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ISTANBUL AYDIN UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

WHAT DRIVES THE SUCCESS OF SUPPLY CHAIN RISK MANAGEMENT: CASE STUDY OF CARGO TRANSPORTATION COMPANIES IN TURKEY

MASTER'S THESIS

Saadeddin W. K. KHAYAL

Department of Business
Business Administration Program

July, 2021

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DECLARATION

I hereby declare that all information in this thesis document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results, which are not original to this thesis.

Saadeddin W. K. KHAYA

FOREWORD

This thesis will not be completed without the support and assistance of many people. I would like to take this opportunity to thank all of you who have helped and encouraged me in undertaking my master's degree. I wish to express my sincere appreciation to my thesis advisor, Dr. Özgül UYAN, for her supervision, constructive guidance, inspiration and encouragement throughout my program and ready to help me in any way towards making this study my best. I wish to express my deepest gratitude to the Head of the Department of Business Administration of the Institute and the Head of the Institute of Graduate Studies for providing us with talented and young teachers, and I am thankful our whole teachers for providing excellent knowledge to us. I would also like to thank my colleagues, who generously helped me and advised me on my survey and gave me courteous encouragement. A very special appreciation to my mom, my father, my wife, my sisters, my brothers – one and all – who were always there to offer endless love, support, and understanding.

July, 2021 **SAADEDDIN W. K. KHAYAL**

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ABBREVIATIONS

ANOVA : Antı Corruptıon Agency
CD : Competitive Differentiation
ed. : Edition
et al : Et alia (and others)
etc : Et cetera (and so on)
LR : Legal Requirements
MER : Management of Environmental Risk
MSRSC : Management Social Risk in Supply
Chains RESC: Risk Exposure of the Supply Chain
SCM : Supply Chain Management.
SPSS : Statistical Package for the Social Sciences
UTIKAD : The Association of International Forwarding and Logistics Service Providers
WWW : World Wide Web

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WHAT DRIVES THE SUCCESS OF SUPPLY CHAIN RISK MANAGEMENT: CASE STUDY OF CARGO TRANSPORTATION COMPANIES IN TURKEY

ABSTRACT

Historically, risk management in the supply chain has been an accomplished practice. Over the last two decades, Turkish cargo transportation firms have successfully adopted the required mechanisms to maintain logistics operations. Turkey, with its professional approach, has achieved remarkable success in cargo transportation towards dealing with risk factors involved. In this study it has been tried to explore the success areas that constitute risk management in supply chain taking cargo transportation in Turkey as the case study. For this purpose, questions were unfolded on the principal risk factors on supply chain risk management, the principal actions and mechanisms for supply chain risk management and the most suitable methods for attaining a flexible supply chain. In this research a pragmatic philosophy was adopted for methods and techniques of data collection. The research is based on multi sources of data collection that include both sources of data collection, known as primary and secondary data sources. The first part of the questionnaire used in this research includes closed ended questions consisting of answers about demographic and general information. The second part of the questionnaire includes close ended questions provided with five-point Likert type scale about questions to learn the responses of the supply chain managers related to the services on cargo transportation provided in Turkey and to measure their satisfaction level.

The population of the research is the managers and employees on cargo transportation sector in Turkey. In this research it has been investigated whether there is a positive relationship between risk exposure, competitive differentiation, environmental risk and legal requirements with supply chain risk management. The data collected from the sample of the research and analysis on the data has shown that the cargo transportation companies in Turkey have an effective risk management on supply chain. Respondents seem to be satisfied with their company's supply chain risk management owing to their senior management's being sufficiently responsible on the subject. The findings of the research reveals that in cargo transportation sector, exposure to risk factors affects the success of supply chain management, and to be able to effectively deal with these risk factors, companies pay attention to develope the capacity of their managers to comply with competitive factors.

Keywords: *Cargo Transportation in Turkey, Logistics, Supply Chain, Risk Management*

TEDARİK ZİNCİRİ RİSK YÖNETİMİNİN BAŞARISINI NELER YÖNLENDİRİR: TÜRKİYE'DEKİ KARGO TAŞIMACILIĞI ŞİRKETLERİNE YÖNELİK BİR VAKA ÇALIŞMASI

ÖZET

Tarihsel olarak, tedarik zincirindeki risk yönetimi başarılı bir uygulama olmuştur. Son yirmi yılda, Türk kargo taşımacılığı firmaları, lojistik operasyonlarını sürdürmek için gerekli mekanizmaları başarıyla benimsemiştir. Türkiye, profesyonel yaklaşımıyla, risk faktörlerinin üstesinden gelme konusunda kargo taşımacılığında kayda değer bir başarı elde etmiştir. Bu çalışmada Türkiye'de kargo taşımacılığı vaka çalışması olarak alınarak tedarik zincirinde risk yönetimini oluşturan başarı alanları araştırılmaya çalışılmıştır. Bu amaçla, tedarik zinciri risk yönetimine ilişkin temel risk faktörleri, tedarik zinciri risk yönetimi için temel eylemler ve mekanizmalar ve esnek bir tedarik zinciri elde etmek için en uygun yöntemler hakkında sorular ortaya konulmuştur. Bu araştırmada, veri toplama yöntem ve teknikleri için pragmatik bir felsefe benimsenmiştir. Araştırma, birincil ve ikincil veri kaynakları olarak bilinen her iki veri toplama kaynağını da içeren çoklu veri toplama kaynaklarına dayanmaktadır. Bu araştırmada kullanılan anketin birinci bölümü, demografik ve genel bilgilerle ilgili cevaplardan oluşan kapalı uçlu soruları içermektedir. Anketin ikinci bölümü, tedarik zinciri yöneticilerinin Türkiye'de verilen kargo taşımacılığı hizmetlerine ilişkin yanıtlarını öğrenmek ve memnuniyet düzeylerini ölçmek için beşli Likert tipi ölçekle sunulan kapalı uçlu soruları içermektedir.

Araştırmanın evreni, Türkiye'de kargo taşımacılığı sektöründe faaliyet gösteren yönetici ve çalışanlardır. Bu araştırmada, tedarik zinciri risk yönetimi ile riske maruz kalma, rekabetçi farklılaşma, çevresel risk ve yasal gereklilikler arasında pozitif bir ilişki olup olmadığı araştırılmıştır. Araştırmanın örnekleminden toplanan veriler ve veriler üzerinde yapılan analizler, Türkiye'deki kargo taşımacılığı şirketlerinin tedarik zinciri konusunda etkin bir risk yönetimine sahip olduğunu göstermektedir. Katılımcılar, üst yönetimlerinin konuyla ilgili yeterince sorumlu olması nedeniyle şirketlerinin tedarik zinciri risk yönetiminden memnun görünmektedirler. Araştırmanın bulguları, kargo taşımacılığı sektöründe risk faktörlerine maruz kalmanın tedarik zinciri yönetiminin başarısını etkilediğini ve bu risk faktörleriyle etkin bir şekilde başa çıkabilmek için şirketlerin yöneticilerinin rekabet faktörlerine uyum kapasitesini geliştirmeye özen gösterdiğini ortaya koymaktadır.

Anahtar Kelimeler: *Türkiye'de Kargo Taşımacılığı, Lojistik, Tedarik Zinciri, Risk Yönetimi*

1. INTRODUCTION

1.1 Background of the Study

Risk management in any of the companies is a helpful source in preparing to face unexpected risk factors before they actually happen. Almost every company in the world today deals with unexpected risks that cause loss of money or even complete closure of them. The kinds of risks are of various kinds and therefore they belong to different aspects like; errors in strategic management, legal liability, financial volatility, incidents, and natural catastrophes (Czajkowska & Ingaldi, 2021).

Risk management is characterized in terms of identifying, classifying, and identifying hazards, as well as remedial methods such as increased vigilance, reduced costs and expenses, and improved coordination to grasp the probability of events occurring under evolving risks with better ways. Risk management should ideally be prioritized, with the areas having the most vulnerabilities and probabilities being dealt with first. Prioritizing risks by putting the places with the most vulnerabilities and opportunities first does not necessarily result in high success rates because the situations in such regions are sometimes mismanaged (McLucas, 2003).

The term "risk" is derived from the Italian word "risicare" which means "to dare." Risk was correlated only with “gambling” for several years. The term was introduced by the insurance industry in England in the early nineteenth century and industry became involved in the idea of risk in the fifties and sixties of the last century. This was due to the increase in market competition and the need to take into account the risk of several kinds of intervention in decision making. Risk has historically been regarded through the lens of finance and insurance. Nowadays, a comprehensive risk approach can be used as an important part of business planning (Kiba-Janiak, 2016).

Today's corporate environment necessitates excellent risk management. It starts with recognizing hazards, analyzing them, and deciding on priority considerations and how to respond to them. It is intended to have the ability to respond to risk factors in a regulated manner before they arise. When a corporate entity has the ability to reduce the impact of risk factors, or when they are successfully dealt with before they have any influence on business processes, it has an effective risk management capability (Dey, 2012).

Risk management is related with the predetermination of risk variables and their constraints in order to avoid any loss in advance, with a specific focus on financing firms. The business's investment decision-making process exposes a variety of risk considerations. As a result, the practice of risk management is important to investors (Errico & Sundararajan, 2002).

The supply chain is a structural process of activities that makes the product bearing company, the rest of the suppliers and the buyer of the product interconnected in the process. In the process the product from very raw form gets into the customers' hands. It happens with people, entities, information and resources. The companies find supply chain management effective in reducing operational costs and very quick in production cycle (Kenton, 2020).

The supply chain is used to ensure the seamless flow of a product, whether it is a good or a service. It starts with the raw material and finishes with the customer's hands. To complete the process, a chain of suppliers is established through fulfil activities ranging from the provision of raw materials to the delivery of the product to the organizations that deal with the product's final customers (Bechtel & Jayaram, 1997).

The companies dealing in supply chain management seemed more focused and much attentive towards the levels of their vulnerabilities in smooth flow of their supply chain after the episodes like volcano eruption in Ireland, earth quack in Taiwan and Japan and Hurricanes in US gulf coasts. Crisis situations and catastrophes episodes occurring in the world made the companies to concentrate on vulnerabilities in their supply chain management. The practitioners of supply chain termed the supply chain risk (SCR) a growingly serious challenge in dealing with unexpected situations. The companies find SCR as a constantly

prevailing aspect in running the business affairs for the years they have been in the business (Bak, 2018).

In 2011, the earthquake, tsunami, and subsequent nuclear crisis in Japan harmed Toyota's demand, resulting in a decrease of 40 thousand vehicles. The losses resulted in a daily profit loss of $72 million (Chernov & Sornette, 2020).

The companies around the world have taken risk management as an effective way to have smooth and effective operations in their business despite knowing with the facts that there are undecided functions in the process. The supply chain management having risk management is a key factor in keeping the all uncertain phenomena in options of dealing with. Supply chain risk management (SCRM) has variety of activities to cover up in the process. Operating activities and mitigating risks are some of the fundamentals in the business (Ho et al., 2015).

Understanding risk management for some managers is easy, but the difficulty lies in how they are used and dealt with realistically. Training and tools for such risks are necessary, but some companies fail to provide them to their managers despite knowing their importance. In addition to this, many companies do not motivate their employees for these activities by offering some incentives or rewards for risk management. Knowing the factors that enhance supply chain’s risk management and working to understand them are among the basics that must be dealt with all Businesses, especially the shipping sector (Dittmann, 2014).

A company's supply chain is just as strong as its suppliers. As a result, managers must consider and strive to understand the factors that contribute to effective supply chain risk management. Managing the supply chain can be an extremely complex set of processes and resources with a vast variety of inherent risks. This can be a small interruption, such as a little pause that does not result in a notable outcome or a major issue such as a fire in the distribution center of a manufacturer that may cause the whole chain to interrupt. Risk regarding supply chain consists of all risks that could impact the intended material flow (Waters, 2011).

The business world earlier had linear model of doing business. It had started from the provision of raw material followed by manufacturing process and then ended at the market of the product. The single way of running a business was based on single sided flow of products into the markets. In that way there was no constraint in consideration to run their business in supply chain. A recent development in the flow of the business by adding short product cycle while keeping all the constraints in the process considered that has changed this liner model of doing business. This process has not merely changed it completely simultaneously it has made it more complicated and very tough for the management. In this way the management has become more bound to seriously go through and analyze each and every possible constraint in advance to mitigate risks in relation to the information, management and financial flows of the company. The companies in the market seem to have initiated different strategies in meeting with requirements of these new operations. Production to order program, downstream or upstream integration and relocating or outsourcing the operations to the same scale entities are some of the strategic approaches which are seen being adopted by the companies. These strategic approaches have got vitality of recognition in doing business with so much potential in them vice versa the complex factor persists within them. These have some added values to the operations and the management to meet the challenging environment and adapt the prerequisites of the consequences having risk factors involved in them. The risk factors are associated towards the loss of control, flexibility, compromising on quality, costs and deadlines (Hu et al., 2018).

Globally the companies have taken supply chain management (SCM) as a pivotal way of integrating the business entities, making the organization more valued and more competitive with world economies and making this globalization era. Supply chain management has made the various organizations to integrate their services for timely and economically low ways in the world. It has made possible to deliver the right amount of information or products at the right directions with minimum cost-effective manner. However, SC has been victim to the various means of internal and external risks. Those risks internally are more often associated to the disruption in supply or security breach and

externally they are associated to the natural disasters, economic crisis, terrorists' attacks and other unexpected situations (Prakash et al., 2020).

Cargo transportation in the domain of supply chain management is deeply integrated towards the emergence of world economy. In supply chain management if the transportation is put on suspension the whole supply chain management system shall remain underperformed (Gabrial, 2013). The supply chain risk management is counted differently when it comes to the transportation side because its potential phenomenon keeps on changing. These risk factors can vary from natural disasters to the attacks of the pirates and lack of integration of transport providers to poor distribution logistics services (El Abdellaoui & Pache, 2019).

Turkey has expressed potential growth in her social and economic development after 1980. It has witnessed sustainable progress in its economic development with some wealth in more specifically in 2002 and onwards. However, it has been through some serious patches on its economy after the world financial crises of 2008-2009. Turkey is having good ties with European Union in terms of manufacturing and trading. She had to go through a very tough time once again in 2013. But she has always been a success story with sustainable economy. Turkey looks at the transportation and logistics as key factor in its economic development. In its Eurasian strategies the transportation has widely been encouraged sector. Turkey Logistic Master Plan 2023 has outlined domestic logistics with some ambitions hence Turkish government's emphasis towards transportation and logistics in supply chain management for its economic development is quite visible. Before that Turkey had founded the Association of International Forwarding and Logistics Service Providers (UTIKAD) in 1986. UTIKAD has been rendering the services for improved transportation and logistics services in all forms of road, air and sea. It has been involved in building up the capacity of human resource and assists the domestic and international companies. It has authority to address all sort of challenges which come into the process of transportation and logistics in the country and abroad (Iskan & Klaus, 2013).

