The procedures related to unloading the goods in particular and the subsequent quarantine and veterinary quarantine procedures and customs duties procedures.
6. The bottleneck of ports: One of the main reasons that aggravate the bottleneck is the absence of a coordinated plan for the timing of importation of some importing bodies, leading to the arrival of large quantities of imported goods and equipment at the same time.

#### **4.9 Challenges facing the Libyan ports:**

There are many challenges facing the LPs sector, the political division in Libya and the war in the country have affected the work of LPs Authority in many dimensions related to its actual work, The Libyan Organisation of Policies & Strategies (LOOPS) stated these challenges;

1. The LPs Authority was affected by the political division that prevailed in the country, which created two governments, which reduced the control of the LPs Authority to all ports in the country.
2. The state has been affected by security and political conditions in the rehabilitation of workers and in the effective exercise of their functions in areas of security tension or conflict.
3. The weakness of cooperation between the Authority and its regional and international counterparts as a result of the political and security situation in Libya and as a result of the different international positions on Libya.
4. The war in the country led to the control of some groups on the oil ports in the country, which led to the full closure of these ports, which affected the economic situation of the country also affected the control of the LPs Authority on these ports.

The negative impact of the division on LPs and the export movement has been demonstrated by the control of several ports by the armed groups. The State has regained control of the Crescent oil region (four oil ports, namely Zouitina, Brega, Ras Lanuf and Sidra) (Loops, 2017). The following table (6) shows the losses resulting from the closure of the LPs through the sharp drop in the revenues of oil resources:

Table 4.4 Drop in the Revenues of Oil Resources

Year	oil resources (L.D)	Ratio to the year 2012
2010	55,713,034,430	83%
2011	15,845,583,527	24%
2012	66,932,291,298	100%
2013	51,775,823,594	77%
2014	19,976,636,426	30%
Total	138,684,751,318	

Source: Libyan Accounting Bureau (2014).

## Chapter 5 : ORGANISATIONAL CULTURE AND SUPPLY CHAIN RISK MANAGEMENT

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This chapter is going to develop research framework; therefore, the discussion will be including the organisational culture and SCRM. As there is a gap between the link of organisational culture and supply chain risk management. So, this chapter going to make link between organisational culture and SCRM. The follow figure shows the overall structure of this chapter.

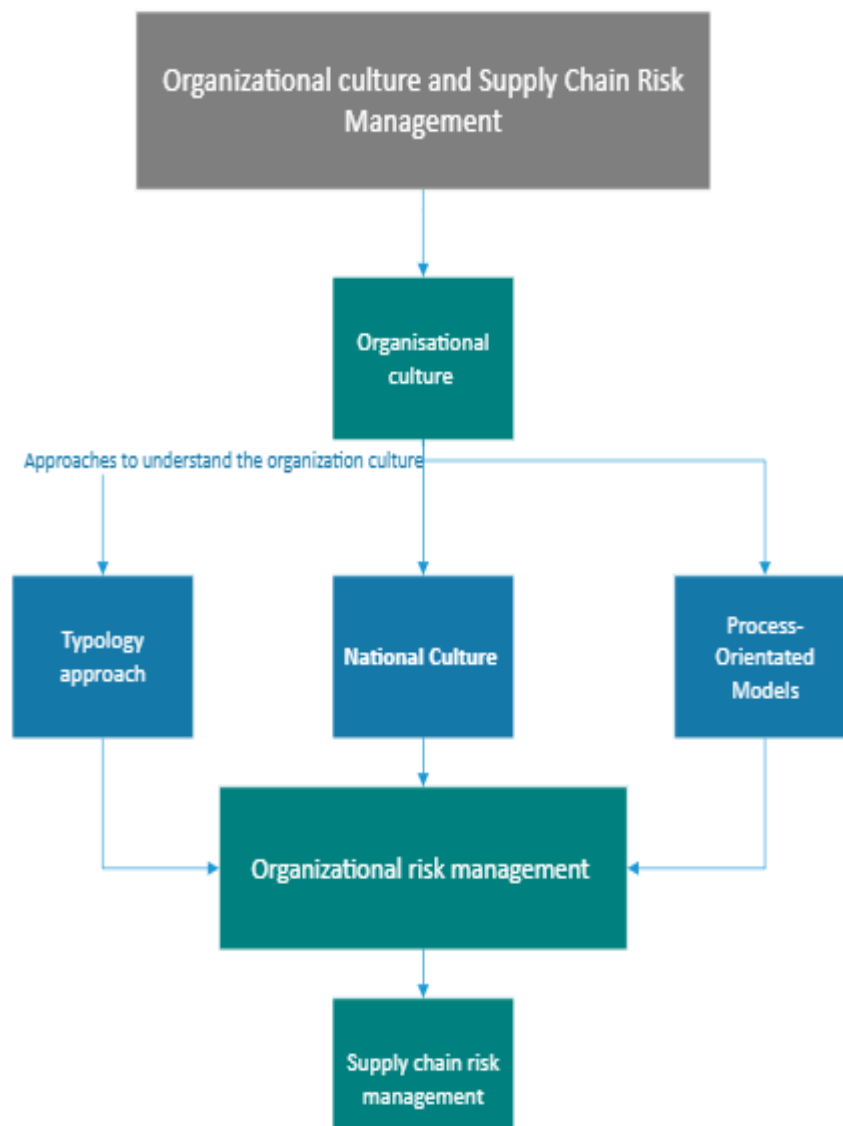


Figure 5.1 Structure of the Chapter

As stated earlier in previous chapter, the concept of culture has been researched upon for years. However, there are some elements which still remain the same despite different studies conducted to research about the culture. Different definitions of organisation culture are shown in the Table 1 below which are developed by different researchers.

Table 5.1 Different Definitions of Culture as per Cooke & Rousseau (1988)

<b>Becker &amp; Greer (1970)</b>	Common understandings which are enunciated in a common language
<b>Kroeber &amp; Kluckholm (1952)</b>	Behaviour of organisation which is shaped by ideas, values, and other symbolic systems enunciated in the organisation
<b>Martin &amp; Siehl (1983)</b>	There are three elements which constitute a culture: forms (language), core values, and reinforcement strategies (rewards). These help in keeping the meaning intact and keep the organisation together.
<b>Swartz &amp; Jordon (1980)</b>	Set of formalities, symbols, and myths which represent the underlying beliefs and values of the organisation that is being communicated to workers.
<b>Van Maanen &amp; Schein (1979)</b>	Shared beliefs, values, and expectations of members in an organisation

When success is achieved by an organisation or when it adapts to current requirement for change, then the values and ideas which provide for survival or success are institutionalised by the organisation giving rise to development of organisation culture. This comprises a system of shared values and norms (Boyd, 2013).

There are two significant functions which are served by culture in organisations: it enables the integration between members of the organisation so that they are able to relate to each other; it enables the organisation to adapt to the outer environment (Argyris, 2010). When organisations are integrated internally, it enables their employees to develop a collective identity so that they are able to work effectively together (Schein, & Schein, 2016). The daily or routine working relationship of employees is not just governed by rules and regulations but the evolving culture of the organisation (Mai, 2015). This underpins the manner of communication and flow of communication among employees. This then feeds into power and status inside the organisation (Bussmann, 2014). Culture represents the meeting of goals and conducting of relationship inside and outside the organisation. The cultural values of the organisation help it to respond to the needs of the customers and initiate actions accordingly (Mullins, & Christy, 2016). It also influences the manner of coordination for encouraging

commitment and communication among the members of the organisation (Buchanan, & Badham, 2008). Right culture is determined in the light of external challenges faced by the organisation and how effectively it is dealing with those challenges. All effective organisations have their culture related with business strategy by encouraging adaptation to evolving environment so that the profitability of the organisation can be maintained (Mullins, & Christy, 2013).

### **5.1 Different Approaches:**

There are numerous interpretations of organisation culture. (Martin, 2001) undertook wide research in this regard. Three theoretical approaches were identified by her while studying the organisational culture. Researcher named them as differentiation, integration, and fragmentation. These are shown in Table 5.1. But it is important to realise that no single perspective can be regarded as universally right or wrong. There are different views which these approaches define and there are benefits and disadvantages of each of these (Mullins, & Christy, 2013). In short, the focus of integration studies is on the perception that all cultural elements are reinforcing each other and are consistent as well (Martin, 2001). If there are deviations, they can be seen as shortcomings and remedies must be afforded resultantly. In contrast the focus in differentiation studies is on cultural manifestations whereby the interpretations are inconsistent (Alvesson, *et al.*, 2002).

This implies that the focus of integration perspective is on cultural manifestations in which the interpretations are mutually consistent. The cultural integration portrait is marked with consensus throughout the organisation. But consensus does not imply unanimity (Mai, 2015). Integration implies that there is no ambiguity as culture is clear. The focus of differentiation perspective is on those cultural manifestations which are not consistent and there are differing interpretations involved (Mullins, & Christy, 2010). This means that when a policy is announced by top executives that policy is for those working at lower level in hierarchy, while the top executives act inconsistently with the policy (Oliver, 2011). Differentiation perspective shows that there is consensus in an organisation, but it exists at lower levels in the hierarchy and is called 'subculture'. There can be multiple subcultures in an organisation, and they may either be operating harmoniously with each other or in conflict with each other too (Fullan, 2014). In fragmentation perspective the relationship among cultural manifestations is neither classified as inconsistent nor consistent. Instead there is ambiguous relationship between cultural manifestations whereby it is not the clarity which is at the core of culture but that it is ambiguity which is at the core. From fragmentation perspective, consensus is regarded as

pertinent to issue and is transient in nature (Martin, 2001). Those people who are working in culture interpreted as integrated, their interests are managerial in nature (Martin 2001).

Table 5.2 Three Different Theoretical Perspective to Understand/Analyse the Organisational Culture

	<b>Fragmentation Perspective</b>	<b>Differentiation Perspective</b>	<b>Integration Perspective</b>
Orientation to consensus	Lack of consensus	Subcultural consensus	Organisational wide consensus
Orientation to ambiguity	Acknowledge it	Channel it outside subcultures	Exclude it
Relation among manifestations	Not clearly consistent or inconsistent	Inconsistency	Consistency
Source: Martin (2001, 195)			

Another, aspect which need be taken into account while studying the organisation culture is specialist researches. Specialist researches approach the culture from one manifestation and regard it as capable of representing the entire culture because other interpretations would be in line with it (Martin, 2001). This implies that researchers pursuing specialist approach would draw conclusion from small set of data as it would be applicable in a wider context because it is derived from people found in the setting which the researcher is studying (Denison, *et al.*, 2012). However, the major criticism levied in this regard is that it can lead to overrating of the findings as large sample size may return different results than the study with smaller sample size. Further, it is important that the data collection method is also selected. The data collection method can be qualitative or quantitative (Frank, 2009). Qualitative methods include discourse and textual analysis, ethnographic studies, observation, and visual based analysis. Quantitative studies include the surveys, experiments, content analysis, and archival studies (Faier, 2013). The selected method also causes a significant influence on the type of participants partaking in the study (Kuada, & Sørensen, 2010). The participants of quantitative study are sampled in a way so that they are a statistical representation of the larger population. However, the participants of qualitative study are selected on the basis of their lucidity, experience, and

willingness to openly talk with the researcher (Martin, 2001). These aspects are significant to be taken into account because the selection method about participants, interests, and theoretical perspectives are interrelated. In quantitative studies managerial orientation is adopted and integration perspective is relied upon. However, in qualitative study fragmentation or differentiation perspective is relied upon and critical orientation is adopted (Jones, 2014).

## **5.2 Typology versus Process-Orientated Models:**

A particular culture type is identified in discussing both the approaches of typology and process-oriented approach (Faier, 2013; Kuada, & Sørensen, 2010; Jones, 2014). Moreover, (Peters & Waterman, 1982) cited (Hassard, & Holliday, 2010) highlighted the strong versus weak culture whereas, (Senior, 2002) approached strong versus weak culture from structural point of view and by drawing on other types of expression for its typology. A model can be employed while using the typological method for assessing the type of culture prevalent in the organisation and it can then be changed to what it should be (Marceau, 2011). Moreover, (Watson, 2012) highlighted the advantages in this regard by asserting that typology-oriented model can be helpful to simply make judgments on the effectiveness and culture of the school. Moreover, (Clegg, & Hardy, 1999) cautioned against the particular use of typology for the sake of defining culture as it can negatively influence the overall areas of the organisation. Moreover, (Grey, 2012) observed that while employing typology-oriented method, it is assumed by the researcher that organisation corresponds to the requirements of one or the other typology. This refers to the process-oriented approach whereby it is contended that the culture does not have any preferred type. For example, the cultural web model which (Boyd, 2013) developed, it seeks to bring about paradigm change in organisation culture but there is no particular type or cultural selection in mind. However, (Mai, 2015) without having any typology preference for the sake of defining organisation culture contended that in the absence of typology the cultural comparison among organisations can become difficult. It is because one organisation is different from the other in terms of culture. Moreover, (Buchanan, & Badham, 2008) observed further issues with this method type who observed that different schools of thoughts in this regard can be challenging in application as they may be effective in one area but lack effectiveness in the other areas. Therefore, labelling anything with one typology can be misleading.



## **Typologies focusing on assumptions about involvement and participation:**

Organisations represent the activities carried out by people of the organisation for a common objective. The primary relationship between organisation and individual can be regarded as the most basic dimension which can be utilized for building the typology (Buchanan, & Badham, 2008). One of the most pressing theories in this regard is that of (Etzioni, 1975) cited in (Mullins, & Christy, 2013) as he differentiated three types of organisation:

**1. Coercive Organisations:** These are the organisations in which the individual is in a kind of captive membership on the basis of economic reasons. He is bound to obey the principles and rules of the organisation strictly and obediently (Oliver, 2011). These organisations are like institutions whereby the membership once acquired is strictly enforced upon individuals. These types of organisations do not mingle their members with the rest of the society as their members mingle with each other exclusive from the rest of the society (Fullan, 2014). These organisations regulate the everyday affair of the lives of its members such as dress code, sleeping routine, schedule, etc. The inmates of such organisations are strictly following the rules which the staff is overseeing implementation of. The members of these organisations have to follow the rules of the organisations in their personal lives as well. In these organisations the power is reinforced (Frank and Jozsa 2014).

**2. Utilitarian Organisations:** These are the organisations where the individuals get fair pay for a fair day. They follow the rules of the organisation because they want to be paid the fair pay. However, it is also probable that counter norms may also get developed in such organisations. This they do for their protection (Denison, *et al.*, 2012). The members of these organisations are kept apart from the rest of the society. They are not allowed to socially mingle with the society. The examples include psychiatrist hospitals, military units, and prisons. These are the institutions which transform the concept about self of the members of these organisations (Faier, 2013).

**3. Normative Organisations:** these are the organisations whereby; the members have acquired the membership of the organisation because their goals are in line with the goal of the organisations. People / members of these organisations have not simply acquired the membership only for the purpose of earning but also to pursue their goals which they can fulfil through these organisations (Kuada, & Sørensen, 2010). These organisations are also known as voluntary organisations. The example of such organisations includes social action, social services, and environmental protection. These organisations are concerned to deal with

particular social issues. These organisations are also democratic in nature as they give equal opportunity to their members for discussing and deciding upon major issues (Hassard, & Holliday, 2010). In coercive systems it is believed that given the chance the members would exit the organisation. In utilitarian system it is believed that members are economically calculative. In normative system it is believed that the organisations are involved from a moral aspect in their membership with the organisation (Marceau, 2011). Given these descriptions the typology of each organisation associated with these systems give fair idea about the culture prevalent in such organisations (Watson, 2012). This can often give rise to self-protective system such as unions. For example, in coercive organisations the culture can give rise to union for agitation against authority. In utilitarian system the union system develops for bringing fair incentive advantage to the members of the organisation. In normative system the union system develops for the achievement of moral goals cherished or desired by the members of the organisation (Grey, 2012).

In some typologies another dimension is further added which is of collegial or professional relationship where there are broad vested interests of the members of the organisation (Argyris, 2010). The main advantage of this dimensions is that it enables a person to distinguish between coercive organisation and utilitarian organisation and from normative organisation (Mai, 2015). The main problem here is that there can be variations of various dimensions operating in organisation which requires a person to determine the dimensions to determine the type of organisation (Mullins, & Christy, 2016). The focus of various typologies is on the use of authority and the extent of participation in organisation e.g. paternalistic, autocratic, participative, abdlicative, consultative, and delegative. The difference between delegative and abdlicative type of organisations is that in abdlicative type of organisations it is not only the responsibility which is being delegated but also the authority and power (Alvesson, et al., 2002). The typologies of these organisations are focused more on power, aggression and control as compared to intimacy, love, and peer relationship. By that means they are established on the assumption about human activity and nature (Fullan, 2014). The argument that the participation level of managers is to correct the subordinates indicates the nature and extent of authority being exercised in the organisation (Frank, 2014). Looking at involvement and participation as an issue of cultural assumption makes it evident that the debate concerning leaders whether they should be participative and autocratic is determined in the context of assumptions about the group. However, it is not possible to determine the universal leadership style because there are cultural variations by industry, by country, and by occupation (Denison, *et al.*, 2002).

### **5.2.1 Typology Expounded by Goffee and Jones:**

The organisation culture is being defined in four styles by Rob Goffee and Gareth Jones. These include fragmented; Communal; mercenary; and Networked. A number of diagnostic tools are being provided by them to assist in the pinpointing of culture existing in a given time and place (Faier, 2013). For correctly identifying the culture of organisation careful attention should be paid by the researcher to elements such as how the structuring of physical elements take place, the manner of structuring of communication, the flow of communication within the organisation, time management of work in organisation, how tasks are accomplished by people in organisation, and how people identify themselves by being part of particular organisations (Marceau, 2011). The process of identification consumes time over a longer period of time (Mai, 2015). There must also be awareness on part of researcher to analyse, examine and interpret the existing culture of the organisation as something viewed as potentially subversive by those who are part of the culture (Oliver, 2011). Moreover, (Mullins, & Christy, 2010) observed that the official descriptions with regards to culture existing in the organisation are often isomorphic with organisation. There are limits within which the description is tolerated. Interpretation, analysis, evaluation, comparison, and explanation are threatening more. The uniqueness of the organisation is lost when its features are mapped with respect to other systems (Fullan, 2014). The dignity of analysis is lost due to reductionism of the analysis. The status and authority of leaders is lost by evaluation and comparison. The official ideology weakens in power due to alternative accounts which the explanation and interpretation offers. The four entries given below represent the types of cultures identified by Goffee and Jones cited in (Denison, *et al.*, 2012). These are typically found in business organisations. However, it is also important to understand that no single culture is better than the other. There are positive and negative effects of all these culture types (Kuada, & Sørensen, 2010). In each culture the subtle messages are internalised by the members of the organisation. It is imperative that each culture type is understood by the members of the organisation. This makes it easier to arrive at the strategic decisions. This is also helpful in deriving benefits from each culture type and to overcome the negative effects of the organisation (Jones, 2014). It's clearly shows that organisation culture has direct impact on organisation strategic decisions therefore there is need to understand the organisational culture that would be helpful to related it with SCRM strategic decision of selected organisation which is major purpose of this research.

### **5.2.2 Handy's Four Types (Typology-Based Model):**

It is valuable to discuss the value of approach which is typology based as it gives a broad perspective of the variations existing among different cultures. Therefore, it may be possible

that one type of organisation's culture is compared with another. Whereas, there are broad ranges of various typologies as suggested by (Handy, 1999) cited in (Russo, *et al.*, 2013). There are four organisation culture types such as the role culture, power culture, person culture, and task culture. In power culture there is single source with which the power rests. In role culture type these are the methods which provide the power (Russo, *et al.*, 2013). In task culture type the power is based on the expertise possessed within the organisation. In person culture the power rests on the basis of individual autonomy (Yahyagil, 2015). Many scholars utilised different cultural types in their own unique way (Kamruzzaman *et al.*, 2014; Shier, & Handy, 2015; Koval'ová, & Mackayová, 2014; Wronka-Pośpiech, *et al.*, 2016; Börjeson, 2015;) discussed the macho culture, tough guy culture, bet-your company culture, work harder play harder culture, and process culture. Moreover, (Hassing, *et al.*, 2014) identified the multifunctional culture of organisation on the base of different culture for those organisations who operating in different countries. Moreover, (summers, *et al.*, 2018) offered four different types of culture. These comprise the ideological culture (Adhocracy), rational culture (Market), consensual culture (Clan), and hierarchy culture. In summary, it can be stated that even though the identification of an organisation in line with one culture may be possible, but it is not possible to identify an organisation being aligned completely with one culture type (Atuahene, & Baiden, 2018; Piers, *et al.*, 2017; Worley, *et al.*, 2016). For example, (Worley, *et al.*, 2017). Therefore, cultural typology approach to understand the culture is not useful for this study because (Miller, & McTavish, 2014) observed that, an approach that is process based is more reliable for realizing the cultural complexity. Moreover, the organisational culture is directly linked with national culture of local organisation, but the typological cultural approach does not consider the symbol, stories, rituals and routines of organisational culture (Urteaga, & Omar, 2010; Naor, *et al.*, 2010; Khan, 2017; Nazarian, *et al.*, 2017; Durach, & Wiengarten, 2017; Engelen, *et al.*, 2012). Moreover, Vaara, *et al.*, 2012) indicated that process-based model is more helpful to understand the organisational culture impact on organisational strategies because the process-based model also included the some of the important factors of culture (Sasaki, & Yoshikawa, 2014; Taras, *et al.*, 2010; Wiengarten, *et al.*, 2015; Handley, *et al.*, 2015; Eisend, *et al.*, 2016).

### **5.3 Cultural Models of Organisations**

It is a significant point to consider that no single culture is prevalent in organisations everywhere. Academic literature recognizes the existence of different cultures in different organisations. Also, it is possible that more than one culture is prevalent in organisations.

(Bradley & Parker 2006) proposed classification of different culture types in the shape of Competing Values Framework based on (Quinn & Rohrbaugh 1983). This shown in Figure 5-2 below.

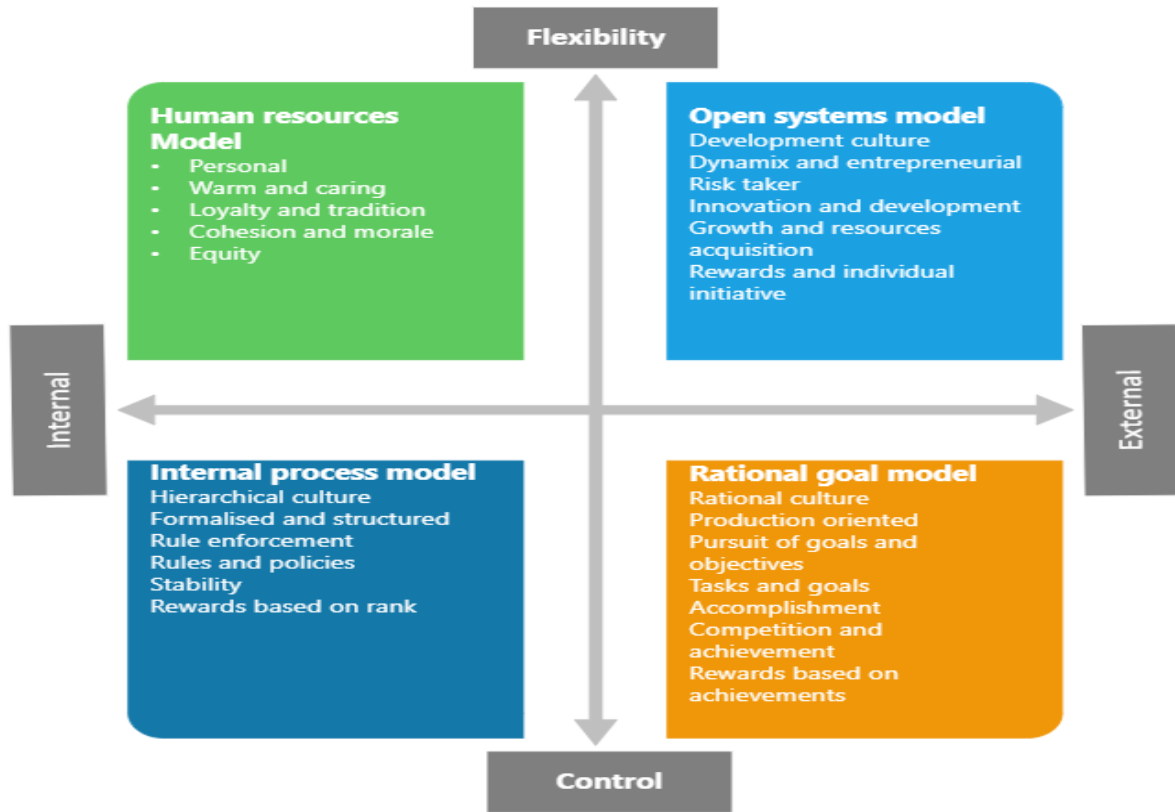


Figure 5.2 the Competing Values Framework of Organisational Culture (Zammuto and Krakower, 1991)

There are a number of studies used in developing the CVF for investigating the culture of the organisation (Sasaki, *et al.*, 2017; Linnenluecke, & Griffiths, 2010; Landekić, *et al.*, 2015; Hartnell, *et al.*, 2011; Helfrich, *et al.*, 2007; Yong, & Pheng, 2008; Saame, *et al.*, 2011; Radwan, *et al.*, 2017; Hartnell, *et al.*, 2011; Chidambaranathan, & Regha, 2016; Erturk, *et al.*, 2011; Demir, *et al.*, 2011). The all studied proved that the organisational culture has impact on strategic decision of organisational functions. Competing demands are examined in CVF in organisation between their external and internal environments and also between flexibility and control (Igo, & Skitmore, 2006). These conflicting demands give rise to two axes within the same model. Those organisations in which the focus is internal in nature there is emphasis on information management, integration and communication (Büschgens, *et al.*, 2013). However, those organisations focus on external there is an emphasis on resource acquisition, growth, and interaction with external elements (Igo, & Skitmore, 2006). Those organisations in which there is a dimension of conflicting demands or emphasis on control they focus on cohesion and stability (Goodman, *et al.*, 2001). Organisations with focus on flexibility, they place emphasis on spontaneity and adaptability. When these dimensions are added up, they map out four types of cultures of the organisation (Prajogo, D& McDermott, 2005).

In the internal process model, there is internal focus or control involved, whereby communication and information management are utilized for achieving control and stability. This model is also regarded as hierarchical culture as there are different rules and principals involved for enforcement (Prajogo, & McDermott, 2005; Cao, *et al.*, 2015). In internal process model the traditional public administration or bureaucratic model are clearly reflected which relies upon formal procedures and rules as mechanisms of control (Datuon, 2015). In the open system model, external focus or flexibility is involved whereby adaptability and readiness are employed for achieving resource acquisition, growth and external support (Braunscheidel, *et al.*, 2010). This model is also regarded as a developmental culture as it is related with leaders who possess vision and who also maintain focus on external environment (Shih, & Huang, 2010; Škerlavaj, *et al.*, 2010; Rai, 2011; Ovseiko, *et al.*, 2015; Wiewiora, *et al.*, 2013; Davies, *et al.*, 2013). These organisations are also entrepreneurial and dynamic, their leaders possess the capability to undertake the risk and the rewards by the organisation are related with initiative taken by individual (Giritli, *et al.*, 2013). In human relations model, internal factors/flexibility is involved whereby training and broader human resource development is employed for achieving employee morale and cohesion. This model is also regarded as group culture as it is linked with participation and trust through teamwork (Calciolari, *et al.*, 2018; Ferreira, 2014). Managers in organisations of such sort are seeking to provide mentoring and encouragement to employees (Prajogo, & McDermott, 2011). In rational goal model there is involvement of external focus and control whereby planning and goal setting are employed for achieving efficiency and productivity. This model of organisation culture is regarded as rational culture as it places emphasis on achievement of goals and desired results (Losonci, *et al.*, 2017). These types of organisations are driven by production goals and their workforce is organised for achieving particular objectives and goals. In such organisations rewards are result driven (Wiewiora, *et al.*, 2013).

#### **5.4 Schein cultural component model (process-orientated model):**

In a study of (Schein, 1985), structural culture model is employed as a framework for analyzing the culture of the organisation. This model is selected on the basis that it has less been criticized or argued against by researchers and is in operation for a long time (Hogan, & Coote, 2014; Schein, & Mueller, 1992; Schein, & Mueller, 1992; Cataldo, *et al.*, 2009; Armenakis, *et al.*, 2011; Pioch, 2007). The term organisation culture in this regard is taken to mean a shared 4pattern of underlying assumptions which are discovered, invented, developed and given rise to by a group as it regards such assumptions to be helpful for the solution of their problems and

provide for internal integration. This is further strengthened when it has worked well for the group and thus is then taught to the members who join the group recently (Schein, 1985). (Schein 1985) argued that culture need be understood by taking into account the basic assumptions held by the members of a particular group and that there exist historically established structures which are stored in the unconscious mind of the organisational members. It then provides direction to not only the existing members of the organisation but is also transferred to the new members of the organisation (Skar, *et al.*, 2015; Whelan, 2016; Killett, *et al.*, 2016). It also governs their relationship with one another. Schein also proposed that the organisation culture structure could also be regarded as comprising different layers (Schein, & Mueller, 1992). This is shown in the figure 5-3 below:

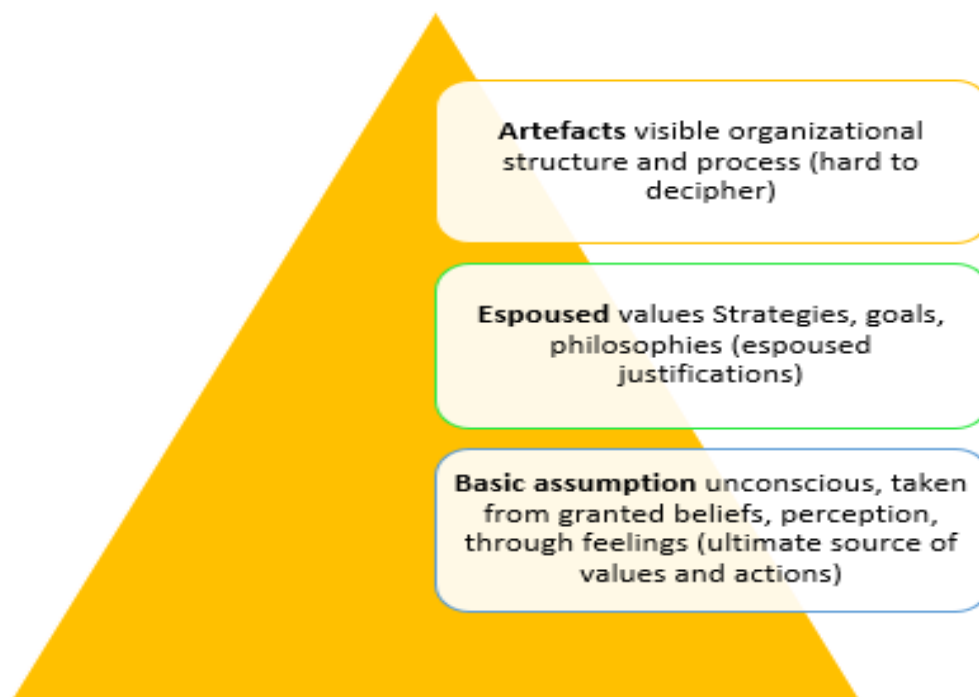


Figure 5-3 Different layers of Culture found in Schein's Model of Organisation Culture (Schein's 1985)

There is a symbolic importance of the culture of the organisation. The culture of the organisation has symbolic and a cognitive element. In cognitive element there are further elements such as norms, beliefs, assumptions and attitudes. These are shared by the members of the organisation and it also influences their mental scheme (Martin, 2002; Alvesson, 2002; Smircich, 1983). The culture of the organisation determines the manner the surroundings are interpreted by the members of the organisation and their behaviour, with one another and with external persons (Martinez *et al.*, 2017; Flores, *et al.*, 2012; Leal-Rodríguez, *et al.*, 2014). The cognitive element ensures that there is unique manner of ascribing meaning and that there is a unique phenomenon around and within the organisation. The importance of the culture of the organisation stems from the fact that by enforcing a set of values and assumptions, it gives rise

to a frame of reference for the interpretations, perceptions, and actions for members of the organisation (Schein, 2004). All processes of the organisation are influenced which are prevalent in the organisation and influence its performance as well. The culture of the organisation also influences the knowledge management, style of leadership, strategy of the company, and management style. Further, it is also influential on the rewards system employed in the organisation (Peterson, 2014; Ito, *et al.*, 2012; Leonard, 2008; Linnenluecke, & Griffiths, 2010; Hatch, 1993; Costigan, *et al.*, 2018; Howard-Grenville, *et al.*, 2011).

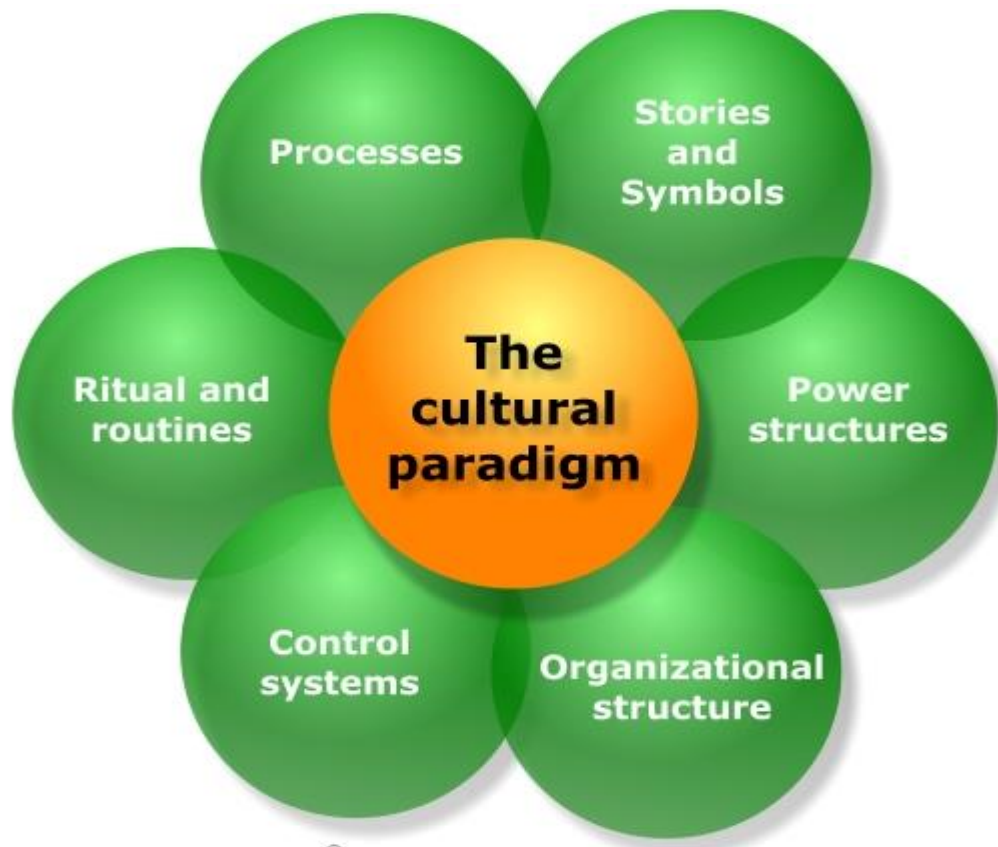


Figure 5.3 The Cultural Web (Process-Orientated Model) (Schein, 1993).

The cultural web model developed by Gerry Johnson and Kevan Scholes, showed that there are seven elements in the organisational culture which are all interlinked. In these elements a set of behaviour is formed, which underpin the acceptability and non-acceptability of behaviour within an organisation (Kattman, 2014). The cultural web represents an assumption about organisation which can be regarded as taken-for-granted. It is helpful for management to place its focus on key cultural elements and their effect on issues of strategic importance as well as activities of strategic significance. This will be helpful in enhancing the competitive position of the organisation in the market (Kreiser, *et al.*, 2010; Rahimi, & Gunlu, 2016; Efrat, 2014; Dubey, *et al.*, 2017).



Table 5.3 Organisational Culture Web Model

Element/factor name	Detail
<b>Stories</b>	The past events and people talked about inside and outside the company. Who and what the company chooses to immortalize says a great deal about what it values and perceives as great behaviour (Wiengarten, et al., 2015; Naor, et al., 2010; Kreiser, et al., 2010; Rahimi, & Gunlu, 2016).
<b>Rituals and Routines</b>	The daily behavior and actions of people that signal acceptable behavior. This determines what is expected to happen in given situations, and what is valued by management (Linnenluecke, & Griffiths, 2010; Wang, et al., 2015).
<b>Symbols</b>	The visual representations of the company including logos, how plush the offices are, and the formal or informal dress codes.
<b>Organisational Structure</b>	This includes both the structure defined by the organisation chart, and the unwritten lines of power and influence that indicate whose contributions are most valued (Wiengarten, et al., 2015; Naor, et al., 2010; Kreiser, et al., 2010; Rahimi, & Gunlu, 2016).
<b>Control Systems</b>	The ways that the organisation is controlled. These include financial systems, quality systems, and rewards (including the way they are measured and distributed within the organisation) (Kreiser, et al., 2010; Rahimi, & Gunlu, 2016).
<b>Power Structures</b>	The pockets of real power in the company. This may involve one or two key senior executives, a whole group of executives, or even a department. The key is that these people have the greatest amount of influence on decisions, operations, and strategic direction (Wiengarten, et al., 2015; Naor, et al., 2010).

The strategy of the organisation is influenced by the organisation culture, but it can give rise to problems when there arises a need for change. The controls can be tightened by the management and the operational performance is improved as a means of implementing the change (Wiengarten, et al., 2015; Rahimi, & Gunlu, 2016). If there is a failure it can give rise to strategic alterations in the manner things have been done. In such situation managers would find themselves trapped in the assumptions, routine matters, and politics within the organisation. In exploring the approach which is process oriented, (Wiengarten, et al., 2015) observed that cultural web model represents a key model as has been proposed by (Johnson & Scholes 1999) shown in figure above (Naor, et al., 2010). This model is regarded as significant for ideas' development and is also regarded as key source by the researcher. This web model is discussed in more detail in the next chapter.

Moreover, (Rahimi, & Gunlu, 2016) observed that, such a model is useful in conducting the analysis about culture of the organisation. It has also been accepted by (Kreiser, et al., 2010)

that the model is helpful for identification of culture in an organisation. Further, it is also helpful in development of strategy because there are seven key factors which represent the cultural change areas (Corfield, & Paton, 2016). This is further supported by (Zheng, *et al.*, 2010) observed that the model provides a unique sequence of beginning the change.

Therefore, it can be employed for identification of culture in an organisation as well as suggesting change in the culture (Onyemah, et al., 2010). The model was first propagated by (Cole, & Salimath, 2013) indicate that on incremental strategic management to visualise the culture of the organisation. (Cole, & Salimath, 2013) described the culture as a set of assumptions and beliefs which the organisation holds common throughout its environment and is described by the managers in their explanations (Yarbrough, *et al.*, 2011; Moonen, 2017).

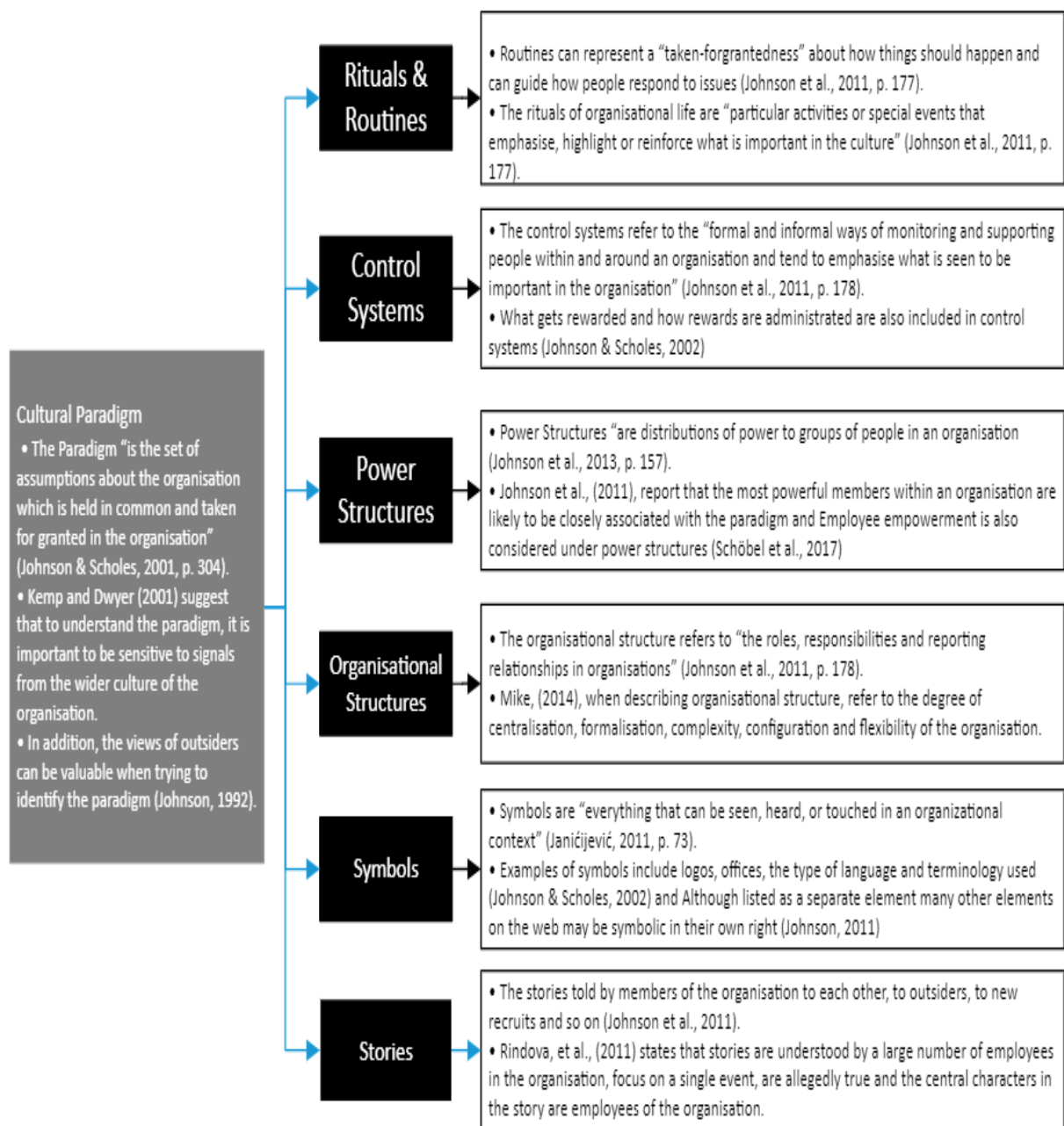


Figure 5.4 Dimensions of Johnson and Scholes Cultural Webs Model

The organisation culture is also being discussed in (Johnson's, 1988) paper regarding the key events of the history of organisation. The historical aspect is regarded significant in any culture as it is believed that the culture is part of the history and has historical patterns (Rindova, *et al.*, 2011). Therefore, if this model is employed in this project it will be helpful in providing the way culture of the organisation is formed. In summary, all different factors of cultural web model provide route for identifying the culture of the organisation. However, (Johnson & Scholes, 1999) attested that the model is useful because it recognises the link between various factors and also because the culture exists in the mind of the people. Moreover, (Lavie, *et al.*, 2012) also supports this as he claimed that since the culture is found in the minds of the people, they do not regard it as a control factor on their actions. A number of researchers employed the cultural web model such as by (Wiengarten, *et al.*, 2015; Rahimi, & Gunlu, 2016; Wiengarten, *et al.*, 2015; Naor, *et al.*, 2010; Kreiser, *et al.*, 2010; Zheng, *et al.*, 2010; Cole, & Salimath, 2013; Cole, & Salimath, 2013; Yarbrough, *et al.*, 2011). (Johnson, 1992) cautioned against the use of model for bringing change in the culture of the organisation but there is also evidence of impact of organisation culture on organisation strategies. As stated, before that cultural web model is comprehensive therefore, this model is being used for this research, but the cultural web model not include the national culture factors those important in risk decision making but these elements are not being included in web cultural model (Moonen, 2017; Rindova, *et al.*, 2011).

