



ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

1.1 LOGISTICS & SUPPLY CHAIN MANAGEMENT DEPARTMENT

**ASSESSEMENT OF SUPPLY CHAIN RISKS AND SUPPLY CHAIN RISK
MANGEMENT PRACTISES: THE CASE OF ETHIOPINA SHIPPING
AND LOSISTICS SERVICE ENTERPRISE**

**A Thesis Submitted to the Logistics and Supply Chain Management Department , Addis
Ababa University School of Commerce in Partial Fulfillment of the requirements for the
Masters of Logistics and Supply Chain Program**

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Declaration

I Mestawet Assefa the undersigned, hereby declare that the study entitled “**Assessment of Supply Chain Risk Management Practices: The Case of Ethiopian Shipping & Logistics Service Enterprise**”, is the result of my original work except the guidance and constructive feedbacks from my research advisor Dr. Tariku Jebena and internal examiner Dr. Shiferaw Mitiku, I have not previously in its entirety or in part submitted at any university for a degree.

Signature_____

Date_____

ADDIS ABABA UNIVERSITY
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This is to Certify that the thesis prepared by *Mestawet Assefa Gizaw*, entitled: “*Assessment of Supply Chain Risk Management Practices: The Case of Ethiopian Shipping & Logistics Service Enterprise*”, submitted to Addis Ababa University School of commerce in partial fulfillment of Degree of MA in Logistics and Supply Chain Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Chair of Department or Graduate Program Coordinator

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ACRONYMS AND ABBREVIATIONS

ESLSE.....	Ethiopian Shipping & Logistics Service Enterprise
RM	Risk Management
SC.....	Supply Chain
SCRM.	Supply chain risk management
SCM.	Supply Chain Management
STATA.....	Statistical & Data (from the two words)

ABSTRACT

The purpose of this study was to assess supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises (ESLSE). In order to meet the objectives of the study, descriptive survey method was employed. From 400 employees, 200 respondents were selected for the study. The research applied both quantitative and qualitative method the quantitative research is based on numerical or statistical data to declare the meaning of research, and the qualitative research collect data through observations. Respondents were selected by Simple random and stratified sampling techniques. More specifically, Stratified sampling was used to obtain representative sample from each department. Since the total population of the department was stratified under nine departments. From this point of view the researcher used random sampling technique (systematic method) to identify the representative samples from each stratum. Questionnaire containing open and close-ended items and items constructed in terms of Likert scale were employed in the process of data gathering. The data obtained through the questionnaires were analyzed using frequency, percentages, mean, and standard deviations. Findings from the data analysis revealed that the organization has insufficient risk assessment practice and process, very often follow the procedure to conduct the assessment, provide less emphasis about continuous review of evaluation process during supply chain risk evaluation stage. Besides, the study found out that the organization is capable to conduct is able to conduct and apply risk mitigation measures to ensure effective supply chain risk management. The study recommended that in order to ensure effective and efficient supply chain risk management practice in ESLSE, those who participating in the process of supply chain risk management practice should design a means that improve formal application of supply chain risk identification process, ensuring transparency among parties related to supply chain risk identification, improving reporting and communication processes so that the organization become strong in this competitive and dynamic business environment.

Key Words: - Supply chain, SC risk management, SC risk identification, SC risk assessment, SC risk evaluation

CHAPTER ONE

INTRODCUTION

Background of the study, statement of the problem, research questions, research objectives, scope of the study, significance of the study & organization of the study are presented in this chapter.

1.1. Background of the study

Supply chain disruptions have garnered increased attention, both in academia and in practice, since the early 2000s. Modern production methodologies, globalized supply chains, shorter product life cycle, and the emphasis on efficiency have increased the risk faced by many supply chains. Managing the risk facing a supply chain is vital to the success of any company.

Shashank & Goldsby, (2009) stated that supply chain involve the flow of materials, goods and other logistics from one place to another. In this whole system, the products and materials and services incur changes to the ownership. Also, the modes of transportations also occur. In the process, the risk is identified as the uncertainty that at any instance, the deviations from the expected results that can cause companies financial consequences as well as a loss of the firm's value.

According to Williams and Heins (1985), supply chains are becoming more vulnerable to disruptions with unexpected consequences and impact on their organizational performance. According to Sodhi and Tang (2009), a number of factors contribute to the increasing vulnerability of supply chains such as, the increasing trend of globalization and its associated lengthy supply chains and complexity, the outsourcing practices, reduction of supplier base, more interdependency between supply chain members, the need to reduce buffer inventory, the requirement for shorter inventory and product life cycles, and capacity limitations.

Supply chain risk, according to Christopher and Lee (2004), is any incident or event that could disrupt the movement and flow of raw materials within an organization or across a given supply chain. “In the overall context of supply chain, the major risk factors affecting supply chain members or firms”.

Supply chain risk management (SCRM) involves practices that are meant to enhance the implementation of strategies to manage both every day and exceptional risks along the supply chain based on continuous risk assessment with the objective of reducing vulnerability and ensuring continuity (Juttner et al 2003). As Faisal et al (2006) and many authors on risk management pointed out, risks cannot be completely eliminated from supply chains but effective strategies can be developed and practiced to manage proactively known risks if the dynamics between the variables related to risks in a supply chain are understood. Even though firms have limited control over the events that disrupt a supply chain flow, by adopting effective practices, firms can control how well a supply chain copes with risks/disruptions if occur.

1.2. Statement of the problem

Micheli et al., (2008) stated that suppliers and the manufacturing firms should understand the interdependency on one another, the risks involved in the respective processes, the consequences arising from those risks. The key drivers for supply chain profitability are responsiveness, efficiency and reliability.

Ghadge et al., (2013) argued that the complexity of products and flow of raw materials increases the number of processes, delivery patterns, geographical locations and economic structures of different firms etc., which increase vulnerability in the supply chains. Ghadge et al., (2013) stated that risk increase as a result of extended material flows, total costs rising over the purchasing costs, increased regulations due to complexities in the chains as currency fluctuations, language, cultural & time differences, etc. until the product reaches the end consumer.

Hessami & Savoji(2011) also attempted to identify and rank supply chain risks for Iran's companies and based on their impact on organizational performance, ranked supply chain risks

orderly as follows: environmental, financial, strategic, informative and communicative , technology and equipment, human resources and supply chain risks.

Norrman and & Jansson(2004) studied the supply chain risk mitigation processes and practices of Ericsson Company and found out that the company adopted a four-stage process of supply chain risk management .