1.2 Rationale

This research study has adopted a Pragmatic philosophy in line to the research questions to find out the Managers awareness on supply chain risk management in cargo transportation companies in Turkey.

Supply chain management with special focus on international levels has tremendous possibilities to be hurdled for expected or unexpected events. Those risk factors cause to damages to the company's business processing and earnings (El Abdellaoui & Pache, 2019).

Today, no business will thrive in confidentiality. Each company is linked to other businesses, such as suppliers and customers, to form a supply chain (Sinha et al., 2008). Individual organizations and firms have been knowledgeable of the requirement for emergency preparation and risk management for a long time (Manuj & Mentzer, 2008).

Today supply chain keeps its importance by including various fields (e.g. inventory, logistics, sourcing and recruitment, production planning, and interorganizational relationships and performance metrics are only a few of the topics discussed (Kanda & Deshmukh, 2008).

Transportation companies around the world are hardly hit with different risks in the process. They need to make the kind of mitigating strategies for managing the risks. If the right methods and tools are used they can handle the situations that can come out of it very quickly. Transportation industry is among the world's hard hit industries in managing the risks. They seem adopting enterprise risk management strategies. Fleet integrity, compliance, driver's safety, retention and many others are the kinds of internal challenges the transportation industries face. These challenges in risk management are completely different than the external risks which are associated to the weather events, traffic and road conditions. Managing the risks in transportation industry is not always a perfect way to deal with the situation it also requires internal communication with employees. It is to come up with the situation and make sure their senses are on tasks of delivery. The transportation companies still look risk management in a different way according to their areas of operations but the

basic elements in dealing these are almost same everywhere (Clarke & Varma, 1999).

Risk management of cargo is the detection, review and regulation of cargorelated risk within. Transportation operation, supply chain or distribution network. The effect of a shipment loss in today's competitive environment the market climate stretches well beyond the sum that an insurance claim might be recoverable (Rosenberg, 2018). Thus, efficient and constructive cargo risk management contributes significantly to the productivity of a company, the credibility and outcomes. Awareness and appreciation of the various exposures that cargo encounters during transit the chain is translated into effective functional steps to minimize risk exposure and to mitigate risk positively the incidence of adverse effects on foreign transport and logistics activities. The method of risk management is about interpretation, teamwork and culture as much as it is about realistic surveys and the finding of evidence. Pro-active as well as interactive, an efficient risk management program is. It depends on effective teamwork growth, mutual objectives and transparency, and a new paradigm for the exchange of information and experience. Cargo risk management is a complex process that develops as needs and conditions change. It constantly increases both risk profile and risk understanding of the organization (Giadado, 2016).

The detection of risk dynamics in relation to each method involves an awareness of the city's tactical priorities, the purposes of each transportation measure, and the stakeholders' various hopes and objectives. There are five sources of risk: strategic, organizational, financial, management of information, and compliance (Spekman & Davis, 2004) However, there is no worldwide sorting of risk sources that satisfies every organization, according to FERMA. Thus, the classification of risk sources adapted to transportation interventions, divided into external and internal threats, has been suggested for the purposes. Sociopolitical influences, economic factors, legal legislation, developments in infrastructure and technology and civil and natural disturbances may be the source of external risks. In turn, management, human resources, marketing, finance and information technology can be the internal sources of risks in transportation. Risk factor recognition should be indicated separately in relation

to the chosen steps, taking into account their entire life cycle. It is possible to differentiate between several risk assessment methods and techniques: brainstorming, questionnaires, market research, benchmarking, scenario analysis and seminars (Kiba-Janiak, 2016).

Intermodal transport issues in recent years have taken social and environmental effects into account. Apart from economic parameters, tremendous attention has been received. It is possible to describe intermodal traffic as the movement of containers through multiple modes of transport without any alteration of the container. The choice of transport manner, load allocation and transport processes that are taken into account are increasing the problem's intricacy. Therefore, most scientists have concentrated on single mode Systems of Transport. In Turkey, road transport is the primary mode of transport (Heizer et al., 2017). Due to crashes and injuries in road traffic in Turkey, 10,000 lives are lost every year. In Turkey, the effect of exposure to these values is growing. An increasing interest in sustainability has attracted in the field of logistics. Due to concerns, researchers are dedicated on more maintainable transport systems about the environmental efficiency of transport. Despite the need to transport goods in a timely and efficient way, transport takes social and environmental risks into account. It is critical for human life as well. Human injuries, casualties and environmental causes must be measured transportation issues. Modes of transport with risk concerns impact both individuals and systems ambience. Path, rail, sea, and air transport modes are commonly used in transportation field. The network does not use air transportation. Air transport is favored with respect to its quick travel time, though a carbon-intensive approach is used. The concept of urban conveyance for a better and safe world is crucial (Göçmen & Erol, 2018).

The critical phase of the overall Supply Chain network performance is related to the exposition of Supply Chain Risk. There is serious damage that can affect the Supply chain due to the impacts and effects of existing risks (Oliveira et al., 2019).

The growing internationalization of manufacturing and marketing activities makes it possible for companies to create in one country; the commodity is manufactured in another country and sold in another. This boosts material flows

and components among nations along with final goods. Firms should be concerned regarding variations in external variables like global developments in other countries and technical innovation. These businesses also need to change their ways, in which they oversee their activities and supply chains. One of the new methods the business world is looking for is global supply chain management. There are some complexities and risks facing managers in global supply chains about global supply chain management. Risk is detected as hypothetically meaningful or unsatisfactory outcomes of decisions to be adopted (Zsidisin et al., 2004). Provide and supply chain risk is defined as an event which adversely affects the activities of the supply chain and therefore its desired results. Measures such as expense, service levels across the chain and responsiveness. Usually, the effects are negative, and they have the prospective to deliver positive results if taking risk is necessary and therefore conducted (Sofyalıoğlu & Kartal, 2012).

To improve the Supply Chain Risk Management (SCRM), several methods have been developed. The identification of risks, the assessment of their impacts, the selection of those most critical, the definition and execution of risk response strategies and monitoring and controlling them are the main process which has been reviewed (Xie et al., 2011). Several approaches have been reviewed to decrease and control the negative affects of the risks of the supply chain such as postponement (Yang & Yang, 2010) dual sourcing (Trkman & McCormack, 2009) and redundancy (Sheffi, 2005). These strategies do contribute guidance in controlling risks, though, they use a focal firm view i.e. they are firms' internal practices with limited insights on the combination between the company and its supply chain partners (Munir et al., 2020).

In supply chain companies, operational risks are interrelated and build new challenges in order to identify and monitor the risk (Hallikas et al., 2004; Hallikas et al., 2002). These interrelationships mostly rest hidden until a particular risk happens during normal operations. (Choi et al., 2001; Surana et al., 2005). Consequently, to improve risk prevention and the efficiency of risk management, an understanding of these interrelationships is necessary (Hallikas et al., 2004). To be able to assess the potential risk, it is significant to know the chains and processes, their interdependencies and the (financial) consequences

of an interruption. This knowledge serves as the basis for determining the risk reduction measures to be covered and for choosing the appropriate insurance.

The corporate value chain is more vulnerable than ever. This vulnerability is due to factors such as changes in production methods (just in time), globalization, technological change, climate change and economic influences (volatility of demand, cost etc.). A comprehension of Supply Chain Risk Management in the field of transportation services in Turkey can yield successful theoretical and managerial implications, calls for finding a strategy of identification, characterization, and classification. So, understanding the factors which drives the success of Supply Chain Risk Management is very important in this case in order to determine the key elements of a good supply chain management and logistics.

This research is conducted to collect data related to cargo shipping services companies, offering the opportunity for the managers to understand the factors that drive to Success of Supply Chain Risk Management and how they choose their strategies so that they can improve their services and best fit with their expectations. After conducting a literature review of current scientific knowledge on strategic measures and products offered in relation to supply chain protection, a survey should be conducted within corporations in different cargo transportation sectors. After that, the design of the survey and the statistical analysis will be done. The results should serve to develop recommendations for possible future actions. In addition, a supply chain risk management structure (standardization) should be extracted from this newly acquired expertise. The principal purpose of the research is to deliver an effortlessly recognizable element that helps companies to know, face and manage supply chain risk management by responding to the following three fundamental questions.

1.3 Research Questions

The questions of this research study were determined as follows:

- Which are the principal risk disclosures on supply chain risk management?

- What are the principal actions and mechanisms for supply chain risk management?
- What are the most suitable methods for attaining a flexible supply chain?

1.4 Justifications and Significance of the Research Study

This research study has evolved around the success factors of Supply Chain Risk Management in a case study of cargo transportation companies in Turkey. It has aimed on the examination of the supply chain risk management's current awareness and how it is being implemented in business strategies for companies. The research also aimed to recognize what made a difference to the cargo companies in the decision taking to choose their strategies and how such components could be evolved and improved in order to increase the rate of the success of Supply Chain Risk Management. The geographic location which was chosen to do this research was Turkey. Because it was one of the potential trading countries to be chosen as it benefited from strategic location combining between Asia and Europe continents and a high quality of services in transportation sectors.

1.5 Limitation of the Study

This research study was limited to the cargo transportation companies based in Turkey having a role in supply chain risk management globally. The managers of the cargo companies based in Turkey were the sampled population of the study. The study was further limited to no funding and therefore sampled in Turkey only. It had limited time frame for all the data collection.

2. LITERATURE REVIEW

2.1 Introduction

Supply Chain Risk Management is more than a useful addition to your operations; it is critical to your survival in the event of natural disasters, past-due payments, and transportation delays, among other things. If a risk event occurs, the aim of risk management is eliminating issues and minimize risks. If there is no risk management system, rudimentary risk management system, or a risk management system that isn't up to par, one will have losses at the various levels of doing business. More companies are realizing that risk management gives them a long-term competitive advantage and allows them to run a more flexible supply chain than ever before. Where there is a common danger, supply chain risk management will enable you to outperform your competitors and gain market share. You'll also be able to clear up any ambiguity and strengthen your relationships and trust in your prospects. (Frame, 2003).

2.2 Supply Chain Management

The Supply Chain Management (SCM) profession has attempted to evolve and expand in order to meet the needs of the expanding global supply chain. It may be unclear what the supply chain is because it encompasses a wide range of professions. The terms “logistics management” and “supply chain management” are often used interchangeably. The CSCMP and its board of directors, which is made up of industry professionals, have established formal guidelines (Jacoby, 2010).

Supply Chain Management (SCM) is responsible for managing supply chain processes in order to maximize customer demand and maintain a competitive advantage. It represents supply chain organizations’ concerted efforts to construct and operate supply chains in the most efficient and timely manner possible. Brand development, sourcing, distribution, and operations, as well as

the information systems used to conduct these operations, are all part of supply chain operations. The first core idea in supply chain management is that nearly any commodity that meets the end customer reflects the aggregate work of several organizations. The supply chain is the collective name for these businesses. The second hypothesis is that, despite the fact that supply chains have existed for a long time, most companies have focused solely on what happens inside their four walls. Few companies were aware of, let alone in charge of, the entire network of operations that delivered products to the final customer. The consequence has been disjointed and sometimes unreliable supply chains (Handfield, 2020).

2.2.1 Definition of supply chain

The supply chain is a network connecting a business and its suppliers in order to manufacture and distribute a particular product to the final consumer. This network encompasses a wide range of activities, individuals, organizations, data, and resources. The supply chain also includes all the stages that it requires to get the goods or services provided by the organization to the customer (Anderson & Lee, 2000).

The supply chain is described as the implementation procedure of manufacturing and delivering commercial products, including at any point from the delivery of materials and the manufacture of products to their delivery and sale. Proactively manage supply chains is critical to the company that hopes to compete (Norrman & Jansson, 2004).

The supply chain is a network of all persons, organizations, services, practices and innovations engaged in the manufacture and selling of a commodity. The supply chain includes everything from the distribution of source materials from the supplier to the producer to its final delivery to the end consumer. The supply chain section concerned with bringing the finished product from the producer to the customer is known as the distribution channel. The control of goods, information, and finances as they move from manufacturer to supplier to wholesaler to retailer to consumer is known as supply chain management (SCM). The three basic movements of the supply chain are the flow of goods, the flow of information and the flow of funds. This exists in three major phases:

policy, preparation and operation. SCM includes organizing and incorporating these flows both inside and between organizations (Rouse, 2004).

The supply chain is a system of companies, persons, activities, information, and services that are engaged in supplying an item or service to a client in the commercial world. Natural commodities, raw materials, and pieces are processed into finished items that are transferred to the ultimate customer as part of supply chain processes. The commodities utilized in intricate supply chain networks can rejoin the supply chain at any point. To connect value networks, supply chains are used. A traditional supply chain begins with environmental, biological, and political control of natural resources, followed by human exploitation of raw materials and a variety of distribution conations (e.g. part creation, assembly, and merging) before heading to many layers of ever-decreasing storage facilities and increasingly distant geographical locations (Haksever & Render, 2013).

2.2.2 Dimensions of supply chain

Evidence has demonstrated that companies barely gain the comparative benefit offered by the supply chain technique in management. This can be due to the fact that existing methodologies for the study of supply chains they are not adequately detailed, particularly when it comes to understanding the complexities of SCM and organizational output in a single sense. In addition, researchers have not replied comprehensively to the main issues such as what are the conations between the various measurements of SCM and what are the conations between SCM. The basic dimensions of SCM and SCM efficiency, gap also remains in terms of interpretation relationship between success indicators of the SCM and corporate performance indicators (Deshpande, 2012).

Supply chains have 3 dimensions: the lateral, the vertical and the lateral location of the focal business at the end of the supply chain. The first dimension, the horizontal structure, relates to the number of third parties in the supply chain. The supply chain can be long, with multiple thirds, or short, with few thirds. For instance, the network structure for mass material is relatively short. Raw materials are taken from the ground, combined with other materials, transported a short distance, and then used to build structures. The vertical

structure, the 2d level, refers to the number of suppliers or customers in each category. A company's vertical structure may be narrow, with only a few firms at each level, or wide, with many vendors or clients at each level. The horizontal position of the company within the supply chain is the third structural axis. A business may be positioned at or near the original source of supply, be close to or near the final customer, or be located anyplace amid the exit points of the supply chain (Liu & Anbumozhi, 2021).

2.2.3 Definition of supply chain management

Supply chain management refers to the oversight of a product or service whole manufacturing process, from raw materials through final delivery to the client. A firm will build up a network of vendors (chain links) to transmit the commodity from raw material suppliers to businesses that engage directly with customers in order to accomplish this purpose (Shukla & Agrawal, 2011).

Supply Chain Management (SCM) is the management and supervision of a good or service from its source until it is taken. SCM includes the flow of goods, financing and records. These include project management, planning, execution, monitoring and control. The aim of this process is to minimize inventory, enhance operational efficiency and improve productivity with pure intentions (Kshetri, 2021).