### **5.5 National culture and organisational culture:**

It is important to first identify the similarities between organisation culture and national culture while determining the relationship between the two (Taras, *et al.*, 2010). Moreover, (Wiengarten, *et al.*, (2015) observed that organisation culture and national culture are established differently. It is believed that shared values represent the core of national cultures, but shared perceptions represent the daily practices in organisation (Hofstede, *et al.* 1990). In other words, the focus with respect to these two constructs is found in different levels of cultural system whereby practices comprise the outer part of the cultural system and values constitute the inner part of the system (Hofstede, *et al.*, 1990). The constituents of national culture are based on invisible and deep values, but the components of organisation culture are found in work practices such as in rules, symbols, and rituals (Handley, & Angst, 2015; Eisend, *et al.*, 2016; Kattman, 2014; Kreiser, *et al.*, 2010; Rahimi, R., & Gunlu, 2016). Therefore, it can be stated that both constructs are distinct but at the same time are related to each other as well. In

every country the attitudes, beliefs, customs, values and practices which are found outside the organisation are also found to be inside the organisation (Efrat, 2014).

This means that the elements of national culture seep in into the culture of the organisation as well (Dubey, *et al.*, 2017; Taras, *et al.*, 2010; Wiengarten, *et al.*, 2015; Kreiser, *et al.*, 2010; Rahimi, R., & Gunlu, 2016). Further, there are some assumptions which the law adds as well through strong expectations by the society and are thus unconsciously followed. Resultantly, the elements found in national culture are also found in organisations because they are followed unconsciously and cannot be ignored (Kreiser, *et al.*, 2010) therefore, national culture has more impact on the employees as compare to organisational culture and local organisational is also based on the national culture (Mullins, & Christy, 2016).



Figure 5.5 National Culture and Organisational Culture (Mullins, & Christy, 2016)

Culture is not inherent, instead it is human made and is learnt. Culture is something which is shared by people mutually (Mullins, & Christy, 2016). Resultantly, culture is based on the interaction taking place among the people who share beliefs and values for producing behavioural norms. (Trompenaars, 2003) observed that culture acts like a guide.

Due to culture, people developed values and norms. As a result of culture people develop life rules. However, the role of culture is not limited only to societal level. It is equally influential on businesses as well and organisational strategies of different business functions. Therefore, corporate culture is also important to be studied as it creates behaviour inside the organisation just like national culture inside a country does (Buchanan, & Badham, 2008). (Hofstede & Hofstede, 2005) observed that the culture which differentiates between members of one group from others particularly from geographical aspect. The norms, beliefs, and values prevalent in a society or a community influence the overall behaviours and actions of the people of that society or community (Mai, 2015).

The behaviour of people is acceptable in so far it is not objected upon by the members of the community in which one is residing. Therefore, (Hofstede & Hofstede, 2005) argued that it is the social environment which programs the individual as they grow up in a certain social environment. People derive their experience from the society in which they live, grow up, constitute family, spend their youth, and gain life experiences (Fullan, 2014). Culture is therefore a collective phenomenon as it is shared partly with people who are living in the same environment (Oliver, 2011). With the difference in natural culture there is found a difference in the management of organisations as observed by (Byrne, & Bradley, 2007). There are also differences found in styles of management (Harris, 1982) and the level of development taking place in the organisation (Sulieman, 2017) with the difference in national culture. These differences are also found that effect on the risk management and related practices. It is showed by empirical practices that the risk management of practitioners is different from one culture to another (Rossberger, & Krause, 2015). Moreover, (Rodríguez, 2005) observed that risk management of respondents is different among eastern and western organisations. Moreover, (Testa, 2009) observed that such differences arise due to difference in cultures. Additionally, (Podrug, 2011) observed that the intensity of risk management affects the national culture.

There are various cultural dimensions, due to which there are cultural differences among societies (Hofstede et al. 2010). Moreover, (Trompenaars & Hampden, 1997) proposed five cultural dimensions on the basis of value. These comprise the neutral/emotional (expressive of feelings), universalism/particularism (relationships/rules), diffuse/specific (degree of involvement), collectivism/individualism (individual/group), and ascription/achievement (status oriented). Project GLOBE represent a large-scale application of different paradigms. This is proposed by (Le Nguyen, *et al.*, 2016). There are nine critical dimensions which are being identified such as future orientation, performance orientation, avoiding uncertainty, assertiveness, collectivism, power distance, gender differentiation, family collectivism, and humane orientation (Venaik, & Brewer, 2016). They are different aspects of the country's culture which differentiate one society from the other and cast managerial effects. It is also important to note that five dimensions which are highlighted in GLOBE are regarded as akin to the ones enunciated in Hofstede model (Ma, *et al.*, 2010). Hofstede (1980) initially stated that there exist four dimensions of national culture: individualism/collectivism (IDV), uncertainty avoidance (UAI), power distance (PDI), and masculinity/femininity (MAS). Later, a fifth dimension was also added called longterm/shortterm orientation (LTO) (Hofstede, 2001). Recently, Hofstede (2010) added a sixth dimension which he labelled as indulgence/restraint (IVR). These terms already existed in social sciences and their application was reasonably well

for uncovering the basic area of problem (Hofstede, 2005). Since it is relevantly recently that sixth dimension is added in the model, therefore, only five dimensions are being utilised (Hofstede, 2010). In this section the culture of the organisation is being discussed. The relevance about this culture type is related with the concept of national culture. Indeed, the culture of organisation is influenced largely by the national culture in which the organisation is constituted. The organisation culture is regarded as a primary driver of performance of the organisation and results from a performance and even the individual performance taking place within the organisation (Kreiser, et al., 2010; Rahimi, & Gunlu, 2016). This means that there is interdependence in national and corporate cultures. The culture of a country inevitable influences the corporate culture of the organisations working in that country (Naor, *et al.*, 2010). There are main features through which management thinking and practice is constituted. These are as follows:

<b>Political Characteristics</b>	This represents the selection and dismissal of leaders and the manner of execution of their power. Leaders represent highly influential role model for other people by exercising power (Wang, et al., 2015; Corfield, & Paton, 2016; Zheng, et al., 2010).
<b>Nature of Economy</b>	The economic opportunities for people and the way they can reap benefits of the economy (Onyemah, et al., 2010; Cole, & Salimath, 2013).
<b>Legal component</b>	This regulates the affairs among people, the way they are related with each other, and the way businesses are carried out (Yarbrough, et al., 2011; Bussmann, 2014; Mullins, & Christy, 2016).
<b>Socio-cultural background</b>	This represents the beliefs, values, religion, myths, attitudes, and relationship with the general environment, among other cultural elements (Buchanan, & Badham, 2008; Wheeler, 2011).

Figure 5.6 Management Thinking for Decision Making

Country's national history may also involve other countries as it is claimed by (Hofstede, 2001) that organisation culture is associated with the practices of the organisation whereas national culture is related to the existing social values instead of practices. Values represent the general preference or internal norms whereas practices are of external nature (Mullins, & Christy, 2013). It is easier to change the practices than the values (Hofstede, 1998). It means the national culture impact on the organisational culture and organisational culture impact on the management practice within an organisation because again management practices are directly linked with local values, power structure in organisation, communication, etc. This section is only covering the how national culture impact on organisation culture and the Hofstede national cultural dimension theory is being selected for this study that would be using to explore the Libyan port organisation culture impact SCRM.

The summary in Hofstede's theory is that the culture of the organisation is influenced by the management related practices among other factors and this is the reason that the cultures of the organisation can be managed. National cultures on the other hand are founded on the basis of values and these values are embedded strongly in the society (Dastmalchian, et al. 2000). It is claimed by (Hofstede,1997) that there is a centralised authority and management when the power distance is greater. There is more official work if there is more uncertainty avoidance and there are resultantly more practices and rules but less flexibility. Further, there is also more authoritarianism (Khwaja, & Beer, 2013). The willingness to undertake risks is also lower. As it has been discussed that national culture has direct impact on the organisational culture, but national culture also impacts the risk taking of the organisation. After, exploring the national culture impact on risk taking the researcher would be in position to correlate the national culture impact on organisation culture and structure that impact on organisational strategies as shown in figure 5-7 below.

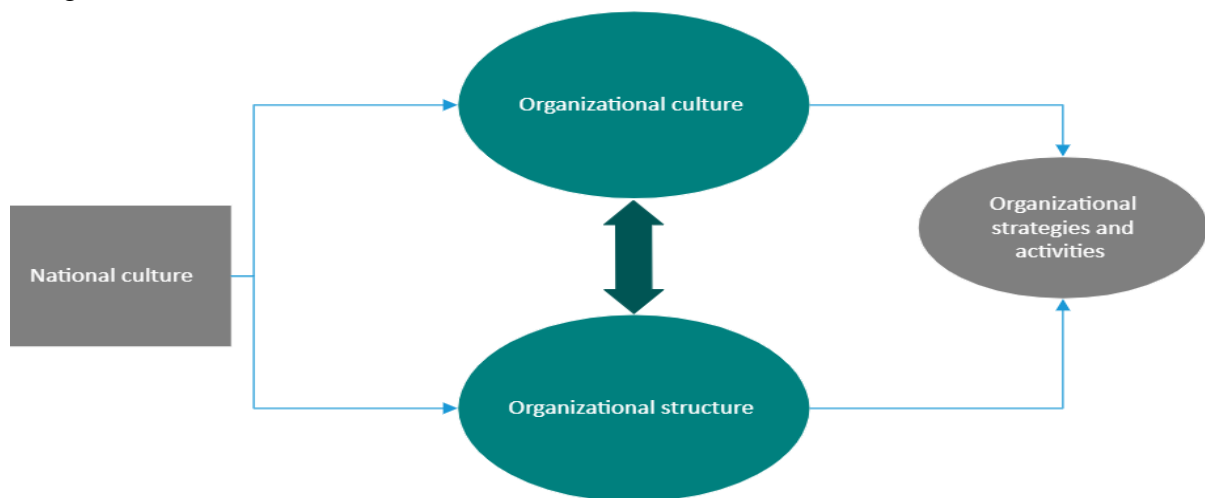


Figure 5.7 National Culture Relation with Organisational Culture

### 5.5.1 The Relationship between Risk Taking and Cultural Values:

The above section discussed that national culture impact on organisational culture and this section is going to discuss national culture impact on risk taking. The risk-taking concept has been consistently linked with entrepreneurial behaviour. Entrepreneurship's early definitions highlighted the agreeing attitude of entrepreneurs related to calculation of risks in business (Thanetsunthorn, 2015). The entrepreneur view related to risk taking progressed in 20<sup>th</sup> century; therefore, it was debated by (McClelland, 1960) cited in (Kreiser, *et al.*, 2010) that, "practically every researcher or theorist agrees entrepreneurs have to take risks of many kinds". The early researches indicate that entrepreneurs must classify the business matters to minimise risk instead of non-entrepreneurs (Ashraf, et al., 2016; Kanagaretnam et al., 2014; Kreiser, et al., 2010; Ashraf, & Arshad, 2017). Still key decision makers identify the strategic framework of their businesses (Li, et al., 2013; Mihet, 2013), the cultural impact on core decision makers can

provide significant visions into the companies 'willingness to participate in behaviours of risk taking.

### **5.5.2 Risk Taking and Uncertainty avoidance:**

There is a solid logical relation between risk taking and uncertainty tolerance, less uncertainty evasion index would mainly encourage management to establish a strong willingness of taking risks (Hofstede, 1980). Therefore, risk creates high level of uncertain outcomes and management, should be agreeing to handle uncertainties in strategic phase (Smith, *et al.*, 2014). The management, which is willing to face ambiguities is more agreeing to submerge themselves in uncertain situations and such management may easily handle uncertain challenges (Larkin, 2003; Breuer, *et al.*, 2014; Gray, *et al.*, 2013). Managers in uncertainty- agree to accept societies have also been appeared to score higher on (McClelland's, 1960) need for achievement (Hofstede, 1980). The person who possesses high need for achievement may lead to be more willing and ambitious to accept risks (Bachmann, *et al.*, 2016). It indicates that managers having high need for achievement like those in uncertainty accepting societies, will be more agreeing to accept risk instead of those who avoid uncertainty situations (Mearns, & Yule, 2009; Louisot, & Ketcham, 2014). Risk taking is also discussed by (Thomas & Mueller, 2000) cited in (Duell, *et al.*, 2016) as one of the four features of entrepreneurship in their observations of culture relevance related to entrepreneurial behavior. Risk taking characteristic is "scripts willingness" was elaborated as commitment to receptiveness and attempting the idea of initiating a venture (Gupta, *et al.*, 2018). Linked to this, Gupta, *et al.*, 2018) based on the research of (Hisrich, 1990) and (Ghemawat, 1991) in expressing the notion of "agreeing to project risk and taking responsibility to create a new venture" or "commitment tolerance" (Mitchell *et al.*, 2000, p.978 cited Gupta, *et al.*, 2018). Management in uncertainty accepting societies will be more agreeing to show off commitment tolerance as well as to project the risks integrated in entrepreneurship activity instead of the management in uncertainty avoiding situations. Therefore, it is estimated that businesses risk taking will be negatively related with extent of uncertainty avoiding culture (Ucar, 2018).

### **5.5.3 Risk Taking and Individualism:**

Instead of managers having collectivist culture, the managers of individualistic states will extent to be more independent and autonomous (Pickett, *et al.*, 2018). As a result, such managers will be more agreeing to transform group norms and will be more likely to participate in that situations that other one perceives because of huge risk (Brettel, *et al.*, 2015; King, 1996). As per viewpoint of (Liu, 2015), entrepreneurs have been appeared to show the exterior



environment more optimistically instead of non-entrepreneurs. Same as this, individualistic managers will be more agreeing to make that decisions which have huge risk especially when using their own judgement instead of the situation when using group decision making procedure or observations (Meisel, *et al.*, 2016). Moreover, as per observation of (Hofstede, 1980), management belonged to individualistic states also have an extent to put higher value on individual tasks than collectivist managers (Steensma, *et al.*, 2000). This thing leads toward higher degree of risk taking, in hopes of higher strategic payoff that managers view as extracting from their personal leadership and struggle (Knuth, *et al.*, 2014). That's why, it is estimated that organisational risk taking will be positively linked with level of individualism in society (Mata, *et al.*, 2016).

#### **5.5.4 Risk Taking and Masculinity:**

(Hofstede, 1980) argued that in masculine cultures as well as ambiguity accepting cultures, managers have been found to score high on McClelland's need for achievement. As discussed earlier, managers displaying a high need for achievement are uncertain and more agree to take estimated or perceived risks instead of other managers (Orlova, *et al.*, 2017). Furthermore, observations of Hofstede also elaborated that masculine cultures' managers take quick and sudden actions, on the other hand, feminine cultures' managers consume high volume of time analysing strategic matters as well as are more likely to share themselves out of an act that they perceive as involving un-estimated high extent of risks (Raman, *et al.*, 2017; El Ghouli, & Zheng, 2016). In masculine states, management has also been shown to put great attention on display "machismo" and lead to become more motivated instead of management in feminine culture (Hofstede, 1980). Many of this type of managers feel that openly show off their willingness to acquire chances in a struggle to take prestige and recognition by daring strategic activities is valuable for possible risks that are engages (Revilla, & Sáenz, 2014). Therefore, it is estimated that organisational risk taking will be positively interlinked with degree of masculinity in culture (Sendlhofer, *et al.*, 2015).

#### **5.5.5 Risk Taking and Power Distance:**

(Hofstede, 1980) argued that there is stress to manage your present status as per social order in high power distance cultures. Opposing to it, peoples in low power distance societies are more courageous for betterment of their status, as well as there is strong level of social mobility (Slemon, *et al.*, 2017). Therefore, with low power distance, managers will be more agreeing to work with risky environment for a vision to improve their organisations (Lewellyn, & Bao, 2017). Therefore, management in low power distance societies is so much willing to risk avoid

strategies but managers in high power distance societies will be more likely to accept risk taking decisions which can make their present position stronger (Kulatunga, 2010). Businesses in high power distance societies also tend to manage strict control methods and to apply hierarchical bureaucratic frame work (Ashraf, & Arshad, 2017; Heldman, 2006). Peoples in high power distance countries will have low level of independent and freedom status for making wide strategies but high levels of control lead toward motivation and excitement in organisation environment (Duell, *et al.*, 2016; Johnson, 2016). So, it is observed that organisational risk taking will be negatively linked with power distance cultural level (Larkin, 2003).

## **5.6 Role of Organisation Culture for Improved Risk Management:**

Human`s behaviour and actions within an organisation collectively develop the organisational culture. It affects the interaction of people with other people, or groups of people within an organisation or with stakeholders or clients (Summerill, *et al.*, 2010; Jondle, *et al.*, 2013; Deverell, *et al.*, 2010; Popa, 2013; Manuel, & Crowe, 2014). The term organisational culture is also referred to attitudes, beliefs, values, experiences and norms of organisations (Roeschmann, 2014). In developing economies, norms of organisational culture may differ due to higher corruption and lower literacy rate within society and high risks involve in adoption of advance technology (Zhao, *et la.*, 2014; Dallas, 2008). The banking sector has sorted research boundaries according to time, spatial and thematic domains. The most important component of management is risk management, that should be embedded in practices and culture and tailored according to organisation`s business processes (Griffith, *et al.*, 2010; Brettel, *et al.*, 2015). Moreover, (Komljenovic *et al.*, 2017) connected risk management with the organisational culture. However, still there is need to make more discussion and develop deep understanding to identify and establish relationships between risk management practice and organisational cultural values (Lin, 2013; Chen, *et al.*, 2012; Mitrovic, *et al.*, 2014; Yang, *et al.*, 2017). Furthermore, development of such kind of relationships will bring fundamental change within organisations that were previously rejected due to inconsistent cultural values (Bosch, *et al.*, 2011; Johansson, *et al.*, 2017; Payne, *et al.*, 2018; Sweeting, 2011).

### **5.6.1 Managing Risk:**

No matter which systems, procedures or strategies of risk management are in place, these measures were how developed and implemented is very important in terms of their effectiveness (Milch, & Laumann, 2016; García-Herrero, *et al.*, 2013; Gu, *et al.*, 2014; Lacey, 2010; Mikes, 2011). According to (Mikes, 2011), incidents related to security are going to

increase every year, resultantly current sources to manage technological security become unable to realise their promises. In this regard, (Kim, & Chai, 2014) proposed that organisational culture is most important success determinant while introducing initiatives for managing of risk. Through their work they concluded that majority of technological security initiatives tend to provide technically oriented narrow solutions by ignoring informal organisational structure and social aspect of risks (Schmiedel, *et al.*, 2014; Nicholas, J. & Steyn, 2012). The security management requires adopting socio-organisational perspective as it considers organisational culture as important factor (Choo, 2013). In his empirical study, (Jun, & Rowley, 2014) reinforced the adoption of this perspective when he observed that risk management was strongly influenced by organisational. This study has proved that the organisational culture significantly influences both organisational performance and risk management. Moreover, (Chapman, 2011) suggested that, differences between both studied industries were unrevealed therefore it is not necessary to use different risk management models in different organisational culture settings (Jun, & Rowley, 2014). Moreover, (Palermo, *et al.*, 2017) conducted a study by mainly focusing on relationship between organisational culture and information systems/ information technology and proved that this relationship was relatively strong and acts as main determinant of the organisational risk because of effective risk management strategies (Domino, *et al.*, 2015; Lam, 2014). The culture is defined by (Claver *et al.*, 2001:249) cited in (Büschgens, *et al.*, 2013) as, “*a set of values, symbols and rituals shared by members of a specific firm, which describe the way things are done in an organisation in order to solve both internal management problems and those related to customers, suppliers and the environment*”. Moreover, (Neves, & Eisenberger, 2014) claimed that culture plays important role in increasing efficiency and effectiveness of the information system. (Besides, Neves, & Eisenberger, 2014) argued that notion about organisational culture “*how things are done in a corporation*” has connection with technological system in risk management because it describes how people within organisation behave in terms of minimising perceived risks linked with introducing as well as maintaining within an organisation (Locke, 2000; Hopkin, 2012; Merna, *et al.*, 2008; Hopkinson, 2017). Moreover, (Samet, *et al.*, 2013) have suggested that key determinant of organisational performance and technological implication in risk management is organisational culture. It shows that the use of technology and technological efforts for risk management are also strongly linked with culture of an organisation (Bessis, 2015). According to (Paté-Cornell, & Cox, 2014), organisational culture plays important role in innovation and risk taking within an organisation. Risk taking concept is not only extended to nature but also to supported applications. To what extent organisations perceive the occurrence of a risk is contingent on prevailing organisational culture (Terje Karlsen, 2011; Greiman, 2013). The organisations are

permissible to declare the probability of occurrence of risks publicly (for example, in Annual Reports). Moreover, it is argued that a culture that supports open disclosure tends to severely compromise “the what” of the managing risk (Weare, *et al.*, 2014; Farrell, *et al.*, 2015). Moreover, Shepherd, *et al.*, 2010) through their ERM (enterprise risk management) supported this view according to which organisations should manage different risks in holistic and integrated fashion instead of using traditional risk management approach in which each individual risk is managed separately in the risk “silos”. Both internal and external factors of an organisation drive the firms to adopt risk management approach in holistic manner (Whybrow, *et al.*, 2015; Hopkinson, 2011; Tracy, *et al.*, 2013; Hardy, & Runnels, 2015). External factors may include wider scope of those risks that arise from factors like industry deregulation and consolidation, globalisation, technical progress and high regulatory attention towards corporate governance that help in better risk analysis and quantification (Linnenluecke, & Griffiths, 2010; Vit, 2013; Thompson, *et al.*, 2007). On other hand, the internal factors may include the requirement of providing shareholders with clear representation of risk level associated with making investment in company (this is a management tool use to determine the level of risk associated with budget allocation) and accurately reflecting the expenses an organisation will incur on occurrence of such risks (Jordan, 2013). Adopting more integrated and “corporate” risk management approach not only reinforces those cultural implications that are connected with success of adopted risk management strategy but also increased the probability of organisational need to actively investigate prevailing culture within the organisation (Leiss, 2001). there are countless factors and avenues that influence and change organisational culture (Scrivens, 2005), however, in-depth investigation of these avenues and factors is beyond the current study`s scope. Based on existing literature, the researchers suggest a schema based on which organisations can commence or enhance risk management (Jordan, 2013). It has been discussed that national culture effect the risk management approach of a nation that would impact on the organisational risk-taking approach of organisation management. Hofstede`s theory is that the culture of the organisation is influenced by the management related practices among other factors and this is the reason that the cultures of the organisation can be managed. National cultures. On the other hand, are founded on the basis of values and these values are embedded strongly in the society. As it also discussed that there is a solid logical relation between risk taking and uncertainty tolerance. Less uncertainty evasion index would mainly encourage management to establish a strong willingness of taking risks. Therefore, risk taking creates high level of uncertain outcomes and management should be agreeing to handle uncertainties in strategic phase. The management which is willing to face ambiguities is more agreeing to submerge themselves in uncertain situations and such

management may easily handle uncertain challenges. As the same way other cultural dimension impact on risk management. Therefore, the figure 5-8 below shows the relation between national culture impacts on risk management strategies of an organisation.



Figure 5.8 National Culture, Organisational Culture and Risk Management

## 5.7 Supply chain risk Management:

Nowadays, exposure of firms to SCRs (supply chain risks) has been increased due to different industrial trends such as outsourcing, short product life cycle, JIT (just in time) and supply base decline (Sodhi, *et al.*, 2016). Natural disasters or man-made problems lead to the origin of these risks that may bring serious consequences for firms including operational and financial problems, possibly lead to discontinuity of business (Ho, *et al.*, 2015; Finch, 2004). SCRM is an interesting and important area in SCR literature. The main aim of SCRM is to develop strategies to identify assess, treat and monitor risks within supply chains (Kumar, & Park, 2018; Giannakis, & Louis, 2011; Hollstein, & Himpel, 2013; Bak, 2018; Ritchie, & Brindley, 2007). However, there are still several gaps within existing body of knowledge. With respect to conceptual framework, researchers are mutually agreed on statement regarding SCRM as it is complex and multifaceted in nature (Ghadge, *et al.*, 2012). Catastrophes and crisis like earthquake in Japan and Taiwan, hurricanes in Golf Coast of US and volcano eruption in Ireland enforce the firms to measure the vulnerability of their supply chains at global level (Wieland and Wallenburg, 2012, cited in De Oliveira, *et al.*, 2017), and assess the increasing interest of supply chain academics and practitioners (Grötsch, *et al.*, 2013; Rostamzadeh, *et al.*, 2018; Behzadi, *et al.*, 2018; Khan, *et al.*, 2018).

Through a study, it was observed that SCR is biggest challenge for most of senior supply-chain executives and few had reported that they have proper risk management procedures (Vilko, et al., 2004; Yang, & Yang, 2010). SCR is an old phenomenon as all businesses have to accept risks to some extent within their organisations while operating (Oehmen, *et al.*, 2009). Nowadays, SCRM (supply-chain risk management) has become significantly important because it has supply-chain capability to support the business (Diabat, *et al.*, 2012). According to Truong, & Hara, (2018) it is remarkably important to keep uncertainty lens and risk as an organisation`s capability and also for its viability and competitiveness. It is fact that supply chain always involves risk factor thus eradicating the possibility of occurrence of undesirable/desirable events is not possible (Hamdi, *et al.*, 2018). Supply chain risks have been equally associated with uncertainty, disruption and vulnerability and also with supply-chain security in few cases (Manuj, et al., 2014; Durach, & Machuca, 2018; Yu, *et al.*, 2018). The widely used definition of SCR is, variation within distribution of expected outcomes of supply chain and their associated subjective values and likelihoods (Riley, et al., 2016) and possible outcomes of uncertain events (potential risks are associated with uncertain events) (Zhu, et al., 2017).

The risk contexts often involve somewhere in mid of the risk uncertainty spectrum (nor pure uncertainty nor complete risk taking) (Fan, & Stevenson, 2018). Some authors however have differentiated vulnerability from SCR (Narasimhan, & Talluri, 2009; Baryannis, et al., 2018; Khan, et al., 2018; Zepeda, et al., 2016), on the basis of outcome and probability (Bak, 2018). In this regard, Sanchez-Rodrigues et al. (2010a, p. 62) cited in (Zepeda, *et al.*, 2016) have observed that if decision makers fail to accurately estimate an event in terms of its outcomes and probability of occurrence, this will lead to the occurrence of uncertainty. Risk, on other hand, is a function of probability and outcome which could be estimated (Song, & Zhuang, 2017). This variation in scope, terminology and definitions brings a challenge regarding to capture interdependent and multi-dimensional behaviour associated with risk (Kırılmaz, & Erol, 2017) that leads to strong interconnectedness of existing supply chain (Rotaru, et al., 2014). This may be based on SCR`s dynamic nature (Trkman, *et al.*, 2016) and on a certain event (Kilubi, & Rogers, 2018) which is hard to assess (Ahmed, & Huma, 2018).

Through literature review on supply chain it has been observed that there are different classifications of SCR on the basis of variation in the distribution of subjective values and outcomes of supply chain (Norrman, & Jansson, 2004), amount of risk involved and risk management (characteristics of decision makers, influencers of risk management, risk drivers, performance outcomes and response of risk management) (Keilhacker, & Minner, 2017);

contextual factors (for example network risks, organisational risks, exchange rate, social, political and environmental risks) (DuHadway, *et al.*, 2018; Chaudhuri, *et al.*, 2018; Lavastre, *et al.*, 2014; Thun, *et al.*, 2011; Sheno, *et al.*, 2018); situational risk factors between buyers and suppliers (such as pre-purchase experience, power of suppliers, security need and degree of technology involve in a product) (Sheno, *et al.*, 2018); dependencies of time dependent vulnerabilities (such as lead times, delivery schedule and time delays); relational dependent vulnerabilities (communication, suppliers, customers, social aspects and knowledge); and functional dependent vulnerabilities (such as products, transport, inventories, production) (Boyson, 2014) and assessing impact level and probability of risk factor (Blos, *et al.*, 2009).

If supply chains at global level become lengthy, complex and far away from their local markets then it became necessary for supply chains to be highly responsive in finding the ways to manage all expected risks and their occurrence (Qu, *et al.*, 2014). It seems that both definitions as well as classification of SCR are problematic (Kilubi, 2016). Impact of characteristics on SCR may vary by considering the possible of influence of the collaborative relationship (Kilubi, & Rogers, 2018). Not only its terminology but also its classification reflects that risk measurement and assessment become difficult if risk cannot be materialised and will make it difficult to properly justify investments make in the SCR prevention (Ahmed, & Huma, 2018). But knowing SCR well may enhance internal training competencies and integration that will strengthen recovery and warning capabilities and will enable the organisations to shorten the time period to manifest the consequences or identify the SCRs before their occurrence (Norrman, & Jansson, 2004). Through literature review, it has been observed that still SCRM is at nascent stage, so it is appealing to carry out field study in this domain. According to Keilhacker, & Minner, (2017) one amongst most well-developed research methods in management literature is field research, particularly when a new research area is required to explore. Moreover, (DuHadway, *et al.*, 2018) have stated that in operation management studies, field study is most appropriate approach to explore new operation management topics, which were not previously well understood or defined such as SCRM (Lavastre, *et al.*, 2014).

Many firms, since 1990s, have implemented different supply-chain initiatives with intention to reduce assets, costs and increase revenues. To fulfil this objective, number of supply chains get more complicated and become highly vulnerable to disruption than ever before (Sheno, *et al.*, 2018). However, shorter life cycles of product (Qu, *et al.*, 2014) and external factors for example global outsourcing, natural hazard and decisive human agents (Blos, 2009) exposed the supply chains to high level of risks. “robustness” (Zhu, *et al.*, 2017) or “resilience” (Fan, & Stevenson, 2018) have been called to minimise the vulnerability. The examples of supply

chain disturbances include; about itee million toys were recalled by Mattel in 2007 due to lose magnets or lead paint; due to fire hazard in 2006; Dell recalled four million computer and laptop batteries that were manufactured by Sony; in 2000 Ericsson reported US\$2.34 billion year-end loss for its cell phone division when semiconductor plant of its main supplier caught fire; in 2001 the supplier of Land Rover became insolvents which enforce the Land Rover to lay off 1400 employees, in 1998 when Mitch Hurricane hit the South America the banana plantations of Dole were destroyed and resulted in huge decline in its revenue, in 9/11 event 2001, the air passage was completely suspended that enforced the Ford to keep its five plants closed for many days (Chapman, 2011). These disruptions not only leave long term effects on stock prices but also lead to loss of both life and reputation.

(Hendricks and Singhal, 2005a) cited in (Johnson, 2016) have analysed 827 disruptions that were announced during last decade and observed that firms facing the uncertain events have experienced 33% to 40% less stock returns as compare to bench marks of their industries over the time period of 3 year starting a year before the announcement date of an event and 2-years ending after its occurrence. These incidents have increased the interest of researchers in SCR and SCRM areas which is depicted by the large number of practitioner conferences, consultancy re-ports and industry surveys devoted to this topic (Dallas, 2008). Computer Sciences Corporation conducted a study in which 60% of surveyed companies reported that they have supply chains that are at risk of disruptions (Greiman, 2013). For the purpose to assess and classify these researches, we construct a conceptual structure of supply chain risks as given below. While combine different viewpoints from research, we explore that supply chain risk may be categorized into two classes; micro risks and macro risks (referred as disruption and operational by (Tang, 2006): catastrophic & operational by Sodhi, (Tang and Son, 2012). Micro risks indicate the risk related to recurrent situations crated due to internal actions of firms directly and due to association of supply chain partners. Micro risks may be classified into 4 sub-classes: infrastructural risk, supply risk, manufacturing risk and demand risk. Demand and supply risks indicate to adverse activities at the upstream and downstream partners of business (Qanger and Bode, 2008: Zsidisin, 2003).

Manufacturing risk indicates to adverse actions or situations within the firms which influence their internal capability to create services and goods, production timeline, profitability and quality (Wu, *et al.*, 2010). With respect to make sure the efficient functioning of supply chain, financial systems (Wu, Blackhurst and Chidambaram, 2010. Chopra *et al.*, 2014), transportation (Wu, Blackhurst and Chidambaram, 2006) and information technology (Chopra and Sodhi,



2004), are also of significant importance. Any kind of disturbance in these systems may lead to create critical issue in supply chain. So, infrastructural risk is related to all 3 three systems.

On the other hand, Macro risks highlight to some rare and adverse external situation and events that could have negative effect on firms. Macro risks include both men made risks (such as political instability, terrorism and war) and natural risks (such as any disaster related to weather or earthquake) (Ho, *et al.*, 2015). Commonly, macro risks effects more significantly instead of micro risks

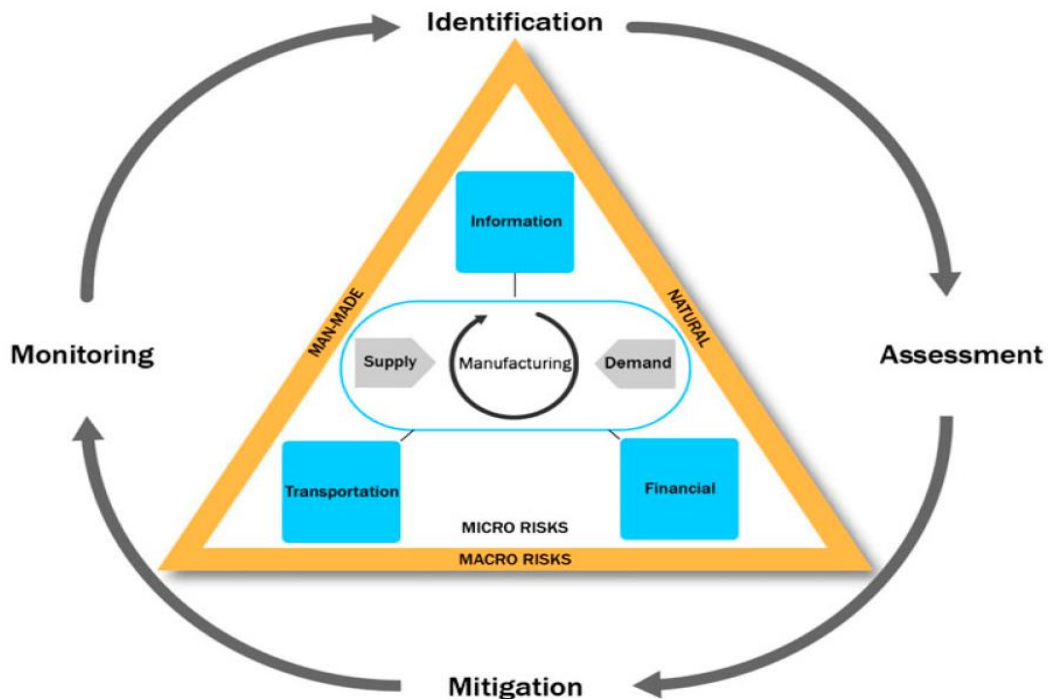


Figure 5.9 Supply Chain Risks Management (Ho, *et al.*, 2015).

The above figure showed the supply chain model of (Ho *et al.*, 2015) well presented the risk management approaches, level of supply chain risks and major factors of supply chain, this model could not be employed on port SCRM, because the port supply chain is quite wider than an organisation (Loh, *et al.*, 2017; Loh, & Thai, 2016; Acciaro, 2008). Therefore, port supply chain much wider than an organisation supply chain system because the port supply chain facilitate many organisation supply chain which is why port supply chain risk are global and directly affected the local authorise, government decision, organisation management structure and span of control (Thekdi, & Santos, 2016: Lewis, *et al.*, 2013; Bichou, 2004: Stevens, & Vis, 2016; Yu, *et al.*, 2015; Tummala, & Schoenherr, 2011; Manuj, *et al.*, 2008). Therefore, the scope port Supply Chain Management is much broader than an organisational, so a common private organisational level SCRM could not simply employ to a port. Therefore, a supply chain risk chain management framework which is introduced by (Ho, *et al.*, 2015) is not enough to

cover the global level supply chain risk of a port therefore, there is need to merge model a comprehensive global SCRM model. The research indicates four risks categories: Security, Operational, Demand and Supply Risks (Kilubi, 2016; Qu, *et al.*, 2014; Blos, *et al.*, 2009; Boyson, 2014; Shenoi, *et al.*, 2018). As per of the definition (Thun, *et al.*, 2011) of supply risk, supply risk is the division of outcomes belonged to adverse events in inbound supply which influence the capability of focal firm to fulfil demand of customers (either quality or quantity demand) within projected time period and cost or causes risks of customers regarding safety or life threats (Lavastre, *et al.*, 2014). Security risk is allocation of outcomes belonged, to adverse actions which make risky the information system, integrity, operation and human resources as well as can lead to outcomes like sabotage, crime, vandalism, proprietary knowledge, stolen data and freight breaches (Chaudhuri, *et al.*, 2014). Operations risk is the allocation of outcomes associated with adverse events within the business which influence the internal capability of firm to produce services and goods, production timeline and production quality as well as profitability (DuHadway, *et al.*, 2018; Keilhacker, & Minner, 2017). Demand risk is belonged to divisions of outcomes as associated with adverse action in the outbound flow which influence the likings of consumers to place orders with focal business as well as may create change in assortment or volume desired by clients (Norrman, & Jansson, 2004; Ahmed, & Huma, 2018; Kilubi, & Rogers, 2018; Trkman, *et al.*, 2016).

There is another classification which is available which is very popular and presented by (Ghoshal, 1987) about risks cited in (Trkman, *et al.*, 2016). This classification categorises risk into 4 categories: Resource Risks belonged to unexpected differenced is needed resources in foreign markets; Policy Risks related with unanticipated actions of local's governments; macroeconomic risks belonged to huge economic variations in prices, Exchange Rates, Interest rates and Wage Rates and Competitive Risks related to uncertainty of competitive actions in foreign markets (Trkman, *et al.*, 2016; Rotaru, *et al.*, 2014; Kırılmaz, & Erol, 2017). The risk activities most prominent to global supply chain managers were fluctuation in oil prices, opportunism & reliance, culture, ownership of tools or inventory, survival, business disruption, safety, quality, forecasts, variation in transit time, currency and risks impacting clients and suppliers (Song, & Zhuang, 2017; Bak, 2018; Zepeda, *et al.*, 2016 Khan, *et al.*, 2014). Very interesting point from the research was that dissimilar risk actions in global supply chain are interconnected to each other in critical patterns with one risk leading to other or affecting the results of other risks. No doubt, such connected risks are also present in local supply chains, but their uncertainty and effect are making progress in global supply chain too (Baryannis, *et al.*, 2018). Moreover, Manuj, & Mentzer, 2008) highlights such interactions between risk events

belonged to forecasting, cycle time and transit time because there is the forecast error problem over a long lead time period as well as the expected or forecast issue increases rapidly as you expand the lead time, mean try to forecast something, for example trying to predict the weather tomorrow v/s upcoming month (Sodhi, *et al.*, 2012). This early discussion also indicates the critical issue of identifying optimal order quantities, inventory policy, safety stock level and production quantity that greatly influence profitability. There is a heavy stream of literature which involves numbers of models for efficient inventory management under different situation (Ho, *et al.*, 2015; Kumar, & Park, 2018; Giannakis, & Louis, 2011; Bak, 2018). This interrelation of risk is also discussed by another manager as: “prices are increasing; booking of ships is going to more complex. There are late of 2 or 3 weeks at port. That in turn is increasing safety stock as well as fuel surplus are increasing cost of transportation” (Schauer, *et al.*, 2018; Mokhtari, *et al.*, 2015; Manuj, & Mentzer, 2008). Relationship among various risks with examples is highlighted in figure belw. Demand, operational and supply risks influence each other and are entrenched with respect to other risks (Manuj, & Mentzer, 2008). The risk events included under each heading are not comprehensive but just representative of each class. Other threats are beyond the direct control of any business in supply chain; exacerbate the effect of other risk activities as well as comprise currency variations, wage rate switch and events that include the safety of supply chain (Manuj, & Mentzer, 2008). It is also significant to note that a result or consequence for one business in supply chain can be risk event for other business. For instance, a supplier going out of business is a result for the supplier as well as risk event for client business (Manuj, & Mentzer, 2008).