In order to provide service such as:- receiving and delivering cargoes; cargo loading and unloading; stuffing and un-stuffing of container goods; temporary storage for import and export cargoes; container cleaning and maintaining, weight bridge, costumes control and clearance banking and insurance, Ethiopian Shipping and Logistic Service Enterprise (ESLSE) has experienced different type of supply chain risks. The main source of supply chain risk is due to the poor logistics technology and management. And this type of risk also can be considered as the result of raw materials supply and price changes, changes in transport service, physical damage to infrastructures, improper truck loading, incorrect and interrupted communication services chain, potential interference of products flow, uncertainty in freight transport operations, financial status of transport operations, transportation management issues, delays in delivery, lead time issues and warehousing issues. Therefore, the problems stated above are the major challenges hinder the overall risk management practice of the organization. These challenges, unless addressed at the right time and intensity may be deter the overall goal attainment of Ethiopian Shipping and Logistic Service Enterprises.

Despite recent failure, even Ethiopian Shipping and Logistic Service Enterprise (ESLS has goodwill in the logistic sectors. However, regarding supply chain Management practices in general and supply chain risk identification, risk assessment, risk evaluation and mitigation mechanisms of strategic supplier partnership, customer relationships, level and quality of information sharing, and communication, it is too difficult to find such ideal best practice in Ethiopian context.

Different researcher conduct research in relation of supply chain management; supply chain risk evaluation; supply chain risk level and organizational performance; process of supply chain risk identification in different organizations However, in relation to supply chain risk management

practice, there is no research conducted at ESLSE. Hence, this research will try to address this gap.

Hence, the study tried to assess supply chain risk management practice of the Ethiopian Shipping and Logistic Service Enterprises (ESLSE) and made a recommendation to address significant risks in the process of service delivery.

1.3. Research questions

This study have addressed the following research questions :

1. How does ESLSE identify supply chain risks?
2. How does ESLSE assess the supply chain risks?
3. How does ESLSE evaluate the supply chain risks?
4. What are the supply chain risk mitigation mechanisms of ESLSE?

1.4. Research objectives

1.4.1 General objective of the study

Assessing the supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises (ESLSE) is the general objective of the study.

1.4.2. Specific objective of the study

The following four core points are the specific objectives of the study:-

1. To assess the practice of supply chain risk identification of ESLSE.
2. To examine the supply chain risk assessment practice of ESLSE.
3. To describe the supply chain risks evaluation practice of ESLSE.
4. To evaluate supply chain risk mitigation mechanisms of ESLSE.

1.5. Significance of the study

The study is vital to develop the concept of supply chain risk management and how it is essential to enhance the performance of supply chain. Secondly, this study puts the milestone to ESLSE to give more attention for supply chain risks and better ways of practice supply chain risk management. The study also enables ESLSE to recognize its main gaps concerning its existing supply chain risk management practices. Accordingly, it will help to improved & systematize supply chain risk management practices in ESLSE. In addition, the study may support to student researchers to use the study as stepping stone for further study in similar issue.

1.6. Scope of the study

Due to the limitation on time and cost, as well as the need to focus on the major organizational supply chain functions facing significant supply chain risks, In terms of idea or notion, the study will be focused on supply chain risk management practices and related factors only. In terms of geographical location the study will be limited to assessing supply chain related risks affecting the inbound organizational supply chain operation of ESLSE. In terms of time, the study will be focused on a 2 year period (2018-2019) to assess those supply chain risks which actually materialized and affected ESLSE as well as the most common supply chain risk management practice ESLSE has been implementing.

1.7. Definition of terms

A) Supply chain Risk identification is identifying the sources and characteristics of supply chain risks, the causes that trigger the risks and its relationship to the effective and efficient function of the chain (Ritchie and Zsidisin 2008).

B) Risk evaluation Determination of risk management priorities through establishment of qualitative and/or quantitative relationships between benefits and associated risks

C) Risk mitigation is a systematic reduction in the extent of exposure to a risk and/or the likelihood of its occurrence.

D) Supply chain risk management: is an organization capable of recognizing and managing its economic, environmental and social risks in the supply chain that could be accomplished by contingency planning and a flexible and agile supply chain.

E) Supply chain risk management practice is process in which an organization analyzing the tool consists on risk identification, assessment, and evaluation, planning and controlling.

1.8. Organization of the study

The study will be organized in to five chapters. Chapter one comprises of the background, problem, research questions, objectives, significance, scope, limitations and definition of terms & organization of the study. The second chapter presents related literatures of the study along with the conceptual framework. Chapter three discusses research methodology in details. Results and Discussion part will be presented on the fourth chapter. Lastly, chapter five presents finding, conclusion, and recommendation,

CHAPTER TWO

REVIEW OF THE RELATED LITERATURE

This chapter focuses on the review of varied studies that are conducted by other researchers on Supply chain risk management practices. Among the areas reviewed includes supply chain management, risk, supply chain risk management & risk mitigation practices and review of related empirical studies. Finally, the conceptual framework of the study is presented.

2.1. Supply chain management

Supply chain management is vital so as to enhance the company competitiveness and satisfaction of the customers & it helps the company to deliver the product or service effectively & efficiently at the right time at the right place in the right quantity for the final customer.

Supply chain management, presented by Christophe (2011) is the management of suppliers and customers relationship in the upstream and downstream in order to deliver high customer value with low cost to the overall supply chain.

Supply chain management, according to Hugos (2003) encompasses the process of managing production, inventory, location and transportation with whom participating in a supply chain to gain the best mix of the reaction and competency of the market being attended.

In addition to the above supply chain management is the process that includes coordination and collaboration of processes, flows (materials, information, finance), activities across different functions such as marketing, sales, production, product design procurement, logistics, finance, and information technology within a given supply chain. Sodi and Tang(2012) .

2.2. Risks and risk management

With respect to risk several authors defined risk as being vulnerable. In keeping with Wikipedia, defined risk is that the potential of gaining or losing something useful. Cambridge dictionary also defines risk because of the possibility of something bad is happening. As per The Concise

Oxford dictionary risk defines as a situation involving exposure to damage or loss; the chance that something unpleasant will happen. Moreover defined risk as a results of likelihood for an uncommon event to happen, and also the negative effects this event will wear the organization Khan and Burnes (2007). Generally, risk is defined by many as any future uncertain event that may end in negative or positive outcome which implies the chance may have a chance.

There are three common dimensions of risks identified: the first on is Likelihood of occurrence of a particular event or outcome, the opposite is Consequences of the specific event or outcome occurring and also the third one is exposure or Causal pathway leading to the event. Ritchie and Brindley (2009).