2.2.4 The benefits of supply chain management

Today's global supply chains are becoming more dynamic, rendering a data-driven approach to supply chain management a necessity. Data driven SCM offers insight from end to end for tracking the transfer of information, resources and products from acquisition to production and distribution to the final customer. Data is not the only driving force of efficient supply chain management; other considerations, such as strong manufacturer and provider relationships, efficient cost containment, securing the best logistics partners and the implementation of emerging supply chain technology, also have a major impact. Supply chain management is not a straightforward endeavor, but successful SCM provides a range of advantages that boost the end result. Take a look at eight of the most critical advantages of successful supply chain management: Better teamwork, enhanced quality management, higher utilization

rate, keeping up with demand, shipping optimization, decreased operating costs, improved risk reduction, and improved cash flow are the most important benefits. Supply chain disruptions have a chain reaction, disrupting every stage in the supply chain's existence, but the same can be said for positive disruptions: From procurement to final distribution, effective supply chain management has direct and indirect effects that facilitate efficient, seamless transfer of knowledge, goods, and resources (Gil-Gomez, at el., 2020).

2.2.5 The difficulties of supply chain management

The current supply chain should adapt to address emerging needs and supply chain issues, and supply chain management need to be prepared accordingly to keep things running smoothly. Convergence of customer demands, more paths to the market, regional uncertainties and other issues create major barriers around the supply chain network. These barriers become broader and make them the following overarching difficulties in supply chain management: Increased costs across the supply chain; Profit margins are being squeezed as prices rise across the supply chain. These expenses come from many areas, and a lack of responsiveness and clearness to minimalize them will add to higher running costs. These expenses may relate to the growing fuel prices for shipping commodities by rail, sea or air, growing energy prices increasing the cost of raw materials, higher labor costs for producers and distributors and dynamic international logistics contributing to higher transportation, transfer and program management charges. Supply chain complexity due to multiple channels to market; Consumers purchase goods through numerous platforms and, as consumer channels expand, the underlying supply chain has to change. Supply chain administrators need to establish differences in supply chain operations to address each of the networks. Consumers demand drive need for improved speed, quality and service; Consumers never had so much control, and any sector faces change. Every point of interaction with the end customer has to be based on delivering outstanding goods and services. Quality and speed are becoming as critical as costs when it comes to the procurement of products. Risk in supply chain creates pressure; Global volatility, climate changes, global conditions and trade wars have put pressure on the supply chain. This tension will quickly turn into threats and the threats that spread will cause major

problems around the network. The impact of supply chain volatility; Volatility and uncertainty not only cause challenges at a single stage in the supply chain, but also ripple the effect through the entire infrastructure. Supply chain administrators must deal with these problems immediately before they cause shortages, long delays, inefficiencies and other problems. Other demands on supply chain; other areas that supply chain operators need to address include: demand pace focused on just-in-time production which includes clarity about the location and timeliness of raw materials, components and goods. New technologies need quick prototyping and production getting a new product onto the market requires a secure, efficient and high-quality supply chain (Sakib et al., 2021).

2.3 Risk Management

Risk management in finance refers to the process of discovering potential hazards ahead of time, analyzing them, and using excellent management skills to mitigate or minimize the risk. When a person makes a financial decision, he or she is exposed to a variety of financial hazards. The number of such hazard's dependent on the financial product's location. Inflation might be one of these financial dangers. Portfolio managers and investors participate in risk management to reduce and monitor the sensitivity of investments to particular hazards. Failure to give risk management appropriate attention when making investment decisions might hurt investment at a time when the economy is experiencing financial instability. Different levels of vulnerability are associated with various asset classes (Kaplan & Mikes, 2012).

The identification, examination, and response to risk factors that are inherent in a company's existence are all part of risk assessment. Effective risk management is attempting to monitor prospective effects as much as possible by acting proactively rather than reactively. As a result, effective risk assessment gives the capacity to lower both the risk chance and the risk's possible repercussions. Structures for risk assessment are intended to do more than merely identify risk levels. Risks should be quantified and their impact on the business forecasted in a solid risk management system. As a result, there is a preference for contemplating or rejecting threats. The degree of tolerance that an organization

has previously built for itself determines whether risks are accepted or denied. Risk management systems may be used to supplement other risk reduction systems when a corporation creates risk control as an organized and ongoing method to define and resolve hazards. Planning, coordination, cost management, and budgeting are all part of this process. Because the emphasis is on positive risk management, the organization will normally not encounter many shocks in such a setting (Marchetti, 2011).

2.3.1 Definition of risk

Chance is the likelihood of anything bad happening. Risk is defined as uncertainty about the consequences or effects of a decision on anything that human's value (such as their well-being, money, property, or the environment), with a focus on unfavorable, negative consequences. Several distinct interpretations of risk have been presented. The worldwide normative definition of risk for universal comprehension of varied applications is the impact of uncertainty on goals. In different fields of practice (business, economics, economy, finance, information technology), risk perception, traditional examples of analysis and evaluation, risk calculation, and even risk definition differ (Rausand, 2013).

The meaning of the term risk is debatable. Frequently, dictionaries do not give precise definitions or mix them up with the term danger. For example, one dictionary defines risk as "danger," which explains why many people misunderstand the phrase. There are various additional definitions of risk, but the most common one in the context of workplace health and safety is: Any cause of potential damage, injury, or ill health impacts to somebody or something is referred to as a risk. Essentially, the risk is the possibility of harm or negative consequences (for instance, on individuals as health effects, on organizations as property or infrastructure damages, or on the environment). Rather than the true source of the hazard, the subsequent damage is frequently referred to as a risk. For example, tuberculosis illness (TB) is seen as a "risk" by some, but the TB-causing bacteria (Mycobacterium tuberculosis) is seen as a "danger" or "hazardous biological agent" by others (Aven, 2012).

Risk is a central concern in the management of a wide variety of operations and technology. In order for this management to be effective, an explicit and agreed meaning of the word "risk" is necessary. The development of this concept is a political act that communicates the principles of the definers about the relative significance of the various potential adverse effects for a specific decision. These principles, along with them the concept of risk, can change with the changes made by the decision-maker to the technologies considered. The dilemma of judgement after a review of the sources of controversy in the definition of risk, a general framework is developed to show how these issues of value can be systematically addressed. As an example, the technique is used to describe the risks of 6 competing energy technologies, the relative risk of which depends on the precise concept used (Slovic et al., 1984).

While it is frequently used in various ways, risk is a probability that the result will not be as planned, especially with regard to the return on investment in finance. However, there are many various categories of risk or risk, including investment risk, market risk, inflation risk, company risk, liquidity risk and more. Individuals, businesses or nations are usually at risk of losing any or more of the investment. Risk is usually referred to in terms of industry or acquisition but is often applicable in macroeconomic circumstances. For instance, certain forms of risk analyze how inflation, business conditions or innovations and customer expectations influence finance, countries or businesses (Lam & Zhan, 2021).

2.3.2 Types of risk

Although the term risk is fairly generic, and even ambiguous, there are many distinct categories of risk that help to place it in a more specific sense. So, here are some types of risks that affect investors or businesses (Lam & Zhan, 2021):

- Business risk: Business risk is the vulnerability of an organization to different variables such as competition, customer expectations and other variables that may decrease profitability or jeopardize the performance of a company. When entering the industry, a corporation is subjected to business risk and that there are multiple variables that may adversely affect revenues and even lead to a business loss-including aspect like

regulatory laws or the economy as a whole. Various other types of risk that businesses are investigating, including competitive risk, operating risk, reputational risk and more, are part of the overall market risk. In a general context, something that could impede the growth of an organization or cause it to fail to reach goals or margin goals is called a market risk and may be viewed in a number of ways.

- Volatility risk: Volatility risk applies, in general, to the risk that a market can undergo changes in valuation due to volatility (price swings) based on fluctuations in the prices of its underlying assets in particular, a stocks or group of stocks undergoing volatility or price fluctuations. Volatility risk is also discussed in comparison to options trading, which appears to have a greater risk of volatility due to the existence of the options themselves. Stocks are also given scores, called "beta," which allow investors to detect which stocks can pose more danger to their portfolios. The beta value tests the fluctuations of the stock in relation to the total market or the average index such as the S&P 500.
- Inflation risk: Inflation risk, also referred to as spending power risk, is the risk that investment cash will not be worth as much in the future due to inflation changing its purchasing power. Inflation risk mainly explores how inflation (specifically when greater than expected) will jeopardize or reduce the returns due to the erosion of the valuation of the investment. In general, inflation risk is more of a problem for borrowers who have debt portfolios such as bonds or other cash-increased assets. While inflation risk may not be the chief goal of investors, it is certainly and should be on their thoughts when interacting with cash flows over a prolonged period of time on financial products or when estimating projected returns. The more cash flows are exposed, the more inflation will have an effect on the real return on investment which will eat away at revenues-specifically if inflation is accelerated.
- Market risk: Market risk is a general concept that includes the risk that investment or stock will fall in value due to significant economic or market shifts or occurrences. Several forms of more complex business risks, including equity risk, interest rate risk and currency risk, are part

of the "financial risk" system. Equity risk is faced in any investing scenario in that it is the risk, and the share price of the investment will fall, leading to a loss. In a related way, interest market risk is the risk that the bond rate of interest will rise, reducing the value of the bond itself. And currency risk (also known as exchange rate risk) refers to foreign investments and to the risk of currency exchange rates-or whether the value of a currency such as the pound increases or falls in contrast.

- Liquidity risk: When reserves or shares cannot be liquidated (i.e. exchanged for cash) quickly enough to run a high-risk market, liquidity risk arises. This type of weakness has an effect on a company's, corporations, or individual's ability to repay loans without suffering losses. Small companies or issuers, in general, tend to have a higher liquidity burden because they would be unable to meet debt obligations quickly. Liquidity risk occurs when an individual or company is unable to pay off its short-term obligations.

2.3.3 Social risk

Social risk to a company requires behavior that impacts the societies around them. Examples include labor problems, civil rights discrimination within the workforce, and misconduct by business authorities. Public health concerns can also be of interest as they can have an impact on absenteeism and staff productivity. Political instability may be a social problem if the organization does not have a clear idea of the community power system and who the political elites are. Land usage is another strategic major obstacle. For instance, an organization seeking to open a new site might have zoning problems with the regional city development board. Corporations who have issues with social risk face government backlash, media outrage and a weakened legal status that will not be viable in the long run (Argüelles et al., 2021).

The environmental and social risks involved in the deal depend on a variety of factors, such as particular concerns relating to the activities of the client/investor, the business and the geographic context. E&S concerns generally include environmental emissions, human health risks, safety and

protection, community effects and challenges to the nature and native culture of the country. By incorporating the Environmental and Social Management Framework, a company may increase its perception of the E&S consequences inherent with each operation, which could be used for the judgment system for continuing with the operation (McKay, 2021).

2.3.4 Social risk management

Since the late 1990s, the World Bank, particularly its Social Security and Workforce Market division, has been developing a conceptual framework called Social Risk Management (SRM) under the direction of Robert Holzmann. SRM aims to broaden the traditional social safety framework by providing protection, mitigation, and coping mechanisms to ensure food safety, environmental protection, and high performance. SRM focuses on the underserved, who are the most exposed to risk and continue to bring financial uncertainty and shocks. SRM aims to lessen disadvantaged people's insecurity and empower them to engage in riskier but higher-return behaviors in order to break the cycle of poverty. Previously, it was dealt with in the same way as social protection with OECD partners in economies where it had been in place for longer and longer periods of time. Its inability to achieve the anticipated outcomes was exacerbated in industrialized countries around the globe. As a result of shifting perspectives and ideas on how to measure contributions to the cause with fair trade arguments (Ulvin, 2011).

2.3.5 Competitive differentiation

Competitive distinction is because the product or service of a business varies from what its rivals sell. It is focused on what consumers appreciate, such as accessibility, branding, pricing or customer service. The role of marketing is to ensure that prospective customers understand what sets the offering apart. This is how businesses target, acquire and retain their clients. Although building distinction is a cross functional endeavor, marketing is responsible for communicating the differentiators externally so that consumers can recognize what makes the business, product or service special. Marketing departments also monitor market dynamics and competitive analysis to find differences and ways to distinguish (Smith, 2021).

Competitive distinction is a mechanism that allows consumers to differentiate your company from comparable rivals and gives them a persuasive incentive to choose you. It consists of two components: 1) one or more of the features of your firm that your main competitors either ignore or are not talking about and 2) a plan to promote certain features that will motivate potential customers to purchase (Helmold, 2020).

2.3.6 Risk exposure of the supply chain

Risk management should not have to encounter an 8.9-magnitude earthquake half a world away to endure an outage in the vital supply chain. It can happen in any country right now. That can result from a fire next door to a main supplier or a storm that happens a few miles away. A split in the supply chain can occur with a key customer, not just with a key product supplier. A big accident at a consumer site can be almost as cataclysmic to a company as the absence of a vital supplier. Supply Chain Interruption-the producer and the client be a problem for anybody in the company, maybe not the risk manager. It requires some in comprehension of the agency's job customer experience system and the capacity to support itself both in the short and long term without a vital supplier or client. Dependent personal accident policies for loss of profits and/or increased operational expenses can be part of the remedy but should not be the only remedy (Austin, 2011).

2.3.7 Management of environmental risk

Environmental risk management aims to define the environmental threats exist and also to decide how to handle those risks in a manner that is better conducive to protecting human health and the environment. Risk management Aid is a mechanism that determines how to safeguard public health. Examples of risk control activities include determining how much of a product a corporation should discharge into a river; Deciding the chemicals must be deposited in a wastewater processing plant; deciding to what degree a hazardous waste site must be cleaned; setting the amount of approvals to be discharged, stored or transported; setting national environmental standards for air quality; and setting permissible levels of pollution of drinking water. Risk assessment shall include information on possible risks to health or to the atmosphere, and risk control

shall be action taken on the basis of such and other information (Lin et al., 2021).

In managing environmental risks, management teams have to first identify the full concept of environmental risks. They should be capable of understanding what the industry, the legislature, policymakers, conservationists and other interested parties mean when using the term environmental risk. For instance, business managers may be using the word to refer risk to a company ranging from community environmental concerns, while policy makers may use the term risk of damage to ecosystems or to public health resulting from a human-made environmental offence (Chidambaram, 2010).

2.3.8 Legal requirements

Legal provisions for a company can sound daunting, but apparently these are items you cannot continue to disregard. As well as damage to the image of the company, there are possible fines if you do not comply with the law, even if you do not do so deliberately. Ignorance is not a justification in practice. Many of the regulations involved will differ on the size of your industry and some industries are more controlled than others. Environmental concerns must also be addressed as there are no limitations on future penalties. If you use a contractor to extract the garbage, it is your duty to ensure that it is properly allowed to do so. The disposal of electrical materials and components must be carried out in accordance with the WEEE Regulations (Bonfante et al., 2021).