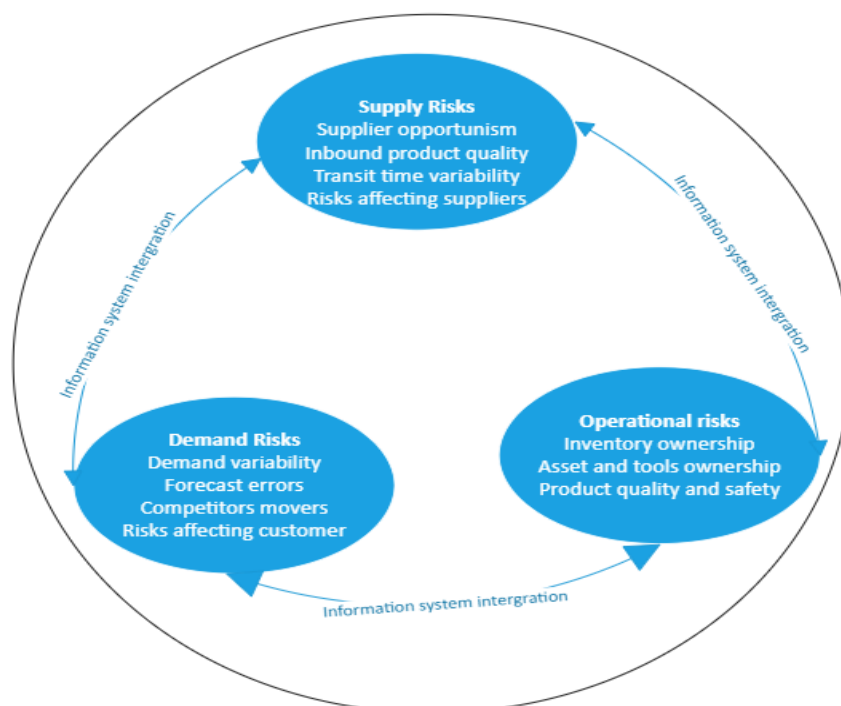


Figure 5.10 Supply Chain Risk Management Model (Manuj, & Mentzer, 2008)

This model of global supply chain, regarding risk handling indications created on the basis of interviews. The above model of global SCRM strategies as shows the major part type of supply chain risk and the importance of integration these types. Moreover, (Manuj, & Mentzer, 2008) suggest that there three factors influence to select any strategy regarding risk management; supply chain environment, supply chain flexibility and temporal focus. The relation between strategy and antecedents are restrained by team composition. The selected strategy influences the risk management results and 2 factors included degree of inter organisational learning which is Highly related to organisational culture and supply chain complexity, but this model doesn't include the level of Supply Chain Management and it is also not include the risk management approaches which is included by (Ho, *et al.*, 2015). Additionally, (Ho, *et al.*, 2015) types of risk which included technology, finance and transportation therefore, this research is using a mix of both SCRM models as created in figure below.

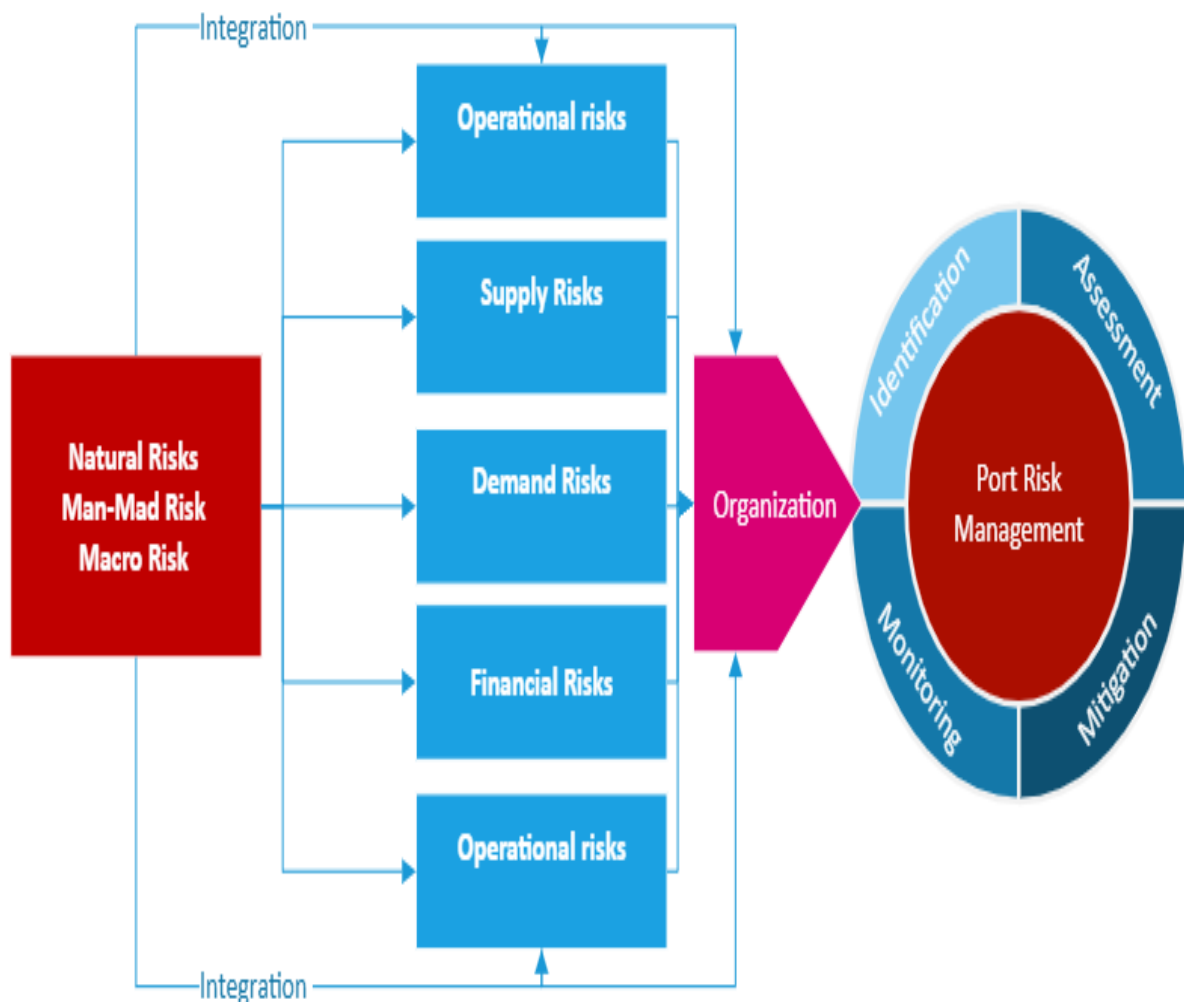


Figure 5.11 Comprehensive Port Supply Chain

Source: (Emergence of Ho, *et al.*, 2015 and Manuj, & Mentzer, 2008 supply chain risk management model).

It is important to first identify the similarities between organisation culture and national culture while, determining the relationship between the two. Moreover, organisation culture and national culture are established differently. It is believed that shared values represent the core of national cultures, but shared perceptions represent the daily practices in organisation. In other words, the focus with respect to these two constructs is found in different levels of cultural system whereby practices comprise the outer part of the cultural system and values constitute the inner part of the system. With the difference in national culture there is found a difference in the management of organisations.

There are also differences found in styles of management and the level of development taking place in the organisation with the difference in national culture. There are nine critical dimensions which are being identified such as future orientation, performance orientation, avoiding uncertainty, assertiveness, collectivism, power distance, gender differentiation, family collectivism, and humane orientation. They are different aspects of the country's culture which differentiate one society from the other and cast managerial effects. It is also important to note that five dimensions which are highlighted in GLOBE are regarded as akin to the ones enunciated in Hofstede model. It also discussed that.

There are nine critical dimensions which are being identified such as future orientation, performance orientation, avoiding uncertainty, assertiveness, collectivism, power distance, gender differentiation, family collectivism, and humane orientation. There are different aspects of the country's culture, which differentiate one society from the other and cast managerial effects. It is also important to note that five dimensions which are highlighted in GLOBE are regarded as akin to the ones enunciated in Hofstede model. The major national cultural included some factors, like political Characteristics represents the selection and dismissal of leaders and the manner of execution of their power. Leaders represent highly influential role model for other people by exercising power. Moreover, legal component: this regulates the affairs among people, the way they are related with each other, and the way businesses are carried out. Socio-cultural background represents the beliefs, values, religion, myths, attitudes, and relationship with the general environment, among other cultural elements.

Country's national history point may also involve other countries as it is claimed by Hofstede (2001) that organisation culture is associated with the practices of the organisation whereas national culture is related to the existing social values instead of practices. Values represent the general preference or internal norms whereas practices are of external nature. As it has been

discussed that national culture has direct impact on the organisational culture, but national culture also impacts the risk taking of a national.

After, exploring the national culture impact on risk taking the researcher would be in position to correlate the national culture impact on organisation culture and structure that impact on organisational strategies as shown in figure 4.4. It also been developed that national culture also impact on the risk-taking decision of a nation that build relation between organisational culture and risk management as figure 4.7. After that a comprehensive SCRM model has been developed on the base of 4.9 &4.10. Therefore, the final research framework is based on the selected organisational culture theory (Cultural Web), national culture (Hofstede, national cultural theory) and two major supply chain risk manager model of figure 5-12.

The figure hows that the organizitona culture is based on the national culture of a counry. Morevoer, the organizaiotnal culture also related to the operaiotnal risks, supply chain risk, demain risk and financial risks because it has been also reviewd that natiaonl cultural values believed are directly linked with the unvertainty avoidene, individualism, masculinity and power distance. Addiitoinay, these national cultural characterstics are foundation of the organizaitonal culture that further linked with risk idenfication, monitory, mitigation and asseemsent of the supply chain risk in public sector organizations. The theoretical framewok base on the risk management theories, national cutlurla theory and organizational culturel theories.

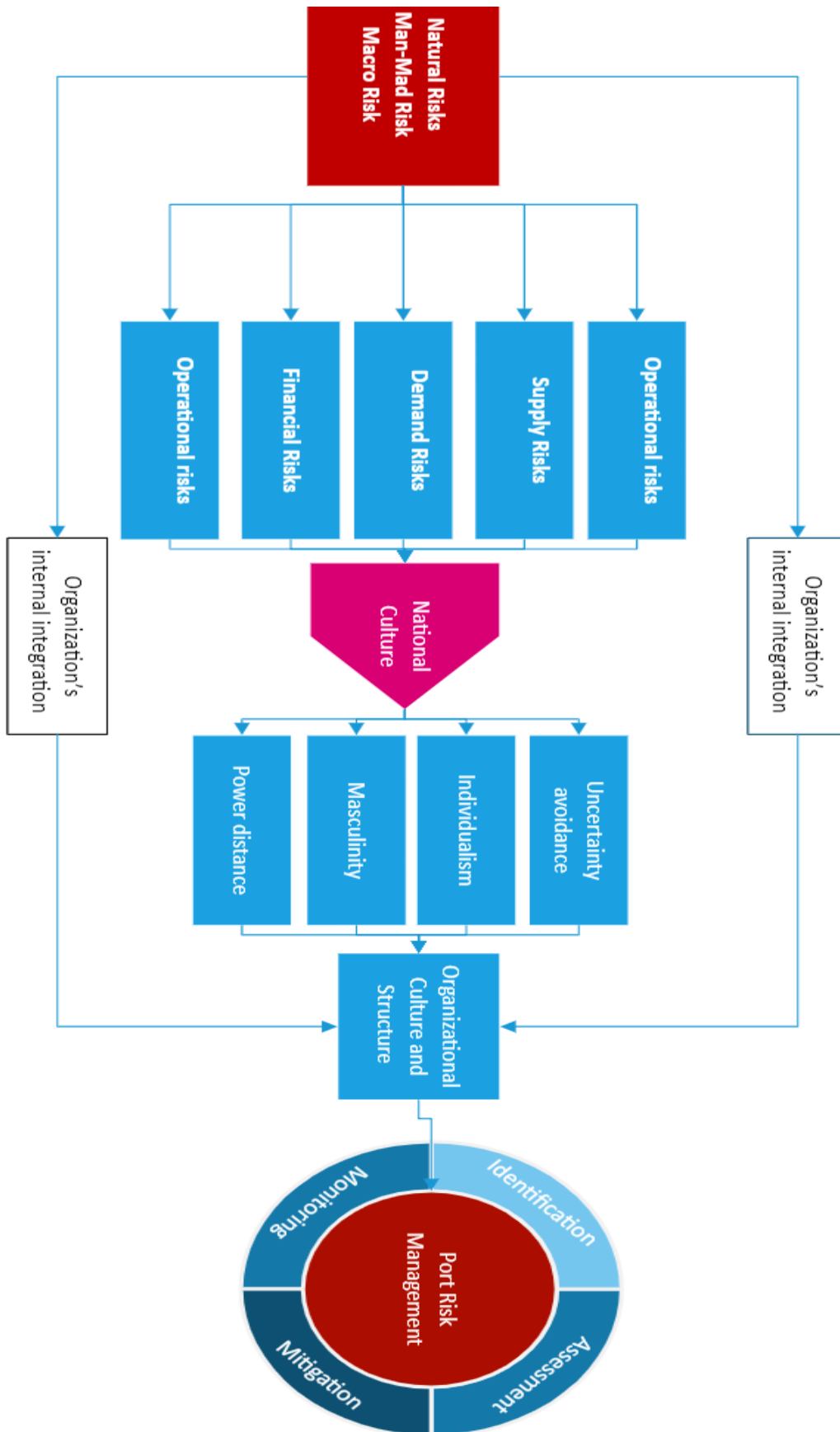


Figure 5.12 Conceptual Framework

## Chapter 6 : RESEARCH METHODOLOGY

The research philosophy which is adopted by the researcher represents significant assumptions about the manner, whereby the researcher views the world. These assumptions support the research methods and strategy (Donley, 2012) therefore it makes clear to take the researcher philosophical position before doing toward the selection appropriate, because philosophical position direct toward specific research methodology (Howitt, & Cramer, 2017). Walliman, (2018) observed that management and business researchers must be aware of the philosophical commitments which they make by virtue of their choice about research strategy as this creates a prominent impact not only on what is understood by the researcher but also on what he is investigating (McNeill, & Chapman, 2005).

### 6.1 Research Philosophical

Much of the prominent debate among researchers and philosophers is with respect to epistemology and ontology (Saunders, *et al.*, 2016). Ontology represents the nature of existence and reality. Epistemology represents the theory of knowledge and enables the researchers to realise the best manner of inquiring about the nature of existence. It is also useful at this point to note that social and natural scientists deduce from epistemological and ontological assumptions when they develop their research methodology for the purpose of the research (Guthrie, 2010). Moreover, there is also confusion with respect to difference between the terms themselves i.e. confusion between ontology and epistemology (Smith, 2010). In this section, it will be seen that how these terms are distinct from each other

Table 6.1 Summarises the key points

Ontology	Philosophical assumption about the nature of reality
Epistemology	"A general set of assumption about ways of inquiring into the nature of the word".
Methodology	"A combination of techniques used to inquire into a specific situation".
Methods and techniques	"Individual techniques for data collection, analysis etc".

Source : Easterby-Smith et al., 2015, p.47)



## **6.2 Axiology:**

(Heron, 1996) cited (Saunders, *et al.*, 2016) observed that values serve as the guiding reason behind the human action, also observed that axiological skills are demonstrated by the researchers, when they are able to articulate their values as the source of arriving at conclusion. Throughout the research process the researcher is demonstrating his values only (Hammond, & Wellington, 2013). The relevance of values is also of high significance in the selection of the research topic. Choice of one topic instead of another show that researcher believes that the topic chosen by him carries more significance than the other topic (Gunn, & Faire, 2016). The topic chosen by the researcher also reflects his values and so does his choice of technique to collect data (Martin, & Bridgmon, 2012). As in order to conduct the study for this study Al khums port and Tripoli port. These places supreme importance on collection of data through interview process suggests that the researcher attaches importance to one on one interaction with their own culture people to collect data from them because the organisation cultural strongly influenced by the national culture (Christopher and Holweg, 2011). A prominent idea which comes from discussion of axiology from (Heron, 1996) cited in (Saunders *et al.*, (2016) is the probability of writing statement about personal values with respect to the topic chosen for research. The to develop a strategic framework and techniques which could assist businesses in Arab and Western counties to understand how organisational culture can be employed effectively, and so enhance performance but there is no way to important any port supply chain manager model to apply in select port because the reality organisation culture is highly embedder by the local organisation culture and national culture. So, personal researcher believes that there is need to explore different theories to critical analysis with local professional knowledge to develop an effective supply chain framework.

## **6.3 Ontology: From Realism to Nominalism:**

Ontology represents the starting point for many debates between philosophers. Although there exist strong parallels between debaters belonging to social science and natural science but there are also strong differences (Ember, & Ember, 2009). Scientific community has been discussing the issues pertinent to methodology from long. The philosophers belonging to natural science have been debating about relativism and realism (Pickering, 2008). There are many sides of realism. A long-standing view has been that world exists externally and progress can be made through observations which are directly related to the investigated phenomenon (Saunders, *et al.*, 2009). Nominalism takes a step further than suggesting the names and labels we attach to events and experiences (Teater, *et al.*, 2017). (Cooper & Burrell, 1988) cited in (Bernard, 2011)

observed that social life is indeterminate and paradoxical and argued that social reality is constructed by people through discourse and language. From this aspect, it can be stated that there is no single version of truth. It is interesting to realise how people construct truth differently. Therefore, the idea of social class is usually utilized as explanation of how some people succeed more often than others (Punch, 2009). However, internal realism also accepts that once scientific laws are being discovered they are independent of more observation. The position in relation to relativism takes a step further to suggest that scientific laws cannot simply be discovered but that they are being created (Matthews, & Ross, 2010). As People possess different views and their potential for gaining acceptance from others usually rely on their previous reputation and status. Therefore, the truth underlying a particular theory or idea is reached by virtue of agreement and discussion between protagonists (Hesse-Biber, 2014). (Knorr-Cetina, 1983) pointed out that the acceptance of particular theory and the closure of scientific debate can be highly influenced by the business politics and commercial resources. As the liberin port is highly influence by the local politics and commercial resource those available to port. There are various types of risks that exist in supply chain and these include delays, disruptions, failure to forecast, breakdown, inventory related issues and other issues (Chopra & Sodhi, 2004). Other scholars usually see risk in supply chain that are related to operations, strategy, customer relations, supply, competition, asset impairment, financial markets and reputation (Harland, et al. 2003; Chopra & Sodhi, 2004).

Therefore, the relativist ontology is taken by the researcher because Bradford, & Cullen, (2012) from relativist ontology it is recognised that racial discrimination and social class are experienced and defined differently by different people. This also depends majorly on the races and classes they belong to and the countries they are in. Therefore, reality is not singular in nature which can somehow be discovered. As the liberin port is highly influence by the local politics and commercial resource those available to port. There are various types of risks that exist in supply chain and these include delays, disruptions, failure to forecast, breakdown, inventory related issues and other issues (Chopra & Sodhi, 2004). So, it would easy for the researcher to find the risks attached with supply chain at Libyan port. Different supply chains have different risks which depends on their design (Trkman & McCormack, 2009). The nature of the risk is different from one situation to another (Elferjani, 2015). This study takes into account the risk management in supply chain of a Libyan port from operational as well as strategic aspect. However, there exist many views on the matter. It is assumed by the relativists that various observers possess distinct point of views as Collins (1983) argued that what is regarded as truth can be different from one place to another which is why relativism would be

the best position for research. Because, Lavastre (et al. 2012) observed that there are a number of techniques which can be utilized for reducing the risk in supply chain including the rewards scheme, centralisation of decision making, establishing emergency situations, external safety stocks that are co-owned by partners, and safety stocks. Having regard to this model the different social, cultural and regulatory nature of Libya would influence the risk management in relation to supply chain.

#### 6.4 Epistemology:

Epistemology is concerned with the acceptable knowledge in study. As mentioned above that epistemology represents the study of nature of knowledge and the manners of enquiring into social and physical worlds. It represents the study in relation to various theories of knowledge i.e. what we know, how we know, etc. (Easterby-Smith *et al.*, 2015). It is a ground for long debate among social scientists which focused on merits of two distinct views of how the research should be conducted: social constructionism and positivism. These positions have been taken to the extent of stereotype (Bode, & Arthur, 2014). Although a comprehensive list of philosophical assumptions can be drawn including also the methodological implications related with such positions, but there is no single philosopher who can subscribe to all sides of a view (Coolican, 2014)

Table 6.2 Comprehensive list of philosophical assumptions

Assumptions	Positivism	Rationale of Social constructionism
<b>Nature of Reality</b>	Objective, Tangible, Single	Socially constructed, multiple  There are different social and cultural reason behind the risk management strategies of ports.
<b>Goal of Research</b>	Explanation, Strong Prediction	Understanding, weak prediction  Yes, there are week prediction of organisational cultural impact on SCRM of ports in Libya and there is lack of literature reviews on this topic and it is also supported by theories weakly.
<b>Focus of Interest</b>	What is general, average and representative	What is specific, unique, and deviant  Yes, this research is specifically exploring the organisational culture impact on SCRM of ports in

		Libya. The Libyan national culture and organisational culture are quite different than other countries therefore, this study is specific on organisational culture impact on SCRM of Ports in Libya.
<b>Knowledge Generated</b>	Laws  Absolute (time, context, and value free)	Meanings  Relative (time, context, culture, value bound)  Yes, organisational culture is constructed in local Libyan context and it is also bonded by local values, retiral and routines.
<b>Subject/Researcher Relationship</b>	Rigid separation	Interactive, cooperative, participative  Yes, the organisational culture is interactive and participative perspectives in SCRM of ports.
<b>Desired Information</b>	How many people think and do a specific thing, or have a specific problem	What some people think and do, what kind of problems they are confronted with, and how they deal with them  Yes, this research will explore why some people use and why they believe that the use of social media helpful or harmful for employees' productivity?
<b>Source:</b> (Crowther, & Lancaster, 2012; Cohen, et al., 2011; Brennen, 2013)		

#### 6.4.1 Positivism:

The main idea underlying positivism is that there is an external existence of the world. Further, it also believes that objective measurement of properties can be taken instead of subjective measurements. In positivism, there is no space for intuition and sensation. The stance of a positivist is that of a natural scientist (Crowther, & Lancaster, 2012). The positivist researcher works with respect to an observable social reality and the conclusion of the research can be principle akin to that of natural and physical scientists (Remenyi, *et al.* 1998 cited in Cohen, *et al.*, 2011). Credible data can be collected by observing the phenomena. A research strategy can be developed for collecting the data which can be used for developing hypotheses. Such

hypotheses will be confirmed and tested partly or wholly or may also be refuted which can lead towards the development of a theory. Such theory can later be tested in future researches (Brennen, 2013). This view was first encapsulated by the nineteenth century French philosopher (Comte, 1853) cited in (Jones, & Forshaw, 2012). (Comte, 1853) stated that good intellects repeat, and that real knowledge is based on facts. There are two assumptions underlying this statement. First is the ontological statement which stipulates that reality is objective and external in nature (Tracy, 2013). Which is reject by the researcher ontological position because as research is taking relativism ontological position which believe that reality is no single in nature. Therefore, this is the first reason of the rejection of positivism research philosophy. Second is the epistemological assumption which stipulates that knowledge is only of importance if it exists externally and that it can be empirically verified (Frost, 2011). It is not just related with consideration of method of inquiry. It is also related with whether the judgment resides in relation to evidence (Cohen, *et al.*, 2007). This research aims to explore the organisation cultural issues related to the supply chain at Libyan ports and these issues and the risk related to the organisation, which is the second reason for the rejection of positivism research philosophical position for this research.

#### **6.4.2 Social Constructionism:**

In the last half-century philosophers developed a new paradigm. This was largely in regard to limited success which is achieved by the application of social sciences and positivism principles (Matthews, & Ross, 2010). This generates from the view that reality may not necessarily be exterior and objective in nature, it can be constructed socially as well. These are the people, who give meaning to reality through their interaction (VanderStoep, & Johnson, 2008). As the researcher want to explore the supply chain and organisation cultural related issue those attach with organisation culture and these issues are exploring through people experiencing those working on the port. (Bowling, 2009) indicated that the idea of social constructionism as developed by philosophers such as (Watzlawick, 1984, Berger & Luckman, 1966 and Shoter, 1993) focused on the ways whereby, people make sense of the world particularly by sharing their experiences with each other through linguistic means. Therefore, this philosophical position will allow to explore the Libyan port supply chain issues and risk those attached with their organisation culture (see table above for justification of social constructionism epistemological position for this research).

Firstly, it represents the idea that these are the people who determine the various aspects of social reality instead of external and objective elements. Therefore, the task of social scientist

is not only the gathering of facts and measurement of frequency taking place in behavioural patterns, but it also involves the appreciation of various meanings and constructions which people place on experiences (Rugg, & Petre, 2007). The focus is on what is thought and felt by people collectively and individually and that attention need be paid to the manner they communicate with each other whether in a verbal or non-verbal manner (Adams, *et al.*, 2014). A number of techniques have been outlined by (Lavastre, *et al.* 2012) for reducing the risk in supply chain which involves the rewards scheme, establishing emergency situations, centralisation of decision-making process, external safety stock with partners and safety stocks. Having regard to this model different social, cultural and regulatory nature of Libya could be influential on the management process of supply chain risk. The DNA (the dynamic essence) of organisation which designs the supply chain should be responsive to disruption efficiently than in other organisations. (Sheffi, 2005) observed that the DNA of an organisation is the code of values and instructions to run efficiently and conduct the procedures of the organisation in adaptive and dynamic manner. When such processes are utilized for enhancing the culture of organisation then its process efficiency also enhances particularly when such processes are facing unusual risks and disruptions. How organisations deal with such risks is dependent on the standard of basic factors which are utilized by the organisation for building its culture. So, if the risk is highly attached with organisation value then social constructionism is better position for this research that would make easy to explore this topic which is highly attached with values. This shows that the methods involved in the social constructionist research are totally different from those involved in positivist research (Gliner, *et al.*, 2009). There are various risks involved in supply chain and these involve system breakdown, delays, disruptions, inventory related issues, failure to forecast and other problems (Chopra & Sodhi, 2004) and these all risk are highly attached with organisation policies and culture (Trkman & McCormack, 2009). Other scholars consider the risks involved in supply chain which are related to operations, strategy, customer relations, supply, competition, asset impairment, financial markets and reputation (Chopra & Sodhi, 2004; Harland, *et al.* 2003). There are different risks involved in different supply chains depending on the design of the supply chain (Trkman & McCormack, 2009). The risk can be of different nature in one instance and can be of different nature in the other instance. Therefore, the risk elements in the Libyan port sector may be of different nature as discussed above (Elferjani, 2015). Therefore, the current study explores the risk management in relation to supply chain at Libyan ports from operational, as well as strategic aspects. So, the social constructionism is a better position to explore the issue from port workers' points of view.

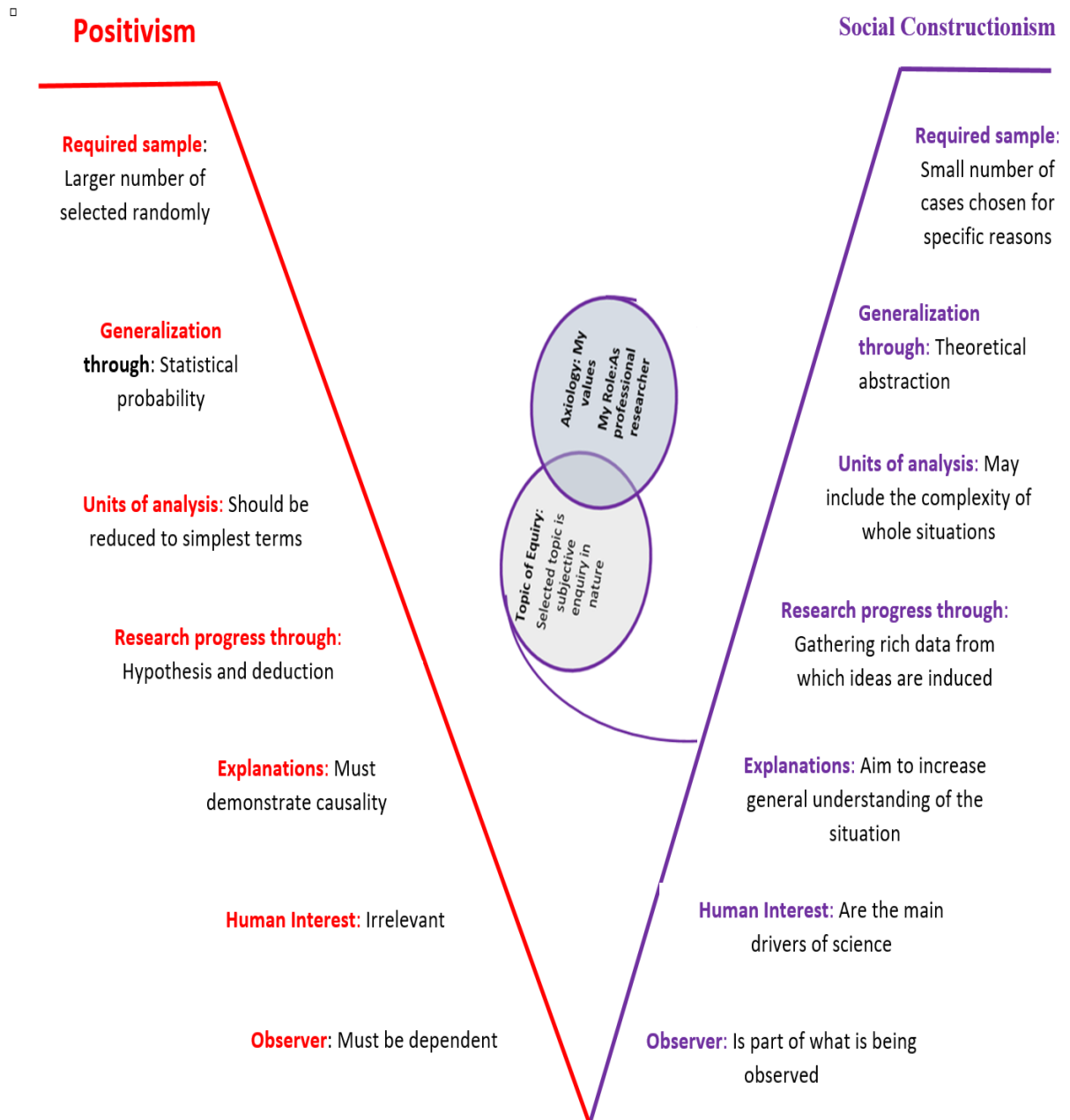


Figure 6.1 Positivism versus Social Constructionism (Naeem & Khan, 2019).

Margolis, & Pauwels, (2011) stated that the social constructionism philosophy is based on the subjectivism ontological position, while the positivism is based on the objectivism ontology position. Additionally, (Brewerton, & Millward, 2001) believe that the selection of subjectivism versus objectivism direct towards the selection of most suitable research methodology which best match with philosophical position. Therefore, the discussion is going to consider the subjectivism versus objectivism debate to move towards the research methodology.

### **6.4.3 Subjectivism and Objectivism:**

The viewpoint of subjectivist described the philosophies which are produced from the consequent and perceptions of social performers (Daymon, *et al.*, 2002). Moreover, it is a constant progress in that via procedure of social interaction these philosophies are in continual situation of review. As per thinking of (Remenyi *et al.*, 1998:35) cited in (Davies, & Mosdell, 2006), who confirmed need to study that the particulars of states to understand the reality or may be reality executing behind the studies. This is commonly linked with the social constructionism or term constructionism. Interpretive theory is followed by this which is very essential to explain the subjective purpose and motivate the acts of social performers in order to make them able to understand the activities (Saunders, *et al.*, 2009). However, social constructionism reality viewpoint is constructed socially (Matsumoto, *et al.*, 2011). The above discussion clearly mentioned the rationale of the selection of the social constructionism philosophical position for this so now it's very clear that subjectivism is same as social constructionism which is why subjectivism ontological position is taken for this research. The subjectivists every time conscious to stress the unique ideas about humans also interact with both natural and social sciences (Howitt, & Cramer, 2011).

On the other hand, objectivists are conscious to enforce that liking of humans have no matter; knowledge must be topic to impartial public confirmation & critical thinking and must be same to natural science studies (May, 2011). Due to the difference of priorities of both researchers and common complications in philosopher's communication, it is not amazing that complaints are continuously arising. Conflicts are also because of the different positions that have grown among subjectivists, so it builds more complex to examine the actual position of person is defender or criticiser (Saunders, *et al.*, 2009). The study aims to disclose hurdles met in management of supply risk management. There is strong interaction between basic practices or traditional values of organisation regarding nature of Supply Chain Management and hurdles in acceptance of effective risk policies (Khan and Zsidism, 2012; Wu and Olson, 2008). The interrogation is also judged in this research: the current study is predictable to discover new elements which rotate around our culture of Libya as issues linked with supply chain risk, till the variances impacts on the concern of supply chain according to different cultures. Many research theories focus on identifying the relation between internal organisation performance and organisational culture. At the same time, authors have explored the interaction either positive or negative (Barringe and Harrison, 2000; Mello and Stank, 2005). This research also aims to explore the relation between organisational SCRM and organisational culture. It means the effectiveness and organisation culture cannot be separated from the organisation culture



indeed the organisation culture is based on the people those are work inside the organisation which is objectivism ontological position is being rejected for this research because objectivists are conscious to enforce that liking of humans have no matter; knowledge must be topic to impartial public confirmation & critical thinking and must be same to natural science studies (May, 2011).

#### **6.4.4 Objectivist Perspective versus Practice-Based Perspective on Knowledge:**

An important component of objectivist theory is knowledge which is dependent with public. Objectivists considered that knowledge examine as textual type and that language fulfil this purpose (Hislop, 2009, p, 19). This also noticed by (McAdam and McCreedy, 2000) that “knowledge is truth”. May proves go against objectivist concepts, because if laws and regulations are enough to deal with social phenomena then question is why laws just for example, anti-discrimination laws, equally opportunities laws and labour wage laws are not sufficient to deal with organisation culture, to overcome supply chain risks and improve supply chain performance.

Moreover, (Blacker, 1995, page, 1023) explored that “knowledge is a thing that peoples have suggested for better knowing regarded to action they show”. Dawson (2000) described that beneficial knowledge is what which give some result. So, the existence of knowledge is not enough (for further detail, Appendix-6). (Dawson, 2000) also explained the idea of Karl-Erik, who latter defined that knowledge is generally “*capacity of act*”. On the other hand, (Dawson, 2000, p. 14) argued that implied knowledge remains inherent to public and only public has capacity to act efficiently. Humans have a power to possess the above defined capacity of act due to their knowledge. So, the better approach to achieve knowledge from the public experience is social constructionist because constructionism depends upon knowledge and this derived from capacity of act of an individual. The research theory which commonly adopted includes some assumptions about specific approaches. These assumptions made according to research methodology and work strategy (Thorpe and Cornelissen, 2003). Clarity in these theories gives affective results and enables the philosophers to use either inductive approach or deductive approach (Blaikie, 2007).

## 6.5 Exploratory purpose of study:

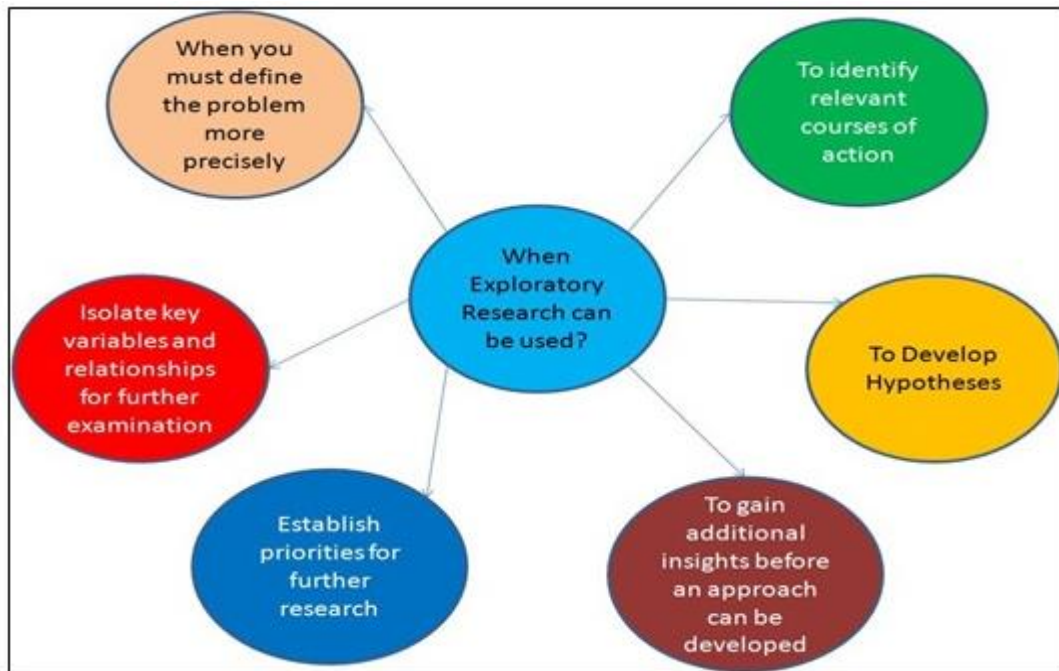


Figure 6.2 Characteristics of Exploratory Research (Probst, 2015)

The major contribution is to highlight, the content and nature of risks in supply chain in Libyan port sector encounter. The second contribution is in extending the existing studies in western context over new context in terms of strategies and operations to manage risk in supply chain. Furthermore, as a third contribution, is expected to offer guidance, expanding existing understanding of barriers encountered in adopting SCRM. Fourthly, this study will hopefully contribute to and stimulate studies over relationships between organisational culture and SCRM; such a contribution should be a strong theoretical base for further study this area in Arab and also in developing countries. Therefore, it's very clear that there is exploratory purpose of the study to explore the organisation cultural issue relate to the Libyan supply chain risks. In addition, this study will contribute also in respect of how to use critical realism philosophy and qualitative exploratory research enables to investigate the events, unique visions, list down inquiries and to analyse the whole process in an innovative way (Probst, 2015). The aim of study is to provide a framework that enables the structuring and managing of successful SCRM in the Libyan Port sectors. It is more helpful in those cases where the researcher wants to simplify his/her perception regarding the subject matter especially when he/she is not clear about the certainty of that matter (Gough, 2017). More likely, when much time is consumed in conducting exploratory investigation, it may appear with no considerable desired results and the researcher has to decide to switch on any other method of research (Gil, 2009).

Exploratory study can be done through by three methods:

- Literature review
- Interviewing ‘specialists’ for underlying topic (yes it will be done, and it will be discussed in following section)
- By carrying out target group interviews (Gil, 2009).

## 6.6 Inductive versus deductive approach:

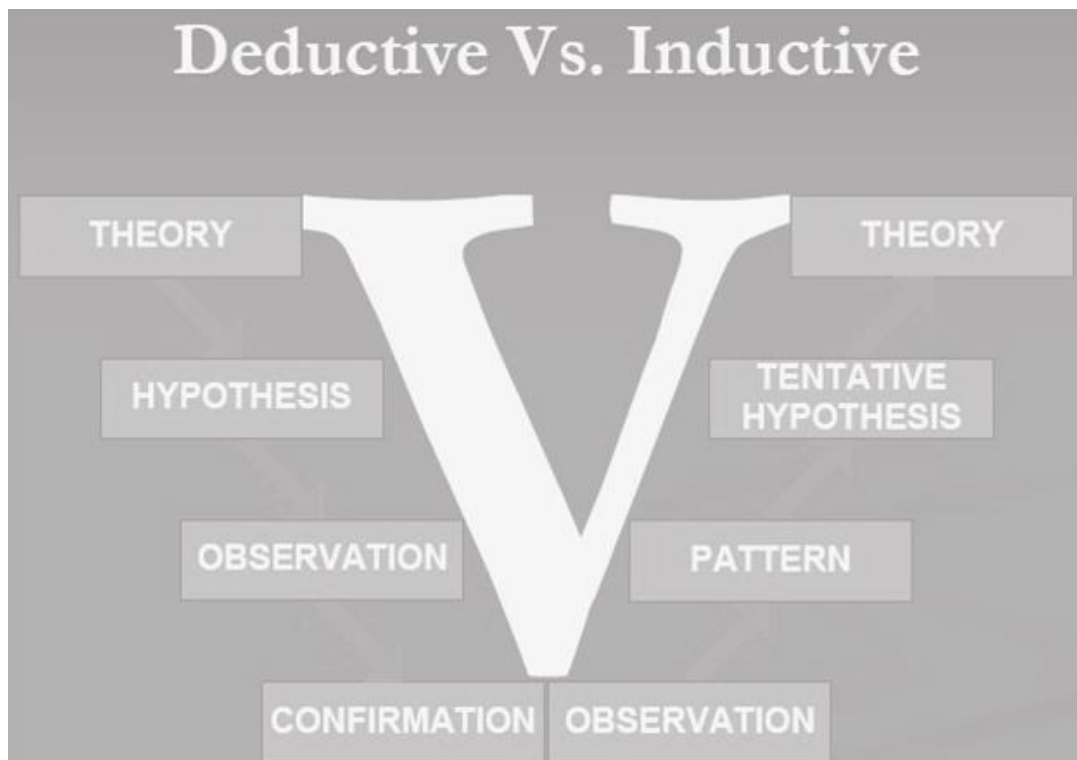


Figure 6.3 Inductive and deductive research methods

### 6.6.1 Deductive: Testing Theory:

(Blacker, 1995) claimed that deductive technique enforces on the dependency of researcher with subject to study. (Ruane, 2016) mentioned that deductive approach from the sense of scientific method where one aims to test the hypothesis to affirm the inspections. It is commonly the prominent approach used in natural science. This capable the researcher to identify the future strategy on the basis of test executed and its result (Esterby-Smith, *et. al.* 2015). Deduction approach is basically against practise base theory and professional context. (Bowling, 2009) claimed that knowledge is manifold faceted and complicated being both positioned and abstract explicit and implicit, individual and distributed, encoded and verbal, static and developed, mental and physical (see figure above).