The likelihood of occurrence, more regularly termed the probability, can be expressed in objective terms or in subjective terms, each being capable of measurement. Objective measurement relies on previous records of the occurrence of such events. Subjective assessment of the likelihood of occurrence relies more on the translation of previous experience and intuition.

In practice there's likely to be the applying of subjective judgments on any objective data. The fundamental pathway/exposure/ has particularly important implications for risk management. the fundamental requirements for effective risk management understand the nature, sources and causes of factors that make the events or circumstances which could influence the sort and scale of consequences (i. e. both positive and negative), and the likelihood of their occurrence Supply chain risk management .

A risk within the general definition is an inherent a part of any business. Risks covered all the activities of the organizations so management of any business focuses on coping these risks in any respect levels Tachankova (2002). Companies are responsive to the requirement for risk management and contingency planning for a few considerable time and there exist a large body of literature from such diverse fields as economics, finance, strategic management, and international management. Due to increasing market competition that require higher customer satisfaction and lower cost, most supply chains became more complex and consequently has more threat disruptions than they were before. Disruptions of Supply chain may have impact on both in the

organization & outside a supply chain. Moreover, external factors such as natural hazard, global outsourcing, and shorter product life cycle have heightened the exposure of supply chains to risks. Kouvelis et al. (2006) view Supply chain risk management in terms of managing the uncertainty of costs, demand & offer.

According to Carter and Rogers (2008) the definition of supply chain risk management is the capability of an organization to accepting and managing its economic, environmental, and social risks throughout supply chain that could be realized by the adoption of contingency planning in supply chain strategy and having a strong and accepting changes in a supply chains proactively. A risk by the general definition is an inherent category of any business. Risks covered all the activities of the organizations so management of any business focuses on coping these risks the least bit levels Tachankova (2002). Companies are conscious to the requirement for risk management and contingency planning for a scarce considerable time and there exist a great body of literature from such diverse fields as economics, finance, strategic management, and international management. due to increasing market competition that require higher customer satisfaction and lower cost, most supply chains became more complex and consequently more disposed to to disruptions than they were before. Disruptions in supply chain may have an internal or external impact on the supply chain. Moreover, external factors such as natural hazard, global outsourcing, and shorter product life cycle have heightened the exposure of supply chains to risks. Kouvelis et al. (2006) view Supply chain risk management in terms of managing the uncertainty of costs, demand & deliver.

The importance of SCRM is to make decisions that optimally align organizational processes and decisions so as to change the opportunities to good chance while simultaneously minimizing risk. As per the indication of the two authors Wagner & Bode (2008) the supplier being incapable of financially strengthen, and natural disasters like earthquake that makes the production capacity weak are the condition with totally dissimilar elements. Hence, have several effects on the supply chain. Therefore, SCRM have to study understanding and reducing vulnerability to the readiness chain as a whole, rather than at a focal firm level. As supply chains become longer and parts of larger networks of demand and deliver nodes and interacting logistics nodes and modes, they become more liable to the negative attributes of methods, difficulty, flexibility, compassion, reliability and susceptibility (Meister 1991) .

2.3. Supply chain risks and their categorization

In order for companies or supply chain members devise and practice effective means of supply chain risk mitigations strategies/methods, according to Chopra et al. (2004), managers must first understand supply chain risks together with the events and conditions that drive them. Having knowledge about supply chain risks enable companies to customize their supply chain risk management approaches and practices. There is no consensus among scholars on the definition or category for supply chain risk. Supply chain risks, according to Christopher and Lee (2004), are any incident or event that could disrupt the movement and flow of raw materials across the chain. Wagner and Bode (2009) defined a supply chain risk/disruption as ‘the combination of (1) an unintended, anomalous triggering event that materializes somewhere in the supply chain or its environment, and (2) a consequential situation which significantly threatens normal business operations of the firms in the supply chain.’ Various authors in the literature classified supply chain risks in a different ways.

To mention few; Waters (2007) classified supply chain risks as internal and external supply chain risks, while Christopher (2011) categorized supply chain risks as supply risks, demand risks, process risk, control risk and Environmental risk. Based on the function and association of supply chains, Vikulov and Butrin (2014) also classified supply chain risks as Risks associated with suppliers, risks associated with transport, risks associated with warehousing, risks associated with production and risks associated with marketing.

2.4. Risk Identification

It is the primary step that helps to develop a typical understanding of the future uncertainties close the provision chain, therefore recognizing the potential risks so as to manage these situations effectively. Risk identification defined that “risk identification aims to discover possible risk sources and potential risk events. In the general approach supply chain risk

identification process includes the theoretical awareness and applied knowledge & information and also uses of appropriate tools. According to Lin & Zhang (2008) there are different useful tools for supply chain risk identification process like Risk checklist, Supply Chain Operations Reference Model (SCOR), cause and effect tree event tree, and also fault tree.

Effective risk identification needs investigation totally different structure activities in each direction and at each level additionally this can be ought to be worn out never-ending basis to reveal new risks just in case of internal and external changes within the setting. Greene and Trieschmann (1984) argues that it becomes extremely difficult to manage or to mitigate risks in case if managers are not able to identify all possible risks and sources of risks which can harm the organization, in this case organization will not plan for mitigation actions for those risks that remained unidentified and the result may be unexpected, Dickson and Hastings (1989). Managers should not focus only on what can be insured or mitigated but they should be proactive in risk identification.

2.5. Risk Assessment

The second step of supply chain risk management process is the risk assessment, it refers to the nomination of probabilities to risk bearing events in the system and identifying the consequences of these risk events that defined in the first step of supply chain risk management process. Identified and analyzed risks in the assessment, Firm's own experiences, other companies' performance results or forecasting analysis can be utilized also; companies should make estimations about likelihood of occurrence and the effect of these risks on the performance of company. Lin & Zhang (2008) defines risk assessment as, "risk assessment follows to study the characters of every single risk and estimate its happening possibility, emerging time, and consequence.

Besides, risk assessment quantifies the results of identified risks. Risk assessment done through qualitative and quantitative methods; qualitative method is to examine the impact of risk events through the application of a logical reasoning process while quantitative method of supply chain risk assessment used numerical values for the impact and likelihood by using data collected from a varies types of sources moreover, the analytical quality depends upon the numerical values accuracy & completeness and also valid in models that used to assess.

2.6. Risk Evaluation

The third supply chain risk management process is risk evaluation. The objective of risk evaluation is to prioritize/rank the risks on the basis of risk level and chances of occurrence before and after risk mitigation planning tactics will be adopted and this is as a result of evaluating the risks in the whole supply chain with. The authors Lin & Zhang (2008) stated that about prioritization of different risk that occurred in a supply chain is that a continuous process that is accomplished throughout the life-cycle of a system that implemented to evaluate the risk. Effective risk prioritization it requires the activity of planning; early identification and analyses of risks; continuous monitoring and reassessment of risks in a supply chain; communication, documentation, and organization works.