Indeed, the best Supply Chain Risk Quality Assurance is excluding legislative infringements altogether. However, directed and tailored initiatives following a detailed risk assessment will include the adequate advice against legislative risks arising from the supply chain. A company with a working knowledge of its riskiness and related components will be best adapted to the next crisis. The supply chain of a business can raises major enforcement risks. Aspects to be considered include corruption; fraud; export restrictions and sanctions; environmental, social and governance (ESG) enforcement requirements; compliance with labor law; and health and safety regulations, among others. Existing national and international environmental and social governance programs are ongoing or are currently under consideration that will implement

or raise these criteria. This includes the further introduction of the EU Action Plan on Environmental Finance and the German National Action Plan on Market and Human Rights, including the new National Supply Chain Act. These legislation and policies are intended to respond to international norms, such as those agreed by the United Nations and OECD member countries. Any of these proposed standards was designed to resolve significant foreign accidents. An example of this is the 2013 fire and failure of a garment factory in Bangladesh that manufactured European fashion brands. The factory was running in excess of municipal fire safety codes, and the disaster had a major reputational effect (Alamgir & Banerjee, 2019).

2.3.9 Definition of risk management

Risk identification and risk assessment is a method that allows for constructive awareness and management of particular risk incidents and total risk, improving performance by mitigating risks and enhancing prospects and outcomes risk assessment centres upon anticipating the unexpected and taking action to reduce uncertainty to a manageable level. Risk can be perceived positively (as opportunities) or negatively (as threats) (downside threats). The potential of a circumstance or occurrence to have an effect on the achievement of specific goals is referred to as danger (Salamai et al., 2019).

Risk management is the practice of arranging, coordinating, handling and monitoring the human and material resources of the enterprise. In brief, it's all needed to mitigate the threats and challenges that this company needs to face. Uncertainty faces threats and rewards, with the potential to kill or build value. Enterprise risk management helps managers to efficiently handle the uncertainties, threats and opportunities associated with them and to enhance their ability to produce value (Datta & Christopher, 2011).

2.3.10 Reasons of risk management

Risk managers distinguish the intent of their position and the importance that they add to every company. Though, other workers cannot appreciate what the department of is doing or the prevalent advantages of their policies and activities. In lots of cases, it may not be possible to describe risk management precisely. This is creating a problem. Risk managers have a harder time getting

a buy-in to device mitigation measures when risk management is not mutual knowledge. To highlight the value of risk, there are ten reasons why all workers should take care of risk management (Fildes & Goodwin, 2021):

- Everyone has to manage the risk; Any company is facing risks. Like most business owners know, often danger is necessary in order to achieve results. Despite this, risk control is often viewed as a no department those who reject any project proposal that seems to face any possible risk. It's the opposite of the facts. The goal of risk management is not to remove all risks. The possible negative effects of the uncertainties need to be reduced. Employees can take smart risk by collaborating with risk management.
- Risk management makes job safer; Health and safety are vital aspects of the role of risk managers. They systematically search out and resolve issue issues within the organization. They use data collection to define loss and accident patterns and develop measures to keep them from repeating. This obviously helps workers in physical work settings, such as manufacturing, but it can also support office employees and others in related jobs by approaches such as ergonomics. A safer place of work is healthier for all.
- Risk management empowers project success; Irrespective of the department, risk managers may help workers excel with their tasks. Just when they analyze risks and build plans to optimize corporate performance, they will do the same with individual initiatives. Employees may reduce the probability and seriousness of possible project threats by detecting them at an early stage. When something goes wrong, a contingency plan is still in place to deal with it. It allows workers to brace the unexpected and optimize project results.
- Risk management reduces unexpected events; Most people don't like surprises, particularly when they have an operational effect the risk manager's goal is to plan out all possible risks and then work to avoid or better handle them. It's hard to worry of any potential risk situation and fix it all, but the risk manager makes unexpected surprises less likely and

more serious. Risk manager or risk control department should be the first position that workers turn to when something serious appears to be going wrong.

- Risk management creates financial benefits; The risk department cannot be used as a cost center for the company. In truth, it generates value directly. Using pattern analysis, risk management may detect high frequency events and seek to reduce repeated losses. Incidents will be less likely to occur and will have less effect if they do, potentially saving the company thousands, if not millions, of dollars. Benefit analysts are also professionals who have sufficient amounts of protection to maximize the financial impact.
- Risk management saves time and effort; Employees at both levels spend hours sending data to the risk control department as accidents arise. These activities are frequently performed in a disjointed and ineffective fashion. By streamlining these activities, the risk department is able to reduce the stress of tiresome data submission by workers, enabling them to direct time and resources to their true positions. A solid mechanism is in operation.
- Risk management improves communication; Horizontal and vertical coordination is significant for the well-being of the company and workers. They foster awareness of internal and external problems and allow all to work together efficiently. Although certain workers know this, it can be impossible to bring it into motion if other parties do not realize the effect it may have. Risk managers can assist with this. They promote lateral coordination by providing a single point of contact to monitor and analyze all risk data.
- Risk management prevents reputational issues; there are also dangers involved with a credibility factor: something happens that leads the public to perceive the company negatively. Reputational problems may also have an effect on individual workers, particularly though they were not directly involved. The probability of this effect is substantially minimized by the structured risk department. When an occurrence

eventually happens, a formal risk control policy and procedures can easily control the case and minimize the likelihood of escalation and severe negative effects.

- Risk management benefits culture; A good risk management culture is safer for all parties: frontline personnel, risk analysts, executives and decisionmakers. It provides a sense of prevention and protection that permeates the organization and affects the actions of employees. It sets standards for success and gives a favorable message to the public.
- Risk management guides decision making; Decision-making is a difficult task, particularly when making major choices that will have a huge effect on potential progress. Risk management data and analytics will direct workers in making wise business choices that help them achieve and surpass the goals of the organization. They will also provide advice on the advantages and disadvantages of the alternative decision as well as advice on what risks to take and avoid. The risk department is an outstanding source of advice for employees.

2.3.11 Functions of risk management

Risk assessment involves detecting, evaluating, anticipating potential occurrence and magnitude of losses, risk reduction, seeking risk mitigation strategies, designing policies, performing cost-benefit analysis, and enforcing damage prevention and insurance schemes. Traditionally, a firm's risk control feature ensured that the pure risks of damages were handled accordingly. The risk officer was only responsible for the particular risks. Many of the operations included providing appropriate insurance and introducing loss-control techniques to keep staff and property safe. Usually, the conventional risk management role has been reported to the company treasurer. The treatment of risks through self-insurance (in-house risk retention) and settlement of claims involves additional staff within the risk management role. Risk management function is also in policymaking and decision-making. In reality, each of us handles our own risks, whether we have learned risk control or not. Any time we lock our house or vehicle, check the wiring system for complications, or pay

insurance premiums, we conduct the same tasks as the risk manager (Hardy, 2020).

The important functions in risk management includes (Rouse et al., 2019):

- Establishing context: The conditions under which the remainder of the procedure will be carried out should be understood. The criteria to be used for risk management should also be developed and the framework of the study should be determined.
- Risk identification: The organization recognizes and identifies potential risks that could have a detrimental impact on a particular company process or mission.
- Risk analysis: Once specific categories of hazards have been identified, the organization can then assess the odds and impact of their occurrence. The purpose of the risk analysis is to better clarify each specific risk occurrence and how it may affect the company projects and objectives.
- Risk assessment: The risk is then further measured after evaluating the average probability of occurrence of the risk relative to its overall effects. The organization will then determine whether the risk is reasonable and the organization is willing to take the risk based on its risk appetite.
- Risk mitigation: At this stage, businesses identify their highest risks and create a strategy with clear risk controls to mitigate them. These plans include risk control processes, risk management tactics and contingency plans to be implemented in case of risk.
- Risk monitoring: Part of the contingency strategy includes monitoring both threats and the overall plan to actively manage and monitor new and existing threats. The overall risk assessment method should also be checked and revised accordingly.
- Communicate and consult: Domestic and foreign shareholders should be included in the contact and interaction at each relevant stage of the risk assessment process and in the system as a whole.

2.4 Supply Chain Management in Turkey

If globalization results in both stresses and drivers for Turkish businesses to boost their environmental efficiency, it is anticipated that businesses will need to adopt policies to reduce the negative environmental effects of their goods and services. In order to develop their sustainable profile, businesses must incorporate environmentally sustainable activities into their business strategies and day-to-day operations. This way of doing business will also create new opportunities for competition. Consumer preferences, risk control, regulatory enforcement and market productivity are some of the factors driving competitive advantage by environmental success. Green supply chain management (GSCM) has a vital role to play in ensuring that all of these factors are tackled. GSCM has recently emerged as a crucial solution for businesses aiming to become profitable in a challenging world (Akgul et al., 2010).

Turkey is planning to be one of the top 10 world economies by 2023. Stable macroeconomic growth has resulted in an acceleration of foreign trade over the last decade. Trade in Turkey has grown dramatically, and the country has a larger role in international trade. In 2012, Turkey accounted for 1.2 per cent of all foreign trade volumes. Turkey's share of global trade is predicted to reach 1.5 per cent by 2025 with supply chain management as the key contributor in it (Mohamed et al., 2021).

2.4.1 The most successful companies of Turkey in supply chain management

Supply chain providers in Turkey help find the cheapest way to transport goods while reducing shipping costs. Risk management is essential for any company owner. Supply chain and logistics firms in Turkey help define important risk factors in business. When it comes to finding the most reliable logistics companies in Turkey, strong and successful firms is the place to go. The most successful companies of Turkey in supply chain management are provided by “Good Firms” analysis with some of the successful companies which are numbered and discussed ahead (Ainouche & Smati, 2002):

- BATI is becoming customers' favorite solution provider by keeping abreast of global developments without sacrificing ethical values. It has mission fulfilling the aspirations of customers by delivering integrated

global logistics services and ensuring consistency and professionalism in every area of the sector.

- ATA Freight is committed to perfection and customer trust, while at the same time leading the future of the logistics industry. Integrity, loyalty and quality are at the core of the ideals of ATA Freight. Customers are their most important commodity, are the secret to ensuring that ideals are alive today and thrive tomorrow. Their key strengths are responsive operation, creative innovations and advanced trade lane expertise. These are the pillar that keeps their strong corporate values together.
- Bayraktar Shipping provides highquality marine transport services to major shipping firms, while ensuring environmental sustainability and energy conservation with a team of devoted employees. It is their responsibility to move all goods at sea. It is a fact that freight transport holds the economies of the world intact. The companies contribute to global and local economic prosperity, sustainability and stability.
- AlFares Logistics has shipping solutions designed to meet needs and fulfill required functions in an automated fashion in all parts of the world. As one of Turkey's leading shipping firms, Alfares offers a comprehensive online shipping management system that saves time and enables contact with consumers and suppliers worldwide.
- Gemline Shipping and Trading was founded in Gemlik in 1996. As a logistics and forwarder company, it continues to grow its business volume worldwide with fast, strong and confident steps. The company offers full logistics services via its experienced and qualified workforce and international agency network including pre-carriage, on-carriage, warehousing, multimodal carriage, full/partial container carriage, rail way carriage, air cargo, terminal handling services and customs clearance.

2.4.2 Cargo transportation companies in Turkey

Some of the cargo transportation companies active in Turkey are given below:

- UNI Logistics Systems forwards goods to any place in the world in a prompt and secure manner. The company provides services such as road transport, ocean transport, air transport, and customs clearance and warehousing (URL-1).
- Expologist was developed on the basis of the need for specialized companies on "exhibition and event logistics" (URL-2).
- Hellmann Worldwide Logistics operates in all transports to and from Turkey since 1999. With its branches in Istanbul, Izmir and Bursa, it offers general cargo, partial loads, and full truck loads from Germany and Turkey to and from Europe. Several departures per week from Turkey and from Germany are guaranteed (URL-3).
- KITA Logistics is a global air, sea and road logistics provider established in 1995. It has expertise in large-scale logistics projects in various markets including Aerospace, FMCG, Pharma and Textiles (URL-4).

Logwin Logistics operates in air freight, sea freight or land transport. Its staff plan, coordinate and track the supply chain. In addition, customs clearance, quality control or other value-added services are part of its operations (URL-5).

2.5 Supply Chain Risk Issues

As reported in recent risk study released by DHL Resilience360, natural hazards, droughts, port delays, cargo robberies and factory fires are some of the big supply chain threats that can hold executives and chief risk officers on their toes in 2019. Some of the major supply chain risk issues are (Wendt et al., 2020) :

- Global trade wars and Brexit: Global trade conflicts between the United States and the rest of the world will continue to have an effect on many industrial supply chains, leading to the imposition of US tariffs and the consequent retaliatory tariffs that many countries have imposed on a

wide variety of consumer goods and components, affecting almost all sectors.

- Raw material shortages: Global turmoil and plant closure are expected to result in a lack of essential raw materials. The Resilience360 vulnerability study cited as one example the worldwide availability of cobalt for lithium-ion batteries used in a wide variety of consumer goods, from smart phones to electric cars.
- Safety recalls: Quality problems in the pharmaceutical industry pose a particularly high safety danger, as more pharmaceutical firms generate a growing number of active pharmaceutical ingredients from suppliers in emerging economies, according to the Resilience360 study. Note, for example, that many drug manufacturers and vendors including Teva Pharmaceuticals, Mylan, and CVS Health are presently facing hundreds of litigations since carcinogens have been discovered in cardiac drugs manufactured in a drug manufacturing facility.
- Climate change risk: Over the longer term, climate change will begin to bring more extreme and serious weather patterns droughts, hurricanes, tropical storms, wildfires, volcanic eruptions and earthquakes with wide-ranging and disruptive effects on global supply chains, according to the Resilience360 study.
- Tougher environmental regulations: In order to address the effects of climate change, policymakers around the world have begun to implement tougher environmental standards and to scale up their compliance efforts, including new pollution regulations and the imposition of new carbon taxes. Some of the most important consequences of these policies are likely in China, where stringent regulations have been enforced to curb coal-fired pollution, including compulsory shutdowns and plant closures.
- Economic uncertainty: In 2019, the global trade war, the lack of bribex uncertainty and stricter environmental legislation may all become driving forces in taking insolvencies to the forefront of supply chain risk management. "Supplier insolvencies are likely to grow as small

producers begin to suffer from global instability and technological change.

- Cargo theft: As goods are usually stolen while in transit, theft of freight is mainly a danger to the supply of electronics and consumer goods, and therefore hotspots for freight theft are usually locations where goods transit between supply chain sites.
- Container ship fires: Several big container ship fires in 2018 and early 2019 demonstrate what continues to pose a rising challenge to maritime-dependent supply chains. Two high-profile cases are the March 2018 Maersk Honam fire and the January 2019 Yantian Express fire. According to the Allianz insurance firm, there are a range of reasons affecting container ship explosions, including 'adequate firefighting capabilities, continuing issues with misstatement of cargo, remedial difficulties, and how long access can take.
- Border battles: In the United Kingdom, looming confusion about post-Brexit trade policy raises concerns as to what new tariffs and customs regimes would look like, and how these new regimes would influence and eventually reorient U.K. associated supply chains.

Drone risk in aviation industry: Airport disruptions related to air traffic safety are expected to become more common in 2019 and thus raise a higher risk of interruption to aviation logistics operations, "said Resilience360". One of the most significant accidents happened in December 2018, when numerous drone sightings resulted in the closing of Gatwick Airport in London, which created disruption on over 1,000 flights over 33 hours.