Pragmatic based technique neglects the taxonomy-oriented approach with related to classification of knowledge into different kinds that are not depended to each other (Hislop, 2009). On the basis of this, I admire that it is not effective to follow just deductive approaches because this approach doesn't make able the philosopher to become part of the research and pursue the subjective knowing, so, the approach I am using for this research is subjective nature. Clearly, deductive technique is not suitable for this research... deductive research is suitable just for positivism philosophy (McAdam and McCreedy, 2000).

### **6.6.2 Inductive: Building Theory:**

Arranging the interviews with the workers of a company is also an approach to meet the subjective understanding (Corbin and Strauss, 2015). This makes able the philosopher to know the objective of the interviewees and consider the reality as it is necessary in the organisation for employee perspective (Esterby-Smith *et al*, 2015). The prior involvement is to show the context and nature of risk which can be rise in supply chain in Libya. The 2<sup>nd</sup> contribution is enhancing the existing research work in western perspective in terms of plans and strategies and activities to manage risk in this field. Moreover, this study defines the 3<sup>rd</sup> contribution which provides guidance, enhance past understandings about hurdles in accepting SCRM. 4<sup>th</sup> one contribution is to stimulate research over interaction between risk management and organisational culture: like strong theoretical base for next studies in Arab and other developing countries too. Inductive approach is very useful in examining the social phenomena and defining the needed factors that delay the phenomena (Esterby-Smith *et al*, 2008) i.e. if anyone need to describe the cause behind occurring of something then subjective understanding will make able him to take into account the views of those directly linked factors, he is reading. It will provide him a wide understanding (Collinson, 2002).

Due to my interest of exploring matter more, this is noticed that neither the social constructionists nor the scientific observers argue on the behalf of their logics on universal basis. So, in many cases, deductive approach is not sufficient so due to my interest of handle matter subjectively, it is decided that subjective approach is better for this kind of research work. Below figure below shown a summary of above discussion and also highlighted the relation of social constructivism theory and inductive approach. Facts identifies that both are interacted to one another because of similar factors but it is not fact that deductive approach may never use for positivism theory. It is fact that both inductive and deductive techniques can be utilized where required (Saunders et al, 2016).

## 6.7 Research Method:

Table 6.3 Qualitative and quantitative research methods

Qualitative Methods	Quantitative Methods	Author
<p>Methods include focus groups, in-depth interviews, and reviews of documents for types of themes</p> <p>Yes, semi structured interview being conducted with small number of participants</p>	<p>Surveys, observations, and reviews of records or documents for numeric information</p>	<p>Cohen, et al., (2017)</p>
<p>Primarily inductive process used to formulate theory or hypotheses</p> <p>Yes, inductive research approach is being employed to propose a framework/model</p>	<p>Primarily deductive process used to test pre-specified concepts, constructs, and hypotheses that make up a theory</p>	<p>Walliman, (2018).</p>
<p>More subjective: describes a problem or condition from the point of view of those experiencing it</p> <p>Yes, subjectivism ontological position is being taken for this research</p>	<p>More objective: provides observed effects (interpreted by researchers) of a program on a problem or condition</p>	<p>Saunders et al, (2009)</p>
<p>Text-based</p> <p>Yes, qualitative</p>	<p>Number-based</p>	<p>McNeill, &amp; Chapman, (2005)</p>
<p>More in-depth information on a few cases</p> <p>Yes, in depth enquiry will be conducted to explore the organisational culture impact on SCRM of ports in Libya.</p>	<p>Less in-depth but more breadth of information across a large number of cases</p>	<p>Tracy, (2013).</p>
<p>Unstructured or Semi-Structured response options</p> <p>Yes, Semi Structure unreview will be conducted</p>	<p>Fixed response options</p>	<p>Howitt, &amp; Cramer, (2017).</p>
<p>No statistical tests</p> <p>Yes, overall Qualitative</p>	<p>Statistical Tests are used for analysis</p>	
<p>Can be valid and reliable: largely depends on skill and rigor of the researcher</p>	<p>Can be valid and reliable: largely depends on the measurement device or instrument used</p>	<p>Quinlan, &amp; Zikmund, (2015).</p>
<p>Time expenditure lighter on the planning end and heavier during the analysis phase</p>	<p>Time expenditure heavier on the planning phase and lighter on the analysis phase</p>	<p>Cohen, et al., (2017)</p>
<p>Less generalisable</p> <p>Yes, the overall conclude the best practices develop the relation between organisational culture impacts on SCRM of ports in Libya.</p>	<p>More generalisable</p>	<p>McNeill, &amp; Chapman, (2005)</p>

One type of distinguishing the various types of data with subject to collecting and analysing is to conduct differentiating on the base of number (see table above) (Saunders *et al*, 2009). Non-numeral data is referred as qualitative data whereas numeral figures referred as quantitative data. For qualitative data purpose, the researcher can gather data from abroad and wide sources and data may not be in figures and numbers (Rugg, & Petre, 2007). Your selection of philosophical approach is an expression of your values, as is your selection of data gathering tools (Saunders *et al*, 2009) which is why above all figure developed to creation relation between my philosophical position, my own value and research methodology. My own choice as well as research values directed toward inductive approach and social constructivism. Furthermore, for subjective purpose and understanding, inductive approach is very suitable to gather qualitative data examination. If our purpose is to understand objective, for this purpose, quantitative approach is very helpful because it makes possible to gather statistical and numeral data to test hypothesis and questions (Adams, et al, 2014). As a result, for current research, qualitative data is very useful. This type of data makes easy to argue the subjective knowing for this specific situation. On the other hand, quantitative data require measurements which then conceive subjective understanding purpose (Saunders, *et al.*, 2012). The selection of the method is highly related with overall objectives and purpose of the research (Macbeth, 2001).

### **6.7.1 Mixed Method:**

An evolving tendency towards integrating both qualitative and quantitative methods has been explored by many scholars. Such tendency has raised up the combined methodology adopted by different researchers to gather and evaluate data (Matthews, & Ross, 2010). Followers of these combined methodologies support them by stating that these types of methods allow to conduct a much reliable research work. This research is going to focus subjectively on the state of the affairs associated with the effects of monetary incentives on employees' drive to perform effectively, hence, blend of methods is inappropriate for our work. (Pertaining to Frost, 2011) statement, one should acknowledge the fact that no universal principles are there to identify that whether the qualitative or quantitative approach is suitable for a particular research work. Moreover, selecting the more appropriate research methods depends upon the research goals and subject matter. Considering this, subjective awareness would be better that would lead to exact qualitative approach instead of following combination approach. For qualitative data gathering, the un-structured type of interviews will be conducted for underlying research. Such interviews encourage interactive conversation that is convenient for the interviewer as well as for the interviewee (VanderStoep, & Johnson, 2008).

## **6.8 Analysis:**

As a substitute of the deductive method, the data gathering is accomplished followed by analysis of subjects or hurdles, which are selected to be focussed upon further (Gough, 2017). According to (Truman, 2012) such type of inductive method is not a better option to be adopted and may create failure for new researchers. Likewise, in cases whereby the researcher just gather data and doesn't investigate to identify the associated aspects which are going to evolve from these data during further research work (Matsumoto, *et al.*, 2011). As the researcher, will start data gathering by employing this strategy that is linked with investigative objective at the beginning, so author will have assessed the data just after its assimilation and then establish a theoretical agenda to carry on further research activities. Constant Comparative Method (CCM) and Theoretical Sampling in terms of Qualitative Analysis for establishing new philosophies on the basis of data, CCM was introduced that will be employed causative approach to identify underlying factors in huge members' groups. Major implement in qualitative analysis is relative study that is executed to realise structures, categorise them by subject, searching destructive proof etc (Howitt, & Cramer, 2011). Per say, the primary target of qualitative analysis is to recognize theoretical resemblances or discrepancies and to determine forms, categories, arrangements, procedures, tendencies or aggregates. While conducting case studies, data assessment comprises observing, classifying, listing, checking or else reintegrating proof to obtain experimental results (May, 2011).

## **6.9 Research strategy:**

### **6.9.1 Case Study:**

According to (Punch, 2009), case study means a research method that employs an experimental exploration of a specific existing event in terms of its actual grounds by the help of several proofs. Likewise, (Bode, & Arthur, 2014) emphasised the significance of this matter by stating that case study stands for a research method where both the event under consideration and its background from which it belongs to, cannot be simply separated. Contrarily, experimental research method which has been described before, the research through such method is conducted inside an extremely regulated environment (Coolican, 2014). Moreover, it is conflicting with survey method in which the research is also carried out in related environment, however in order to investigate and realise this environment, number of available changeable is restricted for data gathering. Reason behind selecting case study approach would be beneficial for a researcher who wants to deeply know the research background and the performed procedures (Crowther, & Lancaster, 2012). This approach enables the author to find

out the replies to queries like why, what and how. However, putting much emphasis on what and how. Therefore, case study method will be employed to carry out descriptive and investigative research to explore the organisation culture related issue to improve supply chain at Libyan port. The case study method will allow me to consume and triangulate more than one means of data.

**Triangulation** stands for implementation of dissimilar data gathering methods in a single research work to test reliability of the data as per the expectations of the researcher. For instance, Semi-Structured group interviews might be suitable option for data gathering instead of other methods like questionnaire (Cohen, *et al.*, 2011). (Brennen, 2013) presented dissimilarities among four case study methods and categorize them into two categories:

- Single Case v. Multiple Case;
- Holistic Case v. Embedded Case.

In a case study method, multi cases can be investigated at once. This is done to find out that results produced by studying one case match with the results of other case that would in turn yield universal set of results (Jones, & Forshaw, 2012). In the research multi case study research strategy will be employed because (Cohen, *et al.*, 2011) claims that studying multi cases at once is the better option rather than studying just one case at a time, because in single case study method, the researcher has to provide solid reason behind its selection. Research methods as a strategy; such approach is new in the field of supply chain.

## **6.10 Data collection:**

The tools of qualitative data collection enable the researcher to understand any behaviour, attitude, signs, symptoms, and experiences which differ from one person to another and differ from one situation to another (Taylor, Bogdan, & DeVault, 2015; Ritchie, Lewis, Nicholls, & Ormston, 2013; Merriam, & Grenier, 2019). Further these also differ from public sector to private sector and also from one organisational culture to another (Aslam, *et al.*, 2018b; Muqadas *et al.*, 2017a; Muqadas *et al.*, 2017b; DeVault, 2015; Taylor, Bogdan, & DeVault, 2015). The methods of data collection and their selection in exploratory research depend entirely on the objective and purpose of study (Muqadas *et al.*, 2017a; Merriam, & Grenier, 2019). For example, the aim of current study is on exploring whether the organisational culture of LPs have any influence on the risk management of supply chain or not. The most common and familiar methods of collecting data in qualitative research comprise the focused group discussions, observations, and interviews (Aslam, *et al.*, 2018b; Drever, 1995; Kajornboon,



2005; Muqadas *et al.*, 2017a; Taylor, Bogdan, & DeVault, 2015). Among these methods researchers usually utilise unstructured or semi-structured methods when the aim of researcher is to collect response from a particular group of people that have useful information regarding selected which the researcher is studying (Ayres, 2008; Kajornboon, 2005; Opdenakker, 2006). Interviews enable the researcher to collect response from respondents who belong to the topic of study (Brinkmann, 2014; Drever, 1995; Opdenakker, 2006; Merriam, & Grenier, 2019). Compared to other qualitative data collection methods, the data collected from interviewing certain group of people yield data which is in the minds of the respondents (Brinkmann, 2014; Kajornboon, 2005; Young *et al.*, 2018). Among interview methods for qualitative research, semi-structured interviews are most commonly utilized especially when the information from literature is limited (Aslam, *et al.*, 2018b; Ayres, 2008; Brinkmann, 2014; Opdenakker, 2006). The Semi-Structured Interview enables the researcher to not only collect response from respondents but also request elaboration on their response (Aslam, *et al.*, 2018a; Drever, 1995; Kajornboon, 2005). This means that although there is a framework, but it is not enforced hard and fast solutions (Brinkmann, 2014; Taylor, Bogdan, & DeVault, 2015). Instead, the researcher seeks more response to collect maximum data from respondents on the subject. This makes the framework of semi-structured interviews flexible whereby both interviewer and interviewee are at ease with each other solutions (Aslam, *et al.*, 2018a; Ayres, 2008; Kajornboon, 2005; Brinkmann, 2014; Taylor, Bogdan, & DeVault, 2015).

### **6.10.1 Types of Interview:**

Data collection will be carried out either by extremely formal and organised, employing systematised questions equally designed for interviewees or respondents, or by casual and unorganised discussions. Other than that, intermediate situation exists. Generally, on the basis of degree of formality and construction, interviews are classified into three types (Bowling, 2009):

- Structured Interviews;
- Semi-Structured Interviews;
- Unstructured or ‘In-Depth Interviews’

**Unstructured Interviews** are not formal. These interviews involve detailed discussion about a specific subject. For this reason, we call these interview ‘in-depth interviews’ throughout current section and in other sections of this paper too. A predefined list of queries is not followed in such interviews, instead, the interviewer must have strong grip on the topic to be discussed (May, 2011) which is this unstructured interview are being reject for data collection

for this research. The respondent should be given liberty to express his/her views regarding happenings, attitudes and concepts associated with the subject matter, therefore these interviews are often called 'non-directive'. Another name for such interviews is informant interview, as the flow of these interviews depends upon the views of respondents. In other words, interviewing a respondent means an interview in which the interviewee's answers against inquiries of the interviewer, determine the flow of the interview (Saunders, *et al.*, 2007).

These dissimilar types intersect each other, however awareness regarding these types are useful to clear the general picture of the reality of research interviews (Adams, *et al.*, 2014). In Structured interviews, survey forms are employed that are designed on the basis of well-known and standardized or matching questions which are called interviewer-managed questions. The interviewee must look at the questions and then answer against given multiple choice options that is a usual practice (Gliner, *et al.*, 2009). During the commencement of interviews, the interviewer will be asked all questions very carefully without showing any hint of partiality. Since the purpose of structured interviews is to gather measurable data, therefore such interviews are also called quantitative research interviews. Relatively, Semi-structured and detailed or unstructured interviews are 'non-standardised' and are usually termed as 'Qualitative Research Interviews' (Margolis, & Pauwels, 2011). As per the researcher own social constructionism research philosophical position and as per the nature of the topic the structured interviews are rejected for this research.

**Semi-Structured Interviews** are based on a number of arguments and queries that are different for different interviews (Brewerton, & Millward, 2001). Questions will be asked on selective basis i.e interviewer can add or minus questions as per choice and to fulfil demands of the research subject to understand the social reality exist on the Libyan port that highly attached with the Supply Chain Management performance of the port. Because flow of asking questions depends upon the flow of discussion. So, more questions will be included to accomplish research goals as per the area under discussion.

Data is collected in such interviews through audio-recording or in the form of short notes. As discussed above the supply chain is highly connect with organisation culture of Libyan port therefore the in-depth data required to achieve research objectives which why the date will be collected from 32 responders. The face to face interviews being done with most of the participants but some participant belongs to Benghazi Port. Therefore, due the safety reason skype interview being with participant who belong the Benghazi Port.

In Semi-Structured Interviews the nature of questions can be stated to be open ended as respondents can answer these questions at ease since the aim of the researcher is to draw maximum data from respondents. The findings from such interviews are dependent on the setting, organisational culture, national culture, environment, gender, background, and situation in which interview is taking place (Taylor, Bogdan, & DeVault, 2015; Ritchie, Lewis, Nicholls, & Ormston, 2013; Merriam, & Grenier, 2019). This can differ from one culture to another, from one organisation to another or from one person to another (DeVault, 2015; Taylor, Bogdan, & DeVault, 2015). The data collected from Semi-Structured Interviews enable the researcher and reader to understand the problem, but they cannot devise conclusive or universal solutions on the basis of Semi-Structured Interviews and analyses (Fraenkel, Wallen, & Hyun, 2011; Taylor, Bogdan, & DeVault, 2015).

Since the main objective of the current research is to understand the problems and challenges associated with risk management of supply chain at Libyan airports, therefore, Semi-Structured interview provides the most useful method of collecting response in this regard which would clarify the problems and challenges. Several challenges have also come to limelight as a result of literature review on the topic yet due to dearth of literature on the topic it is believed that there are more challenges and problems which need be seen into. Semi-Structured Interviews enabled the researcher to explore more challenges and problems that are facing the supply chain with respect to risk management at LPs.

There are certain issues which the researcher can come across with respect to conducting Semi-Structured Interviews such as non-response or potential bias of the respondents in favour or against thing (Ayres, 2008; Brinkmann, 2014; Drever, 1995; Kajornboon, 2005; Opdenakker, 2006). However, the researcher aims to draw maximum response from available respondents and to be able to develop in-depth understanding about the problems and challenges facing the supply chain about risk management at LPs.

### **6.11 Population and sampling:**

It has been found that the infrastructure (Roads, Railway Tracks, Oil Production Machinery, Electricity and Internet Services) for LPs are mostly damaged/affected in northern cities as compared to western cities in Libya (Elferjani, 2015; Ghashat, 2012). For this study, Researcher selected those major/primary ports that have located near to northern cities for accurately determining how culture (i.e. national and organisational) influence the SCRM of LPs. The author of this study is particularly interested that how politically instability,

centralisation, power distance, uncertainty avoidance, inequalities, poor relationship with neighbour countries and international actors, violent conflict, and militia attacked influenced on main ports and these ports now required high amount of investment to develop a infrastructure in some cities of Libya. Tripoli and Benghazi are the largest cities that have maximum population and violent activities among various groups. As a result, main ports (i.e. Misurata, Khoms, Tripoli and Benghazi) and infrastructure (i.e. Roads, Railway Tracks, Electricity, Internet System etc) have partially or completely damaged and workers and their families on LPs are striving for basic needs such as food, cloth, and shelter in these cities (UNICEF 2018, Ghashat, & Cullinane, 2013; Elferjani, 2015; Ghashat, 2012). These selected main four ports such as Misurata, Khoms, Tripoli and Benghazi are famous for international trades, tourism, as well as oil exports among neighbour countries and international markets (Abouarghoub, *et al.*, 2017; Ghashat, 2012). These four ports are also widely used as hub routes among African countries therefore other activities such as migrants, human trafficking, drugs dealing, and weapons supplies for violent conflicts were extensively found through these main ports since 2011. Therefore, this study has selected the respondents from Misurata, Khoms, Tripoli and Benghazi by using personal and social connections.

According to a previous study, supervisor role is very useful when you selected interviews related the Supply Chain Management and performance on ports (Elferjani, 2015). Therefore, present study has also selected 32 supervisors from Misurata, Khoms, Tripoli, Benghazi ports because their experiences can highlight key problems and issues as well as what initiatives are required to improve the Supply Chain Management in LPs.

These selected supervisors can guide us what policies and steps must be taken for improving Supply Chain Management in the major ports that are faced massive damage during violent conflict. Data have been collected by selected eight supervisors from each port, so that researcher can find consensus for conceptual model and practical recommendations. These respondents are the main stakeholders because they are working from many years and their experiences and suggestions are very important to understand the national culture, organisational culture, and SCRM activities on major LPs.

This study is followed the assumptions of constructivism research paradigm and it is exploratory in nature because it is an effort to explore the point of view and experiences of supervisors who are facing working and facing challenges since Gaddafi regime. The study started to collect data from 32 participants based on snowball sampling technique, this was the number chosen by the researcher as saturation position was reached, this means that data should

be collected until there are fewer surprises in the data and no more patterns or themes are emerging from the research process. According to previous studies, thirty or more than thirty participants are appropriate number to draw meaningful results using qualitative data collection and analysis methods (Rayan *et al.* 2003; Javadi and Zarea, 2016). Based on the recommendations of previous studies, this study has collected the data from thirty-two interviewees. Researcher is started to collect data from those supervisors who are living permanently in Tripoli and Benghazi cities since violent conflict and political instability occurred. Snowball sampling is best choice for data collection in the present situation of Libya. Because it guided which supervisor has plenty of experience and more useful information regarding the proposed objectives of this study. Furthermore, researcher social connections in Libya are helpful to select right respondent as per proposed inclusion criteria.

### **6.12 Pilot Study:**

Research questions are designed by the researcher upon extensively reviewing the cross-disciplined constructs such as taking into account the SCRM at LPs, organisation culture and risk management by different ports in their supply chain. The researcher formulated the design, structure and order of questions upon reviewing the qualitative studies on the subject. Several researchers pointed out that the wording of a interview questions influences the validity and reliability (Creswell & Creswell, 2017; Foddy, 1994). It has also been argued by some researchers, that the wordings must particularly be clear in the Semi-Structured Interview to enhance the quality of the research as the respondent are better able to understand the interviews questions. (Foddy, 1994; Galletta, 2013; Creswell & Creswell, 2017).

(Majid *et al.* 2017) pointed out that a researcher can conduct a pilot study for measuring the effectiveness and efficiency of chosen methods. Moreover, other researchers have also highlighted that pilot study also enables the researcher to understand whether the questions designed by him is able to get the answer according to objectives of the research (Morse, et al. 2002; Van-Teijlingen & Hundley, 2002). (Thomas *et al.*, 2015) indicated that pilot study also enables the researcher to determine the reliability and validity of data collection methods. Generally, the first step in pilot study is to ask interview questions from few targeted respondents in the current study on LPs. The response of the target samples enables the researcher to evaluate the effectiveness of the structure of his questions (Thomas, et al. 2015; Blessing & Chakrabarti, 2009). Therefore, in the current research the researcher conducted pilot study as well to determine the validity and reliability of data collection instruments.

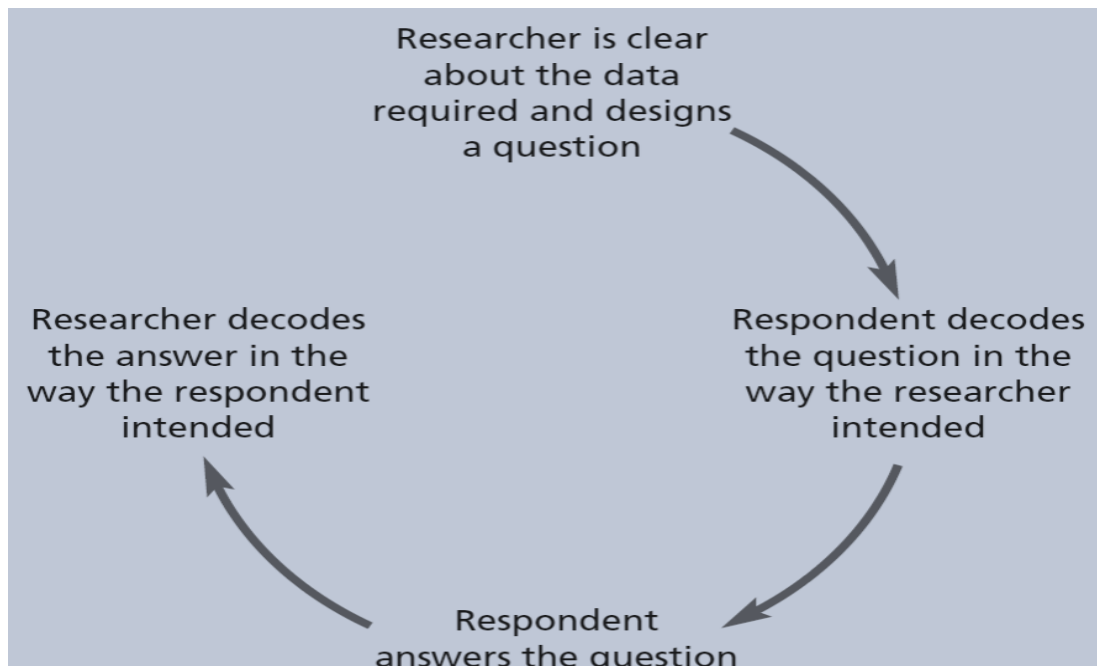


Figure 6.4 Piloting Study (Saunders et al., 2009)

It has also been observed that the Delphi technique can be utilised for analysing and discussing the interview questions with experts in relevant field, for designing the perfect interview questions and for collection of data. (Hsu & Sandford, 2010) observed that the communication process informs the researcher that what should be added in an interview questions and what should be eliminated for a successful Semi-Structured Interview. In this study the researcher did utilise a pilot study upon selecting five supervisors from Tripoli port of Libya. By discussing the respondents from the Libyan port, interview questions were discussed with them, as they are the supervisors at the port and could provide useful feedback on the quality of questions. The researcher modified the interview questions in the light of their feedback. This helped in enhancing the overall quality of the research. It is also pertinent to point out that interview questions were discussed with doctorate level students from Libya who currently pursuing doctorate level studies in the UK. Their feedback helped in understanding the overall quality of interview questions against the Libyan backdrop. These instructions were followed in the current study so that the interview questions designed must have questions that are easy, accurate, and able to achieve the objectives of the research. The below given table is depicted the features of targeted sample who are used to collect data related to this study.

These demographic features have been categorized based on gender, designation, educational level, experiences, and age of respondents. These features are helpful to understand the demographic characteristics of supervisors. It has been found that gender domination, bachelor's degree, 11 to 15 years experience, and 41 to 50 years age are some of the prominent features of targeted sample (See Table below).

Table 6.4 Characterises of Participants

Categories	Classifications	Frequency	%
Gender	Male	30	93.75
	Female	2	6.25
Designation	Supervisors	32	100
Educational Level	Master's degree	13	40.625
	Bachelor's degree	19	59.375
Experience	6-10 Years	17	53.125
	11-15 Years	11	34.375
	16-20 Years	4	12.5
Age	31-40 Years	7	21.875
	41-50 Years	20	62.5
	51-60 Years	5	15.625

### 6.12.1 Links to the Purpose of Research and Research Strategy:

The three types of interviews have unique objective separately. The major objective of standardised interviews is to collect data that would in turn be used for quantitative analysis e.g as in questionnaire methodology (Bowling, 2009). While, non-standardised either it is Semi-Structured or in-depth interview, targets data collection that in turn used in qualitative analysis e.g in case study method (Matthews, & Ross, 2010). The collected data are very helpful to understand questions like ‘what’ and ‘how’ as well as draw our intension to find out the reasons behind such questions (Crowther, & Lancaster, 2012).

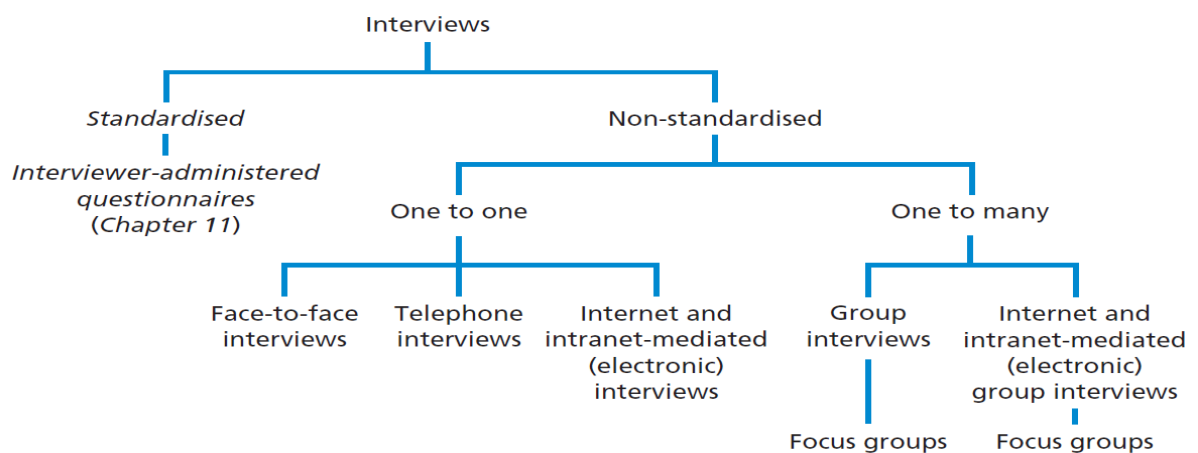


Figure 6.5 Interviews Types (Saunders et al., 2009).

Investigating each type of interview method, one can become able to determine the implementation of specific interview type for specific research approach:

- In-depth interviews enable the researchers to identify different events and explore new dimensions in exploratory research (Robson 2002: cited in Bode, & Arthur, 2014). Also, Semi-Structured Interviews can be conducted in exploratory research which is why Semi-Structured Interview are being used for this research. Moreover, the below table shows that Semi- Structured Interviews best match with explanatory research.
- Structured interviews are the most suitable category for descriptive research in order to determine usual arrangements. These interviews can be employed in order to conduct explanatory research statistically.

Table 6.5 Interviews Types (Saunders et al., 2009).

Uses of different types of interview in each of the main research categories			
	Exploratory	Descriptive	Explanatory
Structured		✓✓	✓
Semi-structured	✓		✓✓
Unstructured	✓✓		

✓✓ = more frequent, ✓ = less frequent.

### 6.13 The significance of establishing personal contact:

It is a common observation that managers are more willing to participate in an interview instead filling a survey Performa, particularly. Whenever, the subject of the interview is exciting and related to their on-going job (Crowther, & Lancaster, 2012). They get a chance to verbally express their views about a subject with no need to fill a questionnaire. The findings of other investigators also yield same results showing that respondents feel convenience in being interviewed as compared to go through questionnaire (North *et al.* 1983, cited in Healey 1991 cited in Cohen, *et al.*, 2011)). Verbal interviews allow respondents to get interviewer's remarks and guarantee about keeping their given data secured and used only for research purpose. For these reasons, one to one interview receives more data as compared to circulating a questionnaire (Brennen, 2013). The interviewer is in a better position to select respondents for interviews rather than selecting them for filling questionnaire that circulates randomly among people (Tracy, 2013). The research is also belonging to the same country and research also have some job expertise on LPs and researcher is also belong the same culture. Therefore, it was quite helpful for the researcher to established personal contact with the responder to create comfortable environment for data collection.



## **6.14 Data analysis:**

(May, 2011) observed that physical reality is not touched upon under radical constructionism. However, (Adams, *et al.* 2014) pointed out that constructionism based empirical studies do not deny the existence of physical reality. The reason behind denial of physical reality is that constructionism regards reality as being socially constructed. However, still it is possible to involve physical reality even in constructionism-oriented studies. (Cassell, *et al.* 2017) observed that various studies which are based on social constructionism utilize contextual approach for analysis purposes where a distinction is kept about social world and the participants' beliefs about what is already being known. In practice, reality is acknowledged by social constructionism as it does not deny the existence of reality but that it just generally believes that reality is socially constructed (Schneider, 2013). (Williams & Vogt, 2011) pointed out that strict approach of constructionism does not regard reality as being physically constructed but this does not mean that it disregards the existence of reality, it just reiterates that social actors construct reality and in order to understand it, the perspectives of social actors must be considered. Since in such a situation different perspective are extended by social actors, therefore, their response is analysed by identifying similar themes in different responses. This is also usually referred to as thematic analysis. This is being done to make sense of the data obtained from respondents. There are also other techniques of qualitative data which can be utilised for qualitative research to make sense of the data such as grounded theory, content analysis, and discourse analysis (Boyatzis, 1998; Speziale, Streubert, and Carpenter, 2011; Joffe, and Yardley, 2004; Taylor, Bogdan, and DeVault, 2015). Among such techniques of qualitative data, the most widely and commonly used technique is thematic analysis due to ease of usage (Speziale, Streubert, and Carpenter, 2011; Joffe, and Yardley, 2004).

Thematic analysis is also utilised in the current study. Each respondent in the current research is taken as a case and unit of analysis. Audio devices are used by the researcher for recording the response of the respondents. Thematic analysis is regarded as one of the widely acknowledged and popular method of drawing meaningful results in qualitative studies (Javadi & Zarea, 2016). In thematic analysis the assumptions of essentialist and constructionist paradigms are being followed (Boyatzis, 1998; Speziale, Streubert, and Carpenter, 2011; Taylor, Bogdan, and DeVault, 2015). There are two groups for data analysis methods conventional analysis, and phenomenological analysis. In the current study, the assumption of interpretive phenomenological analysis is being followed i.e. thematic analysis which is not peculiar to any theory (Javadi & Zarea, 2016).

(Rayan *et al.* 2003) observed that thematic analysis follows the inductive approach in which prior theoretical understanding is being followed e.g. professional definitions from literature review, personal experiences, and theoretical orientations. In the current research the assumptions and guidelines related to thematic analysis are followed which are proposed by (Javadi & Zarea, 2016). The different stages of thematic analysis are followed in line with the recommendations of (Braun & Clarke (2006). Theme can be defined as a type of agreement with main text but is more short, concise, accurate, and simple. A similar theme may appear more than one time which shows that the respondent is asserting the same belief or assumption (Javadi & Zarea, 2016). It is argued by (Rubin & Rubin, 2011) that thematic analysis enables the researcher to identify similar themes in different responses thereby observe the same reasoning or conflicting reasoning in different responses. Thematic analysis is used to pinpoint, record, and examine data so that concepts and meanings can be extracted. In thematic analysis, data can be achieved with the help of documents, interview transcripts, field notes, videos, and pictures (Joffe, and Yardley, 2004; Guest, MacQueen, and Namey, 2011).

the transcripts of interviews are prepared as a first step and the coding of scheme is being done as a second step to understand how the culture of organisation influences the risk management of supply chain at LPs, particularly in the context of four major ports which are affected, because of the internal conflict taking place in the country and the poor relationship of Libya with other countries. On the basis of coding the data, different themes are identified, and they are also double checked for ensuring coherence. The recurring pattern is identified across the range of different responses from respondents. On this basis the researcher uncovers the role played by organisational culture in risk management of supply chain at LPs. The transcription of prominent themes is done with the help of NVivo software. The results are subsequently being explained in the shape of matrix coding and visually displayed as well in the form of conceptual model.

### **6.15 Data quality issues and preparing for the interview:**

While conducting semi-structured or in-depth interviews, different issues related to data quality are identified pertaining to the areas such as reliability; validity and generalisability and in different forms of bias. These issues are discussed at length: Less or low adherence to standardisation during the course of these interviews arise the issues of reliability. In qualitative type of research, reliability finds credibility when results acquired by the other researchers bring the same information (Easterby-Smith *et al.*, 2008; Silverman 2007). These interviews though vital but become critical on the point of reliability due to presence of bias factor associated with

these. Different kinds of biases are found involved in this criticality. The first of its kind is interviewer bias. This bias exists in the form of tone, comments and body language (non-verbal behaviour) reflected by the interviewer. In other words, questions are put in such a way to get desired response from the interviewees to the questions floated. Take another way, this is like imposing your beliefs and locus of reference on the interviewee. Consequently, interpretation of responses will lead towards displaying bias (Easterby-Smith *et al.* 2008).

This situation turns the whole activity into shadows of doubt. It hurts the trust of the interviewees, ruining credibility of the interviewer. Resultantly value generated through this activity will become limited and validity and reliability of the process will come under doubt. In relation to the above, interviewee bias is another type of bias. This type of bias creates due to bad performance of interviewer. His peculiar attitude instils a certain perception in the mind of the interviewee about the interviewer.

However, it has been observed that bias of this type is not particularly linked with interviewer attitude. Partaking an interview is an indiscreet practice. This frame of reference comes fit on semi-structured or in-depth interviews in which particular events are aimed to explore and detailed explanations are required to seek. Principally, the interviewee is agreed to take part in the interview willingly but remains reserved in response to exploration to unstructured themes. Under this impression, interviewees engaged themselves about speaking on all issues interviewer may focus to explore rather than like to talk about only one dimension. Here arises the need of probing questions that serve to elicit delicate information normally kept implicit or unauthorised to talk on it. Past experiences have led to reveal that the interviewee unveils a “partial picture” of the circumstances around him that keeps him ‘socially desirable’ within the organisation. In other words, interviewee expresses what he considers positive and avoid to unveil negative information about the organisation. Bias is likely to make way through the peculiar nature of the participants those participate the interview process. Time consumption involved in the interview process may impact negatively on participants’ willingness to partake the activity. This context leads to pollute or bias the sample targeted for data collection (Robson 2002). This issue one has to be careful about while selecting an approach for sampling. However, in case of qualitative research application of semi-structured or in-depth interviews are not made for the purpose of acquiring statistical generalisations over the entire population. This is possible in the context of the research topic where a small and unrepresentative number of cases are involved. This situation occurs when a case study strategy is aimed to adopt (Yin 2003).

## **6.16 Reliability and Validity:**

One aspect to overcome the issue of reliability is relating to the findings emerge from using non-standardised research methods. In that case, reality depicted by the results at the time of data collection is not reliable as these results have fewer chances of repeating the same results in the changed situation (Frost, 2011). The research takes on the assumption that the circumstances liable to be explored are difficult and complex. Non-standardised interviews are used to derive value due to flexibility required to explore the complexity of the topic (Cohen, *et al.*, 2007). Therefore, it won't be feasible to adopt that research may develop a replica of this qualitative, non-standardised research, depending upon the strength of the research. Matthews, & Ross, (2010) recommend that researchers employing qualitative and non-standardised approach undergoes to transform perceived weakness into strength supported by realistic assumptions and capable to replicate research findings. It was suggested that while using this approach, one ought to make and retain notes as per your research design and causes which led to underpin the selection of strategy and methods to collect data (VanderStoep, & Johnson, 2008). As the major objective of the research is proposal of the framework which increase the understanding about the role of organisational culture with SCRM of ports. Therefore, on the base of research outcomes a comprehensive research framework has been developed and research tried to create the relation between cause and effect of different organisational factor effect on SCRM. Consequently, there was question of reliability of that developed framework so after the development of the first framework, three group discussion have been done the selected with participants and each group discussion there were 3 participants. The major objective of the group discussion was to discussion the developed research framework therefore, on the base of these three-group discussion researcher did some change in the final research framework. The final accepted and modified research framework have been used in this research.

### **6.16.1 Level/Depth of Knowledge:**

Researcher will show maximum knowledge about the research topic and the context relevant to the organisation or situation under which the interview is being held. Because, (Bowling, ,2009) indicate that the information drawn out of this interview is required to enhance the credibility of the interviewer, judge the responses with regard to accuracy inciting the interviewee to provide an in-depth of the area under investigation. On augmenting the interviews further, one is able to analyse the data collected previously with the current data (Saunders, *et al.*, 2009).

### **6.16.2 Level/Depth of Information Provided to the Interviewee:**

Credibility finds itself better placed when pertinent information with due level and depth is furnished to the interview participants at the time of interview. Participants are provided the detail of themes to be inquired in the interview well before the interview if deemed feasible (Rugg, & Petre, 2007).

### **6.16.3 Appropriateness of Location:**

It is high time that location of conducting interview will be kept into consideration while taking interview. There is a possibility that location may affect the data collection scenario. As discussed earlier, interviewer must take into account of his personal safety (Margolis, & Pauwels, 2011). So, it is imperative that research will consider the impact of location on your research participants and their responses. In view of this, a convenient location is prerequisite to provide a cool and comfortable zone to your participants where they feel frank and undisturbed (Brewerton, & Millward, 2001). Lastly, researcher will do a place where pin drop silence may support to record the proceedings and audio quality of the interview may give full marks to the calm location. In a situation when interview will be conducted in a room but due to construction work of adjacent building might causing impediment in hearing the research participants' responses. Voice quality of the responses was almost incoherent owing to loud noise created by a drill machine. Therefore, this point will also consider for data collation.

### **6.16.4 Appropriateness of the Researcher's Outlook at the Interview:**

Researcher outlook in the interview affects interviewee' perception. This may leave negative effect about his or her credibility in the mind of interviewees or may not be able to get their assurance. The bias developed so may injure the reliability of the data collected (Davies, & Mosdell, 2006). A research provided evidence that a researcher must wear a dress to akin with interviewees. In clear terms, clothing matching with the interviewee conditions and setting can bring in favourable results (Saunders, *et al.*, 2009).

### **6.16.5 Scope to Test Understanding:**

A researcher has to build a scope to test understanding of the data furnished by the interviewees. In that case, interviewee will come to believe the interpretation and its adequacy made by the interviewer (Matsumoto *et al.*, 2011). This can be of great help to put in unbiased interpretation. It may help to recheck the interviewee's responses further.

### **6.16.6 Approach to Recording Data:**

With the progression of interview, it will to take formal notes on a diary. It is always important to keep back up in case your audio recording stops working. At this moment researcher, will retrieve responses from your written record. As (Howitt, & Cramer, 2011) indicated that it is ideal if following the interview, a contextual data base record is maintained. This strategy can readily make researcher provide answer to every query otherwise precious information will lose. It is likelihood that data pertaining to the different interviews may intermingle and no single record of a solitary interview is available.

### **6.16.7 Recording Interview Data:**

The need to create a full record of the interview soon after its occurrence was identified one of the means to control bias and to produce reliable data for analysis. Most interviewer's audio-record their interviews, where permission is given (May 2011) this has both advantages and disadvantages. As an interviewer, you will be interested in both what your participants say and the way in which they say it (Ruane, 2016). By audio-recording your interview, I will be able to concentrate more fully and listen attentively to what is being mentioned and the expressions and other nonverbal cues your interviewee is giving when they are responding. However, as pointed out earlier, researcher believe it is also helpful to make brief notes as well in order to maintain my concentration and focus. This is important because, although audio-recordings can capture the tone of voice and hesitation, they do not record facial expressions and other non-verbal cues (Taylor, et al., 2016). Most people have their own means of making notes, which may range from an attempt to create a verbatim account to a diagrammatic style that records key words and phrases, perhaps using mind mapping (D O'Gorman, & MacIntosh, 2015). While there are following advantage and disadvantage of interview audio recording.

By far advantages and disadvantages of audio-recording the interview, audio-recording enables the interviewer to focus the questioning process and concentrate the listening. Audio-recording allows the interviewer to formulate the questions inquired in the interview for use in the later interviews if deemed appropriate (Walliman, 2018). If some point is missed or over hear, one can re-listen the interview and maintain an accurate and unbiased record. On listening again and again enable the researcher to put his desired quotes to strengthen the stance. The direct benefit of audio-recording lies in the form of permanence of record. Among helm of benefits attached with audio-recording, certain disadvantages like time consumed in transcribing the audio-recording, some technical issues and minimization of reliability of interviewee responses may pollute the circumstances (Donley, 2012).