Risks which are identified during the identification process of the company are ranked according to the risk prioritization for mitigation. The following factors should be considered as risks prioritization: Risk occurring probability, Risk consequence, and Cost and resources to mitigate risks one method of doing a risk evaluation is prioritizing the risks with probability the occurrence of events and consequences which is referred to as risk matrix method. (Cox, 2008) discuss the different usages for risk matrix method in risk management practices such as business risk management, airport safety, highway construction project risk management, and in the assessment of potential risks to building ranging from terrorist attacks to hurricanes.

“Risk matrices provide a clear framework for systematic review of individual risks and portfolios of risks; convenient documentation for the rationale of risk rankings and priority setting; relatively simple appearing inputs and outputs, often with attractively colored grids” (Cox ,2008). As mentioned above importance of risk matrices is provided as per below.

		Impact →				
		Negligible	Minor	Moderate	Significant	Severe
Likelihood ↑	Very Likely	Low Med	Medium	Med Hi	High	High
	Likely	Low	Low Med	Medium	Med Hi	High
	Possible	Low	Low Med	Medium	Med Hi	Med Hi
	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
	Very Unlikely	Low	Low	Low Med	Medium	Medium

Source: <http://causalcapital.blogspot.com/2015/08/making-risk-matrix-useful.html>

2.7. Risk Mitigation

The risk mitigation is the four supply chain risk management process. The risk mitigation activity is to act directly on the pre-identified risks in order to decrease either the occurrence probability or the extent of severity of its consequences. If supply chain has more flexible strategies then it can act as advantage to mitigate the disruption of risks in a supply chain. It is important for the organization to have insight in the different risk mitigation options before choosing appropriate alternatives for the different supply chain risks. There are many risk mitigation mechanism in a supply chain such as risk avoidance, risk transfer, risk reduction and creating flexibility to adapt changes (risk acceptance) are the risk mitigation mechanisms that which mentioned by many authors who wrote in this regard & which can be applied individually or the combination risk mitigation mechanism strategies.

2.8. Empirical study

The empirical study on supply chain risk management the author Tang (2006) presents an excellent review on quantitative approaches for supply chain risk management. He proposes robust supply chain strategies which aims both to increase a firm's capability to manage supply and demand with regular operation, and also to enhance a firm's capability to keep the sustainability of its operations when a major disruption successes. Tang (2006) also proposes nine key policies for mitigating risks: postponement, strategic stock, flexible supply base, make-and-buy, economic supply incentives, flexible transportation, revenue management, dynamic assortment planning and silent product rollover. However, it is acknowledged that studies applying quantitative methods in supply chain risk management are still very limited I number (Tang, 2006).

Using a descriptive research design, Adem(2014) studied the supply chain risk management practices of the Kenyan Power sector and found out that the power sector in Kenya have implemented the supply chain risk management practices to a varying extent. Particularly, found out that the practices of developing and using contingency plans, using back up suppliers and suppliers disruption historical background checks had not been practiced with due focus.

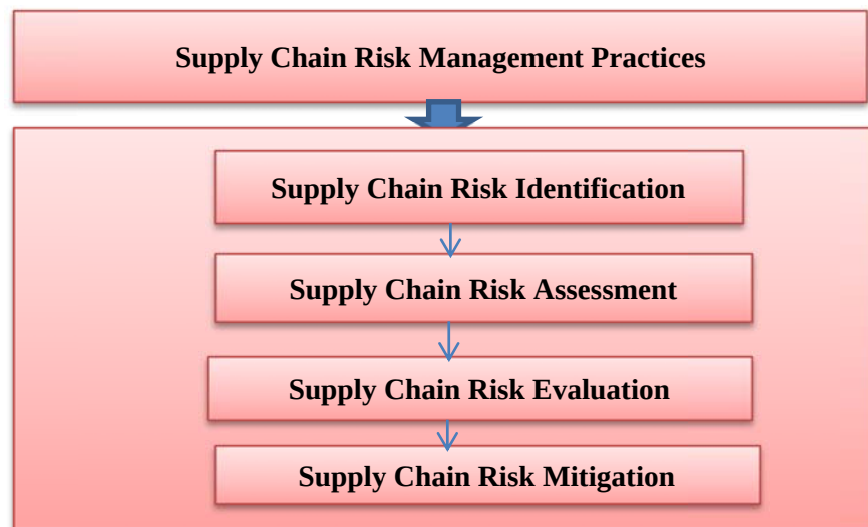
Similarly, Munyuko (2015) studied the impact of supply chain risk management on organizational performance taking the case of Andy forwarders and logistics services and found

out that there was a direct relationship among supply chain risk management and its organization performance. And it was concluded that organization performance affected by risks in a supply chain in the event they materialize and therefore there was need for the organization to identify potential risk exposure, analyze the risk exposure and have in place mitigation practices for the risk identified within their supply chain.

2.9. Conceptual Framework

The conceptual framework stated here under describes the main idea of the study. Basically the relationship that exist and influence among supply chain risk management practices visa-vise supply chain risk identification; supply chain risk assessment supply chain risk evaluation and mitigation mechanism

Figure 2.10.1.



Source: own demonstration

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Description of the study area

This study was conducted on Ethiopian Shipping & Logistics Service Enterprise to assess the overall supply chain management practices. Ethiopian Shipping & Logistics Services Enterprise(ESLSE) , an amalgamation of former, Ethiopian Shipping line S.C. Maritime and Transit Services Enterprise , Dry port Services Enterprise and Comet Transport S.C with more than five decades of decades of dedicated maritime and logistics transport service, has been serving Ethiopian economy in the development of import & export cargo (international trade) trade since the 1950's. Since its establishment, the enterprise is working in a competing environment with global carriers. By accomplishing this, it has maintained remarkable trade share in the import trade even though it has low trade share in the export trade so far.

The vision of ESLSE is by providing competitive shipping & logistics services, to become preferred and renowned African logistics company by 2025. Comply with its vision ESLSE stated that the following mission statement:- through building and upgrading organizational capacity; to render world class and competitive shipping & logistics services; thereby contributing towards the rapid economic growth of the country. To achieve these missions, Ethiopian Shipping and Logistics Services Enterprise strive to perform the following activities:- receiving and delivering cargoes; cargo loading and; stuffing and un-stuffing of container goods temporary storage for import and export cargoes; container cleaning and maintaining, Custom control and clearance and banking and insurance.