2.6 Conceptual Framework

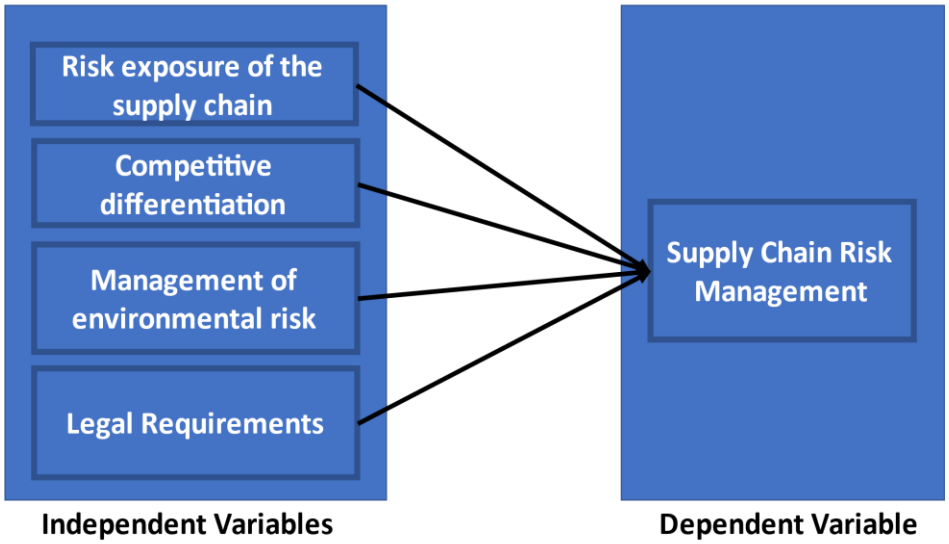

Figure 2.1: Conceptual framework

The above figure shows the study research framework and bases on the above figure; the researcher selected to study Management of social risk in supply chains as dependent variable. And the researcher selects four variables (Competitive differentiation, Risk exposure of the supply chain, Management of environmental risk, and Legal requirements) as independent to measure the relationship and effectiveness to Management of social risk in supply in organization as mentioned above.

2.7 Hypothesis

- H1. There is a positive relationship between competitive differentiation and management of social risk in supply chains.
- H2. There is a positive relationship between risk exposure of the supply chain and management of social risk in supply chains.
- H3. There is a positive relationship between management of environmental risk and management of social risk in supply chains.

H4. There is a positive relationship between legal requirements and management of social risk in supply chains.

3. RESEARCH METHODOLOGY

3.1 Methodology of the Study

This research study has revolved around the factors that have impact over an accomplished management of supply chain in risk management, purely adopted by the management and the ground level implementers in cargo transportation companies in Turkey.

In this research study pragmatic philosophy was adopted because it seemed as deemed fit to the best with the context of the research question and it also allowed for flexibility in the approaches, methods and techniques of data collection.

At the very beginning of the twentieth century in the United States, pragmatic philosophy became prevalent. This philosophy is based on the premise that the utility, practicability and convenience of concepts, strategies and solutions are the criterion for its value. It emphasizes the priority of procedure over theory, of practice over defined concepts and the facts in their confirmation. Concepts however are simply tools and risk assessments. Pragmatic is also related to the business and public relations when the certain outcomes are achieved, and the things are made to happen. There is a darker and more brutal connotation of the word in which any use of force in the active achievement of realistic and concrete goals is deemed "pragmatic." The nature of United States money and government is also defined in this manner. In these situations, "pragmatic" bears the mark of explanation: a strategy is pragmatically justified if it is effective. Knowledge and academic concepts have in general the opposition to using the power of precepts or objective and final standards (Rosenthal, 1994).

Pragmatism analysis theory recognizes ideas that are only applicable if they support policy. Pragmatics recognizes that there are several different methods of viewing the universe and doing research, that no one point of view will ever

provide the full picture, and that there can be many truths. Positivism and perception are particularly main, generally opposing paradigms of existence and understanding. Most thesis subjects fall mostly under one of these two major paradigms. At about the same period, experienced scholars sometimes ought to "modify their philosophical assumptions over time and move to a new position on the continuum." The changed theological principles are adjusted by realistic researchers, usually professional researchers. The research issue, according to pragmatism research philosophy, is the most critical determinant of the research philosophy. Pragmatics may mix both constructive and interpretive roles within the framework of a single study, depending on the nature of the research issue. Except for positivism and interpretivism science theories, pragmatism research philosophy can incorporate upwards of one research methodology and research method into the same report. In addition, pragmatic science philosophy studies can incorporate the use of various research techniques, such as qualitative, quantitative and intervention research methods (Biesta, 2010).

The research method that was adopted for this particular research work was based on multi sources of data collection that could include both sources of data collection, known as primary and secondary sources for the data. The fundamental need for data collection is to catch the consistency of the information that aims to address all the problems that have been presented. Company or administration data collection may conclude key data that is a requirement for educated choice. In order to increase the accuracy of the results, it is expedient that the data be gathered so that you can draw inferences and make rational conclusions on what is perceived to be accurate. One would understand why it is important to select the right form of data collection to accomplish one’s goal. Data collection is a disciplined procedure for obtaining and reviewing precise information in order to provide answers to related problems and to analyze outcomes. It focuses on finding out all that there is about a specific topic. The data is gathered in order to be more exposed to theories that aim to describe things (Hartmann, 2021).

Some knowledge relevant to the issue mentioned in the proposal is extremely important for effectively completing the project research, and the useful data acquired is used for future review. The primary data source and the secondary

data source are two approaches for acquiring the project's data. Secondary data sources are efficiently assessed in connection to core research resources. Secondary data sources are derived from a variety of sources, including internet and intranet websites, as well as journals, published papers, informal talks, and webpages. The evidence from the primary and secondary data sources is combined in order to assess the accuracy of the material and allow the reader to draw meaningful conclusions and make appropriate suggestions. Obtain any results and recommendations on the research issue under consideration (Hair & Brunsveld, 2019).

In ensuring the systematic approach for conducting this research, a proper process for data collection was adopted. In that way, at first, a large literature study was conducted by using secondary sources in order to examine the causes of supply chain risks in Turkey through the basic audit of existing information in the research area of cargo companies' dependent on the theoretical concepts of customer perceived value. The method of content analysis related to different actors in this sector were employed to beacon the case as well as for answering the research questions.

Concepts are building blocks of theories that are being researched, compared, and linked to each other. A definition is an abstraction that defines a part of reality. It is a generic term for the particular cases of the syndrome described (Shoemaker & Reese, 2004).

The understand phenomena, interpret, and interpret phenomena and, in many situations, to question and broaden current understanding beyond the boundaries of essential boundary assumptions. The theoretical foundation is the mechanism that can help or support the hypothesis of a research analysis. The theoretical structure outlines and defines the hypothesis that explains why the analysis issue is under review. The theoretical structure is composed of terms which, along with their meanings and references to applicable academic literature, the standard model that is used for your specific research. The theoretical definitions and reference to relevant of the theories and concepts that are relevant to the subject of your research paper and which relate to the broader areas of knowledge being considered. The theoretical structure is most frequently not one that can conveniently be found in literature. You must study

course readings and related academic articles for hypotheses and theoretical models that are relevant to the research topic you are researching. The selection of a theory can depends on its suitability, ease of use and explanatory capacity (Maraun & Gabriel, 2013).

3.2 Research Instruments

Having had these theoretical concepts adopted by the means of getting and analyzing the data through secondary sources of information a quantitative approach was applied and it fundamentally revolved around the survey questionnaire. The questionnaire consisted of two parts. The first part contained the close ended questions provided with a check list answers which included answers on demographic and general information. The second part of the survey questionnaire also contained over the close ended questions provided with fivepoint Likert type scale which included the questions to know the responses of the supply chain managers related to the services provided in Turkey and to measure their satisfaction level.

Quantitative approaches prioritize quantitative calculation and observational, analytical or numerical analysis of data obtained by polls, questionnaires and surveys, or by modifying well before quantitative numerical analysis of data collected. Quantitative analysis focuses on collecting and generalizing numerical data through groups of individuals or on describing a specific phenomenon. Quantitative analysis deals with statistics, reasoning and an analytical viewpoint. Quantitative analysis relies on numerical and hold back and comprehensive, convergent reasoning rather than divergent reasoning (Babbie, 2020).

A questionnaire is a set of questions posed by the clients. These questions are usually a mix of closed-ended and open-ended questions. Long-form questions leave space for clients to expand on their opinions. Questionnaires should be a more workable and effective testing tool than those in interviews. Questionnaires are much easier to perform than in-person interviews, which require paying interviewers for their time. They can save time on both sides, as consumers can fill it easily on their own time, and staff shouldn't have to take some time off from their times to wait in interviews. The questionnaire is a

collection of questions used to perform a survey, which is the method of collecting, sampling, reviewing and evaluating data from a group of individuals. A questionnaire is essentially one of the instruments used to carry out a survey (Jianying et al., 2021).

Close-ended questions and their forms of questions are important to the selection of sample answers across a small set of choices. Closed questions form the base of all predictive research methods applicable to questionnaires and surveys. Close-ended questions are described as question forms that require participants to rate from a different collection of predefined answers, such as 'yes/no' or between numerous choices. In a standard case, closed-ended questions are used to obtain objective responses from participants. Closedended questions appear in a variety of ways, but they are characterized by the need for specific alternatives. A formative assessment of close-ended questions is simple and versatile and allows the information to be collected that is clean and easy to interpret. It usually comprises of the vascular bundles question, the correct answer, the closest option and the stray thoughts. In a survey, it is more probable that you will eventually wind up responding only the close-ended questions. There is a clear explanation for this close-ended query to help collect actionable, quantitative data (Wondwossen 2019).

For this research, the study scale, questionnaire, and conceptual framework was adapted from Freise & Seuring (2015).

3.3 Data Collection

All the data which was collected by the means of both primary and secondary sources of the data it was thoroughly analyzed. For analyzing the data which was collected through the primary sources of the information while using a survey questionnaire it was analyzed through SPSS.

All these questions were measured the factors that lead to the success of supply chain risk management for cargo destination. These questions were also used to know what kind of factors affected the motivation of managers to apply the right methods in order to facilitate the usage of them in right way.

3.4 Sampling Method of the Study

Since this particular research study has focused over the cargo transportation in an effort to assess the accomplishment of supply chain risk management in Turkey, hence the population for the study was the management and their employees who were associated to the tasks in relevance. The managers and the employees of such companies were taken as the population for the study. In order to get the best possible numbers of the individuals as the respondents for the purposes a definite sampling methodology was adopted in the process. However, in consideration to the overall population which happened to be in Istanbul - Turkey. This sampling method was adopted by (Mansor & Kurt, 2020). Sampling is a mathematical strategy for collecting sample points that allows one to make statistical choices based on the results of experiments. In sampling, it is assumed that samples are taken from the population, and the sampling methods and population techniques are similar. The world in general may be regarded as a population, which encompasses all of the features and features of the research conducted in the sample. However, analyzing all of this data is time consuming and costly. As a result, assumptions about the population are made using samples (Fricke, 2008).

In order to address study concerns, it is unlikely that researchers may be able to gather data from all situations. There is also a need to pick a sample. The whole set of cases the sample of the researcher is drawn in the population called. Since then, none of the researchers has time nor the tools to evaluate the population as a whole so as to apply sampling methods to minimize the size of the population. The number of incidents involved (Taherdoost, 2016).

Definitions for research populations, such as aim and open classes, are given. The consent form needed for refining the target population to a re-searchable subpopulation is clarified and an example is given. The two selection of sampling methods, probabilities and non-probability, are identified and reviewed with their increasing positive. Probability sampling involves basic random sampling, systematic sampling, stratified sampling, batch sampling and disproportionate sampling. Non-probability sampling involves convenience sampling, consecutive sampling, judgmental sampling, quota sampling and snowball sampling (Thomas & Lewis, 1995).

3.5 Population

The population target of this study was the transportation companies in Istanbul – Turkey. And held a lot of study in this particular population but in fact these studies have contrast to measure or find out the relation between study variables in this population. So, this study was conducted to find out of this problem.

Research population is focused on people or objects targeted for the certain research study and therefore they fall in query. It is the large collection of people or objects and hence it is finite or infinite in some or other cases. In the research scenarios the population has to be similar in characters for the certain specific designs of the research. The individuals or objects are of common binding trait (Pagell, M., 2021).

3.6 Sample and Sampling

The sample for the study of population was taken in Istanbul - Turkey. Simple and sampling was used for the gathering of knowledge. the info was composed by senior managers, mid-level managers, experts, and employees of these organizations. the amount of respondents was calculated supported sampling formula and visiting Istanbul chamber of commerce within the process.

Sample in research studies reflect the whole population of the study during a single group. a gaggle that contains the people, objects and items representing the entire kind of the population of the study. It helps the researcher in measuring the larger population. it's the representative of the all population through which the findings of the are often generalized to the entire population (Bineham, 2006).

Sampling is the process of selecting a sample from the complete population in order to make measurement and generalization simpler. During the procedure, a specific set of individuals or things is chosen based on the study's fundamental truths. While learning about the research procedures, probability and nonprobability sampling methods are used (Lune & Berg, 2017).

3.7 Sampling Size

A questionnaire, survey and sampling allow the investigator to simplify population observations and responses. A sample mentions to a subgroup of the population; however, this subset is only beneficial if the wider population is correctly described and depicted (Cox, 2008). The sample size in a survey is the amount of responses, answers or repeats to be involved in a statistical sample of a researcher (Holloway & Wheeler, 2002).

In Turkstat, logistics department holds **1,255,000** number of employees in Turkey (Fidan, 2020). By consuming the equation below (Mansor & Kurt, 2020), the sample size mandatory for this study is **271** responds.

$$\text{Sample size, } n = N * \frac{\frac{Z^2 * p * (1-p)}{e^2}}{[N - 1 + \frac{Z^2 * p * (1-p)}{e^2}]} \quad \textbf{(3.1)}$$

Where N (Population Size) = **1,255,000**, Z (with **90%** Confidence level)= **1.645**, e (Margin of Error) = **0.05**, and p (Sample Proportion - uncertain) =**0.5**.

As stated, that the sample size is **271** and researcher distributed **271** questionnaires among respondents, but in **7** questionnaires which get backed was not properly filled and there is missing data so that actual size of sample is **264**.

3.8 Problem Statement

The business doing mechanisms have rapidly changed all across the globe as the time has gone by in the very recent times. That includes a number of components in maximum capacity of doing business with ease. So as the facilities in making the process of services delivery has changed. In this scenarios supply chain has been an eye-catching aspect, simultaneously, it has been coping various challenges of different sorts of the nature. Supply chain risk management has remained a pivotal part of debate globally. There are various risk management factors under discussions. So, to highlight them in the views of the ones who are directly associated to the purpose this research was a significant source to create awareness on the topic.