### **6.17 Application of reflection and role of transparency:**

Reflexivity is an integral part of a research process. By a reflexive methodology means how personal experiences, inner motivation, belief system, tensions, political affiliation permeate scientific activity and influence a research activity by adhering to certain factors. A qualitative research helps to generate knowledge that emerges following the interface between researcher and informants (Berger, 2015). According to (Fitzpatrick, & Olson, 2015) “a feminist version of reflexivity emerged due to concerns regarding researcher’s unexamined power”. To maintain a balance of trust between research participants and researchers, aim is to reframe the whole construct. Researchers remain concerned about their philosophical positions and interests (Berger, 2015). She also argued that the entire research process involves a researcher right from framing the questions to ask the participants, update the sampling list, from writing the paper to analysing the data for getting less distorted analysis of research (Gerstl-Pepin, & Patrizio, 2009). This approach motivates the researcher to express their “presuppositions, choices, experiences, and actions during the research process” (Mruck & Breuer, 2003, p. 3 cited Dowling, 2006). As a result, thereof, the qualitative researches cling to more critical, poststructuralist and feminist paradigms. Researchers find themselves more exposed with regard to their views, values and experiences for a matter under investigation (Truman, 2012). Linked with the above discussion, researcher’ is highly related to the value, language, norms and personal value system leaves a sound effect on selecting a research topic, questions and objectives. In view of this, employees’ interviews were conducted to understand each other and share views with each other. I will be utilizing my personal experience during this research.

### **6.18 Engaging with the Idea of Transparency in the Research Process:**

Based on the practices under investigation, reflexivity is the main feature that holistically defines the qualitative research (Gil, 2009). The qualitative researchers are more aware about their role to generate knowledge and to create trust, the researchers has to define the subjectivity of the elements explicitly in collection of data as well as analysis. This has the effect of increasing accountability and trustworthiness of my research. This debate also refers to the competing claims of different qualitative researchers that belong to distinct theoretical persuasion as they lay claim to distinct accounts of practises and rationales of reflexivity (Gough, 2017). Framework analysis is a qualitative method that fits best to applied policy research. It is employed to gather particular information that plays effective contributory role in theory building and highlights the concepts emerged from the data or imposed before analysis. The concepts applied are delineated lucidly and terminology relating to the concepts

are constantly applied while analysing and presentation of the results. Limpidity of sample design, selection of respondents, their characteristics, delimitations, strength of bias involved, and findings linked with the final sample. Reporting the problems involving data collection, respondents understanding and suitability of the respondents to investigate the area under research (Maramwidze-Merrison, 2016). The professional researches regard it significant that “the assumptions made about the nature of, and relations between, subjects, the texts they produce and the conceptual tools and strategies that are used to analyse them” (Davies & Gannon, 2003, p. 7 cited in Maramwidze-Merrison, 2016). It is not possible for a researcher to make claim of wrong / right until appropriate research methodology is adopted and it drives the research process that leads to draw conclusion (Bright, 1996). Research warrants transparency at this stage. Therefore, ethically research related matters and values must be clear to the reader. Confidentiality of the data will be maintained. Prior permission was sought to collect data. Participants were assured to keep the confidentiality of the data. To maintain a reflective journal is the need of reflective researches. It is a worldwide strategy to main such journal (Macbeth, 2001). Professional research allows the researchers to approach the organisations to carry out research and share their knowledge and skills with the organisation.

According to (Dawson, 2000), “*Professional naturally see their knowledge as their source of wealth they are very reluctant to part with it and eager to promote themselves as experts for hire*”. Moreover, (Dawson 2000, p.22) exhibited professional attitude “*I am an expert you are not, leave it to me - I Know best*”. I assure that the results of my study are not universal in nature. Because professional research is always aiming to explore. I therefore, assure that this research will be beneficial to the current and future organisations by following transparency of the research process and outcome thereon. “*Reflexivity is used to explore and deal with the relationship between the researcher and the object of research*” (Brannick, and Coghlan, 2006. P, 144 cited in Probst, 2015).

### **6.19 Summary:**

In nutshell, selection of right research philosophy is the right step in the research process. The observation made by (Johnson & Clark, 2006) is in consonance with this finding depending upon the researcher reflection of the choice made by him. It was argued that the research philosophy adopted by the researcher provides useful information about his world view. Research philosophy highlights the ingredients of entire research process and researcher’ perspectives on this. The philosophical choices help to make sense of the phenomenon under investigation. Therefore, discussing research methodology is heart and soul of the research



process. The research philosophy adopted by the researcher involves the strategy, techniques delivered by the approaches employed to conduct the research. Keeping in view of the research topic, relativist philosophical stance was pursued with social constructionism and qualitative research design as shown below in the figure.

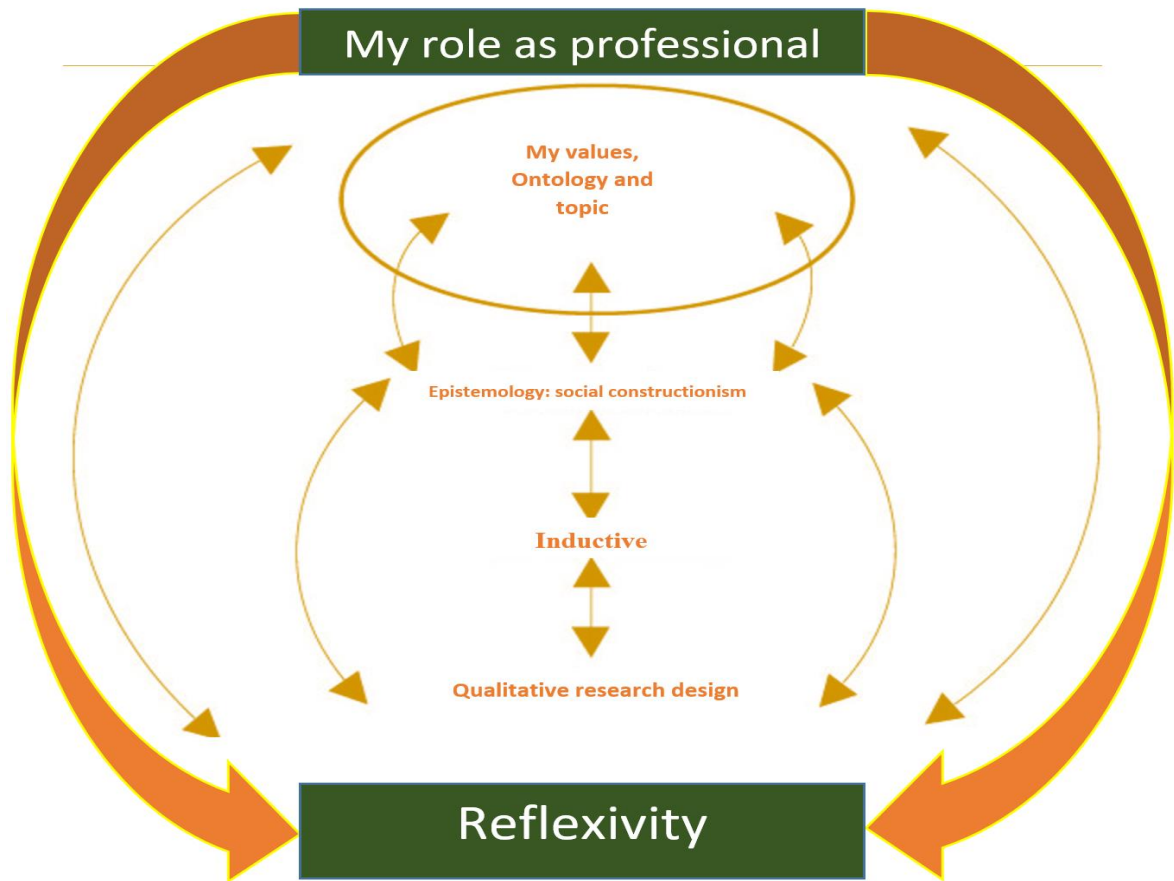


Figure 6.6 Relation between Discussed Research Philosophical and Methodology Elements

## **Chapter 7 : DATA ANALYSIS, DISCUSSION AND FINDINGS**

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### **7.1 Introduction:**

Thematic analysis of the primary data and the discussion will lead toward the discussion and findings of this research. The overall chapter has been divided into two parts, the first part of the chapter discusses the major themes of the research and relevant data of each theme that have been presented. In this chapter, researcher discussed the results of thematic analysis which were extracted using NVivo software. Author have identified several major themes and sub-themes which are determined based on Semi-Structured Interviews from selected supervisors of four major LPs. In first major theme such as political instability and its impact on the culture and SCRMP of LPs, Author, briefly discussed how political instability, role of government, bureaucratic structure, violent conflict, poor relationship with neighbour countries and international actors and militia attacked influence on SCRMP activities on LPs. Researcher have tried to discuss all those internal and external environment factors that can influence the practices of Supply Chain Management on LPs. In second major theme, researcher have briefly explained how stated-owned/public sector/public ownership of organisations can influence supply chain facilitation activities such as heavy machinery, investment, lower level of private investment, infrastructure development, congestion, wages of labour and other important factors that influence the functions of effective Supply Chain Management.

During the transcription of interviews, Author have highlighted almost all positive points of LPs such as acting as hub between major African countries, huge reserves of oil production and export, and natural resources of gas. However, due to many negative activities in this decade negatively impact the SCRMP activities. Author given the themes and sub-themes of national culture, organisational culture, and SCRMP in below given table. These themes and sub-themes are indicating how national culture influence on organisational culture and how organisational culture can influence SCRMP operations at LPs (See Table 10, 11, 12). Based on the extracted themes and sub-themes, it is easy to present the practical recommendations and analyse the validity of these themes in the light of reviewed literature for this study. While matrix query tables and conceptual framework are provided at the end of findings section.

### **7.2 Major themes:**

#### **7.2.1 National Culture and Supply Chain Risk Management of Ports:**

##### **National Culture and its Impact on Organisational Culture and SCRMP in LPs:**

Table 7.1 National Culture and its Impact on Organisational Culture and Supply Chain Risk Management

Themes	Definition	Codes	Keywords
<b>Factors of National Culture that are Influencing the Organisational Culture and SCRMP on LPs</b>	Various External Factors of National Culture that Negatively Influenced the Effectiveness of SCRMP on LPs.	1) Power Distance	Political Instability  Violent conflict and Poor relationship with neighbors and international actors Power divided into multiple Parallel government in Libya Lack of security and safety Hierarchical Society
		2) Nationalisation/ Public ownership	Monopoly and Lower level of competition  Lack of Capital and Lower level of foreign direct investment Economic Crises Lower level of private investment Lack of latest technology and infrastructure development Lack of planning and interest in future events

**Power Distance and its Impact on the Organisational Culture and SCRMP of LPs:**

*Supervisor D Argued:*

*The LPs operating procedures and directions were highly affected by the political division that prevailed in the country, which created two governments, which reduced the control of the LPs Authority to all ports in the country. Most of oil production and delivery normally received and delivered through LPs. Since 2011, many armed groups are tried to occupy on Tripoli ports. For short period, even they controlled the oil production as well as cargo delivery services. Due to political instability in our country, human trafficking/life inside the container have been increased since these armed groups occupied the main functional areas in Tripoli, Libya.*

*Supervisor E said:*

*During last seven to eight years, many workers of Egypt, Sudan, Tunisia and Chad are sent back from LPs due to poor political relationship and hot discussions through media. As a result, these countries and their investors are withdrawn their support and used other routes for imports and exports. After their disinterest in LPs, supply chain activities are negatively affected, and exports are significant decreased especially in terms of oil export.*

*Supervisor G has following point of view:*

*The Libyan government (such as Gaddafi regime) has not proper relationship with international communities, aid providing organisations, and USA. Due to instability, chaos, and economic crises, many direct foreign investments on LPs are decreased. Therefore, LPs infrastructure such as connecting roads, railways tracks, technology on LPs, and other functions could not find any support from international organisations. Political instability, poor relationship with other countries, and internal and external conflicts always reduces the volume of imports and exports in national and international markets.*

*Supervisor K has following point of view:*

*Gaddafi has used authoritarian and repressive rule with the purpose to control the workers, import and export, cargo charges, oil production, and oil flow on LPs. From many years, militia has attached on major ports with the purpose to control the oil exports for their personal objectives. It brings more ineptitude, political patronage, general economic mismanagement, corruption in LPs. It is also a reality that when Gaddafi government was unable to pay the wages of workers then they used many unfair means with the purpose to earn something for their families. For example, human trafficking support using containers and information leakage to arm groups regarding important deliveries are commonly seen from many years.*

In SCRM of ports, it is important to analysis all those factors, internally and externally, this can influence the effectiveness of service from origin to end consumers. For example, role of government, relationship of government with other neighbour countries and international actors, decision making style, communication style, political stability, roads, internet and electricity services, railway tracks, congestion, public or private sector, structure of organisation, wage structure, services at ports, major imports and exports, congestion or que of ships, technological advancements such as heavy machinery, and availability of capital for infrastructure development.

Some of the factors might positively or negatively impact the SCRM of ports. Therefore, present study has analysed the importance of all these factors that impact the national culture, organisational culture and SCRM on LPs. Global supply chains among ports are a source of competitive advantage. Global corporate technology helps access cheap labor, relative advantage raw materials, best financing opportunities, wider and wider product markets, arbitration opportunities, and additional incentives from host governments to attract foreign capital. On the other hand, global supply chains are more at risk compared to local supply chains

because of the impact of economic, political, social and natural changes, which makes it more difficult to manage. Due to conflict with neighbour countries and international actors, Libya global supply chain is also negative impacted, and its profitability also reduced.

In Libya oil is the main source of country's income and for ruling elite. In Libya oil was discovered shortly before the coup led by Gaddafi. The coastal cities of the countries became the commercial hub due to oil ports and control over the flow of oil income. However, since that time the tribal unrest in the country also increased due to their efforts for taking over cities rich in oil economy. But following the coup, such tribal efforts failed due to authoritarian rule of Gaddafi. Even after the revolution of 2011 in which Gaddafi was deposed and executed by mob on streets, the situation has only deteriorated instead of becoming stable. LPs are very important and considered as hub among the African countries.

Majority of the ports are stated owned especially the main four ports that are selected for this study. The national and organisational culture of LPs is based on power distance, authority, uncertainty avoidance, political involvement, centralisation, union, nepotism, inequalities, conflicts, low level of long-term decision making, and greater cynicism. Due to these features of national and organisational culture, LPs are facing challenges such as ineptitude, political patronage, general economic mismanagement, and corruption. During interviews of supervisors, it is found that Due to political instability, chaos, and economic crises, many direct foreign investments on LPs are decreased. Furthermore, poor relationship with neighbor countries and international forces such as USA also become the reasons of economic crises and lower trades through LPs.

The Libyan government that faced serious violent conflict and armed control on natural resources such as oil and gas, unable to repair or invest in roads, functional railway system, and land transport corridors that are major functions in the failure/closure/ineffectiveness of LPs for many years. There is lack of positive and uniform transformation in the country, which has fed into political and economic mismanagement and has descended the country into civil war. Besides, the Libya also entered political conflicts with its neighbouring countries due to which it faced international isolation in political community. Egypt, Sudan, Tunisia and Chad workers are sent back from LPs due to poor relationship of Libyan government with these countries. Further, there are still old vices of corruption, oppression and nepotism. Resultantly, many countries have withdrawn their diplomatic missions from Libya due to fear of attack on their embassies and diplomatic staff.

After this, there was external support to the militias and other armed groups by providing weapons to fight against the Libyan government. It is also found that there is a lack of economic cooperation between Libya and international community, due to its political disagreement with neighbouring countries. There are also various other internal conflicts in Libya happening which undermined its ability to control and monitor its ports. The internal political instability is further plagued by corruption, ineptitude, political patronage, and general economic mismanagement. Due to this, reason the internal political management of the country weakened, and it was unable to control its internal security situation. Libya also failed to utilise an effective framework for driving investment in the country and manage its ports.

Due to corruption and dictatorial regime, the international community lost its trust in the country to invest there. The overall governance of the country is troubled and mismanaged due to which the decision making in the country is polarized and has caused economic mismanagement. There are various obstacles posed by the Libyan economic, social, and environmental challenges as it affects the overall economic situation of the country. The Libyan government also lacks much impetus for investing in the LPs, develop infrastructure, and deploy machinery. Due to this reason the trade volume has always been limited in Libya. Nevertheless, the strategic location of the country has been beneficial to it even though it faced chronic problems. The main obstacles in regard to ports' management include the over centralised decisions, monopolistic practices, and lack of investment. The political landscape and socio-economic situation of the country has been characterised for many years by oppression, dictatorship, corruption, and economic mismanagement. This gave rise to internal conflicts in the country which ultimately led to deposing and mob execution of Gaddafi in 2011.

#### **Public Ownership and its Influence on Organisational Culture and SCRMP among LPs:**

*Supervisor O has following views:*

*LPs have strategic location among neighbour countries such as Egypt, Sudan, Tunisia and Chad. However, due to shortage of financial resources and incompetent government management, these ports cannot perform accurately and closed/irregular for trades for a long period. It is a need of time to attract other private investors or countries by offering the high security and safety to their capital and trades. He said, Libya is one of rick oil exporter among all African countries therefore Libya can offer low oil rates and high profit margins to private investors. Ultimately, investors may invest more in ships, railway, road duties, and other infrastructure development.*

*Supervisor Q argued:*

*Due to the control or monopoly of government on LPs, these ports are still operating as first-generation ports therefore facing too many challenges such as load interruption or slowing processing of loading or unloading of inventories. The government authorities did not feel the need to ask from working employees on ports regarding how they can expedite the procedures of trades, loading, and unloading.*

*Supervisor P has following point of view*

*It is better to sell some percentages of LPs shares to private investors or companies in Libya. For example, Libyan government can select those companies that are already earning high profit rates and success. These companies can come with high motivation and clear plan regarding the development of LPs. Therefore, it is high chances that under the supervisor of these companies, these ports may able to earn double and workers skills, trainings, income, and technology may be further improved.*

*Supervisor S has following point of view:*

*Due to incompetent government control and management of LPs, now LPs are suffering due to insufficient port capacity, poor operational practices, and congestion that brought serious delays in Supply Chain Management and negative impact on the working environment of LPs. Congestion on ports always bring high costs due to loading and unloading delays as well as ships, crew, and workers time utilization. As a result, I have seen long que of ships and they have recorded their complaints about poor services and losses.*

*Supervisor T has said:*

*I have seen a time when three governments in Libya have sent directions/official letters regarding the operations of ports. In this situation, we were in chaos about which order had to obey and which was not. We suffered a lot and the performance of workers negatively affected due to conflict in government authorities. These governments could not manage the pay structure and development decisions on time therefore we suffered a lot and some of us had left their jobs.*

Corruption, political patronage, economic mismanagement and nepotism, were the prominent characteristics of organisation in Libyan public sector. The country was operating based on centralised model of administration in almost all the public sectors and most of the businesses in the country were state owned. This centralisation also included central control on ports. Most of the industry in the

country was also owned by state and the private sector was either largely influenced by state or even excluded in some instances. This limited the foreign direct investment in the country. The central government of the country had the desire of controlling everything in the country from centre due to which private sector was largely excluded from development of ports and their management. This influenced the decisions about the resourcing of ports and management. The competition between ports was also minimised as they were all controlled by the central government and due to this reason, they lacked performing to high standard. For the purpose of current study LPs are chosen because they failed to play a prominent role on regional trade despite their location of being a gateway between Asia and Europe through Mediterranean Sea. They could also be the gateway between Africa and Europe. They could also be the facilitator for Chad and Niger which are landlocked countries. However, these ports failed to become so. All ports in Libya are owned by state and are controlled by state and as such they fall under the public service. The administration structure of ports is dual which comprises a management arm and regulatory arm. These functions are distributed among public and private sector depending on the management model adopted for the ports. Generally, there is a port authority and its management wing. It is the state which forms the port authority for maintaining the regulatory oversight and providing the technical and operational facilities such as maritime security, navigational safety, operational efficiency, etc.

On the other hand, the private sector, provides the management expertise such as that they administer all aspects of the operations in the port (Burns, 2015). However, in instance involving LPs, there are highly complex layers and structures of management and control which involves various ministries, governmental agencies and departments. In fact, all ports in Libya are operated basically by two public companies. The role of port authority is regulatory and statutory including the implementation of local laws, marine pollution, legislation, registration of ships, and conducting sign off procedures. The port operator conducts the pilotage, planning, berth allocation, and tugging. Since the control of all Libyan port's vests with central government, therefore, none of the ports in Libya can develop individual strategies. In order to develop any strategy, they must seek the permission and clearance of Ministry of Transport after which a chain of bureaucratic hurdles exists which need be cleared such as LPC headquarters, maritime industry and the ministry again. There are instances in which the Ministry of Transport must discuss such strategies with General Ministry to seek the latter's approval. Matters about funding new investments at port such as equipment purchase, and expansion of infrastructure must be approved at top level. Due to this model of central command, the port management is characterised with miscommunication, corruption, and mismanagement. This is also the reason that the private sector is not ready to invest in ports in



Libya. This has also severely affected the general efficiency of the LPs and has led towards operational inefficiency of the ports in Libya. These problems are hindering the performance of the LPs and resultantly the ports are operating only barely. The literature review on the subject revealed that the decision making is highly centralised in case of LPs' management due to which there are severe delays in decision making. Further, there is monopoly of two public companies which are entrusted with the management of ports. This has also led towards high corruption in ports' management in Libya. Due to these complex arrangements of ports' management, the performance of the ports is very poor. There are also some advantages of centralised management e.g. easy coordination, clear communication, and budget control. Centralisation which is also known as command and control is originally the dominant structure for various businesses but over the years it has declined among businesses of large scale. Conversely, in management systems which are decentralised, the powers of decision making are delegated further down the hierarchy. Decentralised management and corporate structures are increasingly becoming popular across the globe even in areas of public sector management. Besides the poor management of the country for decades, and the nationalisation of companies in the country has affected the economy of the country for decades and kept the infrastructure at poor state. There is also absence of rail network in the country and the road network is also not adequate due to which logistics for economic growth could not be carried out. Due to internal political turmoil it had not been possible to construct new roads in the country since 1986. This also prevented foreign direct investment from taking place in the country. Libya also has weak foreign relations and that too with its neighbours and also with lending institutions. This also led towards limited, if any, development aid in the country. Due to these reasons the economic growth of the country became stagnant and there is increase in the overall insecurity in the country due to lawlessness. The country is now facing political instability, economic mismanagement, and generally poor security situation in the country due to which its economic performance is down.

## 7.2.2 Organisational Culture and Supply Chain Risk Management of Ports:

### Organisational Culture and its Impact on SCRMP in LPs:

Table 7.2 Organisational Culture and its Impact on Supply Chain Risk Management Practices:

Themes	Definition	Codes	Keywords
Factors of Organisational Culture that are Influencing the SCRMP in LPs	Various internal factors of Organisational Culture that negatively influenced the effectiveness of SCRMP in LPs.	1) Bureaucratic Structure	Authoritative leadership style Hierarchical order Lower level communication and involvement of employees in key decisions  Set of formal rules and operating procedures
		2) Centralised 3) administration model	Incompetent management and mismanagement of resources Lack of timely decision-making Lack of individual strategies and emergency plans Lower level of trust and confidence among employees

### Bureaucratic Structure and its Impact on SCRMP among LPs:

According to Supervisor A:

*Bureaucratic structure of LPs influenced negatively the working environment. Due to central authority and power distance, political authorities are more involved in decision making process and there is no involvement of employees in decisions that involved capital, trading with neighbour countries, roads, functional railway system, and land transport corridors. It also caused long delays or negatively influence the effectiveness of Supply Chain Management on LPs. The working employees are unable to given suggestions or recommendations for improvement purpose. The poor organisational culture of LPs is negatively impacted the employees, traders, exporters, importers, and small businessmen.*

According to Supervisor N:

*Libya ports are operating based on centralised administration model. Most of the ports are working under government control and private investors are away in the investments and development of ports infrastructure. centralisation, high power distance, and authoritative style are not supportive on LPs because these features of national culture negatively impacted the organisational culture and working environment of LPs. For example, Gaddafi tried to control the ports, airports, and natural resources through force but ultimately, he has lost everything due his authoritative style.*

*Supervisor E said:*

*The performance of LPs has been decreased and government is struggling to pay the wages of workers that are doing their duties on LPs. Many workers are protested the Libyan government due to lower level of wages and late wages. Poor communication, lower level of coordination, lower level of job satisfaction and commitment are more prominently seen from many years in LPs.*

*Supervisor X has said:*

*There is no clear difference between supervisor and low ranked employees such as worker on daily wages. All port authorities and workers are following the guidelines of Libyan maritime administration. Due to this, organisational culture, procedure, and operation on ports are not perfectly performed.*

*Supervisor U has said:*

*In another interview, Supervisor U has stated that there are low incentives for LPs workers in terms of health insurance, safety and security, and child benefits. Even government could not afford their wages for a long time so complaining about non-incentive benefit is looking like something beyond the moon. We have lost our human capital due to incompetent LMA management and control.*

Authoritative leadership style, obeying the orders from top management, where slow communication process due to top-down approach, low involvement of employees in organisational activities, fixed set of rules and procedures for ports operations, incompetent top management, lack of timely decision making for ports expansion, machinery and infrastructure are key internal factors of organisational culture that influenced the SCRM in LPs. Unfortunately, the regime of general Gaddafi implemented rules forcefully within the country and by poorly handling the relationship with ports workers. Two or three parallel government controls at provincial level, highly complex layers as well as structures of management control because of involvement of various ministries, governmental agencies and departments also influenced negatively the effectiveness of SCRM strategies. Workers have thinking that if government is unable to afford or delay their per hour wages then what are the possibilities that we can avail non-financial benefits from insurance companies or government. Many workers are protested Libyan government and these protesters are forcefully removed by the army forces under the government of Gaddafi.

It has been found that many skilled and competent workers are left their jobs due to lower level of per hour wage and non-financial benefits such as health insurance, child education and benefits, security and safety on ports, and no insurance coverage for life-threatening security risks especially for workers. Workers have thinking that if government is unable to afford or delay their per hour wages then what are the possibilities that we can avail non-financial benefits from insurance companies or government. Many workers are protested Libyan government and these protesters are forcefully removed by the army forces under the government of Gaddafi. As a result, they have used other unfair means such as support in smuggling of weapons, drugs, robberies, and other illegal activities so that they can fulfill their family's expenses. It is a need of time that there is clear structure of wages and non-financial benefits so that workers level of job satisfaction and commitment must be increased, and more skilled workers and supervisors show their interest in development and success of LPs. Respondents revealed that political instability and inequalities, hierarchical society, security and safety, stated-owned and control of government, economic crises, and lower level of planning that influenced the factors of organisational culture and SCRM activities in LPs. Respondents have indicated that political instability and power inequalities are the most important factors as per the given interview of selected supervisors. They also given high scores to nationalisation of organisations and control of government authorities in LPs.

### **Centralised Administration Model and its Impact on Supply Chain Risk Management Practices among Libyan Ports:**

*Supervisor T has said:*

*Under my supervision, several times workers are protested Libyan Maritime Administration that is authority of all public LPs company. They found very lower wages and after very long delay and their family survival is also dependent on only one source of income. Therefore, corruption, robbery, human trafficking, drugs dealing have been increased in ports because government LMA cannot fulfil the demand of their workers.*

*Supervisor V has said:*

*Congestion on this port is major issue that has brought many negative consequences such as long ques of ships, complaints of slow processing the loading and unloading, and lower level of facilities for crew. Due to congestion, owners of ships, crews, and ports are struggling for effective utilization of time and as a result we all are suffering due to high level of losses and bad word of mouth among traders and businessmen. Congestion is the result of poor government planning, control, and incompetent management style.*

*Supervisor W has said:*

*In previous years, we have suffered due to economic mismanagement, and centralisation of budget and ineffective utilization of budget (i.e. low repair, maintenance, and development) for ports and transport infrastructure that facilitates the operations of trades through ports. As a result, congestion has been increased and inefficiency and ineffectiveness are more common that reduced the income of government in terms of lower level of import, export, and turnaround time of ships.*

*Supervisor X has said:*

*In most of LPs, we are using first generation technology for loading, unloading, and material processing. We have also lack of machinery and equipment therefore we are unable to utilize the workers efficiently and effectively. Due to the control of armed groups, militia, and other opposite groups, the Libyan government has lack of resources because they controlled the oil exports which is the major income source for government.*

The Libyan economy has long been suffering due to internal political turmoil and poor governance in the country. Due to incompetent management of the country and insufficient capital due to lack of investor-friendly policies, the government is unable to develop world class and well performing ports. Due to this reason the ports are struggling with lack of equipment and lack of investment. The ports in Libya are badly outdated due to old equipment and old technology which has made it difficult to move containers on the ports swiftly. The investors are not confident about their investment in the country due to poor national security in the country. The inflow of foreign direct investment has decreased in the country due to unclear legal structure in the country, arbitrary decision making, and excessively staffed public sector of the country. Besides, there are also various other structural rigidities which have posed impediments to FDI in Libya. The banking sector in the country is also weak due to poor regulatory framework. Due to this reason a sharp decline has been observed in the FDI in since 2008 and by 2011 the FDI in the country became zero. Now following the start of civil war in the country in 2011, the LPs are unable to acquire new technology, and this has further plagued their efficiency. Due to civil war the government is also unable to recruit new workers as the country is divided into different militia factions. The country has a poor economic situation due to which it is not possible to provide salary to the staff. This is affecting the motivation of workforce in the country. The capacity of LPs can be so estimated that they only have the technology to anchor ships smaller than third generation class. Due to this reason they are unable to facilitate large container ships providers between Asia and Europe.

This affecting the trade volume of country. In order to mitigate this, the port authorities use the ship cranes or mobile cranes for loading and offloading of cargo. This has increased the turnaround times of ships due to which the operational inefficiency is taking place. During interviews, it is also found that incompetent management, lower level of government income, and lower level of investment in heavy machinery and technology are the main reasons that negatively influenced the performance of LPs. Furthermore, two or three government controlled on Libyan maritime administration and no clear definition of supervisor and ordinary workers are the main reasons of ineffectiveness in LPs. In Table 12 below highlighted the organisational culture factors in the context of LPs gotten more attention. The theme is organisational cultural and sub-themes are authoritative leadership style and hierarchical orders, top down communication approach and lower involvement of employees, predetermined set of rules and operating procedures, incompetent management, lack of individual strategies and emergency plans, and lack of timely decision making by the government and port authorities. These are some of the sub-themes that are highlighted by respondents and it may influence the SCRMP in LPs. It has been found that authoritative leadership style hierarchical orders are the most important factors as selected respondents. These respondents are also given high scores to top-down communication approach and lower level of employee involvement.

### 7.2.3 Internal and External Challenges for Supply Chain Risk Management Practices:

#### Challenges for Supply Chain Risk Management Practices in Libyan Ports:

Table 7.3 Challenges for Supply Chain Risk Management Practices

Themes	Definition	Codes	Keywords
Uncovering the Challenges of SCRMP in LPs	Uncovering the Challenges of SCRMP negatively influenced the operational efficiency and effectiveness of LPs	1) Internal Challenges for SCRMP	Internal violent conflict Lower level of exports Militia control on internal and external operations of ports Irregular/closure of ports operations More illegal activities in ports Lower level of productivity and service quality Congestion/lack of port expansions Lack of heavy machinery for loading and unloading Lower level of Cargo handling capacity High cost for transport Lack of financial and non-financial incentives Protest and high intention to exit

		External Challenges for SCRMP	<ul style="list-style-type: none"> <li>Conflict and war with neighbor countries</li> <li>Weak global supply chain</li> <li>Lack of Foreign Skilled labor</li> <li>Conflict with international forces (like USA)</li> <li>Impact of Foreign countries on ports</li> </ul>
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**Internal Challenges and its Impact on the Supply Chain Risk Management Practices on Libyan Ports:**

*Supervisor B stated:*

*Due to internal conflicts, many buildings, roads, transport system, railway tracks, electricity, internet services have been damaged in those cities which have famous and important ports. These damages have negatively impacted the functions and income of LPs. Many people avoid using these routes due life-threatening risks, extortion, and losses of inventories due to bombs and fires from many years.*

*Supervisor F has following point of view:*

*Armed groups in Libya have executed/killed many people and controlled the public infrastructure throughout the country. These groups have controlled the Libyan main source of income (i.e. oil productions and delivery). As a result, Libyan government has lack of funds to repair, invest, or pay the wages to the workers who are working on LPs. Therefore, irregular working and protest against the government is one of the common activities on LPs that negatively influence the performance of LPs.*

*According to Supervisor C:*

*Private investors, imports, and exports are continuously declining since the armed groups have looted the containers. Investors, importers, and exporters are more afraid to lose their money as government is unable to provide safety and security from many years. These armed groups have attacked on transporters and many of them are injured and lost their vehicles. Although now Libyan army is controlling these ports, but the government has shortage of resources to pay wages/salaries to army and workers on LPs.*

*Supervisor H Argued:*

*Libyan forces have done airstrike on militia which is controlling the oil infrastructure and ports in Libya. Even the provincial governments of Libya are supporting these airstrikes due to conflict, poor coordination, and relationship. After these airstrikes, most of oil tanks are crashed and some workers are badly burned due to extreme fire. Now many workers are left their jobs and shifted to other places for saving their lives due high life threatening risks.*

*Supervisor I said:*

*Hostility and competition among groups is thus not only an issue of division of resources but also that of fighting for asserting their identity. For example, several groups are fighting in Libya for asserting their identity such as LNA, Tebu, Tuareg, GNA allied forces, Islamic State forces, and various other unknown factions. There have been increased reports of armed robbery, kidnapping to settle scores, carjacking, burglary, and crimes involving weapons that negatively influenced the workers and investors of Tripoli port in Libya.*

Today, businesses trade through ports are facing rapid changes in their internal and external environment, which requires to pay more attention to strategic thinking, which involves understanding and analysing the various elements of these environments, as well as, the capabilities of the enterprise to build strategies to meet their needs. The port economy has turned into major sector of economy and this can be seen in both qualitative and quantitative growth of economy. The role of ports is widely accepted as global geographical networking and for a port to be accessible is the indicator of country's economic performance. Additionally, ports play a significant role in modern societies and substantially contribute towards the GDP of not only the coastal city but that of entire country. Different modalities are also used for connecting port with other cities and mainland of the country such as through railway tracks, roads, pipelines, ships, trucks, etc. The demand for transport is an ever-increasing demand and with time more infrastructures need be built to overcome transport congestion. When the economic efficiency of a port is improved the investment goes up because investors get return on their investment. This leads to better infrastructure at port and leads towards construction of more terminals at port. In this way the capacity shortage of port is also overcome due to which cargo handling becomes easier. This all contributes towards the GDP. There is also a negative impact of port on coastal city such as increased pollution. In state owned organisations, strong market influence is not acquired by existing firms due to little or no competition. Furthermore, these industries were visible failing due to low productivity and poor services such as LPs. Due to this failure, the overall trade volume of Libya also decreased. Due to nationalisation policy, the trade output of Libya also decreased as most of the companies were owned by state. Due to



nationalisation of manufacturing sector, the exports of the country also reduce by a significant margin. Additionally, the Libyan government had introduced restrictions on various import products for protecting the local manufacturers. Therefore, Libyan ports are facing several challenges such as lack of investment because private sector is not encouraged or permitted by Libyan government to invest in ports. These problems have affected the overall economic performance of the country. Since 2011 there are various armed groups present in the country that are fighting for power. These militias have also established their own court and have refused to accept any central government and its authority in the country. These groups frequently execute their opponents and have also closed several schools, banks, oil ports, and coastal cities in the country. Libyan government on the other hand have been found to have hired gunship helicopters, snipers, artillery, anti-aircraft weapons, warplanes, and warships which they are using against such militias and even attacking the funeral processions. Further, it has also been reported that the security forces are increasingly using firearms and assault rifles directly against the civilian protestors. As a result, roads, electricity, internet, buses, railway tracks are partially or fully damaged in some cities that have major ports (i.e. port in Tripoli) and trade activities. These armed groups such as LNA, Tebu, Tuareg, GNA allied forces, Islamic State forces, various other unknown factions and militia have controlled the oil reserves, gas, and ports operations. As a result, robbery, armed weapons, human trafficking, smuggling, drugs dealing, and other negative activities are increased. Many of countries and investors are lost their ships and consignment due to insecurity and unsafety on ports. Although the country is home to largest oil reserves in the African continent but the years of conflict among tribes for influence and control over oil rigs has affected the overall production of oil by the country. There are conflicts between western and eastern wings of the country at present due to lack of political consensus. Due to these internal conflicts, infrastructure such as roads, transport system, railway tracks, electricity, internet services have been damaged in those cities which have famous and important ports. The structure of the supply chain is a kind of building a partnership or alliance between several partners or parties. However, it has not been seen in Libya whether it is worker, or neighbour countries, or international actors. Successful supply chain on ports requires building a state of mutual trust and a high degree of reliability, building a system of good communication between the parties of this chain and finally creating cooperative relationships and strategic alliances among the supply chain members. Ensuring the success of the agreed structure of this supply chain.

Competition and hostility among tribal groups in the region is not only a problem of dividing resources but is also that of maintaining their distinct identity. There are various factions which

are at par with each other in Libya to assert their identity against one another e.g. Tebu, LNA, GNA allied forces, Tuareg, Islamic State Forces, and various other local factions. Some of these groups have been recognized by foreign governments as well whereas others are labelled as terrorist organisations. After the downfall of Gaddafi regime, the crime rate has also increased in Tripoli which includes increase in number of kidnapping, armed robbery, burglary, carjacking, and looting and plundering. The foreign workers have also been robbed at gun point of their valuables. The Gaddafi regime released 15000 to 16000 criminals just before the capital fell to NTC forces. However, it is also unclear that what extent these criminals were involved in crimes because they did not receive fair trials in Libya due to lack of proper judicial system. Besides, the small and medium sized arms have also been looted from government's weaponry facilities and they are in the hands of local people. This has led to increase in violent crimes in the country, particularly in Tripoli. Although the government has launched schemes to enable citizens to handover such weapons back to government without any repercussion, but these schemes have not been fruitful so far. Local armed groups have also emerged which are focused on protecting certain ethnic minorities or towns from other armed groups and these groups are acting on their own initiative. These groups are also resorting to public funding to maintain themselves. Besides, some groups are also resorting to kidnapping for ransom, and smuggling for financing their group. Some groups have become stronger to hold the public infrastructure such as water and electricity infrastructure and oil fields. These groups are thriving on the basis of juvenile recruitment as young persons can be exploited easily. The opponent groups then launch attacks of these groups and the positions they are holding thereby damaging the public infrastructure of the country.