Hence the study will be focused on supply chain risk management practice of Ethiopian Shipping & Logistics Services Enterprise which is found in Addis Ababa Kirkos Sub-city.

3.2. Research Approach

Abrams (2010) describe two kinds of approaches to carry out a research, the quantitative research and qualitative research. The quantitative research is based on numerical or statistical data to declare the meaning of research, and the qualitative research collect data through observations and it focuses on experience, opinions and knowledge. Hence, In order to comprehensively understand the process of ESLSE supply chain risk management, Quantitative and qualitative approach used based on the intention in which the basic questions of the study was not addressed by either by quantitative or qualitative manner. Hence, research approach that satisfied both purposes was selected.

3.3. Research Design

The study was followed descriptive research design which used to describe characteristics of phenomenon studies (Yin, 2014). It provides the answers to ‘how’ to assess supply chain risks management practice in ESLSE.

3.4. Unit of Analysis

Unity of analysis is the major entity that are analyzing in our study such as an individuals or groups Saunders et.al (2009). Based on this definition, in the case of supply chain risks management practice of ESLSE mainly constitutes all employees who are working in ESLSE.

3.5. Population of the study

The total population of in this study to collect the data about supply chain risk management practices in ESLSE, the researcher targeted 400 employees who have direct relationship in the supply chain risk management. According to Yamani (1967), the sample size will determined using sample size calculator, with confidence level of 95% and confidence interval (margin error) of 5%, which results in 200. Hence, 200 respondents were selected.

3.6. Sample Design

Alreck & Settle (2005) noted that the choice of sample size is made after considering statistical precision, practical issues and availability of resources. Samples that are selected on a random basis are considered as a representative of the population. The study was applied probability sampling particularly stratified random sampling technique because; it enables the researcher to see the research problems from the different departments involving in the supply chain risk management endeavors. According to Malhotra & Peterson (2006) there is no a single and precise way to determine the size of sample; hence there are a number of in adequacy for deciding on sample size. If the sampling of a research size is larger, the generated data will be more accurate. More specifically, Stratified sampling was used to obtain representative sample from each department. Since the total population of the department was stratified under nine departments. From this point of view the researcher used random sampling technique (systematic method) to identify the representative samples from each stratum.

2.1 Figure 4.6.1. Sample Representation

No.	Department	Number of employee	Sample size
1	Commercial	62	$(62 * 200) / 400 = 31$
2	Operation	30	$(30 * 200) / 400 = 15$
3	Technical	30	$(30 * 200) / 400 = 15$
4	Unimodal Operation	38	$(38 * 200) / 400 = 19$
5	Multi-odal Operation	78	$(78 * 200) / 400 = 39$
6	Port facility Development	20	$(20 * 200) / 400 = 10$
7	Planning, Business Development	16	$(16 * 200) / 400 = 8$
8	Law, Insurance claim	16	$(16 * 200) / 400 = 8$
9	Finance and Accounting	110	$(110 * 200) / 400 = 55$
Total		N= 400	Sample size = 200

3.7. Data Source and Types

The study used both Primary and Secondary Data. Primary data was collected by using key data collection instruments- the questionnaire. While secondary data was collected from available company reports, published records such as textbooks, journals, magazines, company manuals and procedures with regard to the supply chain risk management practice of the ESLSE.

3.7.1. Primary Data

The primary data was gathered through distributing the questionnaires which was filled by each actor in the supply chain risk management operation in ESLSE.

3.7.2. Secondary Data

Secondary data was collected from documents, related articles, books, publications, and journal in order to substantiate as well as triangulate the data that was obtained from primary sources. The data is considered overall to be useful when establishing comparisons and evaluating data. Some sources of information being viewed as a secondary sources are annual reports, books, journal articles, online data sources and webpages of firms (Ghauri&Grønhaug, 2005). In this proposal, the secondary data was collected mainly from the internet and data was collect from the official website of the ESLSE and some other related websites. The e-newspapers, e-journals and e-books were used to collect data.

3.8. Method of Data Collection

3.8.1. Questionnaire

Questionnaire was adopted from scholars who have conducted related valid study regarding supply chain risk management and a little bit customize to align it with the objectives of the study. A closed- ended questionnaire was administered to the respondents. The questionnaire was distributed after the expected respondents was randomly selected and briefed about the overall study area and objectives of the study. The questionnaire was selected as a major data gathering tool because the researcher believes that the questionnaire helps respondents to easily remember their previous experiences and observation regarding supply chain risk management

issues when they are presented with possible choices.

3.9. Procedures of Data Collection

Questionnaire was developed in view of the basic questions. The questionnaire was pilot tested for 10 employees and 2 department heads from ESLSE in order to ensure the appropriateness of the items. Then, after the feedback obtained, the questionnaire was distributed and collected accordingly.

3.10. Methods of Data Analysis

Data that was collected analyzed and interpreted by using quantitative approaches. Thus closed ended questionnaires analyzed quantitatively by using tables and percentages. The data gathered via the likert scale coded, encoded and analyzed using descriptive statistics to interpret the data. In order to analyze the data that was collected from the respondents was analyzed by using descriptive statics such as frequency, percentage, mean SD and the data was analyzed by using STATA version 13 tools.

3.11. Validity and Reliability

3.11.1. Validity

Validity defined by (Lakshmi and Mohideen, 2013) is the extent to which a test measures what it claims to measure. In addition validity expressed the content of validity by Kindy et al. (2016), validity is the extent to which the items in an instrument cover the entire range of the significant aspects of the area being investigated. In this study tried to develop the questionnaire in order to maintain the validity of the instruments, most of the study questionnaires were developed from previous researches. It is the degree to which the measurement device, in this case, the measuring questions in the questionnaire, provides meaning full of the research investigative questions. Moreover some of the questionnaires were developed based from review of literatures. And also the researcher conducted pilot test to obtain valuable feedback from the respondent and was adjusted as pert the feedback.

3.11.2. Reliability Test

The level of reliability of the instrument indicates the consistency of the variables. Cronbach 's alpha is an index of reliability associated with the variation accounted for the true score of the underlying construct and it can only be measured for variables which have more than one measurement question. 0.5 is a sufficient value, while 0.7 is a more reasonable value. Therefore, the reliability of the questionnaire is analyzed by using Cronbach's alpha statistics. As it is indicated in the table below, all Cronbach 's alpha indexes are above 0.7 suggesting that the variables are consistent to measure supply chain management practices organization.