3.9 The Significance of the Study

This research study has evolved around the success factors of Supply Chain Risk Management in a case study of cargo transportation companies in Turkey. It has aimed on the examination of the supply chain risk management's current awareness and how it is being implemented in business strategies for companies. The research also aimed to recognize what made a difference to the cargo companies in the decision taking to choose their strategies and how such components could be evolved and improved in order to increase the rate of the success of Supply Chain Risk Management. The geographic location which was chosen to do this research was Turkey. Because it was one of the potential trading countries to be chosen as it benefited from strategic location combining between Asia and Europe continents and a high quality of services in transportation sectors.

4. RESEARCH ANALYSIS AND DISCUSSION

This chapter presents research analysis of the collected data, testing of hypotheses, frequency tables, regression models and correlation analysis. The questionnaires contain two parts. Descriptive statistics are followed by statistical models for further analysis.

4.1 Analysis of the Questionnaire

4.1.1 Position in the company

Table 4.1: Position in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Account Manager	4	1.5	1.5	1.5
	Accountant	11	4.2	4.2	5.7
	Assistant	2	.8	.8	6.4
	CEO	3	1.1	1.1	7.6
	Communication Manager	1	.4	.4	8.0
	Coordination Manager	19	7.2	7.2	15.2
	Coordinator of supply chain management.	1	.4	.4	15.5
	Customer service	52	19.7	19.7	35.2
	Depo Manager	1	.4	.4	35.6
	Export and Import Manager	29	11.0	11.0	46.6
	Financial Manager	2	.8	.8	47.3
	Financial Department	40	15.2	15.2	62.5
	GM	1	.4	.4	62.9
	Inbound Logistic Manager	3	1.1	1.1	64.0
	Logistic & Operations Manager	1	.4	.4	64.4
	Logistic Coordinator	2	.8	.8	65.2
	Logistic Manager	24	9.1	9.1	74.2
	Logistics Department	1	.4	.4	74.6
	Manager of Depo.	3	1.1	1.1	75.8
	Marketing department	1	.4	.4	76.1
	Operation Manager	9	3.4	3.4	79.5
	Owner	3	1.1	1.1	80.7
	Project Management	1	.4	.4	81.1
	Project Manager	1	.4	.4	81.4
	Sales Director	1	.4	.4	81.8
	Sales Manager	3	1.1	1.1	83.0

Table 4.1: (con) Position in the company

	Frequency	Percent	Valid Percent	Cumulative Percent
SEO	1	.4	.4	83.3
Social Media Manager	5	1.9	1.9	85.2
Supply Chain Manager	15	5.7	5.7	90.9
Warehouse Employee	1	.4	.4	91.3
Warehouse Manager	23	8.7	8.7	100.0
Total	264	100.0	100.0	

The analysis in the above table for the positions of the respondents in the company who could take part in this research shows that all the levels of the positions holding employees took part in the research process. The analysis further depicts that from the level of CEOs of the companies to the warehouse employees took part and responded to the questionnaires with frequency at 264, with percent and valid percent at 100.0 each. The employees in the enlisted companies were there as the respondents to the questionnaires. They were working at levels of their employment. They all looked very positive towards responding to the questionnaires. Therefore, they stood up in a good, sampled size while working at all the positions.

4.1.2 Gender of the respondents

Table 4.2: Gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	172	65.2	65.2	65.2
	Female	92	34.8	34.8	100.0
	Total	264	100.0	100.0	

Above table shows that both sex genders were involved in the respondents lists. The analytical table further concludes that there are 264 respondents in total out of which 172 are male and 92 are female respondents. The both percent and valid percent shows at 100.0 for each in the analysis results. The respondents work in the companies in both of the gender's male and female. They all come up with their great attributes towards this survey either they belong to the male gender or the female gender. Though the majority of them stand with the male side. Males are quite responsible for outdoor activities therefore to deal with suppliers and other outdoor persons males are communicating efficiently.

4.1.3 Company associated with cargo transportations

Table 4.3: Company associated with cargo transportations

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	264	100.0	100.0	100.0
	Total	264	100.0	100.0	

Above table analysis for the item the company was associated to the cargo transportations results brings out that all 264 responding companies mark at Yes with 100.0 percent and valid percent respectively. All those companies which take part in the survey come up with their business on cargo transportation. Because this research is focused on the only cargo transportation side of doing business.

4.1.4 Company established Turkey based

Table 4.4: Company established Turkey based

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	254	96.2	96.2	96.2
	No	10	3.8	3.8	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the company was Turkey based established shows that 254 respondents have cumulative percent results on yes with 96.2, accumulative percent. No with 10 respondents at 100.0 accumulative percent. This research is based on the cargo transportation companies currently working in Turkey. Hence the analysis depicts it with further conformity that almost all surveyed companies are established in Turkey apart from few which are basically established in other countries but find themselves involved working in Turkey.

4.1.5 Company extended cargo transportation services to international working level

Table 4.5: Company extended cargo transportation services to international working level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	264	100.0	100.0	100.0

Above table analysis for the item on the company had extended working internationally shows that 264 respondents have cumulative percent results on yes with 100.0. It further denotes that all the companies have their operations also in the countries other than Turkey. They have cargo transportation services extended to the international level of working.

4.1.6 Company dealing with international cargo companies

Table 4.6: Company dealing with international cargo companies

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One Year	26	9.8	9.8	9.8
	Three Years	64	24.2	24.2	34.1
	Five years and more	174	65.9	65.9	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the company had been dealing with international cargo transportation for the last shows that 26 respondents have results on One year with 9.8 accumulative percent,. Three years 64 respondents at 34.1 accumulative percent. Five years and more with 174 respondents at 100.0 accumulative percent. The surveyed company's analysis further indicates it to the majority of the companies have their international working experiences of more than five years and so while being well established in Turkey. On the second highest side the companies have international level cargo transportation working experiences of more than three years. While only a few of the companies have the sort of experiences of around one year and so.

4.1.7 Company with international management system

Table 4.7: Company with international management system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	247	93.6	93.6	93.6
	No	17	6.4	6.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the company had wide spread international management system shows that 247 respondents have cumulative percent results on yes with 93.8, and. No with 17 respondents at 100.0 accumulative percent. Because the companies work on cargo transportation internationally, the most of them have their international level management systems all across.

4.1.8 Company with well established supply chain management system

Table 4.8: Company with well-established supply chain management system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	263	99.6	99.6	99.6
	No	1	.4	.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the company had well established cargo transportation supply chain management systems shows that 263 respondents have cumulative percent results on yes with 99.6, and. No with 1 respondents at 100.0 accumulative percent. The most of the companies come up with results that they have their well-established international cargo management systems that ensures their quite smooth going in the process of doing their business with some ease.

4.1.9 Supply chain management run by effective management system

Table 4.9: Supply chain management run by effective management system

		Frequency	Percent	Valid Percent	Cumulative Percent
	Yes	264	100.0	100.0	100.0

Above table analysis for the item on the supply chain management of the company was run by the effective management system shows that all 264 respondents have cumulative percent results on yes with 100.0. All the participating companies come up with their specifically maintained attitudes towards effectively managing their supply chain management systems at them. They all seem to have firm commitments on it.

4.1.10 Supply chain working experience

Table 4.10: Supply chain working experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One Year	68	25.8	25.8	25.8
	Three Years	69	26.1	26.1	51.9
	Five years and more	127	48.1	48.1	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the supply chain management had at least working experience of around shows that 68 respondents have results on One year with 25.8 accumulative percent. Three years 69 respondents at 51.9 accumulative percent. Five years and more with 127 respondents at 100.0 accumulative percent. This analysis further indicates about the companies have working experiences of more than five years in majority but with the rest of them have mixed length of working experiences on supply chain management.

4.1.11 Managers well equipped in supply chain

Table 4.11: Managers well equipped in supply chain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	263	99.6	99.6	99.6
	No	1	.4	.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the managers were well equipped in supply chain management shows that 263 respondents have cumulative percent results on yes with 99.6, and. No with 01 respondents at 100.0 accumulative percent. Almost all of the responding companies do have their managements being well equipped and well trained on the supply chain management. Hence, they can claim to have their effective management on the subject.

4.1.12 Managers receiving regular trainings

Table 4.12: Managers receiving regular trainings

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	263	99.6	99.6	99.6
	No	1	.4	.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the managers in the company received regular trainings on modern factors in supply chain management shows that 263 respondents have cumulative percent results on yes with 99.6, and. No with 01 respondents at 100.0 accumulative percent. Because the companies seem to be claiming with their managers being quite effective on supply chain management as they result to have regular trainings on it.

4.1.13 Manager having capacity building opportunity in supply chain

Table 4.13: Manager having capacity building opportunity in supply chain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	In Six Months	137	51.9	51.9	51.9
	In a Year or more	127	48.1	48.1	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on each supply chain manager had capacity building turn at least shows that 137 respondents have cumulative percent results on yes with 51.9, accumulative percent. In a year or more with 127 respondents at 100.0 accumulative percent. More than half of the company's analysis shows that their manager goes for trainings in less than six months of the times and around half of the total respondents have the sort of the capacity building opportunities once in around a year.

4.1.14 Cargo transportation companies' awareness about risk factors

Table 4.14: Cargo transportation companies' awareness about risk factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	264	100.0	100.0	100.0

Above table analysis for the item on the cargo transportation company was aware of risk factors in supply chain management shows that all 264 respondents have cumulative percent results on yes with 100.0. With the length of times in experiences for working on supply chain management all the companies in cargo transportation determine their awareness on risk factors.

4.1.15 Risk management component

Table 4.15: Risk management component

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	264	100.0	100.0	100.0

Above table analysis for the item on the risk management was a major component in their companies shows that all 264 respondents have cumulative percent results on yes with 100.0. They all find the risk management as their major component in their rules of doing their businesses.

4.1.16 Manager's awareness on risk factors

Table 4.16: Manager's awareness on risk factors

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Continuously	222	84.1	84.1	84.1
	Often	4	1.5	1.5	85.6
	Sometimes	38	14.4	14.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the managers' awareness on risk factors was raised shows that 222 respondents have results on continuously with 84.1 accumulative percent. Often 4 respondents at 85.6 accumulative percent.

Sometimes with 38 respondents at 100.0 accumulative percent. Majority among the companies depict in findings about their management awareness process approach towards enhancement on continuity while only some of them find the said processes bit often among them.

4.1.17 Company with successful supply chain

Table 4.17: Company with successful supply chain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Scientifically	3	1.1	1.1	1.1
	Traditionally	261	98.9	98.9	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the company ensured successfully supply chain in risk management shows that 3 respondents have cumulative percent results on scientifically with 1.1, accumulative percent. Traditionally with 261 respondents at 100.0 accumulative percent. Almost all of the companies in Turkey have their own traditional ways of managing risk factors in management of the Supply chain. In comparison only few of them follow to make scientific. Hence it helps the audiences to understand on how well Turkish companies make it role model in case studies with their experienced based traditionally adopted means make them successful in the process of risk management.

4.2 Descriptive Analysis of Items

4.2.1 Senior manager responsible for managing social risks

Table 4.18: Senior manager responsible for managing social risks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	17	6.4	6.4	6.8
	Strongly agree	246	93.2	93.2	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on a senior manager was responsible for managing social risks shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 17 respondents at 6.8 accumulative percent. Strongly agree with 246 respondents at 100.0 accumulative percent. The most of the respondents show with strong agreement to have their senior management responsible for social risks management whereas only some of them depict their agreement onto it.

4.2.2 Company playing active role in social interest groups

Table 4.19: Company playing active role in social interest groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	2	.8	.8	.8
	Agree	127	48.1	48.1	48.9
	Strongly agree	135	51.1	51.1	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies played active roles in social interest's groups shows that Neither disagree nor agree with 2 respondents at .8 accumulative percent. Agree with 127 respondents at 48.9 accumulative percent. Strongly agree with 135 respondents at 100.0 accumulative percent. The majority among the respondents depict their strong agreement while around half of them show their agreement onto their roles in social interest groups for smooth dealing to the social risk's management.

4.2.3 Code of conduct implementation

Table 4.20: Code of conduct implementation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	149	56.4	56.4	56.4
	Strongly agree	115	43.6	43.6	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on A code of conduct or similar standard such as SA 8000 was implanted and had to be obeyed for all business activities shows that 149 respondents have cumulative percent results on Agree with 56.4, accumulative percent. Strongly agree with 115 respondents at 100.0 accumulative percent. Most of the respondents do show agreement and almost equal numbers have strong agreement on this certain item for standards on conduct.

4.2.4 Company conducting social audits

Table 4.21: Company conducting social audits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	26	9.8	9.8	9.8
	Neither disagree nor agree	32	12.1	12.1	22.0
	Agree	172	65.2	65.2	87.1
	Strongly agree	34	12.9	12.9	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies conducted social audits at suppliers or employed a third party for such audits shows that 26 respondents have results on disagree with 9.8 accumulative percent. Neither disagree nor agree with 32 respondents at 22.0 accumulative percent. Agree with 172 respondents at 87.1 accumulative percent. Strongly agree with 34 respondents at 100.0 accumulative percent. The most of the companies agree to have social audits and that may be from third party. Few of them show strong agreement on the same. The companies seem in conducting such audits to the suppliers by themselves in order to minimize the social risk factors in supply chain management.

4.2.5 Company offering incentives

Table 4.22: Company offering incentives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	23	8.7	8.7	8.7
	Agree	121	45.8	45.8	54.5
	Strongly agree	120	45.5	45.5	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies offered incentives for suppliers if they engaged in socially responsible conduct shows that Neither disagree nor agree with 23 respondents at 8.7 accumulative percent. Agree with 121 respondents at 54.5 accumulative percent. Strongly agree with 120 respondents at 100.0 accumulative percent. This analysis has also mix in

responses. There are almost equal numbers for agreement and strong agreement on this item of incentives for suppliers on social conduct.

4.2.6 Company cooperating with business partners

Table 4.23: Company cooperating with business partners

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	173	65.5	65.5	65.5
	Strongly agree	91	34.5	34.5	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their company cooperated with business partners beyond the first tier towards improving working conditions along the supply chain shows that 173 respondents have cumulative percent results on Agree with 65.5, accumulative percent. Strongly agree with 91 respondents at 100.0 accumulative percent. Because supply chain is the companies' priority for coordinated efforts. And they find it with agreement to have improved relationship with all. While there is also strong agreement among the good number of companies in Turkey.

4.2.7 Company policies in place

Table 4.24: Company policies in place

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	.4	.4	.4
	Agree	157	59.5	59.5	59.8
	Strongly agree	106	40.2	40.2	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies had policies in place fort taking action if social misconduct (at suppliers) was documented shows that 1 respondent have results on disagree with .4 accumulative percent. Agree with 157 respondents at 59.8 accumulative percent. Strongly agree with 106 respondents at 100.0 accumulative percent. Most of the company's dente an agreement towards taking action against those who do any sorts of misconduct towards social risks in the services provisions.