### **External Challenges and its Impact on the SCRMP on LPs:**

*Supervisor J Argued:*

*Although LPs that are playing the role of Mediterranean/central point among as Egypt, Sudan, Tunisia, Chad. Due to the poor political relationship and conflict that have been started since the Gaddafi regime, these four neighbor countries are not exporting oil as well as labors. Therefore, we are seeing towards other countries for trade export and development of LPs. Since the end of Gaddafi regime, there are many meetings that have been conducted to improve the relationship among these countries but until now they still have doubts and insecurity. He also said that three government claimed their controls on LPs after the end of Gaddafi period therefore there is more chaos and insecurity among supervisor regarding which government order must be followed on Libyan port.*

*Supervisor M stated:*

*During extreme attacked on ports from Militia and local armed groups, many containers and oil tankers are forcefully hijacked. After more insecurity and unsafety, neighbor countries have adopted long routes for trade and their investors are withdrawn their interests from imports and exports. Ultimately, it negatively influenced the development and value of ports as many international business actors avoided to use the territories of LPs.*

*Supervisor R stated:*

*He showed me a letter that has issued by the USA coast guard for highlighting the anti-terrorism measures especially in ports of Libya. The statement of that letter is highlighted a serious threat to traders like **“proceed with extreme caution when approaching all Libyan oil terminals, particularly in eastern Libya, due to potential violent and criminal activity based upon recent attempts by armed, non-state actors to engage in illicit export of oil”**. Therefore, many big ships are used alternative route and the productive activities of Libyan port workers are also reduced and they suffered due to low income and more protest.*

*According to Supervisor K:*

*In Gaddafi regime, he controlled the natural resources such as oil and gas exports. Due to conflict with neighbor countries and USA, he preferred to sell these reserves to Russia and other developed countries. Therefore, neighbor countries and USA invested in militia and militia attacked on these main ports to control the export of oil and disturb the Gaddafi's government. As a result, government has lost the main source of revenue that is oil export. This violent conflict negatively influences the growth and development of LPs and negatively influence the trade through these ports.*

*Supervisor L said:*

*I have also seen the shipments of armed supplies that came from Egypt, USA, and Russia. These weapon supplies raised the intensity of violent conflict among some cities and many crew members as well as ship operators are killed, and infrastructure have been demolished due to these violent conflicts.*

The politics and economy of Libya is unique, as these can be regarded as two sides of the same coin. The Libyan politics is unstable and due to aggressive political situation at home, its relations with neighbouring countries are also disturbed. Due to this reason the country could

not create economic corridors with its neighbouring countries and as such lost the opportunity of becoming a player in global supply chain. On the other hand, neighbour countries supply chain on ports are responded quickly, efficiently and effectively to changes in the market to maintain success and create a competitive advantage in the global market by focusing on time, flexibility and responsiveness. However, Libya is experiencing poor foreign relations with its neighbours such as Tunisia, Egypt, Sudan, and Chad. The organisational performance of its ports is also very poor. This can be so estimated that the neighbouring countries of Libya avoid passing through its ports and are not using the LPs as gateway to international trade. Besides, the country also failed to promote trade in non-oil sector due to which its economy could not be diversified. This also resulted in a drop in its trade with other countries also because its relations with other countries are not healthy. The country also did not focus on establishing corridor with its landlocked neighbours which could use LPs thereby adding into the economic growth of Libya. Moreover, country did not establish as proper road and railway link with its neighbours. This only resulted in more political instability in the region. According to a UK trade and investment study, for a short period the country did assume the position of fourth most attractive country from 2012 to 2014 to do business with after giving exemption to products from Arabian countries on taxes and tariffs and lifting the ban from Chad. However, due to increased political instability in the country and due to poor security situation, Libya lost this position. During extreme attacked on ports from Militia and local armed groups, many containers and oil tankers are forcefully hijacked and used for their personal objectives. When investors, ship owners, and other countries seen insecurity then they have issued cautioned to all people who are using LPs for passing, import, or export. This violent conflict negatively influences the growth and development of LPs and negatively influence the trade through these ports. It has found that Supply Chain Management on LPs was unable to reducing waste and non-add value activities, taking more time for accessing inventory, costs are high due more time and congestion, lower level of speed, timeliness and accuracy of information exchanged, and lower level of coordinating efforts (in terms of continuous improvement and understanding of objectives) are found. Finding also revealed that since the tribal wars began the few main investors of the country from China, South Korea, and Turkey have also left Libya. Due to this reason Libya experienced steep decline in exports and trade productivity and increase in imports. Besides, there are also countries with which the trade is non-existent. Due to troubled relations with European countries, there is lack of investment in Libya which is also due to poor security situation in the country and lack of control on ports. The situation at ports is also poor as due to lack of cargo handling capacity the ports are unable to attract big ships. The country does not enjoy healthy relations with western countries due to Lockerbie attacks. Due to nationalisation spree as a result of which the country started nationalising

companies, US withdrew its investment from Libya. This is also because the country adopted a general hostile attitude towards Israel. US banned importing oil from Libya and also banned some of the items it was exporting to Libya. The technological development of the world and the rapid growing and cross-border trades through ports have created a state of intense competition in the business environment. There is also inefficiency in relation to container stacking and transportation. Due to this reason the LPs are also unable to meet the potential demand and become significant hub ports. It is also important to note that LPs are not supported by rail network due to which roads are taking the entire load. The poor infrastructure development is resulting in slowed transportation of goods from ports to the manufacturing plants. This means that the flow of cargo from ports to other parts of the country is slow and the cost of transportation is higher. The load on roads for cargo transportation is beyond their capacity due to which wearing and tearing of roads is common. Further, the congestion times are also higher on Libyan roads due to which the cost of transportation has increased because of more time which it takes for cargo to move from port to other parts of the country. This means that due to lack of proper land transport corridors the flow of cargo is inefficient across the country. During the interviews, it has found that congestion on LPs means high cost, high time for offloading containers on ports and transporting them in the country and weakening reliability of ports is only adding into problems for the Libyan economy. It is believed that there does not exist any strict difference between leader and the low rank labourers, i.e. the hierarchy of workers is not clearly defined. Due to this reason the performance in organisations is inefficient and organisational procedures non-existent. It has been found that due to civil war and violent conflict situations these ports operations were irregular, and it negatively influenced the local and global supply chain management. In Table 12, I have summarised all challenges of SCRM. Respondents have highlighted that irregular/closure of ports operation due to civil war, weak global supply chain system, lower level of cargo handling capacity and heavy technology, incompetent management, militia control and illegal activities, congestion and high transportation costs, shortage of skilled worker and lower benefits influenced the effectiveness of SCRM in LPs. The respondents of this study also given high scores to militia control on the operations of ports, most of ports are involved in illegal activities such as drugs supply, human trafficking, and weapons supply due to armed attacks and control.

### 7.3 Discussion:

#### 7.3.1 National Culture and Supply Chain Risk Management of Ports:

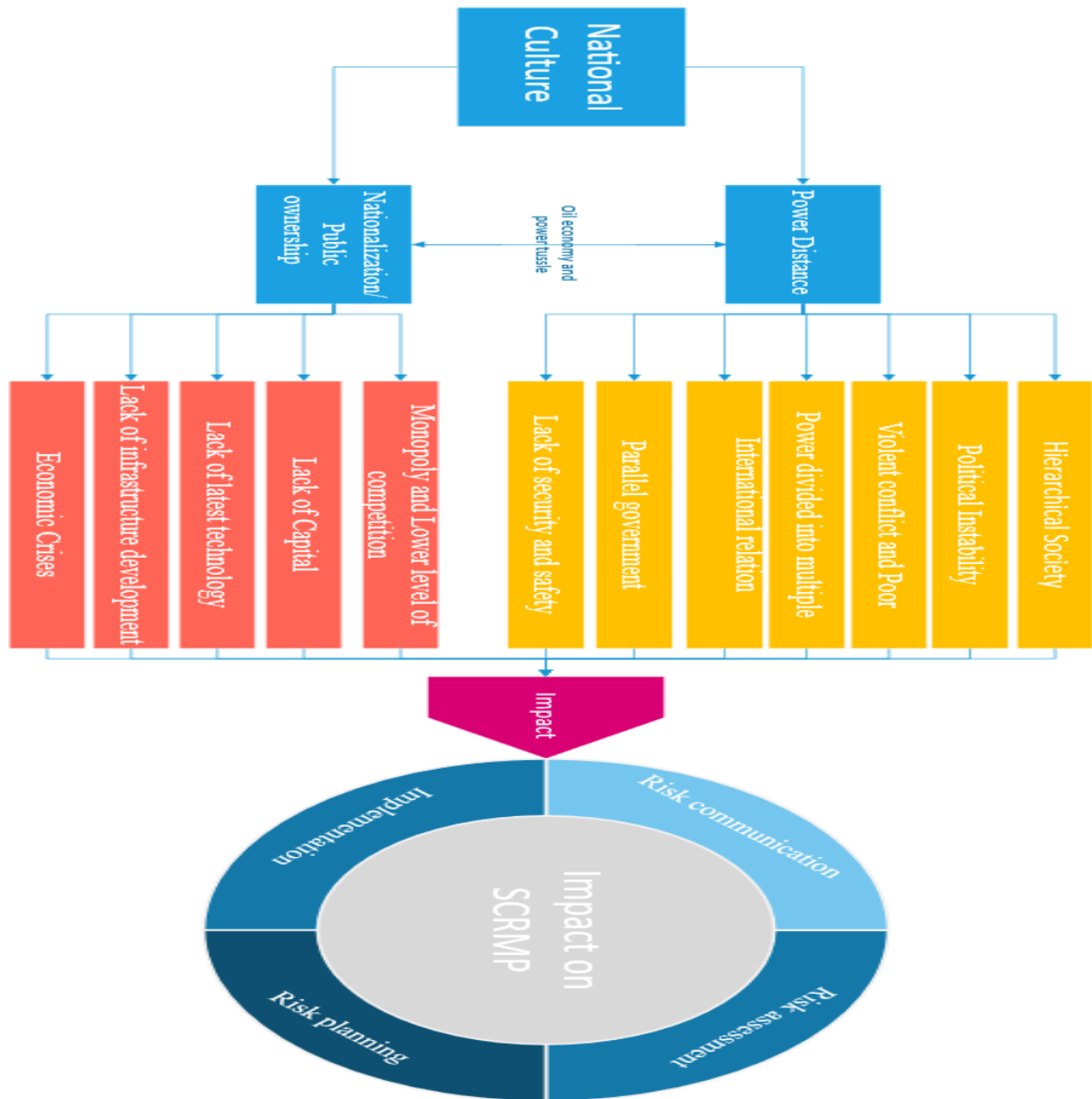


Figure 7.1 National Culture and Supply Chain Risk Management of Ports

Studying Supply Chain Risk-Management of ports, analysing the factors that may externally or internally leave strong impact on services from starting point to the end consumers. These factors may include government role, decision making and communication styles, government-neighbour countries relationships and government-international actors relationships, electricity and internet services, roads, political stability, railway tracks, private and public sectors, congestion, organisational structure, services on ports, wage structure, major exports and imports, technological advancements like heavy machinery, availability of resources and capital for development of infrastructure and que or congestion of ships.

Thus, current study aims to analyse those important factors that can positively or negatively influence organisational and national culture, particularly supply chain risk-management of LPs. In fact, Global supply chains amongst ports act as major source of the competitive advantage as it helps to access raw materials of relative advantage, cheap labour, better finance opportunities, arbitration opportunities, international product markets, and additional benefits from host countries to attract global capital. As compare to regional supply chains, global supply chains encounter high risk due to effects of natural, social, political and economical changes. These changes make it hard to manage the global supply chains effectively. Supply chains of Libya currently face conflicts with both international actors and neighbour countries that negatively influence it and reduce its profitability to greater extent.

Oil is major source of income not only for ruling elite but also for the country (Libya) itself. Oil was recently discovered in Libya just before revolution led by the Gaddafi. Due to control over oil income and oil ports, the coastal areas of country became commercial hub. This also led to increase tribal unrest within country because of their efforts to take over the cities with rich oil economy. However, Gaddafi`s authoritarian rule ruined these trial efforts. After the revolution-2011, when mob executed and deposed Gaddafi on street, the situation get even worse rather than becoming stable.

The most important aspect of LPs is that they act as hub for African countries. Among the state-owned ports, four have been selected for current study. Organisational and national culture prevailing in LPs mainly based on authority, political involvement, uncertainty avoidance, union, nepotism, centralisation, inequalities, greater cynicism, conflicts and lower level of long run decision making. These features collectively lead the LPs to face multi challenges including political patronage, economic mismanagement, corruption and ineptitude. While interviewing supervisors, Researcher observed that direct foreign investment on the LPs tend to decrease due to chaos, economic crises and political instability. Other reasons for lower trades and economic crises over LPs include poor relationships of Libyan government with international forces and neighbour countries. As Libyan government is facing armed control and violent conflict on its natural resources like gas and oil, therefore it is unable to invest in or repair its roads, land transport passages and railway systems. Resultantly, LPs became failed, closed or ineffective since long. Therefore, it has been structured above that all of these factors impact on the risk assessment, planning, commination and implementation of the risk manage strategies for ports because the instability in power, politics and economy impact on the strategic management of the ports.

Libya is one of the North African countries that is surviving in leadership crisis and risky geographical location (Bellamy, & Williams, 2011). Libyan population count comprises 6.4 million and the country came into being in 1951 (Chivvis, & Martini, 2014; Elferjani, 2015). Several revolutions have embroiled the country ever since influencing also the LPs sector (Chivvis, & Martini, 2014; Handley, & Angst, 2015; Kattman, 2014). There are many challenges that has been faced by Libya such as lack of security, safety, damaged infrastructure as well as long history of conflicts with the USA (Lacher, 2018; Ghashat, & Cullinane, 2013; Elferjani, 2015; Kattman, 2014). It is a fact that Libya's has seen more challenges and crisis especially since 2011 when violent conflict among armed groups increased across the country (Chivvis, & Martini, 2014; Eisend, et al., 2016; Ghashat, 2012; Handley, & Angst, 2015). Libya has hierarchal society that has many diverse cultural features such as inequalities, power distance, centralisation, uncertainty avoidance, and more government control (Elferjani, 2015; Eisend, et al., 2016; Ghashat, 2012; Handley, & Angst, 2015; Kattman, 2014). "*Large and aggregate shocks caused by armed conflicts have devastating consequences for a country including loss of lives, displacement of people, destruction of physical capital and public infrastructure. Evidence from macro-level studies shows that countries experience rapid recovery after wars and armed conflicts and return to their steady state within 20-25 years*" (Akbulut-Yuksel, 2014, p. 635). It is understood, that there is long time and resources are required to rebuild the public infrastructure in Libya, so researcher is concerned about the challenges of LPs because it may require long time recovery (Ghashat, & Cullinane, 2013; Elferjani, 2015; Eisend, et al., 2016; Ghashat, 2012). As "*Libya's current security problems, especially the proliferation of militias, are the most visible consequences of underdeveloped institutions*" (Boduszynski, & Pickard, 2013, p. 88). There is need to consider the local socioeconomic, cultural and political circumstance of the country so that we can offer a best recovering practice among LPs. Despite the efforts are made to find the best Supply Chain Management practices for world class ports, but rare research efforts have been done to evaluate the impact of national culture, public ownership, and organisational contextual factors on SCRMP after post-violent conflict in Libya.

Descended into the civil war, economic mismanagement and political instability are the main reasons that put the country into uneven and destructive transformation. In addition to that, Libya has been facing international isolation within political community due to having political conflict with neighboring countries. Moreover, LPs have sent the Sudan, Tunisia, Egypt and Chad workers back because Libyan government has poor relationships with all these countries. Moreover, older vices of nepotism, oppression and corruption are still there in Libya.



Resultantly, many diplomatic missions have been withdrawn from Libya by various countries due to high possibility of attack over their diplomatic staff and embassies. The armed groups such as militia and others have weapon support from Russia and Egypt to stand against Libyan government. As Libya has conflicting relationships with its neighboring countries therefore there is insufficient collaboration between international community and Libya. The involvement of Libyan government in many internal conflicts has the country to monitor and control its ports. Corruption, ineptitude, economic mismanagement and political patronage have further plagued country's internal political stability. All these factors weaken its political management and loosen its control over its security situation. Resultantly, Libya cannot effectively utilise a framework to drive foreign investment within country and have control over its ports. International communities have lost their trust on country because it is dictatorial and corrupted regime and thus hesitate to make investment there. Moreover, the mismanaged and troubled governance in country leads to make polarized decisions that result in economic mismanagement.

Libyan government is facing many obstacles in form of environmental, social and economic challenges that effects country's overall economic condition. Moreover, Libyan government shows little interest in making investments to develop its infrastructure, deploy machinery and upgrade its ports. Resultantly its trade volume is getting reduced day by day. Though country's strategic location is beneficial for it but still it faced constant problems. In this regard, centralised decisions, insufficient investments and monopolistic practices are main hindrances for ports' management. Since long, country's socio-economic situation and political landscape has been regarded by corruption, economic mismanagement, dictatorship and oppression. Resultantly, internal conflicts emerge within country; resultantly Gaddafi was deposed and executed by mob in 2011 that push the ports ownership and power in uncertainty in Libya. According to UNICEF (2018), 1.1 million individuals are looking for humanitarian support, 378000 children require primary facilities (e.g. hygiene, sensation, safe water, and education) and 343200 children are looking for shelter, security, and protection after post-violent conflict situation in Libya. Moreover, this report has appealed to gather minimum US \$20,161,000 fund for overcoming the negative impacts of 7-year-long conflict in Libya. Most of the international organisations are providing fund to offer very basic facilities like temporary shelter or refugee camp, medication, water, and food (Unicef, 2018; Unhcr, 2018). It is a very vibrant situation that victims of violent conflict are struggling to get water, sanitation, food and health facilities then how government can spare a good amount of budget for recovering the conditions of LPs. It is a critical situation for government and international aid providing organisations in Libya

because they are more focused on food, shelter, cloth, water, and health facilities compared to improving administration and operational issues on LPs (Fetouri, 2016; Unicef, 2018; Unhcr, 2018; Ghashat, & Cullinane, 2013; Elferjani, 2015; Eisend, et al., 2016; Handley, & Angst, 2015; Kattman, 2014). The extent of literature has reported that traditional pedagogical method that resists the change needed to implement best operational practices among LPs such as the domination of the government control on LPs which reduces the contribution of private sector, and ineffective reward system that encourages the local people of Libya to perform their duties fairly and effectively (Abouarghoub, et al., 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012). In the presence of financial and other crises, this study will offer a complete road map by highlighting the national, organisational, and supply risk management problems of LPs.

### 7.3.2 Organisational Culture and Supply Chain Risk Management of Port:

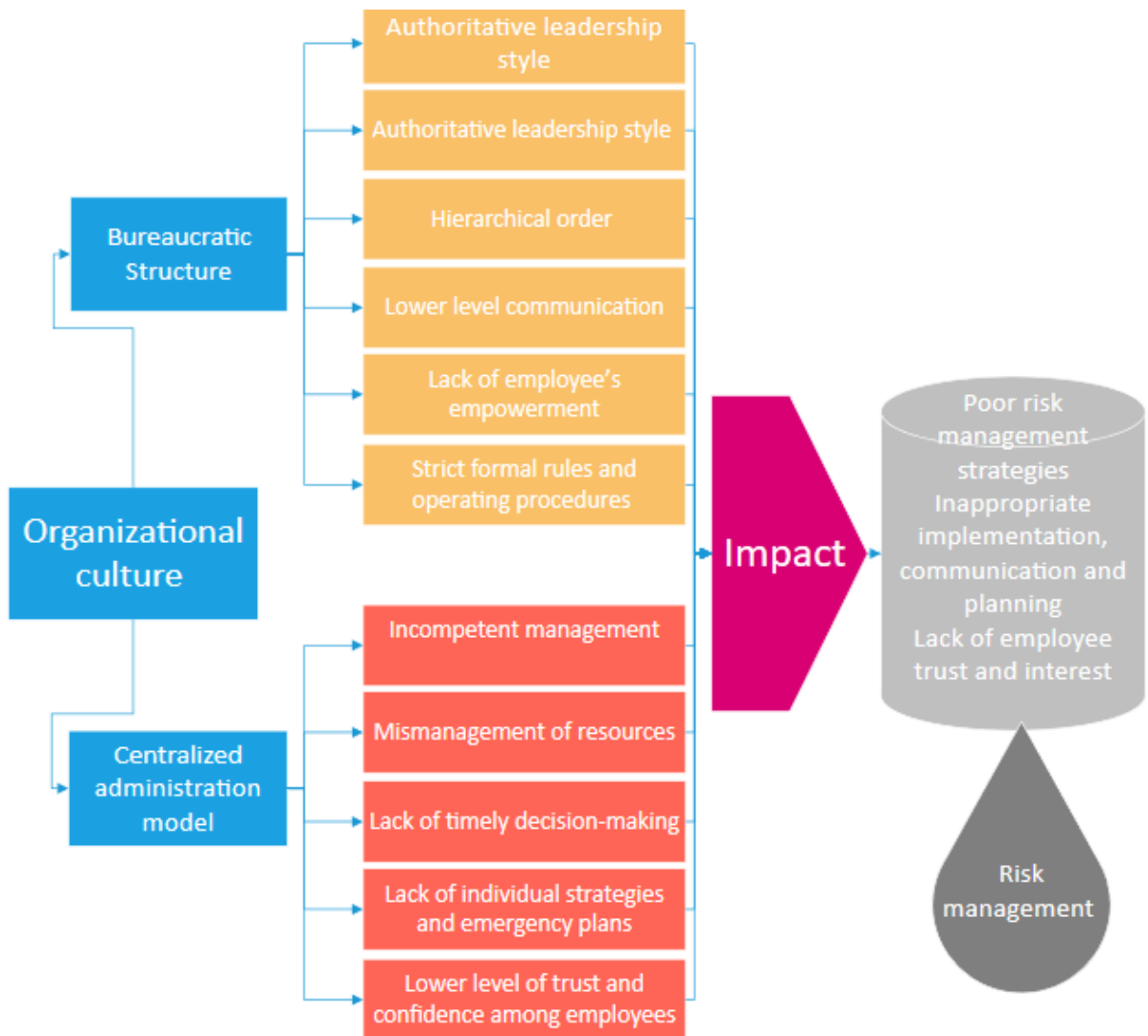


Figure 7.2 Organisational Culture and Supply Chain Risk Management of Port

Authoritative leadership style is the one in which orders are given from the top management down the hierarchy and they are followed as they are. It is also usually referred to as the top-down approach in which rules are fixed beforehand and are to be followed strictly. However, this approach failed in the context of LPs sector due to incompetent top management, low involvement of workers in the activities of the organisation, lack of infrastructure, and lack of timely decisions.

This then affected the SCRM of the LPs. Unfortunately, the rules were forcefully implemented during the regime of General Gaddafi and the relationship between management and workers was poor. Further, there were parallel control systems such as existing at provincial, local, and central level. This amounted to a complex system of management because various governmental agencies were involved, and different ministries were involved in the same process thereby making the management a complex task. Due to parallel layers of management the SCRM was adversely influenced. Workers held the view that if government failed to provide salaries to them in time then what guarantee do, they have that the insurance companies would pay them in case of accident. Resultantly many workers organised protests, but they were forcefully removed by the forces of the then Gaddafi government.

It was found that during Gaddafi government many workers had left their jobs because their wages were low and they lacked sufficient non-financial benefits such as child education, health & safety coverage, and security of tenure. Due to this reason the workers took to other channels of making money by unfair means such as robberies, weapons' smuggling and other illicit activities so that they can meet their financial needs. Even to date the wage structure has not been improved and due to this reason, there is a great need of time to enhance the wage structure of port workers including both financial and non-financial rewards for them. This will be helpful in increasing the job satisfaction and developing the interest of workers in participating in the development of LPs.

Respondents in this research revealed that political inequalities and instability, overall lack of security, state owned structure of companies, hierarchical nature of society and economic crises as well as poor planning has affected the SCRM and the overall culture of the organisations in LPs. Respondents also indicated that power inequalities and political instability in the region are the most vital elements contributing towards the lack of development. They also gave high score to control of governmental authorities and nationalisation of organisations in LPs.

The Libyan economy has been in crisis due to internal political unrest and lack of governance in the country. Due to incompetency of the country's management and lack of sufficient capital and also because the policies are not investor-friendly, the government failed to attract investors for development of ports. This is why there is acute shortage of equipment on LPs. The ports are also outdated as the equipment is really old and cannot meet the needs of modern ships. The containers cannot be moved swiftly on the ports. Since the overall national security is poor in the country, therefore, foreign direct investment is also not coming in into the country.

There is lack of clear legal framework in the country due to which the foreign direct investment has reduced in the country. Moreover, the decision making in the country is also arbitrary and the public sector is over staffed with corruption prevalent in the public sector. Due to this reason as well, there is lack of foreign direct investment in the country. There are also other procedural hurdles the country is facing which act as impediment to FDI in Libyan sector. Furthermore, the banking sector is weak in the country as the regulatory framework is weak. This led to massive drop in FDI in the country between 2008 and 2011 as the FDI in this period dropped to zero.

The civil war engulfed the entire country and the LPs nearly halted their operations due to lack of management in the country. The recruitment of new workers also stopped in the country and the existing one could not be paid wages. The overall motivation of the workforce in the country also dropped. The capacity of these ports can also be estimated from the fact that these ports only have the capacity to anchor ships that are from class of third generation. The large containers cannot be facilitated at LPs although large containers are the main providers of trade between Asia and Europe. The trade volume of the country has also been affected due to political crises in the country. In order to overcome the problem, the port authorities are using mobile cranes or ship cranes for offloading or uploading the cargo in the bigger vessels. However, this has resulted in increasing the turnaround time of ships which is plaguing the operational efficiency of the ports.

It also came to limelight during the interview that lower income levels, poor management and lower investment level in technology and heavy machinery at ports are the chief reasons that the performance of LPs is affected. Moreover, the inefficiency of LPs also stems from parallel management layers due to which it is difficult to differentiate between central workers and provincial workers. The figure above highlights the factors of organisation culture with respect to LPs. The theme in this regard is culture of the organisation and the sub-themes comprise the hierarchical orders, authoritative leadership style, lower employee

involvement, top down communication approach, incompetent management, pre-determined set of operating procedures and rules, lack of emergency plans and individual strategies and lack of timely decision making. These represent the sub-themes which the respondents highlighted, and it can affect the Supply Chain Management in LPs. The respondents indicated the authoritative leadership style and hierarchical orders as the most significant factors. The respondents also gave high scores to top-down communication approach and lower level of employee involvement.

The major aim of this study is to understand the SCRM of LPs as well as how it is linked generally with national culture and specifically with organisational culture. Present study attempted to uncover all internal and external factors that positively or negatively influence the SCRM of LPs from many years. It is not possible to suggest fruitful practical recommendations without understanding the current structure/situation of LPs and what internal or external actors are influenced that structure. Researcher have also discussed the strategic position of LPs for import and export as well as the major source of export or income for Libya.

To meet/ fulfil the proposed objectives of current study, researcher have conducted semi-structured interviews because it is more flexible data collection option in qualitative research, and it is also useful for adding more questions and understand the nature of problem with the help of experience, background, opinion, suggestion, situation, context, culture, and environment. Initially, the researcher conducted a pilot study with the purpose to measure the validity and reliability of semi-structured interview. After analysing the samples of previous qualitative studies (Elferjani, 2015; Rayan et al. 2003; Javadi and Zarea, 2016), the researcher selected 32 supervisors from four major ports of Libya such as Misurata, Khoms, Tripoli and Benghazi ports. Previous studies have indicated that main four ports (e.g. Misurata, Khoms, Tripoli and Benghazi) that are gotten attraction due to global supply chain, tourism and oil exports to other countries (Abouarghoub, et al., 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012). On the other hand, these four ports are also negatively influenced for illegal activities such as weapons supply to armed groups during violent conflict, human trafficking, drugs dealing, and life inside containers for illegal migrants. The organisational culture prevailing in public sector of Libya are characterised by corruption, economic mismanagement, nepotism and political patronage. Majority of the businesses running in Libya are state owned where centralised administration model is operating. Likewise, ports are also centrally controlled on the basis of this centralised administration model. Majority of the industries in Libya are also state owned and private sector is either strongly influenced by the government or even expelled in some cases. This results in failure of country to attract foreign

direct investment. Centralised government wants to control everything from center which excludes private sector from development and management of ports and influence decisions about management and resourcing of the ports. Moreover, centralised control of government also minimised the competition among ports and reduce their performance below standard. Current study chooses LPs to investigate why they fail in playing dominant role in regional trade regardless they are acting as gateway between Europe and Asia via Mediterranean Sea. Also, they can cat as gateway between Europe and Africa. Moreover, they can also facilitate Niger and Chad – landlocked countries. Despite of all facts, these ports encounter failure in doing so. The study conducted by Gray (1988) showed that the culture of the organisation and its secrecy about its policies are closely interlinked. In this study the concepts propagated by Gray and Hofstede are attempted to be integrated. The study seeks to provide in depth analysis of differences in culture in Western and Libyan financial institutions with respect to disclosure of risk management practices. In western organisations, following the Hofstede's (1980) cultural model, there is low power distance and avoidance of uncertainty, but the masculinity and individualism is higher. The transparency or secrecy study conducted by Gray (1988) suggests with regards to culture prevalent in western financial institutions that the intensity of disclosure of risk management practices is higher in western financial institutions. In western financial institutions there is an open culture of disclosing their risk management practices and policies. However, the results are different with respect to Libyan institutions utilizing the Hofstede's and Gray's approaches.

Following the cultural study conducted by Hofstede, the culture in Libyan financial institutions possess high power distance level and uncertainty avoidance is also higher but the masculinity and individualism is at lower level. Following the secrecy/transparency study conducted by Gray (1988), it can be stated that the culture in Libyan financial institutions have low intensity level of risk disclosure policies i.e. they are not so keen to disclose their risk disclosure policies. Libyan institutions maintain their discretion with respect to disclosure policies about risk management. Instead, they are more likely to keep it confidential. The findings of the current research also are in line with the Gray's and Hofstede's approaches and show that risk management is significant for companies for the sake of achieving their goals. Further, it also shows that cultural differences can significantly influence the risk management disclosure.

The effect of disclosure practices is that it influences the secrecy/transparency of risk management practices and that the culture has a profound effect on such disclosure practices. (Hofstede, 1980 and Hofstede & Bond's 1988) researches on culture are one of the most

extensive and significant researches on cultural differences among nations. The secrecy dimension presented by Gray (1988) highlights the correlation between the organisation's secrecy/transparency policies with regards to their cultural values. In their study a framework is being developed about the disclosure level in organisations with different disclosure level according to their cultures.

As all LPs are state owned and centrally controlled by government therefore all fall under public sector. The ports have dual administrative structure that comprises of both regulatory arm and management arm. The distribution of these functions among private and public sector depends on administrative model generally adopted for ports. Under this model two groups work together, (1) Port Authority (2) Management Wing. Here, state acts as port authority and is responsible to maintain regulatory oversights and provide operational and technical facilities like operational efficiency, navigational safety, maritime security etc. on other pole, private sector provides its management expertise, for example, they manage all operational aspects in port (Burns, 2015). But in case of LPs, it involves highly complex structural layers of managements in which governmental agencies, departments and various ministries are involved. There are two main public companies that control the entire operation of all LPs. The port authority plays the role of statutory and regulatory such as implementing local laws, carrying signing off process, registration of the ships, marine pollution and legislation. However, port operator is responsible to conduct pilotage, berth allocation, tugging and planning.

As all LPs are centrally controlled, therefore no one can develop its individual strategies. If anyone of them wants to develop its own strategy, they must get clearance and permission of "Ministry of the Transport" at first and then have to pass through a long chain of many bureaucratic hurdles for clearance such as maritime industry, LPC headquarters and again ministry. For latter approval, "Ministry of the Transport" has to discuss these strategies with the General Ministry. Matters related to make investments at ports like purchasing new equipment's, expansion of existing infrastructure etc, seek to get approval from top. Under this centralised management model, port administration is characterised by mismanagement, corruption and miscommunication. This is main reason why private sector feels hesitation in making investment in LPs. Moreover, this badly influences LPs in terms of their operational efficiency. These problems hinder the LPs ` performance and resultantly they operate only barely. Subject related literature review reveals that decision making in LPs management is much centralised that is why decision-making encounters severe delays.

The two major public companies entrusted with port management have created monopoly that results in high level of corruption in Libyan port management. These complexities in port management reduced the ports performance to great extent. However, centralised management is beneficial too in sense of easy coordination, budget control and clear communication. Centralisation remained dominant command & control structure in various businesses since long but recently it has declining trend among businesses at large scale. Contrary to centralised management, power of decisions making in decentralised system is delegated down the management hierarchy. Recently, decentralised management as corporate structure is becoming increasingly popular throughout the world not only in private sector but also in public sector. Prior studies on SCRM have highlighted various benefits associated with implementation of strategic sourcing within SCRM. Strategic sourcing refers to an entire process from purchasing inputs to managing relations with suppliers, leading to achieve long-term organisational objective (Smeltzer, et al. 2003). Later on, Kocabasoglu and Suresh proposed four dimensions to summarise these definitions: (a) Role of Strategic Purchasing (b) Internal Coordination between Purchasing Function and other Functions (c) Sharing Information with Suppliers (d) Supply Management and Supplier Development (Kocabasoglu and Suresh 2006). Prior studies have also highlighted various benefits associated with implementation of strategic sourcing. Carr and Pearson (1999) through their work confirmed the positive impact of strategic purchasing on supplier-buyer relationships, suppliers evaluating system and organisation`s financial performance. By providing empirical evidence, (Carr and Smelzer, 1999) described the positive association between strategic purchasing and organisation`s performance and emphasised on the importance of active collaboration with suppliers.

Based on positive association of strategic sourcing with manufacturing flexibility, Narasimhan and Das (1999) also conducted a study and examined meaningful insights into significant contribution of strategic sourcing in improving overall manufacturing flexibility. In addition, with above findings, Narasimhan et al. (2001) further observed a significant association of purchasing competence with customer satisfaction and total quality management (Narasimhan, et al. 2001).

Nationalisation of organisations and country`s poor management since long has been badly affected country`s economy for many decades and has kept its infrastructure at worse state. Moreover, country has not sufficient road network and rail network to carry out logistics necessary for the economic growth. Since 1986, the country is suffering from internal political instability due to which it is not possible for government to develop its infrastructure and constructs new railway tracks and roads.



This threatens the direct foreign investment to take place within country. Moreover, relationships of country with its neighbouring countries, international forces and lending institutions are very poor. Resultantly, country receives limited development aid from foreign lenders and investors. All these factors make the country's economic growth stagnant and increase the insecurity within country because of lawlessness. Nowadays, country is facing economic mismanagement, poor security condition and political instability that decline overall economic performance of country. Later on, (Craighead, *et al.* 2007) proposed two important mitigation capabilities in their study: warning capability and recovery capability. Recovery capability stands for coordination among various resources of supply chain and interactions between entities of supply chain that ensure instant recovery from supply chain disruptions.

On the other hand, warning capabilities stand for coordination and interaction among resources of the supply chain to identify potential supply chain disruptions. Moreover, Christopher and Peck (2004) highlighted that risk assessment is very important before implementing risk mitigation strategies. Later, Christopher and Peck conducted a study and highlighted supply chain cooperation (e.g. supply chain agility and information sharing) as the most important component of supply chain network. Faisal, *et al.* (2006) conducted a study on SCRM and emphasised on the importance of collaborative relationships, strategically risk planning, agility and information sharing in mitigating supply chain risk. The four-supply chain risk mitigating strategies proposed by (Juttner, *et al.* 2003) are: contingency plan, removal of unreliable supply, flexibility and cooperation with members of supply chain. Libya is a country that is dependent on the exports of oil and gas (Abouarghoub, *et al.*, 2017; Elferjani, 2015). The coastal cities of the countries became the commercial hub due to oil ports and control over the flow of oil income. These coastal cities have gotten importance especially for those countries which are particularly interested to control these natural resources by hook or by crook (Chivvis, & Martini, 2014; Lacher, 2018; Ghashat, & Cullinane, 2013; Elferjani, 2015). Unfortunately, the regime of general Gadaffi offered this opportunity by implementing rules forcefully within the country and by poorly handling the relationship with neighbour countries and international actors (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012). This study such as uncovering the challenges hindering the implementation of SCRM. There are various obstacles that negatively influence the Libyan economic, social, and environmental situation and operations at ports. These challenges are important to understand because they influence the risk management strategy and operations at LPs.

Finding of this study revealed that the Libyan government faced serious violent conflict and armed control on natural resources such as oil and gas, unable to repair or invest in roads, unfunctional railway system, and lower level of land transport corridors that are major functions in the failure/closure/ineffectiveness of LPs. These armed groups frequently execute their

opponents and have also closed several banks, oil ports, and coastal cities some cities where these four major ports are located. Libyan government on the other hand have been found to have hired gunship helicopters, snipers, artillery, anti-aircraft weapons, warplanes, and warships which they used against armed groups. As a result, operations at port and infrastructure of ports have been partially or fully affected for too many years.

The respondents of this study revealed that many countries and investors are lost their ships and consignment due to insecurity and unsafety on LPs. There is lack of positive and uniform transformation in the country which has fed into political and economic mismanagement and has descended the country into civil war. LPs are facing challenges such as ineptitude, political patronage, general economic mismanagement, and corruption (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Vandewalle, 2012; Pargeter, 2015). Besides, the Libya also entered political conflicts with its neighbouring countries due to which it faced international isolation in political community (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012). Egypt, Sudan, Tunisia and Chad workers are sent back from LPs due to poor relationship of Libyan government with these countries. It is found that these countries are avoided to use sea routes of Libya for trade and discouraged their investors or businessmen to invest in Libya. As a result, poor relationship with these countries also influence the Supply Chain Management on LPs due to lower level of Libyan exports and lower level of usage of these ports. Furthermore, safety and insecurity on ports is one of the main reasons for discouraging international community to discontinue/discourage their investors for trade with Libya.

In any conflict there are three components: attitude, incompatibility of goals, and behaviour (Ma, Erkus, & Tabak, 2010; Nguyen, Larimo, & Ali, 2016). The incompatibility paves way for conflicting situation to arise. The parties or actors in a situation believe that the other side is blocking the realisation of the goal (Leidner, & Kayworth, 2006; Peterson, 2014). The reasons underlying conflict can be human rights abuse, historical resistance and socio-economic marginalization (Nguyen, Larimo, & Ali, 2016; Leidner, & Kayworth, 2006; Peterson, 2014). Conflict theory holds the ground that conflicts arisen from the opposing groups that constitute different human behaviour in different social contexts (Ma, Erkus, & Tabak, 2010; Nguyen, Larimo, & Ali, 2016). There are three factors of social in nature which constitute the foundation of violent conflicts in a society: Organisation's Technical/Social/Political Conditions; the manner of regulating disagreements in a society; and deprivation level. Cultural violence represents legitimisation of structural or direct violence based on existing values and norms against an ethnicity, linguistic group, or religion (Ma, Erkus, & Tabak, 2010; Nguyen, Larimo,

& Ali, 2016). The conflict theory proves helpful to shed light by diving deep into studying deep rooted social phenomena for enlightened explanation, comprising wars as well as revolutions, wealth as well as poverty, discrimination along with domestic violence (Ma, Erkus, & Tabak, 2010; Nguyen, Larimo, & Ali, 2016).

The conflict theory generally seeks to provide scientific explanation of general forms of conflict which take place in a society, how conflicts begin, and the effects of different conflicts. Power is generally seen by conflict theorists as the central factor of society instead of regarding society as being kept together by collective agreement on cultural standards (Nguyen, Larimo, & Ali, 2016; Leidner, & Kayworth, 2006; Peterson, 2014). The fundamental to any conflict is the location of power and the one who exercises the power. Power politics represent the idea that distribution of interests and powers or an alteration in such a distribution can give rise to instability and conflict (Nguyen, Larimo, & Ali, 2016; Leidner, & Kayworth, 2006; Peterson, 2014). Politics and powers are the best description for the war taking place in Libya among different groups. Due to the lack of political consensus and lack of conflict resolution mechanism there are two parallel civil wars taking place in Libya between eastern and western governments (Abouarghoub, et al., 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012). Many armed groups identify as rivals of each other they start competing for maintaining their self-esteem against the other group. Several groups are fighting in Libya for asserting their identity such as LNA, Tebu, Tuareg, GNA allied forces, Islamic State forces, and various other unknown groups (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012).

The reason behind this also the political vacuum because for over four decades only one person had the absolute control of the wealth and power in the country i.e. dictator Muammar Gaddafi. Hostility and competition among groups is thus not only an issue of division of resources but also that of fighting for asserting their identity. For example, armed groups have been occupied and controlled the public infrastructure such as oil fields, public transport, ports and its infrastructure, water or electricity infrastructure in Libya (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012).

### 7.3.3 Internal and External Factors of Port Supply Chain Risk Management:

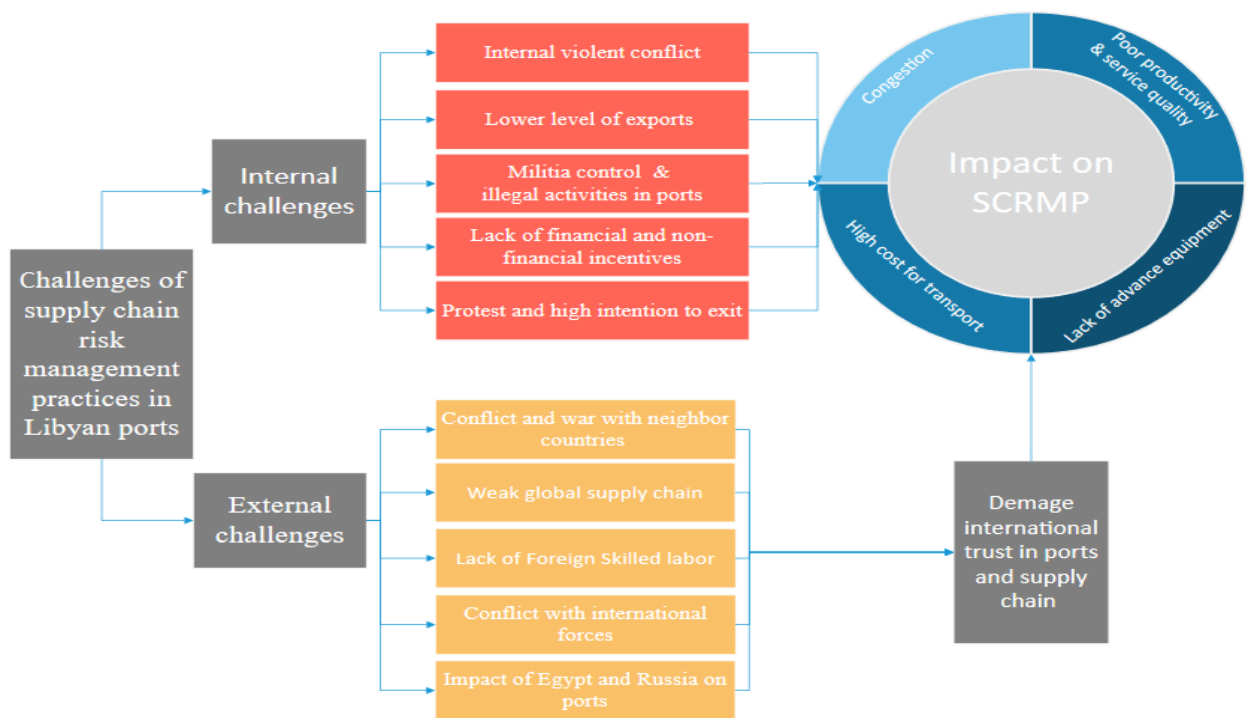


Figure 7.3 Internal and External Factors of Port Supply Chain Risk Management

Nowadays, rapid changes are taking place in external and internal business environment of the trades carrying out through ports therefore more attention need to be paid on strategic thinking, which involves analysing and understanding various components of these business environments, and firms` capabilities to build up strategies in accordance with their needs. Port economy now has become major economic sector that can be viewed in both quantitative and qualitative economic growth. Globally, the ports are accepted as geographical network and its accessibility indicates the economic performance of a country. Moreover, the role of ports in advance societies is very important in sense that they make substantial contribution to GDP of coastal cities as well as of whole country. However, (Chen *et al.*, 2004) used a totally different approach to investigate the relationship of strategic purchasing with organisation`s financial performance.

The observed the positive effects of strategic purchasing in context of supply chain from three key aspects: including communicating with suppliers, minimising the suppliers in numbers and developing long-term buyer-supplier relationships. (Gonzalez-Benito, 2007) observed significant and positive impacts of both strategic purchasing and purchasing efficacy integration on financial and commercial performance.

(Shook, *et al.*, 2009) suggested the application of various theories on the strategic sourcing. Through the implementation of organisational culture theory, this study examines the impact of organisational culture on strategic sourcing implementation. Another reason behind the adoption of organisational culture theory in this study is its theoretical background as it facilitates the investigation of cultural impact over supply chain risks.