Construct	Items	Cronbach's alpha
Supply chain risk identification	4	0.772
Supply chain risk assessment	8	0.842
Supply chain risk evaluation	7	0.823
Mitigation mechanisms	9	0.914

Source: Survey, 2020

3.12. Descriptive Statistical Analysis

In this study descriptive statistics was used to describe different characteristics. In order to analyze the general information about the respondents the study used frequencies and percentages in addition in order to describe supply chain management practices the study used for analysis mean and standard. The reason why to analysis the data by the mean than median the mean is indicated as the precise score of each case thus it incorporates more information than the median which only states a scores relative position. When we come to the standard deviation on it was used to measure variation. Hence, the results were presented by using tables along with their explanations.

3.13. Ethical consideration

Ethical clearance and permission was obtained from the College of Business and Economics, of Addis Ababa University. Before the data collection, permission from the organization was requested. During the distribution of the questionnaire, respondents were informed about the purpose and the benefit of the study along with their full right to refuse or accept the participation. The researcher notified that to the respondent their response would be kept confidential and their identity shall not be exposed. Every person involved in the study was entitled to the right of privacy and dignity of treatment, and no personal harm were caused to subjects in the research. Information obtained is held in strict confidentiality by the researcher. All assistance, relationship of others and sources from which information was drawn were acknowledged.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This Descriptive statistics was used to describe different characteristics. Frequencies and percentages were used to analyze general information about respondents; mean and standard deviation were used to describe aspects of logistics management practices. The mean is preferred as it considers the precise score of each case thus it incorporates more information than the median which only states a scores relative position. The standard deviation on the other hand, was used to measure variation. The results were presented using tables accompanied with explanations

3. Table: 4.1. Response Rate

No.	Departments	Population	Questionnaire distributed	Questionnaire returned	Returned rate (in %)
1	Commercial	62	32	31	96.9
2	Operation	30	16	15	93.8
3	Technical	30	17	16	94.1
4	Uni-modal Operation	38	22	21	95
5	Multi-modal Operation	78	36	34	94.4
6	Port facility Development	20	11	10	90.9
7	Planning, Business Development	16	9	8	88.9
8	Law, Insurance claim	16	10	9	90.0
9	Finance and Accounting	110	57	56	98.2
Total		400	210	200	

Source: Researcher, 2020

4. **Table 1: Characteristics of Respondents by Sex and Age**

No	Item		Respondents	
			No	%
	Sex	Male	175	87.5
		Female	25	12.5
		Total	200	100
	Age	a) Below 20	-	-
		b) 21-30	40	20
		c) 31-40	120	60
		d) 41-50	30	15
		e) ≥ 51	10	5
		Total	200	100

As shown in Table I, item 1, the study found out that 87.5% of the respondents were male while females accounted for 12.5%. This indicates that the majority of employees at ESLSE were male dominant. With regard to age interval, of the respondents it was mentioned that 120 (60 %) of the respondents were between the age range of 31-40. Besides, 40 (20 %), 30 (15%) and 10 (5%) of the respondents were the age between 21-30, 41-50 and ≥ 51 respectively. From this one can easily conclude that the organization has energetic and productive workforce.

5. Table 2: Respondents by Qualification and Work Experience

Item		Respondents	
		No	%
Qualification	a) Diploma	10	5
	b) B.A/ BSc	160	80
	c) M.A/ MSc	30	15
	c) PhD	-	-
	e) Others	-	-
	Total	200	100
Work experience	a) 0-5years	15	7.5
	a) 6-10years	120	60
	b) 11-15 years	35	17.5
	c) 16-20 years	15	7.5
	d) 26-30 years	10	5
	e) 31 and above	5	2.5
	Total	200	100

As shown in Table 2, 160 (80%) of the respondents are degree holders. This shows that the majority of the staffs in the organization satisfy the minimum requirement for their respective position. While 30 (15%) of the respondents are MA/MSc holders. However, only 10 (5%) of the respondents are diploma holder. With regard to the background information about work experience of the respondents is year. As shown in the figure above, 120 (60%), 35 (17.5 %) of the respondents for 6-10 years and 11-15 years respectively. This indicates that the majority 155 (77.5%) of the respondents have ample work experience in then. However, 15 (7.5%) and 15 (7.5%) of the respondent have 0-5 years and 16-20 years of work experience. Similarly, 15 (7.5%) of the respondents have 26years of work experience in the sector. This shows that the respondents had adequate levels of education and work experience to understand and respond to the issues sought by the study.

6. Table 3 : Distribution of Respondents by Department

No.	Department	No	%
1	Commercial	31	16
2	Operation	15	7.5
3	Technical	16	8.0
4	Uni-modal Operation	21	10.5
5	Multi-modal Operation	34	17.0
6	Port facility Development	10	5.0
7	Planning, Business Development	8	4.0
8	Law and Insurance claim	9	4.5
9	Finance and Accounting	56	28.0
Total		200	100

As can be shown in the above table 56 (28.0%) of the respondents were from finance and accounting work unit followed by 34 (17.0%) Multi-modal Operation work unit and 31 (16%) from commercial unit. The rest, 21 (10.5%), 16 (8.0%), 15 (7.5%), 9(4.5%) and 8(4.0%) respondents were from uni- modal operation, technical, operation, law and insurance claim and planning business development departments respectively. This result indicates that the respondents were capable of to know the different supply chain practices required by the research based on the different work units they belong. This indicate that the respondents were capable of to

4.1. Supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises

The main objective of this study was to assess of supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises. The respondents were asked to indicate the state supply chain risk management practice in the organization. The supply chain risk management practices included were supply chain risk identification, supply chain risk assessment, supply chain risk evaluation and supply chain risk mitigation mechanisms. A five-point Likert scale with 1 = strongly disagree; 2 = Disagree 3 = Neutral; 4 = Agree; 5 = strongly agree was used to rate the state of supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises

Analysis of the data was done using means and standard deviations. The means recorded were interpreted as follows: 1-1.49 = Strongly disagree; 1.5-2.49 = disagree; 2.5-3.49 = Neutral ; 3.5-4.49 = agree 4.5-5.0 =Strongly agree (Lady,2016).

7. Table 4: Respondents Responses on Risk Identification

The study sought to determine the state of risk identification in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of risk identification, supply chain risks occurrence, transparency among parties and risk matrix tools. Hence, the data presentation, analysis and interpretation are as shown hereunder.