4.2.8 Company organizing global supply chain

Table 4.25: Company organizing global supply chain

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	1.1	1.1	1.1
	Neither disagree nor agree	34	12.9	12.9	14.0
	Agree	107	40.5	40.5	54.5
	Strongly agree	120	45.5	45.5	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their company organized global supply chains shows that 3 respondents have results on disagree with 1.1 accumulative percent. Neither disagree nor agree with 34 respondents at 14.0 accumulative percent. Agree with 107 respondents at 54.5 accumulative percent. Strongly agree with 120 respondents at 100.0 accumulative percent. The companies find themselves dealing with stakeholders at the international level. They do this supply chain management at the global marketplace with strong agreement among the majority of them while a good number of them find themselves with agreement towards it.

4.2.9 High degree of information

Table 4.26: High degree of information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	64	24.2	24.2	24.6
	Strongly agree	199	75.4	75.4	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on a high degree of information had to be coordinated for their business activities shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 64 respondents at 24.6 accumulative percent. Strongly agree with 199 respondents at 100.0 accumulative percent. This further depicts strong agreement among the companies for managing a great deal of the information in a support to the coordination of their activities in smooth going of their businesses.

4.2.10 Uncertainty resulting from the multitude of actors and products

Table 4.27: Uncertainty resulting from the multitude of actors and products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	3	1.1	1.1	1.1
	Agree	226	85.6	85.6	86.7
	Strongly agree	35	13.3	13.3	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the uncertainty resulting from the multitude of actors and products was a typical element of the business activities of their companies shows that Neither disagree nor agree with 3 respondents at 1.1 accumulative percent. Agree with 226 respondents at 86.7 accumulative percent. Strongly agree with 35 respondents at 100.0 accumulative percent. It thus shows about the companies with their approaches for typically managing their supply with uncertain conditions and results with agreement by most of them. Whereas on few strongly agree towards the fact in their doing of the business.

4.2.11 Products of the company

Table 4.28: Products of the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	1.1	1.1	1.1
	Neither disagree nor agree	78	29.5	29.5	30.7
	Agree	118	44.7	44.7	75.4
	Strongly agree	65	24.6	24.6	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the products of their company had a short product life cycle (short use phase) shows that 3 respondents have results on disagree with 2.1 accumulative percent. Neither disagree nor agree with 78 respondents at 5.0 accumulative percent. Agree with 118 respondents at 65.0 accumulative percent. Strongly agree with 65 respondents at 100.0 accumulative percent. This item analysis has a mix in responses as the majority of them have their agreement on short use phase on their products while also a good number

among them show uncertain responses and some of them show their strong agreement on the item.

4.2.12 Senior manager's responsibility

Table 4.29: Senior manager's responsibility

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	45	17.0	17.0	17.4
	Strongly agree	218	82.6	82.6	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on a senior manager was responsible for managing environmental risks shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 45 respondents at 17.4 accumulative percent. Strongly agree with 218 respondents at 100.0 accumulative percent. The most of the respondents show with strong agreement to have their senior management responsible for environmental risks management whereas only some of them depict their agreement onto it.

4.2.13 Company playing active role in environmental interest groups

Table 4.30: Company playing active role in environmental interest groups

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	2	.8	.8	.8
	Agree	175	66.3	66.3	67.0
	Strongly agree	87	33.0	33.0	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies played active roles in environmental interest groups shows that Neither disagree nor agree with 2 respondents at .8 accumulative percent. Agree with 175 respondents at 67.0 accumulative percent. Strongly agree with 87 respondents at 100.0 accumulative percent. A mix of responses among the respondents this analysis further

indicates. Most of them show their agreement while only few have their strong agreement on the item described.

4.2.14 Requirements for product development

Table 4.31: Requirements for product development

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	175	66.3	66.3	66.3
	Strongly agree	89	33.7	33.7	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on there were requirements for product development, specifying environmental criteria of products shows that 175 respondents have cumulative percent results on Agree with 66.3, accumulative percent. Strongly agree with 89 respondents at 100.0 accumulative percent. This analysis further indicates a mix among the respondents. Most of them show their agreement while some of them have their strong agreement on such specific requirements for the product.

4.2.15 List of restricted substances

Table 4.32: List of restricted substances

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	208	78.8	78.8	79.2
	Strongly agree	55	20.8	20.8	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on there was a list of restricted substances as a part of a product design specifications for sourced materials, which had to be obeyed shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 208 respondents at 79.2 accumulative percent.

Strongly agree with 55 respondents at 100.0 accumulative percent. This analysis further indicates a mix among the respondents. Most of them show their agreement while only few have their strong agreement on this above-mentioned item of the research findings.

4.2.16 Product Life Cycle assessments

Table 4.33: Product Life Cycle assessments

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	33	12.5	12.5	12.9
	Strongly agree	230	87.1	87.1	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on product life cycle assessments (LCA) were in integral part of product evaluation in their company shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 33 respondents at 12.9 accumulative percent. Strongly agree with 230 respondents at 100.0 accumulative percent. The majority of the respondents depict strong disagreement and some of them have their agreements on the analyzed item findings as it shows further on this.

4.2.17 Environmentally certified materials

Table 4.34: Environmentally certified materials

		Frequency	Percent	Valid Percent	Cumulative Percent
	Disagree	1	.4	.4	.4
Valid	Neither disagree nor agree	1	.4	.4	.8
	Agree	228	86.4	86.4	87.1
	Strongly agree	34	12.9	12.9	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on the only environmentally certified materials were to be used shows that 1 respondent have results on disagree with .4 accumulative percent. Neither disagree nor agree with 1 respondent at .8 accumulative percent. Agree with 228 respondents at 87.1 accumulative percent. Strongly agree with 34 respondents at 100.0 accumulative percent. This analysis further indicates a mix among the respondents. Most of them show their agreement while only few have their strong agreement on only certified items usages by the said companies.

4.2.18 Product design and material samples

Table 4.35: Product design and material samples

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	160	60.6	60.6	61.0
	Strongly agree	103	39.0	39.0	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on during product design, material samples were tested towards being environmentally sound, thus avoiding environmental problems shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 160 respondents at 61.0 accumulative percent. Strongly agree with 103 respondents at 100.0 accumulative percent. This further indicates a mix of responses among the respondents. Around half of them show their agreement while some of them have their strong disagreement and only few show their strong disagreement on it.

4.2.19 Environmental criteria

Table 4.36: Environmental criteria

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	102	38.6	38.6	39.0
	Strongly agree	161	61.0	61.0	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on environmental criteria played a key role in supplier selection and evaluation shows that Neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 102 respondents at 39.0 accumulative percent. Strongly agree with 161 respondents at 100.0 accumulative percent. The majority of the respondents depict strong disagreement and some of them have their agreements on the analyzed item findings.

4.2.20 Company conducting environmental audits

Table 4.37: Company conducting environmental audits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	14	5.3	5.3	5.3
	Neither disagree nor agree	46	17.4	17.4	22.7
	Agree	182	68.9	68.9	91.7
	Strongly agree	22	8.3	8.3	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their company conducted environmental audits at suppliers of employed third parties for such audits shows that 14 respondents have results on disagree with 5.3 accumulative percent. Neither disagree nor agree with 46 respondents at 22.7 accumulative percent. Agree with 182 respondents at 91.7 accumulative percent. Strongly agree with 22 respondents at 100.0 accumulative percent. This further indicates a mix among the respondents. More than half of them show their agreement while some of them have their strong disagreement and only a few shows their strong disagreement on it.

4.2.21 Company having policies for environmental misconduct

Table 4.38: Company having policies for environmental misconduct

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	30	11.4	11.4	11.4
	Neither disagree nor agree	1	.4	.4	11.7
	Agree	153	58.0	58.0	69.7
	Strongly agree	80	30.3	30.3	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies had policies in place for taking action if environmental misconduct (at suppliers) was documented shows that 30 respondents have results on Strongly disagree with 11.4 accumulative percent. Neither disagree nor agree with 1 respondent at 11.7 accumulative percent. Agree with 153 respondents at 69.7 accumulative percent. Strongly agree with 80 respondents at 100.0 accumulative percent. This item analysis results find it a mix among the respondents. More than half of them show their

agreement while some of them have their strong disagreement and only a few shows their strong disagreement on it.

4.2.22 Company conducting activities for environmentally and socially sound products

Table 4.39: Company conducting activities for environmentally and socially sound products

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	50	18.9	18.9	18.9
	Agree	88	33.3	33.3	52.3
	Strongly agree	126	47.7	47.7	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies communicated their activities for environmentally and socially sound products and conducted into the market shows that 50 respondents have results on Strongly disagree with 18.9 accumulative percent. Agree with 88 respondents at 52.3 accumulative percent. Strongly agree with 126 respondents at 100.0 accumulative percent. This further depicts in findings with mixed of responses from all. Just less than half of them strongly agree to communicate on the item and some of them agree over there.

But a few of them show strong disagreement on the item.

4.2.23 Company distinguishing itself from competitors through environmentally and socially sound products and processes

Table 4.40: Company distinguishing itself from competitors through environmentally and socially sound products and processes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	20	7.6	7.6	7.6
	Neither disagree nor agree	1	.4	.4	8.0
	Agree	180	68.2	68.2	76.1
	Strongly agree	63	23.9	23.9	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their companies distinguished themselves from competitors by the means of their clear positioning towards

environmentally and socially sound products and processes shows that 20 respondents have results on Strongly disagree with 7.6 accumulative percent. Neither disagree nor agree with 1 respondent at 8.0 accumulative percent. Agree with 180 respondents at 76.1 accumulative percent. Strongly agree with 63 respondents at 100.0 accumulative percent. There is to show agreement with majority of the companies to have their different ways of doing their businesses under the certain factors in management of the risks in cargo transportation internationally.

4.2.24 Products and processes of the company

Table 4.41: Products and processes of the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	1	.4	.4	.4
	Neither disagree nor agree	1	.4	.4	.8
	Agree	52	19.7	19.7	20.5
	Strongly agree	210	79.5	79.5	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on products and processes of their companies were influenced by legal demand shows that 1 respondent have results on disagree with .4 accumulative percent. Neither disagree nor agree with 1 respondent at .8 accumulative percent. Agree with 52 respondents at 20.5 accumulative percent. Strongly agree with 210 respondents at 100.0 accumulative percent. As it puts lights on it. It depicts that the majority of the companies strongly agree over to have their products and processes under the legal influence of the certain risk's factors. While only a few of the companies show just agreement over it.

4.2.25 Company auditing legal compliance regularly

Table 4.42: Company auditing legal compliance regularly

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neither disagree nor agree	1	.4	.4	.4
	Agree	25	9.5	9.5	9.8
	Strongly agree	238	90.2	90.2	100.0
	Total	264	100.0	100.0	

Above table analysis for the item on their company audited legal compliance shows that neither disagree nor agree with 1 respondent at .4 accumulative percent. Agree with 25 respondents at 9.8 accumulative percent. Strongly agree with 238 respondents at 100.0 accumulative percent. The analysis further depicts that the majority of the companies strongly agree to have their regular audits on to the legal compliance of doing their businesses. The few of them agree to have the same too.

4.3 Internal Validity of Items

4.3.1 Reliability for management social risk in supply chains

Table 4.43: Reliability for MSRSC

Reliability Statistics	N of Items
Cronbach's Alpha	
.785	7

Above given table shows reliability statistics for Social risk in Supply chain variable and the value is 0.785 and having seven items internal validity of this variable is good via Cronbach’s alpha.

4.3.2 Reliability for risk exposure of the supply chain

Table 4.44: Reliability for RESC

Reliability Statistics Cronbach's Alpha	N of Items
.712	4

Above given table shows reliability statistics for Exposure of Supply chain variable and the value is 0.712 and having four items internal validity of this variable is good via Cronbach’s alpha.

4.3.3 Reliability for management of environmental risk

Table 4.45: Reliability for MER

Reliability Statistics Cronbach's Alpha	N of Items
.733	10

Above given table shows reliability statistics for Management of environmental risk variable and the value is 0.733 and having ten items internal validity of this variable is good via Cronbach's alpha.

4.3.4 Reliability for competitive differentiation

Table 4.46: Reliability for CD

Reliability Statistics Cronbach's Alpha	N of Items
.724	2

Above given table shows reliability statistics for Competitive Differentiation variable and the value is 0.724 and having two items internal validity of this variable is good via Cronbach's alpha.

4.3.5 Reliability for legal requirements

Table 4.47: Reliability for LR

Reliability Statistics Cronbach's Alpha	N of Items
.719	2

Above given table shows reliability statistics for legal requirements variable and the value is 0.719 and having four items internal validity of this variable that indicates the results are good via Cronbach's alpha.

4.3.6 Reliability for all variables

Table 4.48: Reliability for all variables

Reliability Statistics Cronbach's Alpha	N of Items
.860	25

Above given table shows reliability statistics for all variables together and the value is 0.860 and tested twenty-five items together internal validity of all variables together is 86% that is really indicates excellent results via Cronbach's alpha.

4.4 Correlations

Table 4.49: Correlations

		MSRSC	RESC	MER	CD	LR
MSRSC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	264				
RESC	Pearson Correlation	.533**	1			
	Sig. (2-tailed)	.000				
	N	264	264			
MER	Pearson Correlation	.818**	.522**	1		
	Sig. (2-tailed)	.000	.000			
	N	264	264	264		
CD	Pearson Correlation	.228**	.175**	.299**	1	
	Sig. (2-tailed)	.000	.004	.000		
	N	264	264	264	264	
LR	Pearson Correlation	.313**	.181**	.328**	-.050	1
	Sig. (2-tailed)	.000	.003	.000	.416	
	N	264	264	264	264	264

**. Correlation is significant at the 0.01 level (2-tailed).

The above given tables is talking about correlation analysis for among variables correlation is really a good test to understand about the relationship among variables and also you can use their p values for hypotheses testing, good thing in correlation analysis is it measure the relationship among all variables together, here in table there are moderate relationship between management of social risk in supply chain and Risk exposure the value is 0.533, management of social risk in supply chain and environmental risk has strong positive relationship 0.818, while management of social risk and company differentiation has weak positive relationship with the value of 0.228, and management of social risk with legal requirements has also moderate positive relationship 0.313.

Secondly there is moderate positive correlation between risk exposure and environmental risk 0.522, risk exposure has weak positive correlation with

company differentiation 0.175, and risk exposure has also weak positive correlation with legal requirements 0.181.

Thirdly environmental risk and company differentiation has moderate positive correlation together with the value of 0.299 and environmental risk have also positive moderate correlation with legal requirements 0.328.

4.5 Regression

4.5.1 Model summary

Table 4.50: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829a	.687	.682	.20386

a. Predictors: (Constant), LR, CD, RESC, MER

Above given table is model summary of running model having four independent variables which are run by one dependent variable Management of social risk in supply chain. R is 0.829 means model has strong positive correlation and all variables are strongly correlated, R square is 0.687 so competitive differentiation, risk exposure, environment risk and legal requirements clarifies about 68% variations in management of social risk in supply chain.