Existing literature has proposed many strategies to mitigate supply chain risks. The term supply chain risk refers to any risk to product, material and information flow from initial suppliers to end consumers (Juttner, *et al.*, 2003). There are various risks that are associated with supply chain. In context of supply chain risk, this study focuses on inbound risks i.e. supply interruption risks. By adopting supply-chain agility approach in study, (Braunscheidel and Suresh, 2009) investigated the various ways to overcome supply chain interruptions. They proposed that supply chain agility approach enables the organisations to quickly respond to disruptions and changes occurring in market. (Chopra and Sodhi, 2004) proposed seven strategies in their study to mitigate risk: increasing responsiveness, obtaining redundant suppliers, increasing capacity, increasing inventory, aggregate or pool demand, increasing capability and increasing flexibility. Moreover, (Christopher and Lee, 2004) proposed three strategies in their study to eliminate spiralling risks in supply chain: (1) Visible and Accurate Information, (2) Rapidly Informed, (3) Taking appropriate actions. (Zhao *et al.* 2013) conducted a study and observed that supply-chain integration make significant contribution in mitigating effects of the supply chain risks.

To connect ports with country`s mainland and other cities, various modalities are used such as roads, railway tracks, ships, trucks, pipelines etc. Demand for the transport is going to be increased day by day that in turns increase the demand of building more infrastructures so that transport congestion can be effectively overcome. The investment tends to go up as performance of ports is improved because investors come back to their investment. Resultantly, infrastructure at ports becomes better due to construction of additional terminals at ports. This also helps to overcome port`s capacity shortage that makes cargo handling easier and better. All these factors make significant contribution towards GDP.

On other pole, ports also affect coastal cities badly in terms of increased pollution. When majority of the organisations in a country are state owned, existing firms cannot acquire strong market impact because of little or even no competition. These industries generally encounter failure due to poor services and low productivity as in case of LPs. This failure leads the Libyan trade volume to gradually decrease. Nationalisation reduces the Libyan overall trade output

because majority of the firms are state owned. Moreover, nationalisation of the manufacturing sector also reduces country exports by significant margin. In addition to that, Libyan government restricted the imports of various products in order to protect local manufacturing. Resultantly, LPs encounter many challenges like insufficient investment as private investors are permitted or not encouraged by the government to make investment in Libya. All these factors collectively damage the country`s economic performance as whole.

Different armed groups that appeared in Libya since 2011 are fighting against government for power. Such militias have their own courts thus neither accept central government nor its authority within country. By frequent execution of their opponents, these groups have closed many banks, schools, coastal cities and oil ports in country. To overcome these militias, Libyan government have hired snipers, gunship helicopters, anti-aircraft weapons, warships, warplanes and artillery that often attack their funeral processions. There is an increased usage of assault rifles and firearms by security forces against these civilian protestors. These activities partially or fully damage the roads, internet, electricity, railway tracks and buses some areas that are considered as hub of trade activities and major ports (such as Tripoli port). Ports operation, gas and oil reserves of country are under the control of Islamic State forces, armed groups like LNA, Tuareg, GNA, Tebu allied forces and various other militia and unknown factions. Resultantly, negative activities such as armed weapons, smuggling, human trafficking, drug dealing, and robbery increased tremendously. Many foreign investors have lost their consignment and ships, because of unsafe and insecure environment at LPs. Though Libya is an African country with biggest oil reserves, but conflicts among armed groups and tribes for decades for control and influence over oil reserves have badly affected oil production of country. Moreover, conflict between eastern and western wings of country is mainly because there is no political consensus. These conflicts have badly damaged the country`s infrastructure like transport system, roads, electricity, railway roads and internet services particularly cities that are considered as hub of important ports and trade activities. Supply chain acts a source of building alliance or partnership among different parties or partners. In order to successfully build a supply chain at LPs it is required to build high reliability and mutual trust, build good communication system among parties involved in supply chain and create strategic alliance and cooperative relationships among them. This will ensure the definite success of supply chain at LPs.

In Libya, the hostility and competition among armed groups has divided the resources in order to maintain their unique identity. In addition to that, various factions such as Islamic State Forces, Tuareg, GNA allied forces, Tebu, LNA and many other factions are fighting against

each other for asserting their identity over others. Foreign governments have recognised some of those groups while labelling others as terrorists. When Gaddafi was deposed and executed by mob on street, crime rate in Tripoli extensively increased including a large number of armed robberies, kidnapping, carjacking, burglary, plundering and looting. Foreign workers were also robbed at the gun point for their valuables. Gaddafi regime discharged 15000-16000 criminals just prior to hand over the capital to NTC armed forces. However, the involvement of these criminals in crimes was unclear because they had not received any fair trial in Libya because of inefficient judicial system. Moreover, the looted medium and small sized arms from weaponry facilities of government are now in hands of general public. Resultantly, violent crimes were frequently reported throughout the country, especially in Tripoli. Though Libyan government has introduced various schemes through which citizens can handover these weapons to government's weaponry facilities without repercussions but all these schemes remained unsuccessful so far. The focus of locally emerged armed groups is to protect certain towns or ethnic minorities from other groups on the basis of their own initiatives. Moreover, these groups tend to survive and maintain themselves by resorting to the public funding. However, other groups are resorting to smuggling and kidnapping to finance their groups. Few among these groups are stronger enough to have a hold on public infrastructures like electricity, oil fields and water infrastructure. Success of these groups is based on juvenile recruitment because youth can be easily exploited. Opponent groups not only attack these groups but also on positions they hold, resultantly public infrastructure damages badly. Libya has unique economy and politics and is regarded as opposite sides of a coin. Libya has conflicting relationships with its neighbouring countries due to its aggressive and unstable political environment at home. That is why Libyan government could not establish economic relationships with its neighbourhoods and thus lost the great opportunity of acting as major player in the global supply chain. Contrary to that, supply chain of neighbouring countries on ports effectively, efficiently and quickly responds to market changes and has successfully created and maintained competitive edge in global market through focusing on responsiveness, flexibility and time. Moreover, Libya is facing poor relationships with its neighbouring countries like Tunisia, Chad, Sudan and Egypt. The performance of LPs is very poor too. Resultantly, its neighbouring countries are not willing to pass through LPs and also avoid using them as a gateway for international trade. Moreover, country failed in promoting trade in its non-oil sector that is why its economy is not diversified. Resultantly, Libyan trade with its neighbouring and other countries drop due to its unhealthy relationships with them.

By establishing corridors with landlocked neighbours, Libya can increase its economic growth, but yet has not focused on it. Moreover, country has not connected itself with its neighbouring countries through proper railway track and roads that create political unstable conditions in the country. UK investment and trade reported that country was assumed as 4<sup>th</sup> highly attractive country for just short period (2012-2014) for businesses after lifting ban from the Chad and giving exemption on tariffs and taxes for products from the Arab countries. But soon the country lost this leading position due to its instable political situation and poor security systems. When armed groups and militia attacked on LPs, they forcefully hijacked many oil tankers and containers and used them for personal objectives. This creates insecure situation for ship owners, other countries and investors and resultantly all avoid using these ports for export, import or passing. These violent conflicts not only influence LPs badly in terms of development and growth but also severely affected trade carrying out thorough these corridors.

At LPs, Supply Chain Management found unable to reduce non-value-added activities and waste, take more time to access inventory, incur high cost due to congestion and taking more time, low speed, accuracy and timeliness of exchanged information and little coordination efforts regarding to understand objectives and bring improvements. From findings it is revealed that with beginning of tribal wars many Chinese, South Korean and Turkish investors left the Libya. Resultantly, Libya experienced decline in its trade productivity and exports while increase in its imports. With some countries, Libya has no trade relationships at all. Conflicting relationships with many European countries, little control on its ports and poor security conditions in Libya are main reasons behind low level of investment in the country. Moreover, LPs are inefficient in cargo handling due to which they cannot attract large ships. Lockerbie attacks spoiled the Libyan relations with European countries. When Libya started to nationalise its organisations, US immediately withdrew all of its investments from Libya. Another reason behind this withdrawal is hostile attitude of Libya towards Israel. Moreover, US banned exporting some items to Libya and banned oil it was importing from Libya.

Rapid technological development and ever growing cross-border trades via ports has created the environment of strong competition among businesses. Also, there is inefficiency in context of transportation and container stacking that unable Libyan port to fulfill potential demand effectively and become prominent hub ports. Interestingly, it is noted that the LPs have no support of rail network resultantly entire load has to be taken by the roads. Poorly developed infrastructure causes to slow down the transportation of loaded items from LPs to production plants. This slowed flow of the cargo increases the transportation cost to greater extent. As roads are taking transportation load beyond their natural capacity therefore their wearing &



tearing is common. Moreover, the greater congestion time on the Libyan roads increases the transportation cost to greater extent as more time is required to take cargo from ports to rest of country. Simply speaking, flow of the cargo becomes inefficient if insufficient land-transport corridors are there in the country. From interviews it has been revealed that congested LPs lead to high cost and time require to offload the containers on LPs and then transporting them across country. Resultantly, reliability of LPs is weakening day by day that acts as another problem Libyan economy encounters nowadays. (Kleindorefer and Saad, 2005) conducted a study and proposed ten principles for developing risk mitigating strategy: contingency plans, diversification, prevention, collaboration, efficiency, evading extreme leanness, responsible to mitigate their own supply-chain risks, collaboration in sharing information, quality management, flexibility and agility and risk assessment. (Lee and Jung, 2013) considered quickly respond to uncertain demand generated by global supply chains and supply chain risks) as most appropriate solution. Ericsson, (Norman and Johnson, 2004) conducted case study and proposed two approaches regarding SCRM strategies: proactively respond to supply chain risks and collaboration with members of supply chain.

(Blome and Schoenherr, 2011) highlighted the importance of comprehensive SCRM approach for effective risk mitigation and prevention against supply chain disruptions. In context of global supply chain, SCRM emphasises on determining an optimal operational safety and trade facilitation point (Froufe et al. 2014). Previous literature on SCRM has suggested many strategies to mitigate the risk in supply chain. These recommended strategies bring about various solutions like information sharing and collaboration with suppliers and supply chain agility and flexibility. Strategic sourcing is being used in current research as most important supply chain practice to mitigate risks in supply chain. As discussed earlier that every risk mitigating strategy emphasises the importance of supplier development, information sharing, internal coordination and flexibility. Collaborating with suppliers is one amongst various definitions of the strategic sourcing as was defined earlier in supplier capabilities to establish incorporated relationships during manufacturing process (Narasimhan and Das, 1999). This definition also indicated the importance systematic risk consideration in strategic sourcing to facilitate the purchasing related decision making (Sislian and Satir 2000). This reflects that managing good supplier relationships is quite significant which they defined as "a systematic and comprehensive process of acquiring inputs as well as managing supplier relations in a manner that achieves value in obtaining the organisation's long-term objectives" (Smeltzer, *et al.*, 2003).

LPs have not well-defined hierarchy of employees because there is no clear difference between low ranked worker and leader. This reduces the organisations` overall performance due to non-existence of organisational procedures. Moreover, violent conflicts and civil war made the ports operations irregular that negatively influenced not only the local but also global supply-chain management. Figure above contains the summary of all challenges supply-chain risk management generally encounters. In short, at LPs, effectiveness of supply-chain risk management has been affected by many factors including closure or irregular ports operation because of civil war, lower capacity of handling heavy technology and cargo, high transportation cost due to congestion, incompetent management, illegal activities and militia control, lower benefits and shortage of expert workers etc. In this regard, the factor that respondents placed at top of list is militia control over ports operation. Involvement of ports in illegal and unlawful activities like human trafficking, weapons supply and drugs supply is mainly due to attacks and control by armed groups. This study is exploring all those internal and external factors that influence the effectiveness of SCRM activities on LPs. Political instability and power inequalities, hierarchical society, security and safety issues, state-owned organisations and control on key decisions, economic crises, and lower level of planning about future events are key external factors of national culture that influence the SCRM in LPs. For example, due to political instability and power division among multiple parallel governments in Libya, trade volume, export of oil, communication process, and infrastructure development activities are negatively influenced that also decreased the effectiveness of SCRM. (Chopra and Sodhi, 2004) idefined, supply chain risks such as breakdowns, disruptions, delays, inventory management, system breakdowns, and forecasting failures. Due to civil war and militia control on ports, the operations at ports are closed and irregular for many days which brings disruption and delays in trade and losses for effective supply chain management. On the other hand, authoritative leadership style, obeying the orders from top management, slow communication process due to top-down approach, low involvement of employees in organisational activities, fixed set of rules and procedures for ports operations, incompetent top management, lack of timely decision making for ports expansion, machinery, and infrastructure are key internal factors of national culture that influenced the SCRM in LPs.

Previous studies have also confirmed that Inexperienced administration management is one of the major reasons that negatively influence the performance of workers, supervisor, and local structure of LPs in the context of SCRMP (Abouarghoub, et al., 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Vandewalle, 2012; Pargeter, 2015). As the extent of literature has been indicated the major deficiencies in LPs such as lower level of Libyan government attention for

determining the regulations for ports administration, lower level of management experts and performance, lack of supervision policies, lack of new technology usage among ports, injustice in selection and assigning duties among workers, lower level of qualified, as well as trained workers, lack of financial and non-financial benefits for workers, lack of planning to overcome the crisis situation on ports, lack of government support and follow-up for performance improvement, and higher number of workers dropout among LPs (Abouarghoub, *et al.*, 2017; Elferjani, 2015; Ghashat, & Cullinane, 2013; Ghashat, 2012 Vandewalle, 2012; Pargeter, 2015).

To meet the third objective of this study, how national culture, organisational culture, and Supply Chain Management are interlinked. Present study tried to uncover how a culture (i.e. national and organisational) can influence the SCRM in LPs. There is lack of research data available regarding how these cross-disciplined items are interlinked and influenced the operations at ports. Previous studies have shown that national culture and organisational culture may vary between developed and developing countries in terms of politics, timely decision making (infrastructure development and effective management of resources), power distance, authoritative style of management, lower level of employee involvement in decision making, and collectivism, It has found that developing countries such as Libya has some common national culture features that may impact the organisational culture as well as SCRMP in Libya (Chivvis, & Martini, 2014; Lacher, 2018; Ghashat, & Cullinane, 2013; Elferjani, 2015; Eisend, *et al.*, 2016; Ghashat, 2012; Handley, & Angst, 2015; Kattman, 2014). According to a previous study, culture is a collective phenomenon as it influences the social and professional lives of people who are living in the same environment (Oliver, 2011).

However, these studies did not discuss these national and organisational features that may influence the practices of SCRM especially in the context of LPs. These common features of culture are high power distance, authoritative style, centralisation, and uncertainty avoidance, lower level of future planning, high security and safety risks. These features of national culture can determine about the organisational culture and structure of those organisations which are working under government control. Researchers have stated that the role of culture is not only observable in the context of society, but it must be understood in the context of various business functions and organisational risk management strategies (Dubey, *et al.*, 2017; Taras, *et al.*, 2010; Kreiser, *et al.*, 2010; Mullins, & Christy, 2016). According to a researcher, people get their experiences from the society in which they live, grow up, constitute family, spend their ages, and gain life experiences (Fullan, 2014). Many researchers have suggested to uncover the linkage between SCRM and Organisational Culture (Barney, 1986; Cameron and Quinn,

2005; Dubey, *et al.*, 2017; Taras, *et al.*, 2010; Whitfield and Landeros, 2006). Findings of this study reveal that high power distance, authority, uncertainty avoidance, political involvement, centralisation, union, nepotism, inequalities, conflicts, low level of long-term decision making, and cynicism negatively influence the SCRMP/operations at LPs. For example, due to high power distance and authority of government, port authorities are unable to make decision regarding expansions of ports, infrastructure development, acquiring of heavy machinery, and timely delivery of services. As a result, congestion, loading/unloading delays, long que of ships, lower number of connecting roads and railway system, and performance of ports negatively influence the SCRMP. The ports in Libya are badly outdated due to old equipment and old technology which has made it difficult to move containers on the ports swiftly. Moreover, congestion on LPs means high cost, high time for offloading containers on ports and transporting consignments within the country and weakening Supply Chain Management or operations on ports. These ports are also facing the challenges of security and safety due to high illegal activities such as control of militia, violent conflict, human trafficking, drugs dealing, and life inside containers for illegal migrants. These factors are also influenced the imports and exports as well as normal operations and services delivery on LPs.

This research has considered organisational culture and its impacts in SCRM research framework. Though cultural impact considers as an important component of SCRM but has not yet fully investigated. The significant influence of cultural factors on flexibility and agility of supply chain facilitate to mitigate risk in supply chain (Ritchie and Brindley 2007b). (Braunscheidel and Suresh, 2009) conducted a study in which they investigated the cultural impacts from various perspectives and considered it as most important factor of SCRM. According to the, organisational culture has two aspects: market-oriented culture and learning-oriented culture. They defined market-oriented organisational culture as a culture with ability to create high customer values and learning-oriented culture as a culture that searched for learning in order to bring improvement and looked for creating values for firm (Braunscheidel and Suresh 2009). This study, unlike other studies, examines how underlying beliefs on which organisational culture is based influence managers` perceptions about strategic sourcing and supply chain risk. Moreover, organisational culture significantly influences the implementation of strategic sourcing and other practices of supply chain. As all individual within organisation have different values and beliefs thus adoption of these practices may vary from person to person. It has been observed that organisational culture has association with advantages of flexibility, response speed and magnitude obtained by implementing latest manufacturing technology (Zammuto and O'Connor 1992). (McDermott and Stock, 1999) conducted a study

to empirically test the propositions of Zammuto and O'Connor. Based on study findings they proposed a close association between organisational culture and implementation of latest manufacturing technology. They also observed a positive correlation between group culture and outcomes of latest manufacturing technology. However, there is negative correlation between cultural development and implementation of latest manufacturing technology. (McDermott and Stock, 1999) observed a positive correlation between externally oriented culture and competitive benefits. Moreover, organisational culture has significant association with strategic planning, leadership, information analysis, process management, people and customer focus in total-quality management practices (Prajogo and McDennott 2005). Similarly, beliefs in investment values in production, external orientation, group work, integration and control had close link with time-oriented manufacturing practices (Nahm et al. 2004). As organisational culture influence managers` behaviours and perceptions about supply chain activities and supply chain itself thus significantly influence both supply chain and strategic sourcing – an important supply chain activity. In this regard, this study considers that the organisational cultures which are based on purchasing and supply managers` beliefs and perceptions influence their attitudes towards supply chain risk and strategic sourcing. By focusing on purchasing and supply managers` beliefs on integration with suppliers and working together with others, this study proposes information sharing and collaboration with suppliers as appropriate solution to mitigate risk in supply chain. This study included beliefs on global decision making due to considering supply chain in global framework. As this study considers espoused value from organisational cultural thus manger`s beliefs and attitudes towards supply chain risk are crucial factors while investigating how they react to and perceive the supply chain risk.

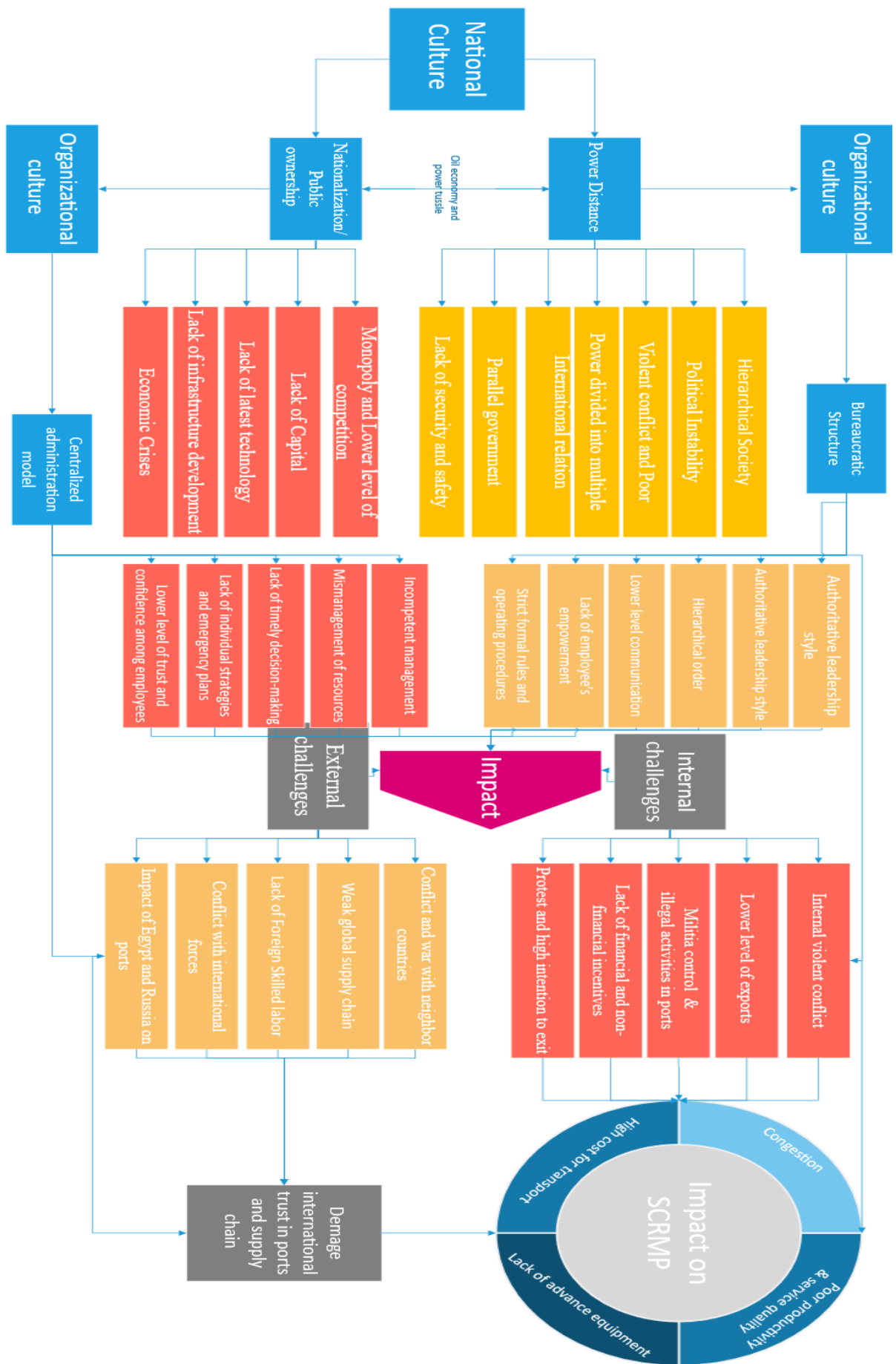


Figure 7.4 National Culture and Organisational Culture Impact on SCRM of ports.

The figure in previous page summarised factors affecting SCRM and explore the relationship between organisational culture and performance of SCRM. One of the main reasons for the failure of SCRM strategy for LPs is incompetent government management (i.e. state-owned ports administration model) that discourage the private investor because private sector is not encouraged or permitted by Libyan government to invest in in LPs. Furthermore, two or three parallel government controls, highly complex layers as well as structures of management control because of involvement of various ministries, governmental agencies and departments also influenced negatively the effectiveness of SCRM strategies. Due to nationalisation policy, the trade output of Libya also decreased as most of the companies including ports were owned by state (Elferjani, 2015; Ghashat, & Cullinane, 2013; Vandewalle, 2012; Pargeter, 2015). Important decisions regarding to new investments for effective port operations such as equipment purchase, and expansion of infrastructure must be approved from many government departments. Due to centralised administration model of central command, the port management is characterised with lack of timely decision making, lack of supervisor control on ports, miscommunication, corruption, and mismanagement. A study has highlighted factors such as competition, reputation, legal aspects, operations, supply, and strategy that can influence the SCRM in an organisation (Harland et al., 2003; Ghashat, & Cullinane, 2013; Vandewalle, 2012).

The competition among national and international ports had minimised in Libya as all ports are controlled by the central government and due to this reason, these ports could not become as world class ports. Furthermore, government monopoly on natural resources and ports operations, no outsourcing, bad reputation due to illegal activities, low enforcement of law, delays in operations are some the main risks in Supply Chain Management of ports. These problems have affected the overall operations, exports, and infrastructure of ports. Previous studies have highlighted that SCRM means effective coordination or collaboration between supply chain partners to maintain their profitability and sustainability (Tang 2006; Manuj and Mentzer, 2008). The structure of the supply chain is a kind of building a partnership or alliance between several partners based on trust and support (Handfield & Nichols, 2002; Randall, *et al*, 2003). However, it has not seen in Libya whether it is supervisor and Libyan government or worker and Libyan government, Libyan government or neighbour counties, or Libyan government and international actors. There is lack of coordination, effective communication support, collaboration, planning and decision making for improving the current situation of LPs. For example, it has been found that many skilled and competent workers are left their jobs due to lower level of per hour wage and non-financial benefits such as health insurance, child

education and benefits, security and safety on ports, and no insurance coverage for life-threatening security risks especially for workers.

To fulfil the fifth objective of this study, this study reviews the nature of risks and SCRM in LPs and to explore strategies and tools needed to manage supply chain risk in LPs. Existing literature has suggested that just in time of inventories and outsourcing may enhance the economic benefits and reduce the risks in Supply Chain Management partners (Kern *et al.*, 2012; Chopra and Sodhi 2004). However, Libyan government control on ports operations, lack of contracts for outsourcing and private investment, and congestion on ports negatively influence the efforts of just in time inventories as well costs. (Manuj & Mentzer, 2008) argued that risks in global supply chain occurred due to social, economic, natural, and political changes that made it difficult to manage and operate. The results also indicated that weak global supply chain risk has occurred due to government inability to build good relationship with neighbour countries and USA. Furthermore, investments and trade activities are not safe in Libya due to safety and security issues and these negative issues also raised the risks for effective supply chain management. Congestion on ports, damages (i.e. roads, railways, and ports) during civil war means high transportation costs, high amount of investment required for infrastructure development, and lower level of trade activities due to more time and low speed of inventories transfer also increased risks for supply chain operation in LPs.

Furthermore, due to militia control on ports and government inability to pay the wages of workers, illegal activities such as illegal migrants, human trafficking, drugs and weapons dealing increased the concerns for international and local investors for imports and exports businesses. Global corporate technology, cheap labor from foreign countries, financing opportunities from foreign and private investors, and lower level of law and taxes may decrease the risks in Supply Chain Management (Manuj & Mentzer, 2008). Therefore, it is a need of time to sell the shares of ports in local markets for getting capital and competent management from private sector. Greater capital acquiring may helpful to expand the ports, purchasing of new machinery, employing of skilled labour, and develop the infrastructure of roads and railway system that are the important functions of Supply Chain Management operations.



## **Chapter 8 : RESEARCH FRAMEWORK**

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### **8.1 Introduction:**

This chapter is going to construct the final research framework on the bases of research findings of the previous chapter. This chapter will synthesise the overall discussion and findings of this research, that would be the “context based cultural supply chain risk manage framework” of this research. The discussion will start from the exiting theories of the SCRM that later merge with port organisational culture impact on Supply Chain Management of Libyan port. Consequently, the research framework of SCRM will be based on current theories and findings of this research.

### **8.2 Risk management in public sector:**

In public sector, the dominant leadership style and prevailing business culture will shape the organisations, how to meet and /or exceed objectives and targets set by stakeholders and regulation. Since 1980s, the researchers have been taking great interest in studying organisational culture and its impact on both business performance as well as risk.

The developed framework by (Johnson, 1992) with name of “the culture web” is widely used for demonstrating the connection between strategy, management behaviour and culture (Summerill et al., 2010a, 2010b). Moreover, (Drew & Kendrick, 2005) considered culture as most important pillar of the corporate governance (with other four pillars such as Leadership, Structure, System and Sllignment), integrated risk management is based on these five pillars. According to (Boyd, 2013) embedding risk management and sustainability in organisational culture ensures the corporate success, regardless the fact, that both are very challenging concepts. In such cultures, the useful indicators can be present in some other sectors.

(Laeven & Levine, 2009), for example, considered the connection between regulation, risk taking and governance in context of changes, when public funding was used to support certain private organisations. They highlighted that incentives and risk taking associated with risky activities not only relate to ownership of a business but also to its culture (Argyris, 2010). Likewise, (Brick & Chidambaran, 2008) considered connection between risk taking and regulation but, in another context, (i.e. executives board monitoring).

In public organisations, impact of organisational culture on performance and risk management has been partially explored (Wendling, 2014).

According to (Dzazali, & Hussein Zolait, 2012), public sector organisations plan is a great move towards highly preventative risk-management approach. (Dzazali, & Hussein Zolait, 2012) added that organisational culture directs the utilities in deciding how to implement water safety plans. (Dzazali, & Hussein Zolait, 2012), also highlighted the blocking and enabling cultural features impacting consistent development of water safety plan. In their study, the utilities were self-motivated towards developing such plans. But progress get occasionally blocked due to time, communication and resources issues. Enabling cultural features, on other hand, included continuous improvement, strong leadership (Moloi, & Geyer, 2019), workers competency (Eleftheriadis, *et al.*, 2017), competition empowerment, community and customer focus and strong leadership (Phillips, *et al.*, 2014).

Leadership is considered as most important element of an organisational culture, as it significantly influences culture within an organisation, the risks organisation going to take, performance of an organisation and approach organisation is going to adopt to achieve its objectives (Esola, 2016). Moreover, success of an organisation strongly depends on leadership style prevailing in it. (Matczak, 2016) explored how much leadership is important in making the decisions on the basis of data sets and information with low confidence level. Naturally, the humans tend to operate in environment with great certainty where it is easy to justify the decisions whereas leaders make strategic decisions on the basis of little data or evidence – the decisions forcing more towards heuristic domain where uncertainty is at peak (Edwards, & Webster, 2012). The workers consider those leaders stronger, more creative and entrepreneurial who make intuition-based decisions and take more risk (Goh, *et al.*, 2013).

In case of port risk management, choices about protection of general public and investment should be made that meet the requirements of consumers, regulators and other involved stakeholders. It is important to make measured and mindful choices so that risk can be balanced with the operational supply chain performance of the ports. Here, considering how to balance decision making with risk, regulatory compliance and efficiency in uncertain operating condition is very important. As (Hinna, *et al.*, 2018) provided insights into how to apply heuristic process while making decisions on the basis of limited idea. They developed simplest heuristic systems that allow the making of fast decisions on the basis of rejection or acceptance of cues in epistemic limits of individual or group (Oulasvirta, & Anttiroiko, 2017). This may also explain why some organisations with different ownership structures and regulatory obligations prioritise targets and objectives in such a manner that justify their corporate strategy (Danner, & Schulman, 2019). Identifying the association between risk strategy and regulation is of great importance in this review but there is also direct influence of the organisation

structure and control that influence the risk management communication, planning and implementation strategies for an organisation (Gotlib, 2017). Therefore, there is also need include the risk management activities that would be helpful to develop final context base model of organisational culture SCRM model of this research.

### **8.3 Risk management activities:**

Marc J. Epstein and Adriana Rejc have developed “*Risk Management Payoff Model*” in latest Management Accounting Guideline, “Identifying, Measuring, and Managing Organisational Risks for Improved Performance”. This model helps to identify measure and manage different organisational risks, in order to improve the management decisions (Locke, 2000). This model is developed on the basis of newly introduced risk assessment needs of Sarbanes-Oxley Act 2002 in U.S and other similar newly created regulations of other countries, on work of Committee of Sponsoring Organisations (COSO) of Tradeway Commission, recently launched Enterprise Risk Management Framework and further specific tools necessary to identify and measure wide range of the organisational risk (Locke, 2000). Moreover, (Hopkin, 2012) in this guideline, comprehensively overviewed the process of risk management (figure 8.1 below), specifically highlighted the significant role of identifying and measuring the risk (first and second step in figure below). From figure 8.1, it is revealed that identifying and measuring risk is major focus of this guideline (Hopkin, 2012). ‘Event Identification’ is first step of risk management process. According to this guideline, organisations should firstly enlist all organisation-wide potential risk so that risk exposure can be minimised as much as possible. In this regard, figure 8.1 proposed a framework to identify and enlist all potential risks firms often face (Figure 8.1 for reference).



Figure 8.1 Risk Management Process

By listening potential risks, it becomes possible for employees and managers to pay high attention to events exhibiting high risk. Organisations can develop different combinations of supporting tools and techniques for risk identification such as process-flow analysis, internal analysis, facilitated and interactive brainstorming sessions, interviews and group discussions and discovery of the indicators of leading events etc (Merna, & Al-Thani, 2011). These tools and techniques to ensure the identification of all related risks along with their sources. At the stage of ‘Risk Assessment’, importance of all identified potential risks is assessed through their magnitude as well as the probability of their occurrence (Jordan, 2006). There are different quantitative techniques that are available for this purpose. Not only potential cost associated with risk materializing should be assessed but it is also important to assess benefits obtained

from a proper response towards a risk. Once benefits and costs have been quantified, it becomes possible to measure the payoff associated with risk management initiatives (Hopkinson, 2017). Moreover, this Guideline suggests the organisations to adopt a framework comprises of main factors (such as antecedents as well as consequences) based on which decision makers can assess the benefits acquire as result of successful risk-management initiative and effects of risks over costs (Samet, *et al.*, 2013). Figure 8.2 presents key components of Risk Management Payoff Model. This measurement model includes the factors through which organisation can operationally and strategically deal with risks (Bessis, 2015).



Figure 8.2 Organisational Risks Types (Bessis, 2015).

The critical processes and inputs that are included in this model lead to generate risk relevant outputs and finally to organisational success (ultimate outcomes). In addition to that, specific drivers of risk related outputs, processes, inputs and outcomes are also included in this model (Bessis, 2015). Identifying the connection between these included drivers enable the managers to get better insights into how the risk management structures, systems and strategies influence organisational performance. This model demonstrates that improved risk management and measurement generate benefits for entire organisation (Bessis, 2015). These benefits may improve the working environment, better resource allocation to risks (this benefit matters a lot), improved / sustained corporate reputation etc. All these benefits tend to prevent loss, enhance

shareholder value and improve profitability and performance of the ports. In figure 8.3, Risk Management Payoff Model at step 2 includes some performance measures specifically for inputs, output, processes and outcomes. However, there is variation among these metrics from organisation to organisation. The measures offered by this Guideline facilitate the managers to adapt or select the metrics aligned closely with risk management strategies of their organisation.

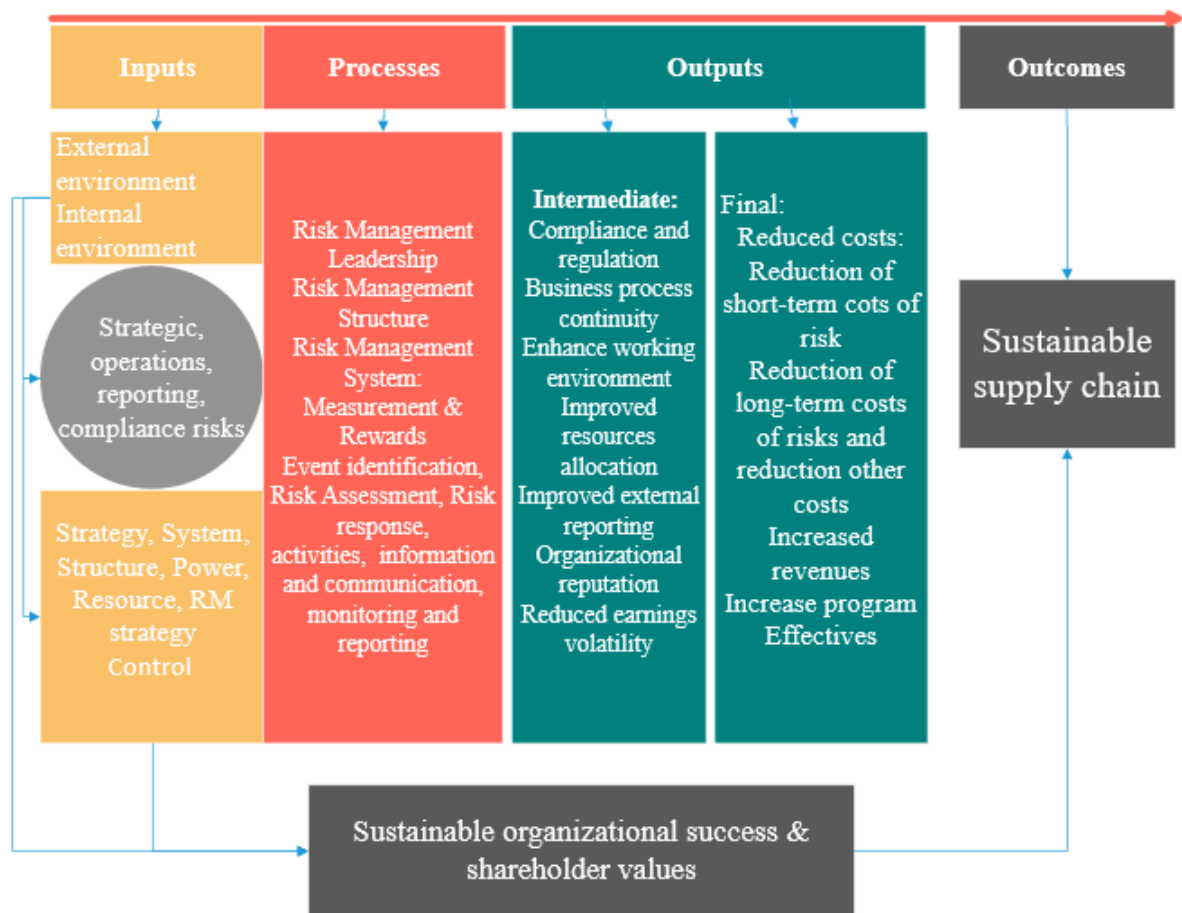


Figure 8.3 Key Components of Supply having Risk Management (Bessis, 2015)

The step 2 of figure 8.2, finally includes formula for calculation of ROI of risk-management initiatives based on managers, better manage and monitor the risks, assess the profitability associated with risk-management initiatives and evaluate the payoffs between various risk responses. Once the ports have identified potential risks and have assessed their likely impact, now it is the time to decide, how they should respond. Different techniques and approaches suggested by this Guideline are useful to prevent, mitigate, transfer and share the organisational risks. This model also outlines a quantification process through, where management can determine the most appropriate risk responses and can also measure the effectiveness of already existing risk-management processes. Managers can increase the efficiency of organisational operations as well as organisational success through the creation of formal internal controlling systems, mentioning how to identify, assess and also respond to risks that are important for their organisation and communicating these risks appropriately to managers and other stakeholders

(Hopkinson, 2011). Also has been identified that the monitoring and controlling of port is directly linked with organisation structure and control system of port. Additionally, organisational structure and control system are the integral parts of the organisational culture therefore, the discussion is going to synthesise the overall idea how organisational culture of LPs affect the SCRM of the ports.

#### **8.4 Organisational culture and supply chain risk management of Libyan ports:**

It has been discussed above that organisational operations are affected by organisational structure in two ways. Firstly, organisational structure acts as platform on which operating procedures are based. Secondly, it determines the level of involvement of different personnel in decisions making procedure (Tracy, 2013). Vertical and horizontal structures are two main structures in which degree of involvement of different individuals is generally organised (Hardy, & Runnels, 2015). Under vertical structure, organisation is fragmented into different departments; tasks and functions with clearly define chain of the command. As managers remain the major responsible persons which indicate that vertical structure is completely centralised (Nicholas, & Steyn, 2012). A perfect example of vertical structure is LPs – strictly vertical which is why top management involve in decision making therefore, the inputs of risk malmanagement is directly affected due to the tall/vertical structure of LPs. While, (Louisot, & Ketcham, 2014) indicated that in organisation with horizontal structure, all individuals are equally involved in decision making process. Though, there is hierarchy but overall this structure is relatively flat. Every organisation involves different activities and divisions at different level; thus, it is the management structure that decides which should be risk managed centrally or which should be decentralised. In such cases, management has to consider payoffs between having benefits of making decisions closely to problem in decentralised management structure and having greater control in centralised structure (Smith, *et al.*, 2014). In this regard, LPs need to investigate which organisational structure should be adopted. (Khwaja, & Beer, 2013) highlighted major problem the organisations with multi divisions usually encounter is that in divisions strategically risk management communication among managers tend to promote some divisions at expense of entire organisation. Moreover, in tall hierarchical structure of ports the divisional managers tend to share and communicate information vertically instead of horizontally among different divisions. (Fraser, *et al.*, 2015) further added that decentralisation do better than centralisation particularly when divisional managers` incentives are aligned with risk management activities and with overall process of risk management. Regarding which structure is best i.e. centralisation or decentralisation, there exists no universal

opinion, but it has found that centralise structure of Libya port management is negatively affecting the SCRM of the ports. This is however believed that organisations with centrally controlled management structure are highly bureaucratic which reduce the quality of decision making and also negatively affect the inputs for SCRM. As (Marchetti, 2012) associated centralisation with dysfunction of the bureaucracy, such as red tape. On other hand, (Nekvapilova, & Pitas, 2017) observed negative relationship of centralisation with bureaucracy. By developing relationship between vertical and horizontal organisational structure, we can differentiate centralised management systems from decentralised one. Similar to vertical organisational structure, centralised management system is generally characterised by centralised SCRM decision making with high grade of the hierarchical authority which lead to the poor communication, identification, management, monitoring, reporting and evaluation of supply chain risk of the ports. On other pole, decentralised management system is characterised by low degree of the hierarchical authority with higher participation and involvement in decisions making where higher responsibility lies on employees, just like in horizontal structure which increase the reporting, communication, monitoring and timely action to control the risks. However, Cox, (2012) prioritised centralised structure over decentralised one as current business require more coordinate and organise structure. Moreover, having decentralised management structure enables the organisation to meet compliance and regulatory requirements of current business environment and also remain profitable (Olu, *et al.*, 2018). (Keers, *et al.*, 2018) argued that firms with decentralised management system will perform well if there are clear channels for local managers to coordinate and communicate with higher level managers and with other managers at same level.