Risk Identification	NO	Mean	SD
The organization has a formal supply chain risk identification process	200	3.70	1.02
Supply chain risks are identified by frequency of occurrence	200	3.10	1.05
the organization ensure there is transparency on potential supply chain risks among the parties	200	2.45	0.7
A risk matrix is the main tools used in the organization to record identified risks	200	2.75	1.08

As shown in the above table, the respondents were asked to give their responses for supply chain risk identification features in the organization. Responses with mean value of 3.70 and SD 1.02) indicates that the organization often practiced formal supply chain risk identification process. Similarly, the respondents were also asked to rate the frequency of risk identification occurrence in the organization.

Hence, the mean value (3.10) and SD (1.05) show that the organization rarely conduct supply chain risk identification practices in the organization.

With regard to ensuring transparency among parties related to supply chain risk identification, the mean value (2.45) and SD (0.7) indicates that the organization rarely ensuring transparency of supply chain risk identification practices for its stakeholders. Moreover, the respondents were asked to what extent the organizations apply supply chain risk matrix is the main tools used in the organization to record identified risks. According, the mean value (2.75) and SD (1.08) show that the organization rarely applied risk matrix tools for its supply chain risk identification practices.

8. Table 5: Respondents Response on Supply Chain Risk Assessment

The study sought to determine the state of risk assessment in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of supply chain risk assessment, effectiveness of supply chain assessment, assessment document, assessment process, training, assessment practice, assessment procedure, integrated risk factors and past lesson. Hence, the data presentation, analysis and interpretation are as shown hereunder.

Supply Chain Risk Assessment	NO	Mean	SD
Your organization's level of supply chain risk assessment is appropriate for the risks that it faces	200	2.40	0.52
Your organization's reporting and communication processes support the effective supply chain risk assessment	200	3.72	0.61
Your organization's supply chain risk assessment processes are well document	200	2.73	0.45
Your organization's training policies encourage formal training supply chain risk assessment practice	200	2.32	0.56
Your organization's has excellent supply risk assessment practices and processes	200	2.52	0.49
Your organization follows supply chain risk assessment procedures	200	3.75	0.53
Your organizations integrate all aspects of supply chain risk factor during the assessment	200	3.00	0.61
Your organization's uses past lesson for supply chain risk assessment practice	200	2.82	0.52

As shown from the above table, the respondents were asked to rate the extent of supply chain risk assessment in the organization. Accordingly, the mean value (2.04) and SD (0.52) indicate that organization's level of supply chain risk assessment for the risks that it faces rarely ensuring its appropriateness related to the objective of supply chain risk assessment setup. Similarly, the mean value (3.72) and SD (0.61) show that the organization occasionally practiced the reporting and communication processes support the effective supply chain risk assessment. Besides the respondents were asked to rate organization's supply chain risk assessment processing and documenting. Accordingly, the mean value (2.73) and SD (0.45) explain that the organization rarely practice regarding supply chain assessment processing and documenting which are important for effective execution of supply chain risk assessment. With regard to organization's training policies encourage formal training supply chain risk assessment practice, the mean value (2.32) SD (0.56) indicate that the organization rarely practice such crucial activity. As shown in the table, the respondents were also asked the extent in which the organization has excellent risk assessment practice and process. Accordingly, the mean value (2.52) and SD (0.49) depict that the organization has insufficient risk assessment practice and process. The other important aspect of supply chain risk assessment is applying assessment procedures. In this regard, the mean value (3.75) and SD (0.43) illustrates that the organization very often follow the procedure to conduct the assessment. Also, the mean value (3.00) and SD (0.61) describe that the organization rarely integrate all aspects of supply chain risk factor during the assessment. Moreover, the respondents were asked to rate to what extent the organization uses past lesson for supply chain risk assessment practice. Hence the mean value (2.82) and SD (0.52) show that the organization rarely applied such significant element during supply chain risk assessment practice.

9. Table 6: Respondents response on Risk Evaluation

The study sought to determine the state of risk assessment in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of supply chain risk prioritize, review of evaluation process, process documentation, awareness of strength and weakness of evaluation process, policy application, analysis of cost and benefit, evaluation process, and integration of aspects Hence, the data presentation, analysis and interpretation are as shown hereunder.

Analysis of the data was done using means and standard deviations. The means recorded were

interpreted as follows: 1-1.49 = Strongly disagree; 1.5-2.49 = Disagree; 2.5-3.49 = Neutral 3.5-4.49 = Agree 4.5-5.0 = Strongly agree.

Supply Chain Risk Evaluation	NO	Mean	SD
The organization finds it difficult to prioritize its main supply chain risks	200	3.78	0.54
It is important for your organization to emphasize continuous review of evaluation process	200	3.81	0.51
Your enterprise well know the strengths and weaknesses of the supply chain risk evaluation systems	200	4.61	0.45
The organization currently has procedures in place to recognize evaluate supply chain risk evaluation and adjust policies accordingly	200	2.72	0.67
Your organization is able to accurately evaluate the costs and benefits of taking risks	200	3.55	0.52
Your organization follows supply chain risk evaluation procedures correctly	200	3.71	0.61
Your organization integrate all aspects of supply chain risk factor during the evaluation	200	3.79	0.72

As shown in the above table, the respondents were asked to rate the extent of supply chain risk evaluation in their organization. Accordingly, the mean value (3.78) and SD (0.54) illustrate that the majority of the respondent have moderate stand about the organization ability to prioritize its main supply chain risks. Similarly, the respondents were asked to what extent the organization emphasize continuous review of evaluation process. Accordingly, the mean value (3.81) and SD (0.51) show that the majority the respondents were agreed that the organization emphasis continuous review of evaluation process during supply chain risk evaluation stage. Concerning the organization is aware of the strengths and weaknesses of the supply chain risk evaluation systems, the mean value (4.61) and SD (0.45) illustrate that the majority of the respondents agreed that the organization aware of the strengths and weaknesses of the supply chain risk evaluation systems. Besides, the respondents were asked whether the organization has

procedures in place to recognize evaluate supply chain risk evaluation and adjust policies accordingly. Hence, the mean value (2.71) and SD (0.67) Show that the majority of the respondents were not sure the procedure take place in the organization. Concerning the organization ability accurately evaluate the costs and benefits of taking risks, the mean value (3.45) and SD (0.52) illustrate that the majority of the respondents were agreed that the organization is capable to conduct such measure. In order to effectively performing supply chain risk evaluation, organization should strictly follow predetermined procedure. In this regard, the mean value (3.71) and SD (0.61) show that the majority of the respondents were agreed that the organization follows supply chain risk evaluation procedures correctly. Moreover, the respondents were asked the extent in which the organization integrates all aspects of supply chain risk factors during the evaluation. Accordingly, the mean value (3.79) and SD (0.72) clearly stipulate that the majority of the respondents were agreed that the organization integrate all aspects of supply chain risk factors during evaluation.