4.5.2 Analysis of Variance

Table 4.51: Analysis of variance (ANOVA)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.658	4	5.915	142.317	.000b
	Residual	10.764	259	.042		
	Total	34.422	263			

a. Dependent Variable: MSRSC
b. Predictors: (Constant), LR, CD, RESC, MER

The Analysis of Variance table is talking about the variance level of the model here regression sum of squares is 23.658 and residual sum of square is 10.764 so total sum of square is 34.422. Further in regression there are four degree of freedom and in residuals there are 259 degree of freedom in total there are 263 degree of freedom. Mean square of regression in 5.915 and residuals mean square is 0.042, F value is 142.317 and Significance value is 0.000, so that model is statistically significant.

4.5.3 Beta interpretations

Table 4.52: Beta Interpretations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.022	.220		-.101	.919
	RESC	.119	.033	.145	3.563	.000
	MER	.850	.051	.731	16.547	.000
	CD	-.005	.012	-.014	-.380	.704
	LR	.049	.039	.047	1.253	.211

Dependent Variable: MSRSC
Independent variables: RESC, MER, CD, LR.

Above table is talking about regression analysis, this test is really good for checking the significance level in the model and also giving the separate results for the analysis, the table gives us T test values, beta coefficients, p values and standard errors. Here in this model the t values are 3.563, 16.547, -0.380 and 1.253, we can compare them by critical values at 5% critical value is 1.96.

Beta 1 of Risk exposure of the supply chain variable is .119, therefore; if risk exposure has an increment by 1% then change in management of social risk in supply chain is predicted to have an increase by 11.9%.

Beta 2 of Management of environmental risk variable is .850, therefore; if management of environmental risk has an increment by 1% then change in management of social risk in supply chain is predicted to have an increase by 85%.

Beta 3 of Competitive differentiation variable is -.005, therefore; if management of Competitive differentiation has an increment by 1% then change in management of social risk in supply chain is predicted to have a decrease by 0.5%.

Beta 4 of Legal requirements variable is .049, therefore; if legal requirements has an increment by 1% then change in management of social risk in supply chain is predicted to have an increase by 4.9%.

4.6 Hypotheses Testing

Table 4.53: Hypotheses Testing

H	Hypothesis	P Value	Result
H1	There is a positive relationship between Competitive differentiation and Management of social risk in supply chains.	0.000	Accepted
H2	There is a positive relationship between Risk exposure of the supply chain and Management of social risk in supply chains.	0.000	Accepted
H3	There is a positive relationship between Management of environmental risk and Management of social risk in supply chains.	0.704	Rejected
H4	There is a positive relationship between Legal requirements and Management of social risk in supply chains	0.211	Rejected

Above mentioned table explained all hypotheses testing there are four proposed hypotheses in this research and having four independent variables which are affecting on one dependent variable Social risk in supply chain, by considering the regression analysis results the p value of H1 is 0.00 and it is below than 0.05 hence Competitive Differentiation and Management has positively significant with Social risk in supply chains.

For H2, p value is 0.000 and it also below than 0.05, Risk exposure of supply chain and management is also positively significant with social risk in supply chains.

For H3, p value is 0.704 that is above than 0.05, Management of environmental risk and management is no positively significant with social risk in supply chain. Hence H3 is rejected, and its null hypothesis is accepted.

For H4, p value is 0.211 that is above than 0.05, Legal requirements and management is no positively significant with social risk in supply chain. Hence H4 is rejected and it null hypothesis is accepted.

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The research study took place on the factors that drive the success of supply chain risk management in relationship to the cargo transportation companies in Turkey. The study took into consideration major logistics companies of Turkey. Employees from all levels of the company, from strategic to implementation, took part in this. It has been concluded that cargo firms, which were first established in Turkey and then expanded abroad, employ both men and women, and have been operating in this industry for more than two decades. The companies working on supply chain management with effective management systems internationally has been around five years and so old. The managers of the companies are well trained on the modern trends and adopted in supply chain management with frequent capacity building opportunities. The said companies see the risk management as a pivotal factor in supply chain management. Their managers are raised with awareness on it regularly. Hence the top-level management in the companies stand responsible for coping with them and therefore they find it traditionally handled factor with higher success.

It is further concluded that the senior management is seen involved in management of risk factors the companies seem involved in social interest groups. All the businesses activities are implemented under the code of conduct such as SA 8000. Most of the participating companies seemed to have social and third-party audits and they offered incentives for suppliers who had socially responsible conduct. A strong cooperation mechanism for supply chain management was carried out with the business partners and they had policies for taking action if any social misconduct was ever reported.

Because most of the companies organized global supply chains and they had to have too much flow of information under the coordination of their business activities. Though they found to be uncertain from their stakeholders under their

business activities as a typical element. However, there was a mixed response on the product life cycle of the companies.

It also concludes that the companies had their senior management responsible for dealing with the environmental risks management and they had coordination with environmental interest groups. The companies' products were found based on environmental specification criteria. Their products substances and designs were based on restricted and limited factors with product life cycle assessments as an important of their evaluation. Most of the companies seemed to have products in market having them had processed under the research of environmental conditions because they found environmental conditions as major risk factor in cargo transportation. They were also found to have strong auditing system to trace out environmental conditions with specific to the policies they had on the factor.

The cargo transportation companies in Turkey looked mixed on having their products based on communication for environmentally and socially sound products and distinguishing themselves on the same grounds before introducing them into the markets. However, the majority of the companies looked strongly agreed over to have their products processing with influence of the environmental, social and legal compliance, and they had regular audits on legal compliance.

The cargo transportation companies in Turkey have come up with their effective management systems on coping with risks factors with high success rates. The factors that have supported them in a great deal they are in relationship to the management of the affairs related to risks factors. They have been so successful because they have kept their frontline management on the purposes of having risk management as their major practices in running the cargo transportation with certain products and services internationally. Their success further determines that they have been an accomplished side under various precedents of handling risk management with traditional means of businesses in Turkey. They have looked quite focused on deliberations of risk related topics during their first management capacity building exercises. More traditional ways of dealing environmental, social, and operational risk factors remained under discussions at the trainings. Some of the companies which were established in

abroad and later on came in Turkey with expansion showed to have their scientific ways of managing risks in running the supply chain management systems. However, as the majority of the companies on higher scale remained successful on traditionally adopted means of handling risk factors in management of supply chain internationally.

The other side for Turkish companies in supply chain management systems in dealing with risks factors remained under discussions with high success that was about the companies' ways dealing with environmental, social, and legal risk factors. They all looked so consistent that in having their specifically managed mechanisms in place. They have shown to have their information collection and dissemination ways, respectively. They have also their ways of discussions on the imminent risk's factors. From their discussions and implementations on products safety and their marketing were all aligned. Besides that, the companies have had their standards in place which are internationally recognized with implementation process of doing them effectively. Moreover, the ways of redressing the data concerned in making it positive or negative flow of the information related was shown as effectively handled. Any challenges in ways to near to those factors they were handled and responded in a shape of either incentives or in imposed fines to the suppliers. Social forums were used for getting information across. They became part to them and made themselves visible to others with certain risks factors in place. They had signs of encouragement as well as indicators towards rising challenges in the process. So were the solutions in discussions for risk management. They also had social compliance in to deal with them. Apart from that the environmental side risks factors were also having of coping mechanisms within the companies. The companies' higher-level management looked completely involved and aware towards rising risks in supply chain management internationally.

The companies looked to have law and legislation related risks as the major factors along with social and environmental risks factors were in place before them. They had to work across various international boundaries and with variance in globally spread rules and regulations in place. That they could have an effective handling of it with proper compliance mechanisms that they could come up with.

The companies looked very conclusive so were they successful. Management of risk factors in supply chain management globally they have been an accomplished side owing to have their working experiences in count to them. They all looked so enthusiastic, promising and very determined in coping with the risk factors with effective means of doing their businesses in ease. Hence the success story from Turkey remains constable and quiet resounding with effective management of supply chain in dealing with risks factors internationally with cargo transportation.

In a nutshell most of the cargo transportation companies in Turkey seemed to have an effective supply chain risk management system in place with their special focuses on environmental, social and legal compliance on products cycling in the market under the supervision of their senior management. The management of the companies looked to have significance on the capacity development of their respective employees over the phenomenon at offer for coping with risks factors at place in smooth management of the supply chain.

5.2 Limitations

The research study that has congregated around the success factors in cargo transportation in Turkey that could make supply chain management with risk management. The study is, therefore, limited to the all the cargo transportation companies which were established in Turkey and had an international expansion in all across the world with international means of doing their businesses.

As this research was dedicated to the pursuance of the degree getting process therefore the research work had the limitations in connection with the time management. The work had some stipulated time period that was given under the supervision. Thus was the work completion within specific time duration limitations.

Along with other limitations there was a financial limitation for this research study. There was no funding given in pursuance to the research conducted. The researcher being the student had to be limited in accordance to the companies which were established in Istanbul-Turkey only.

In considerations to the above-mentioned limitations for this research work the overall work had to be in accordance with all fundamentals of ethics and responsibilities dully covered professionalism.

5.3 Recommendations

The following recommendations can be made as a result of evaluation of the research study's findings.

- Distinguished risk factors in in supply chain management based on more ground realities may be outlined for researched.
- Political and religious based factors may also be considered as the risk factors in supply chain management.
- All the companies in Turkey may take legal compliance as their major practices in dealing with risks factors.
- Social media based gathered information on the markets may play a pivotal role in reducing the risks factors in management of the supply chain.
- To deal with the latest trends that can actually multiple risks may be dealt with more frequent capacity building opportunities for the management in the companies.
- The unbroken and consistent coordination mechanisms with the stakeholders at the all levels may be ensured in an effort to reduce risks factors in supply chain management.

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APPENDICES

Appendix 1: Research Questionnaires

Appendix 2: Ethic Approval Form

Appendix 1: Research Questionnaires

Dear Respondents:

I am a graduate student at Istanbul Aydin University; I would like to write my thesis on "**What Drives the Success of Supply Chain Risk Management? A Case Study of Cargo Transportation Companies in Turkey".** I would like to get your views and opinions regarding Supply Chain Risk Management. I hope that you will give me few moments to contribute in my thesis. I will be grateful for your time and efforts in answering the attached questionnaire.

This research study is purely for academic purposes and will be used for scientific purposes only. Your answers will be kept strictly confidential, and the results of this research will be provided to the enterprises participating in our research as general and average characteristics without specifying the business name.

We thank you in advance for your cooperation and understanding and wish you success in your business.

Student Name and Surname	**Thesis Supervisor Name and Surname**
Saadeddin W. K. Khayal	**Assist Prof. Dr. Özgül Uyan**

Name of the Company/Factory :
Name of the Respondent :
Position of Respondent in the Company :

Gender : ☐ Male ☐ Female

Part-A

S. No	Demographic and General Information	Attributes	Responses: Please put a tick (☑) mark
01	The company is associated to the cargo transportations.	No	
		Yes	
02	The company is Turkey based established.	No	
		Yes	
03	The company has extended working internationally.	No	
		Yes	
04	The company has been dealing with international cargo transportations for the last	One year	
		Three Years	
		Five years and more	
05	The company has wide spread international management system.	No	
		Yes	
06	The company has well established cargo transportation supply chain management systems.	No	
		Yes	
07	The supply chain management of the company is run by the effective management system	No	
		Yes	
08	The supply chain management has at least working experience of around	One Year	
		Three years	
		Five years and more	
09	The managers are well equipped in supply chain management.	No	
		Yes	
10	The managers in the company receive regular trainings on modern factors in supply chain management	No	
		Yes	
11	Each supply chain manager has capacity building turn at least	Once in six months	
		Once in a year and more	
12	The cargo transportation company is aware of risk factors in supply chain management	No	
		Yes	
13	The risk management is a major component in our company.	No	
		Yes	
14	The managers' awareness on the risk factors is raised	Continuously	
		Often	
		Sometimes	
15	The company ensures successful supply chain in risk management	Scientifically	
		Traditionally	

Part-B

Management of social risk (Dependent Variable)	strongly disagree	disagree	neither disagree nor agree	agree	strongly agree
1. A senior manager is responsible for managing social risks	1	2	3	4	5
2. Our company plays an active role in managing social risks	1	2	3	4	5
3. A code of conduct or similar standard such as SA 8000 is implemented and has to be obeyed for all business activities	1	2	3	4	5
4. Our company conducts audits at suppliers or employs a third party for such audits	1	2	3	4	5
5. Our company offers incentives for suppliers if they engage in responsible conduct	1	2	3	4	5
6. Our company cooperates with business partners beyond the first tier towards improving working conditions along the supply chain	1	2	3	4	5
7. Our company has policies in place for taking action if misconduct (at suppliers) is documented	1	2	3	4	5
Risk exposure of the supply chain					
1. Our company organizes global supply chains	1	2	3	4	5
2. A high degree of information has to be coordinated for our business activities	1	2	3	4	5
3. The uncertainty resulting from the multitude of actors and products is a typical element of the business activities of our company	1	2	3	4	5
4. The products of our company have a short product life cycle (short use phase)	1	2	3	4	5
Environmental risk measures					
1. A senior manager is responsible for managing environmental risks	1	2	3	4	5
2. Our company plays an active role in environmental interest groups	1	2	3	4	5
3. There are requirements for product development, specifying environmental criteria of products	1	2	3	4	5
4. There is a list of restricted substances as part of the product design specifications for sourced materials, which must be obeyed	1	2	3	4	5
5. Product life cycle assessments (LCA) are an integral part of product evaluation in our company	1	2	3	4	5
6. Only environmentally certified materials are to be used	1	2	3	4	5

7. During product design, material samples are tested towards being environmentally sound, thus avoiding environmental problems	1	2	3	4	5
8. Environmental criteria play a key role in supplier selection and evaluation	1	2	3	4	5
9. Our company conducts environmental audits at suppliers or employs third parties for such audits	1	2	3	4	5
10. Our company has policies in place for taking action if environmental misconduct (at suppliers) is documented	1	2	3	4	5
Competitive differentiation					
1. Our company communicates its activities for environmentally and socially sound products and conducts into the market	1	2	3	4	5
2. Our company distinguishes itself from competitors by means of its clear positioning towards environmentally and socially sound products and processes	1	2	3	4	5
Legal requirements					
1. Products and processes of our company are influenced by legal demand on environmental and social issues	1	2	3	4	5
2. Our company regularly audits legal compliance	1	2	3	4	5

Appendix 2: Ethic Approval Form

Evrak Tarih ve Sayısı: 05.01.2021-306

T.C.
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Lisansüstü Eğitim Enstitüsü Müdürlüğü

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Bilgilerinize rica ederim.

Dr.Öğr.Üyesi Alper FİDAN
Müdür Yardımcısı

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RESUME

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2018-2021**:** Istanbul Aydin University / Master of Business Administration

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Languages

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Turkish: Intermediate

Computer Skills

MS Word, MS PowerPoint, MS Excel, SPSS.