### **8.5 Context based organisational culture-based supply chain risk management MODEL:**

The strategy of an organisation is influenced by the organisation culture, but it can give rise to problems, when there arises a need for change. The controls can be tightened by the management and the operational performance is improved as a means of implementing the change (Wiengarten, *et al.*, 2015; Rahimi, & Gunlu, 2016). If there is a failure, it can give rise to strategic alterations in the manner things have been done. In such situation managers would find themselves trapped in the assumptions, routine matters and politics within the organisation. In exploring the approach, which is process oriented, (Wiengarten, *et al.*, 2015) observed that cultural web model represents a key model as has been proposed by (Johnson & Scholes, 1999) shown figure above (Naor, *et al.*, 2010). The cultural web model is regarded as significant for ideas' development and is also regarded as key source by the researcher therefore, this model



is going to merged with final research framework. Due to various government authorities controlled on Libyan maritime administration and no clear definition of supervisor and ordinary workers, are the main reasons of ineffectiveness Supply Chain Management operations. Respondents highlighted how incompetent management, lower level of government income, lower level of investment in heavy machinery, technology, railways, and roads are the main reasons that negatively influenced effectiveness, sustainability and profitability on LPs. Consequently, congestion has been increased and inefficiency and ineffectiveness are more common that reduced the income of ports in terms of lower level of import, export, and turnaround time of ships. As the respondents have argued that congestion is the result of poor government planning, control and incompetent management style. The poor infrastructure development brought several challenges, such as slow transportation of goods from ports to the manufacturing plants and high transportation costs in terms of time and speed. The load on roads for cargo transportation is beyond their capacity, due to which wearing and tearing of roads is common. On the other hand, due to the high budget for army and other law enforcement groups, many workers have gotten lower level of salaries after protest and complaints. It also negatively influences the Supply Chain Management of ports and illegal activities are increased for earning income and survival of families. Many workers left their jobs due to insufficient/delay in financial and non-financial benefits. It is a reality that when government cannot enforce law and order then injustice, illegal trades and other activities damage the operations at public organisation such as Libyan port. Due to civil war and militia control on ports, the operations at ports are closed and irregular for many days which brings disruption and delays in trade and losses for effective supply chain management. On the other hand, authoritative leadership style, obeying the orders from top management, slow communication process due to top-down approach, low involvement of employees in organisational activities, fixed set of rules and procedures for ports operations, incompetent top management, lack of timely decision making for ports expansion, machinery, and infrastructure are key internal factors of national culture that influenced the SCRM in LPs. Previous studies have also confirmed that inexperienced administration management is one of the major reasons that negatively influence the performance of workers, supervisor and local structure of LPs in the context of SCRMP. Furthermore, the extent of literature has been indicated the major deficiencies in LPs such as lower level of Libyan government attention for determining the regulations for ports administration, lower level of management experts and performance, lack of supervision policies, lack of new technology usage among ports, injustice in selection and assigning duties among workers, lower level of qualified, as well as trained workers, lack of financial and non-financial benefits for workers, lack of planning to overcome the crisis

situation on ports, lack of government support and follow-up for performance improvement, and higher number of workers dropout among LPs. The Libyan government control on ports operations, lack of contracts for outsourcing, private investment and congestion on ports negatively influence, the efforts of just in time inventories as well costs. The results also indicated that weak global supply chain risk has occurred due to government inability to build good relationship with neighbour countries and USA. Furthermore, due to militia control on ports and government inability to pay the wages of workers, illegal activities such as illegal migrants, human trafficking, drugs and weapons dealing increased the concerns for international and local investors for imports and exports businesses. Global corporate technology, cheap labor from foreign countries, financing opportunities from foreign and private investors, and lower level of law and taxes may decrease the risks in supply chain management. Therefore, it is a need of time to sell the shares of ports in local markets for getting capital and competent management from private sector. Greater capital acquiring may helpful to expand the ports, purchasing of new machinery, employing of skilled labour, and develop the infrastructure of roads and railway system that are the important functions of Supply Chain Management operations.

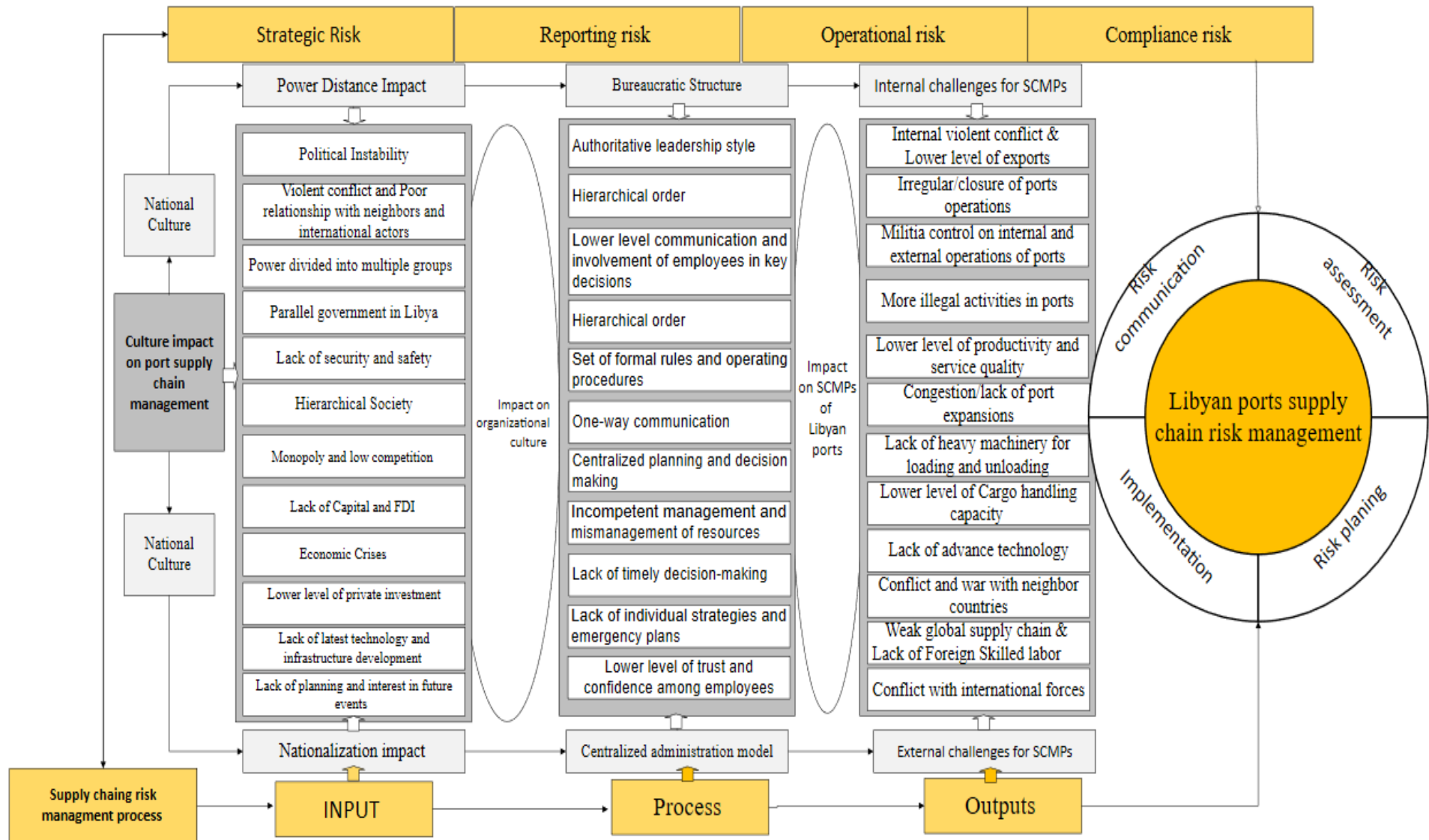


Figure 8.4 Final Research Framework

The current study synthesises in the form of final research framework. See figure 8.4 above which shows the different internal and external culture elements, which are influential on the effectiveness of operations related to SCRM in the context of LPs. The results of the current study show that authoritative style, power distance, and centralisation influence the decision-making operations and style in LPs. With respect to internal factors that the research found out, that there is lack of timely decision making and lack of investment, which is hindering the development of infrastructure, workers' retention, hiring of competent workforce, latest shipping technology, and heavy machinery of at least four LPs. Moreover, it also found out that these ports have repeatedly been attacked by armed groups and militia that have also been seized from time to time, which gave rise to illegal activities at these ports such as supply of weapons, human trafficking, and illegal migration.

Furthermore, illegal activities are increasing the safety and security issues at LPs and various countries have signalled their investors for avoiding the sea routes or ships at Libya for export, import, tourism and other activities. During the raids on such ports, infrastructure, ships, means of transportation and railway system was also affected which further slowed down the supply chain management. Due to such negative results of political instability, violent conflict, and lack of coordination among the domestic stakeholders, LPs fail to meet the national and international demands. The analysis of external factors revealed, that there is aggressive and unstable relationship between Libya and its neighbouring countries, due to, the country unable to create economic corridors with its neighbouring countries. This is also the reason that it failed to become the key player in global supply chain management.

The maritime administration of the Libyan country is under the control of various governmental authorities and there is lack of clarity among definition of roles in management of the administration. This has only increased the ineffectiveness of Supply Chain Management operations. Respondents also indicated how the lower income levels, incompetency of management, and lower investment levels as well as poor infrastructure has negatively influenced the operations and sustainability of LPs. Due to this reason congestion has increased on these ports and inefficiency has also increased thereby resulting into fall of oil export. Respondents also argued that congestion results from incompetency of management, and poor governance. A number of challenges also arose from poor development of infrastructure e.g. slow transportation of goods and higher cost of transporting the goods at ports. The roads are also facing the burden beyond their capacity due to wearing and tearing is common at roads to and from ports. The workers are also dissatisfied with their salary structure at ports which are

lower compared to that of other workers in the country particularly law enforcement. Sometimes they also face the problem of lack of payment of salaries.

This has also led towards increase in illegal activities at the ports to generate finances and thus disrupted the supply chain management. Many workers quit their jobs because of insufficient benefits given for working at the ports. The Supply Chain Management has also become poor because the government failed to provide adequate security at ports due to which the workers have the concern for the safety and security of their life and also due to lack of security illegal activities have increased. The validity of this model is that the selected factors of organizational culture are based on the cultural web model and national culture is based on Hofstede culture model. Additionally, the SCRM are based on the supply chain risk management but the relation of all of these theories and theoretical concepts are being made on the basis of the researcher's own interpretation of social, cultural, language and political meaning attachment with the organizational culture and supply chain management risk management of ports. The interpretation of primary data and theoretical concept is based on the Bowling, (2009) indicated that the idea of social constructionism as developed by philosophers such as (Watzlawick, 1984, Berger & Luckman, 1966 and Shotter, 1993) focused on the ways whereby, people make sense of the world particularly by sharing their experiences with each other through linguistic means. Therefore, this philosophical position allowed me to explore the Libyan port supply chain issues and risk those attached with their organization culture to produce acceptable knowledge in this field. This research took relativist ontological position for this research to contribute knowledge the relativists believe that social life is indeterminate and paradoxical and argued that social reality is constructed by people through discourse and language. From this aspect, it can be stated that there is no single version of truth. It is interesting to realise how professionals construct truth of organizational culture and supply chain risk management differently. Therefore, the idea of social class is usually utilized as explanation of how some people succeed more often than others (Punch, 2009). Therefore, the relativist ontology is taken by the researcher because Bradford, & Cullen, (2012) from relativist ontology it is recognised that racial discrimination and social class are experienced and defined differently by different people. This also depends majorly on the races and classes they belong to and the countries they are in. Therefore, reality is not singular in nature which can somehow be discovered. As the Libyan ports are highly influenced by the local politics and commercial resources those available to port. There are various types of risks that exist in supply chain and these include delays, disruptions, failure to forecast, breakdown, inventory related issues and other issues (Chopra & Sodhi, 2004). So, it is a reliable piece of knowledge which is produced to explore risks attached

with supply chain at Libyan port to relate them with organizational culture therefore, different social realities are being explored on through taking relativism ontological position for this research and the relation of different related like relation of different type of risks are linked with organizational culture on the base of social constructionism epistemological position for this research which is why the contribution of this research would be accepted as knowledge.

## **8.6 Verification and refinement of the findings**

The researcher was able to develop STEP BY STEP framework of organizational culture impact on the SCRM of ports based on empirical findings which were obtained following the semi-structured interviews. The framework showed that organizational culture impact on the SCRM of ports in Libyan firms require two-pronged approach from the decision makers in selected ports. These approaches are interrelated and in each SCRM approach the actions are consistent. A semi-structured telephone interview was conducted with few professionals of academic background to verify and validate the framework and for assessing all the related features. These features involved actions and the processes, reliability of the approaches, clarity of framework, structure of framework, validity of the process, applicability of actions, and the difficulty level of the applications (by using five scale measurement such as: very difficult, difficult, normal, simple, and very simple). The invitation letter was sent via email and once the consent to participate was received, the framework was then sent to them and it was then followed by a telephonic interview because there are security issues in Libya which is why a telephone interview was arranged. 10 academic port managers and previous participants were invited to participate in the validity interviews, only six agreed to participate. The characteristics of the participants are shown in Table below who contributed to validation phase. Four participants were collected from data collection phase who showed in-depth knowledge and familiarity with SCRM and Organizational Culture and the ones who indicated keen interest for further support during data collection phase who is also working in supply chain department of the port. The interviews with the participants were conducted in Arabic because it was more convenient for participants to respond in our own language. Additionally, it also aligns with the social constructionism epistemological position of this research because social constructionist believe that knowledge is cultural, social and linguistically embedded therefore, the conducting interviews in Arabic would align with epistemological position of this research. Therefore, it required translating their response. For increasing the effectiveness of the findings of the research, new participants were chosen on the basis of their experience and academic knowledge of organizational culture and SCRM in public organizations.

Table 8.1 Framework validation participants

No	Designation	Experience	Participant in the main research
1	Supply chain manager	5 years	Yes
2	Human resource manager		Yes
3	Supply chain manager	9 years	Yes
4	Supervisor	6 years	Yes
5	Professor	18 years	No
6	Lecturer	7 years	No

Having regard to the fact that they were new to the research project, they were contacted in advance and all the relevant information was given to them about the research, method of data collection, and findings for ensuring that they were familiar with the topic of the research and the purpose of the research. A pedagogue meeting was also organized in most cases for discussing the relevant issues of the research and for clarifying what was needed during the validation phase. The arrangement for conducting the interview was made through email communication which took place immediately following the pre-interviews meeting with all participators. It was ensured that the interview was conducted at time which was convenient for the participants. During interview the notes were also taken by the researcher. Each interview lasted from 25 to 30 minutes in duration. The questions which the researcher asked in the interview are as follows:

- Do you think that the framework is sufficiently clear to understand the organizational culture impact on SCRM of port in Libya?
- What are your views about the structure of the framework to create the links between organizational culture with SCRM of ports? Why do you think it is so?
- What are your views about the applicability of the actions and process of SCRM? Why do you think LPs SCRM affected by presented organizational cultural factors?
- What are your thoughts about the organizational culture and SCRM factors involved in the framework? Why do you think so?
- Do you believe that the aspects of organizational culture and SCRM which are related with each other are found in this framework?
- Do you believe that the current framework will be helpful in increasing the current organizational cultural factors impact SCRMP of LPs? Why?
- Do you have any recommendations please?

The data which was collected through semi-structured telephone-based interview was analyzed manually through content analysis approach. The following sub-section the purpose of each question and the related responses are given.

#### **8.6.1 Validation of the STEP BY STEP framework for Knowledge Sharing**

The first question dealt with the clarity of framework and required the respondent to elaborate on their response. The idea underlying it was to identify the extent to which framework was sufficiently clear about title, general outlook, and the language used in the framework. Four out of five participants agreed that it was clear and could be understood easily and as such the design was not complicated. One of these four participants stated that, *“I like the presentation of the framework and the way it has related actors and their actions.”* Arabic participants had requested the Arabic translation of the framework. One of them stated that, *“Although I can speak English but if you are looking to use this framework in Libyan port firms then you’d have to translate it in Arabic for everyone to understand because not everyone can speak English there.”* In regard to title, one of the participants said that, *“STEP BY STEP organizational factors Framework sounds better than STEP BY STEP Framework for SCRM.”*

The second question was about the structure of framework and it was also supplemented by a question requiring the respondent to elaborate their response. The aim of the question was investigating the response to the outlines of the framework and to skeleton of interlinked organizational culture and supply chain risk chain management factors of ports. All participants stated that it was easy to understand and was easy to follow as well. Further, they also affirmed that the shapes utilized were suitable for the purpose. One of them stated that, *“I was keen in knowing about the shapes used in the framework to distinguish between actions and actors, and I believe that different levels should be presented by different shapes.”* All the participants requested using light colours for presenting each element in the framework as one of the participants stated that, *“The light colours are pleasant to eyes and would not tire the person of seeing the framework. Light colours will make it user friendly.”* Therefore, the whole research framework converted to the two light colours. The third question was related to applicability of the actions and process and was also supplemented by the question requiring the respondents to elaborate on their response. The idea underlying this question was to evaluate the degree to which the suggested action was considered applicable in real life by the participants. There was interesting conversation about each action and process along with the discussion on possible obstacles or barriers. It is also important to mention here one of the participants asked the question that, *“What would you do when the actors i.e. staff resists cooperating to manage supply chain risk of the ports?”* The researcher asked the respondent



that what his suggestions would be in such an instance. The respondent stated that in such a scenario a personal face-to-face consultancy should be conducted whereby the consultant should be such a person who is familiar with physiological and cultural elements giving rise to sense of resistance among actors. The manager and consultant should work in collaboration to minimize the resistance. He also recommended establishing a support unit in the organization to link it with the enforcement of framework so that it can address the hurdles in the way of implementing the framework. He also pointed out that such a unit should be established by Human Resource department because it is this department which has access to the information regarding workforce and it is this department with the support of which the support unit can provide training and counselling to the resisting employees. The respondent also highlighted increasing the role of rewards culture for increasing the contribution of the workforce during the times of change. Additionally, the participant mentioned that there is need to strong collaboration and participation of the bureaucrats with organizational management the public sector organizational decision is directly influenced by the government authorities.

Another respondent asked about the actions of change management and recommended that during such approaches, a period of change management should commence. He stated that workforce and bureaucrats should be given seminars on change awareness so that they are better educated about the need for change and how such a change would unfold. This will give them an overall idea of the change that is going to take place in the LPs to successful manage the supply chain risk of the ports. This will also be helpful in facilitating them with regards to risk assessment, commination, planning and responding to the supply chain risk of the ports. Another respondent highlighted the need for “How-to-Do” guideline whereby the guidelines and descriptions are provided to management for risk management action. Participant also recommended that the definition of the terms in the framework should also be provided because such definitions give a clear idea to the management about the terms used in the framework.

The fourth question related with the involvement of actors in the framework. The aim of this question was identifying the opinions of the respondents concerning the factors those are involved in the framework. All the respondents affirmed that the organizational culture factors indicated were significant in increasing as each one of them played a particularly significant role in different action of SCRM of ports. Two respondents were also keen to involve HR department in ministry. One of them stated that it would be a fruitful collaboration between HR department and the ministry. Another respondent stated that *“the current actions undertaken by the actors are acceptable but in practice more actions may be needed.”*

The fifth question was related to the aspects of organizational culture which are related to supply chain risk chain management practices. The aim of this question was to evaluate the

relationship between OC and SCRM in the framework. The response by the participants was interesting in terms of the understanding of participants about the concepts of organizational culture and SCRM. Three respondents were interesting to assess the values in the firms and expressed the significance of such actions not just for increasing the culture and then SCRMP but as a significant action for changing the firm's culture. One of them said that, "*Assessing the value is significant for improving SCRMP and changing the current culture of the firm.*". Another respondent was interested in the idea of general assessment as a starting point as a short-term measure and then proceed on to long-term measure of implementation. This respondent said that, "*I believe it is true that first the needs should be assessed by the firms and understand the concepts of SCRM of ports.*" Two respondents also suggested covering letter for explaining the influence of organizational culture impact on SCRM in firms along with the reading list for managers so that the managers can then shape the training programs accordingly for the ports to effectively perform the all SCRM activities and responsibilities.

The sixth question was related to assessing the extent to which the current design of framework would be helpful in increasing the ports practices. This was also supplemented by the question requiring the respondents to elaborate on their response. The aim of the question was to examine the extent to which participants believed that the framework would be useful in increasing organizational culture awareness in context SCRMP. All respondents stated that a positive opportunity was provided by the framework for increasing organizational culture impact on supply chain practices but also promoting changes in the firm's culture impact on different activities of risk management. However, they all also suggested conducting follow up researches for modifying the framework as the need arises. Moreover, they also suggested conducting seminars for creating shared understanding of the organizational culture and SCRM concepts and their relationship with each other. The academic background participant strongly recommended that justify the philosophical position of the produced framework. With regards to suggestions and comments given by the respondents, the amendments in the light of their response in the STEP BY STEP framework are summarized as follows:

- Modify the colour to light shades to make more readable and attractive
- Modify shapes to using different shapes for different factors with relation to SCRM
- Modify the title of framework
- Translate framework into Arabic language to implement it in Libyan firms
- Justification and direction of the role of epistemological and ontological position to build this framework.

## Chapter 9 : CONCLUSION AND RECOMMENDATIONS

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### 9.1 Conclusion:

Ports are one of the main facilitators of economic growth by creating more trade and jobs in countries with a coastline. In African countries, ports are understood as a main point for creating oil and gas exports with neighbour and developed countries. Therefore, the importance of SCRM increased when we are discussing in the context of African country such as Libya. Libya is one of the North African countries that is surviving from interactional forces, and risky geographical location. These factors are important when we are unfolding the connections in the context of national culture, organisational culture, and SCRMP on LPs. Culture is a collective phenomenon as it influences the social and professional lives of people who are living in the same environment. The extent of literature has suggested the role of culture is not only observable in the context of society, but it must be understood in the context of various business functions such as ports SCRM strategies. Previous studies have shown that national culture and organisational culture may vary between developed and developing countries in terms of politics, timely decision making (infrastructure development and effective management of resources), power distance, authoritative style of management, lower level of employee involvement in decision making, and collectivism. Therefore, the developed practices, existing theories, and other results cannot be applicable in a culture that is based on power distance, authoritative style of management, and collectivism. Although the extent of literature is discussed the importance of SCRM in the perspective of ports. However, there is no study found that explored the connections among national culture, organisational culture, and LPs. By understanding these connections, ports can improve their current working conditions as well as understand the importance of internal and external factors for survival.

Current study is aimed to unfold and discuss all internal and external factors which may positively or negatively influence the SCRM of LPs. The research cannot bring practical recommendations without understanding the national cultural aspects that can impact on organisational culture and SCRMP. The research also discussed the strategic position of LPs, as well as their role to create import and export that is the major source of income for Libya economy. To meet the proposed objectives of this study, researcher has conducted semi-structured interviews, because it is more flexible data collection option in qualitative research, and it is also useful for adding more questions and understand the nature of problem with the help of experience, background, opinion, suggestion, situation, context, culture, and environment. Initially, researcher has conducted a pilot study with the purpose to measure the

validity and reliability of semi-structured interviews. After analysing the samples of previous qualitative studies, 32 supervisors from four major ports of Libya such as Misurata, Khoms, Tripoli and Benghazi ports. Previous studies have indicated that main four ports (e.g. Misurata, Khoms, Tripoli and Benghazi) that are gotten attraction due to global supply chain, tourism and oil exports to other countries. On the other hand, these four ports are also negatively influenced by illegal activities such as weapons supply to armed groups during violent conflict, human trafficking, drugs dealing, and life inside containers for illegal migrants. To meet and achieve the first objective of this study such as uncovering the challenges hindering the implementation of SCRM. The results revealed that the Libyan government faced serious violent conflict and armed control on natural resources such as oil and gas, unable to repair or invest in roads, unfunctional railway system, and lower level of land transport corridors that are major functions in the failure/closure/ineffectiveness of LPs.

Second objective of present study to unfold, understand, and discuss all those internal and external factors that can influence the effectiveness of SCRMP on LPs. It has been found that several internal and external factors, such as political instability and power inequalities, hierarchical society, security and safety issues, state-owned organisations and control on key decisions, economic crises, and lower level of planning about future events are key external factors of national culture that influence the SCRM in LPs. These factors (i.e. political instability, power division among multiple parallel governments in Libya, trade volume, export of oil, communication process, and infrastructure development activities) are negatively influenced the effectiveness of SCRM. To fulfill the third objective of this study, how national culture, organisational culture, and Supply Chain Management are interlinked. It has been found that high power distance, authority, uncertainty avoidance, political involvement, centralisation, union, nepotism, inequalities, conflicts, low level of long-term decision making, and cynicism negatively influence the SCRM practices/operations at LPs. Moreover, these factors bring more congestion, loading/unloading delays, and long queue of ships, lower number of connecting roads and railway system, and poor performance of ports that ultimately influenced the SCRMP. Based on these challenges, the study has discussed various practical recommendations that can improve the Supply Chain Management practices. The offered conceptual model will be helpful to understand how top management of ports and developing countries can improve the SCRMP. Present study has concluded several internal and external factors of culture (national and organisational) that influence the effectiveness of SCRM operations at LPs. Findings of this study reveal how power distance, authoritative style, and centralisation influences the decision-making style and operations on LPs. In the context of

internal factors, it has found that lack of investment and lack of timely decision making in infrastructure development, hiring of competent and retention of competent workers, heavy machinery, and latest shipping technology are badly influenced the imports, exports, effectiveness, sustainability, and profitability of four LPs.

Furthermore, it also found that militia or armed groups have attacked on these ports and taken control of these ports that also become the reasons to enhance illegal activities such as human trafficking's, weapons supply for violent activities, illegal migrants through containers, drugs deals, and robbery. Moreover, these illegal activities are further increase the security and safety issues at LPs and many countries have cautioned their investors to avoid the sea routes or ships of Libya for import, export, tourism, or other activities. When militia attacked and controlled the ports then it also caused damage to roads, buses, ships, electricity, internet, and railway system which are the important factors in the success of SCRM in LPs. Due to these negative consequences of violent conflict, political instability, and lack of coordination among key stakeholders, LPs are also unable to meet the potential demand and become significant hub ports. In the context of external factors such relationship with neighbour and international actors, the Libyan politics is unstable and aggressive therefore its relations with neighbouring countries are also disturbed. Due to this reason, the country could not create economic corridors with its neighbouring countries and lost the opportunity of becoming an important player in global supply chain using the strategic locations of these ports in Africa.

Due to various government authorities controlled on Libyan maritime administration and no clear definition of supervisor and ordinary workers are the main reasons of ineffectiveness Supply Chain Management operations. Respondents highlighted that how incompetent management, lower level of government income, and lower level of investment in heavy machinery, technology, railways, and roads are the main reasons that negatively influenced effectiveness, sustainability, and profitability on LPs. Consequently, congestion has been increased and inefficiency and ineffectiveness are more common that reduced the income of ports in terms of lower level of import, export, and turnaround time of ships. Respondents have argued that congestion is the result of poor government planning, control, and incompetent management style. The poor infrastructure development brought many challenges such as slow transportation of goods from ports to the manufacturing plants and high transportation costs in terms of time and speed. The load on roads for cargo transportation is beyond their capacity due to which wearing and tearing of roads is common. On the other hand, due to the high budget for army and other law enforcement groups, many workers have gotten lower level of salaries after protest and complaints. It also negatively influences the Supply Chain Management of

ports and illegal activities are increased for earning income and survival of families. Many workers are left their jobs due to insufficient/delay in financial and non-financial benefits. It is a reality that when government cannot enforce law and order then injustice, illegal trades, and other activities damage the operations at public organisation such as Libyan port.

## **9.2 Research findings and Achievement of Objectives:**

The main aim of this study is to understand the SCRM of LPs as well as, how it is linked with national with organisational culture. Present study attempted to discover all internal and external factors that positively or negatively influence the SCRM of LPs from many years. It is not possible to suggest fruitful practical recommendations without understanding the current structure/situation of LPs and what internal or external factors are influenced that structure. Author have also discussed the strategic position of LPs for import and export, as well as the major source of export or income for Libya. To achieve the proposed objectives and answer research questions of current study, author have conducted Semi-Structured Interviews methods, as it is more flexible data collection option in qualitative research and it is also useful for adding more questions and understand the nature of problem with the help of experience, background, opinion, suggestion, situation, context, culture, and environment.

Initially, Researcher have conducted a pilot study with the purpose to measure the validity and reliability of Semi-Structured Questionnaire. After analysing the samples of previous qualitative studies. Researcher have selected supervisors from four major ports of Libya such, as Misurata, Khoms, Tripoli and Benghazi ports. Previous studies have indicated that main four ports (e.g. Misurata, Khoms, Tripoli and Benghazi) that are gotten attraction due to global supply chain, tourism and oil exports to other countries. On the other hand, these four ports are also negatively influenced for illegal activities such as weapons supply to armed groups during violent conflict, human trafficking, drugs dealing, and life inside containers for illegal migrants.

To achieve/Fulfill the first objective of this study, such as investigating the challenges hindering the implementation of SCRM. There are various obstacles that negatively influence the Libyan economic, social, environmental situation and operations at ports. These challenges are important to understand, because they influence the risk management strategy and operations at LPs. Finding of this study revealed that the Libyan government faced serious violent conflict and armed control on natural resources such as oil and gas, unable to repair or invest in roads, unfunctional railway system and lower level of land transport corridors, that are major functions in the failure/closure/ineffectiveness of LPs since 2011. These armed groups

frequently execute their opponents and have also closed several banks, oil ports, and coastal cities where these four major ports are located. Libyan government on the other hand have been found to have hired gunship helicopters, snipers, artillery, anti-aircraft weapons, warplanes and warships, which they used against armed groups. As a result, operations at port and infrastructure of ports have been partially or fully affected for too many years. The respondents of this study revealed that many countries and investors are lost their ships and consignment due to insecurity and unsafety on LPs. There is lack of positive and uniform transformation in the country which has fed into political and economic mismanagement and has descended the country into civil war. LPs are facing challenges, such as ineptitude, political patronage, general economic mismanagement, and corruption. Egypt, Sudan, Tunisia and Chad workers are sent back from LPs due to poor relationship of Libyan government with these countries. It is found that these countries are avoided to use sea routes of Libya for trade and discouraged their investors or businessmen to invest in Libya. As a result, poor relationship with these countries also influence the Supply Chain Management on LPs due to lower level of Libyan exports and lower level of usage of these ports. Furthermore, safety and insecurity on ports is one of the main reasons for discouraging international community to discontinue/discourage their investors for trade with Libya.

The second objective of this study is to understand all those internal and external factors that influence the effectiveness of SCRM activities on LPs. Political instability and power inequalities, hierarchical society, security and safety issues, state-owned organisations and control on key decisions, economic crises, and lower level of planning about future events are key external factors of national culture that influence the SCRM in LPs. For example, due to political instability and power division among multiple parallel governments in Libya, trade volume, export of oil, communication process, and infrastructure development activities are negatively influenced that also decreased the effectiveness of SCRM. It also identified that supply chain risks such as breakdowns, disruptions, delays, inventory management, system breakdowns and forecasting failures. Due to civil war and militia control on ports, the operations at ports are closed and irregular for many days which brings disruption and delays in trade and losses for effective supply chain management. On the other hand, authoritative leadership style, obeying the orders from top management, slow and poor communication process due to top-down approach, low involvement of employees in organisational activities, fixed set of rules and procedures for ports operations, incompetent top management, lack of timely decision making for ports expansion, machinery, and infrastructure are key internal factors of national culture that influenced the SCRM in LPs. Previous studies have also

confirmed that inexperienced administration management is one of the major reasons that negatively influence the performance of workers, supervisor and local structure of LPs in the context of SCRMP. Furthermore, the extent of literature has been indicated the major deficiencies in LPs such as lower level of Libyan government attention for determining the regulations for ports administration, lower level of management experts and performance, lack of supervision policies, lack of new technology usage among ports, injustice in selection and assigning duties among workers, lower level of qualified as well as trained workers, lack of financial and non-financial benefits for workers, lack of planning to overcome the crisis situation on ports, lack of government support and follow-up for performance improvement, and higher number of workers dropout among LPs.

To meet the third objective of this study, how national culture, organisational culture and Supply Chain Management are interlinked. Present study tried to explore how a culture (i.e. national and organisational) can influence the SCRMP in LPs. There is lack of research data available regarding to how these cross-disciplined items are interlinked and influenced the operations at ports. Previous studies have shown that national culture and organisational culture may vary between developed and developing countries in terms of politics, timely decision making (infrastructure development and effective management of resources), power distance, authoritative style of management, lower level of employee involvement in decision making, and collectivism. It has found that developing countries such as, Libya has some common national culture features that may impact the organisational culture as well as SCRMP in Libya. According to a previous study, culture is a collective phenomenon as it influences the social and professional lives of people who are living in the same environment. However, these studies did not discuss these national and organisational features that may influence the practices of SCRMP especially in the context of LPs. These common features of culture are high power distance, authoritative style, centralisation, and uncertainty avoidance, lower level of future planning, high security and safety risks. These features of national culture can determine about the organisational culture and structure of those organisations which are working under government control. Researchers have stated that the role of culture is not only observable in the context of society, but it must be understood in the context of various business functions and organisational risk management strategies.

To fulfil the fourth objective of this study, this study summarised factors affecting SCRMP and explore the relationship between organisational culture and performance of SCRMP. The one of the main reasons for the failure of SCRMP strategy for LPs is incompetent government management (i.e. state-owned ports administration model) that discourage the private investor



because private sector is not encouraged or permitted by Libyan government to invest in in Lps. Furthermore, two or three parallel government controls, highly complex layers as well as structures of management control because of involvement of various ministries, governmental agencies and departments also influenced negatively the effectiveness of SCRM strategies. Due to nationalisation policy, the trade output of Libya also decreased as most of the companies including ports were owned by state.

Important decisions regarding to new investments for effective port operations such as equipment purchase, and expansion of infrastructure must be approved from many government departments. Due to centralised administration model of central command, the port management is characterised with lack of timely decision making, lack of supervisor control on ports, miscommunication, corruption, and mismanagement. A study has highlighted factors such as competition, reputation, legal aspects, operations, supply, and strategy that can influence the SCRM in an organisation. The competition among national and international ports had minimised in Libya as all ports are controlled by the central government and due to this reason, these ports could not become as world class ports. Furthermore, government monopoly on natural resources and ports operations, no outsourcing, bad reputation due to illegal activities, low enforcement of law, delays in operations are some the main risks in Supply Chain Management of ports. These problems have affected the overall operations, exports, and infrastructure of ports. However, it has not seen in Libya whether it is supervisor and Libyan government or worker and Libyan government, Libyan government or neighbour counties, or Libyan government and international actors. There is lack of coordination, effective communication support, collaboration, planning and decision making for improving the current situation of LPs. For example, it has been found that many skilled and competent workers are left their jobs due to lower level of per hour wage and non-financial benefits such as health insurance, child education and benefits, security and safety on ports, and no insurance coverage for life-threatening security risks especially for workers.

To fulfil the fifth objective of this study, this study reviews the nature of risks and SCRM in LPs and to explore strategies and tools needed to manage supply chain risk in LPs. The Libyan government control on ports operations, lack of contracts for outsourcing private investment and congestion on ports negatively influence the efforts of just in time inventories as well costs. The results also indicated that weak global supply chain risk has occurred due to government inability to build good relationship with neighbour countries and USA. Furthermore, investments and trade activities are not safe in Libya due to safety and security issues, these negative issues also raised the risks for effective supply chain management. Congestion on

ports, damages (i.e. roads, railways and ports) during civil war means high transportation costs, high amount of investment required for infrastructure development, and lower level of trade activities due to more time and low speed of inventories transfer also increased risks for supply chain operation in LPs.

Furthermore, due to militia control on ports and government inability to pay the wages of workers, illegal activities such as illegal migrants, human trafficking, drugs and weapons dealing increased the concerns for international and local investors for imports and exports businesses. Global corporate technology, cheap labor from foreign countries, financing opportunities from foreign and private investors and lower level of law and taxes may decrease the risks in supply chain management. Therefore, it is a need of time to sell the shares of ports in local markets for getting capital and competent management from private sector. Greater capital acquiring may help to expand the ports, purchasing of new machinery, employing of skilled labour, and develop the infrastructure of roads and railway system that are the important functions of Supply Chain Management operations.

### **9.3 Practical Recommendations:**

1. Present study identified the all national, political, economic organisational and infrastructure challenges hindering the implementation of SCRM. It is important to improve the relationship and coordination, among neighbour countries, so weak global Supply Chain Management can improve. It will also bring the opportunities for cheap and skilled labour at competitive rates, more foreign direct investments and high number of exports and outsourcing opportunities at lower cost. The safety and security for ports operations and open opportunities for infrastructure development at higher profits can enhance the current situation of LPs.

2. This study has identified political instability (Civil War or Violent Conflict) and power inequalities (three parallel government control) are major external factors that raised many risks in Supply Chain Management. The militia and other armed groups control the port activities and infrastructure brings delays, disruptions and risks for supply chain. While, authoritative leadership style and centralised administration control are the main internal factors that brought delays in purchasing of heavy machinery, expansion of port, new ships, and upgradation of technology. It is very important to transfer the decision-making powers to the supervisors in ports because they know better what the serious challenges are and how it can be resolved.

3. Present study has uncovered the linkage between national and organisational culture, as well its impact on managing the risks in supply chain management. For example, nationalisation of

major organisations, such as ports has raised issues such as lower level of capital, no competition, and incompetent management, lower number of financial and non-financial benefits for workers, ineffective management of resources, lower level of private and foreign direct investments. Therefore, Libyan government can sell the shares of ports with the purpose to get more capital and competent management from private sector. More capital and competent management can open opportunities such as expansion in ports, repair and development of infrastructure, skilled labour at competitive costs, lower transportation costs, more outsourcing, and high trade activities.

4. Libyan is known as major oil exporter among African countries. However, lower level of heavy ships, first generation technology, lower level of cargo handling capacity, lower number of functional warehouses and lack of outsourcing facilities have increased risks during supply chain management. These supply chain risks can be managed by attracting private investors, foreign direct investment, cheap labour from other countries, and more opportunities for outsourcing by giving the attraction of good profitability and security. These are some of the important strategies/tools that can minimise the risks and improve the profitability at LPs.

#### **9.4 Limitations and future directions:**

Every study has some useful practical recommendations as well as, limitations that provides guidance to future researchers regarding how they can contribute in practice, theory and society. It is also important that the limitations should be highlighted, because it can inversely influence on the scope/generalisability or findings of any study. This study has been conducted after depending on only one data collection method (i.e. Semi-Structured Interview questions) using only one point of time which may decreased the generalisability of results. Therefore, future researchers can explore the linkages between culture (i.e. National and Organisational) and SCRM using the ports of developing country. Due to Semi-Structured Interview methods, data collection, was also dependent on researcher skills and abilities. Therefore, researcher may ask intentionally or unintentionally leading questions which may negatively influence the results of any qualitative study (Aslam, *et al.*, 2018a; Aslam, *et al.*, 2018b). Snowball sampling is also negatively influenced, the results of any qualitative study, because it is non-probability sampling technique. Using this sampling methods, it is tough to convince the readers regarding representativeness of selected sample and logical generalisation of results. Therefore, it a reality that self-reported data, one data collection tool, and snow-ball sampling can enhance biasness in extracted results. Due to the qualitative nature of this study, the strength of biasness may also be increased from interviewees' side such as how motivated they are to answer the questions

or whether they were confident to provide information against the employer (Aslam, *et al.*, 2018a; Aslam, *et al.*, 2018b). In future, data collection from diverse sources based on random sampling techniques may enhance the validity of results in multiple settings. The research is limited to Semi structured or non-directive interviews research data, as well data gather from four major ports that are in or near to some cities. In future, data collection from representative sample of all ports can offer rich explanation and generally more acceptable results. Several studies have been reported that adoption and implementation of SCRM strategies (SCRMS) are varying public to private sector, developed to developing countries, culture to culture, and region to region (Chivvis, & Martini, 2014; Lacher, 2018; Ghashat, & Cullinane, 2013; Elferjani, 2015; Eisend, *et al.*, 2016; Ghashat, 2012; Handley, & Angst, 2015; Kattman, 2014). Therefore, there are limited chances that all ports of Libya (South vs West) have same type of issues and challenges for SCRM. A mixture of diverse data collection tools, sources, and analytical techniques can offer a richer explanation to future researchers about culture and its impact on SCRM especially in the context of developing countries. Moreover, future studies may be conducted to quantitatively test the proposed conceptual framework of this study. Additionally, the proposed conceptual framework can vary based on the culture, public or private sector, safety and security, infrastructure development, power distance, authoritative or participative, level of coordination, communication, collaboration, and support among major stakeholders.

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# APPENDIX 1

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## Participant Invitation Letter

Mohamed Atig Ahmed  
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Dear Sir/Madam,

My name is Mohamed Atig Ahmed I am a faculty member of the University of Elmergib in Libya and currently studying PhD at the School of the Built Environment, The University of Salford, UK under the supervision of Andrew Fleming.

As part of data collection for my PhD study, you are kindly invited to participate in this study by providing information that might be valuable to my PhD study. My research titled "SUPPLY CHAIN RISK MANAGEMENT AND THE ROLE OF ORGANISATION CULTURE: EVIDENCE FROM LIBYAN PORTS". The main aim of the study is to develop a framework that enables the structuring and managing of successful supply chain risk management in the Libyan Port sectors.

Therefore, I am requesting your kind cooperation in giving your time, experience and thoughts by answering my questions during the interview and the questionnaire form provided. Your cooperation is most essential as the deliverables of the case study could be beneficial to both the country and academia.

## APPENDIX 2

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### Research Participant Consent Form

**Research Title: SUPPLY CHAIN RISK MANAGEMENT AND THE ROLE OF ORGANISATION CULTURE: EVIDENCE FROM LIBYAN PORTS**

**Researcher:** Mohamed Atig, Doctoral Research Student, Salford Built Environment School, UK.

- I confirm that I have read the research information sheet and had the opportunity to consider the information, ask questions and have had any questions I have answered to my satisfaction.
- I understand that participation in this research is voluntary and that if I am free to withdraw at any time without giving a reason. I understand that I can ask for any data collected from me to be withdrawn at that stage if I wish to withdraw from the study.
- I understand that any data collected from me will be anonymised and will be kept on a password protected, secure IT system.
- I am happy to participate the study.
- I agree to my interview being audio-recorded by the researcher in order to enable an accurate record to be achieved and to facilitate data analysis.

Name of Participant .....

Signature.....

Date.....

Name of Researcher.....Mohamed Atig.....

Signature.....

Date.....