10. Table 7: Respondents responses on Mitigation Mechanisms

Table 7.1 Risk avoidance measures

The study sought to determine the state of risk assessment in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of risk mitigation mechanisms. In this table particular emphasis given to **RISK AVOIDANCE MEASURES**.

Risk avoidance measures	NO	Mean	SD
The best risk management strategy of all is avoidance	200	1.43	0.56
Avoidance strategies include the option of not performing an activity that could carry risk at all.	200	2.47	0.63

Avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed	200	4.78	0.52
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As shown in the above table, the respondents were asked about supply chain risk mitigation measure in general and risk avoidance measure in particular. Hence in item 1 of the above table, the mean value (1.43) and SD (0.56) illustrate that the majority of the respondents strongly disagreed that avoidance is not the best risk management strategy of all. Besides, the respondents were asked whether avoidance strategies include the option of not performing an activity that could carry risk at all as a better alternative to supply chain risk mitigation mechanism. Accordingly, the mean value (2.47) and SD (0.63) show that the majority of the respondents disagreed that this measure is not effective. However, the mean value (4.78) and SD (0.52) clearly depict that the majority of the respondents were strongly agreed that avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed as a means of mitigation mechanism is better than that aforementioned avoidance measures

Table 7.2. Risk control Measure

The study sought to determine the state of risk assessment in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of risk mitigation mechanisms. In this table particular emphasis given to **RISK CONTROL MEASURES**

Risk control measures	NO	Mean	SD
The best risk management strategy of all is controlling	200	1.40	0.71
Framework Contracts with Suppliers	200	3.51	0.54
Contract Management System	200	4.82	0.56
Insurance of Supplies	200	3.91	0.53

As shown in the above table, the respondents were asked about supply chain risk mitigation measure in general and risk avoidance measure in particular. Hence in item 1 of the above table, the mean value (1.40) and SD (0.71) illustrate that the majority of the respondents were controlling is not the best risk management strategy of all. Besides, the respondents were asked about whether framework contracts with suppliers in the organization. Hence, the mean value (3.51) and SD (0.54) show that the majority of the respondents agreed that the organization prepare framework contract with suppliers. Similarly, the mean value (4.82) and SD (0.56) describe that the majority of the respondents were strongly agreed that the organization conduct contract management system. Moreover, the respondents were asked to rate to whether the organization involve in insurance of suppliers. Accordingly, the majority of the respondents were agreed that the organization ensure insurance of suppliers.

11. Table 7.3. Risk Flexibility Measure

The study sought to determine the state of risk assessment in Ethiopian Shipping and Logistic Service Enterprises. The main ideas raised were the extent of risk mitigation mechanisms. In this table particular emphasis given to **FELEXIBILITY MEASURES**.

Flexibility Measures	NO	Mean	SD
Postponement is the method used in supply chain flexibility	200	2.01	0.46
Postponement reduces their dependence on forecasts	200	2.82	0.54

In order to ensure risk mitigation measure effective in supply chain risk management practice in the organization, the respondents were asked to rate flexibility measure as means of risk mitigation measure. Hence, the mean value (2.01) and SD (0.46) illustrate that majority of the respondents were disagreed that postponement is not the method used in supply chain flexibility to ensure effective mitigation mechanism. Similarly, as shown in the above table the respondents also asked to rate to what extent postponement reduces their dependence on forecasts. Hence, the

mean value 2.82 and SD (0.54) show that the majority of the respondents disagreed that the postponement is not reduces their dependence on forecasts with regard supply chain risk mitigation mechanism.

4.2. Summary of supply chain risk management practices

SCRM is management of probabilistic and undesirable situation in supply chain context. The aim of SCRM is to identify risk sources, analyze them and present an approach to avoid, mitigate or minimization form disruptions. The main objective of this study is to assess the supply chain management practice of ESLSE about SC risk identification, SC risk assessment; SC risk evaluation and SC risk mitigation practices. Therefore, in accordance with respondent response the practices are summarized as follow:

12. **Table 8.** Summary of supply chain risk management practices

S.No.	Variables	No.	Mean	SD
1	Supply chain risk identification	200	3.00	0.96
2	Supply chain risk assessment	200	2.91	0.48
3	Supply chain risk evaluation	200	3.71	0.57
4	Supply chain risk mitigation	200	3.02	0.49

As per the above table 8, supply chain risk management practice of ESLSE with regards to risk identification, risk assessment, risk evaluation & risk mitigation the result showed mean value (3.00, 2.91, 3.71 & 3.02) respectively. Therefore, this implies that comparatively ESLSE is rarely practicing in supply chain risk assessment and it is good practicing in supply chain risk evaluation. According to Bistar Mengstu (2016) supply chain risk assessment & risk mitigation practices found with mean value of 2.44 & 2.49 & concluded that the company (PFSA) less practiced for both. This study supports to the researcher that currently ESLSE has small to moderate extent capability in risk assessment & mitigating practice with mean value of 2.91 & 3.02.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The chapter covers three major sections. These include the summary of the findings, conclusion of the study and recommendations.

5.1. Summary of the major finding

The study found out that the organization often practiced formal supply chain risk identification process and rarely conducts supply chain risk identification practices in the organization. With regard to ensuring transparency among parties related to supply chain risk identification, the majority of the respondents stated that organization rarely ensuring transparency of supply chain risk identification practices for its stakeholders. The study also revealed that the organization rarely applied risk matrix tools for its supply chain risk identification practices.

With regard to supply chain risk assessment, the organization rarely ensuring its appropriateness related to the objective of supply chain risk assessment setup. Similarly, the organization occasionally practiced the reporting and communication processes support the effective supply chain risk assessment. Besides, the study found out that the organization rarely practice regarding supply chain assessment processing and documenting which are important for effective execution of supply chain risk assessment. Organization has insufficient risk assessment practice and process. The other important aspect of supply chain risk assessment is applying assessment procedures. In this regard, the mean value the study shows that the organization very often follow the procedure to conduct the assessment.

As per the data analysis, the majority of the respondent have moderate stand about the organization ability to prioritize its main supply chain risks. Similarly, the majority the respondents were agreed that the organization emphasis continuous review of evaluation process during supply chain risk evaluation stage. Concerning the organization is aware of the strengths and weaknesses of the supply chain risk evaluation systems, that the majority of the respondents agreed that the enterprise well known the strengths and weaknesses of the supply chain risk evaluation systems.

The study moreover revealed that the majority of the respondents were agreed that the organization is capable to conduct such measure. According to the data analysis of the study that the majority of the respondents believed that controlling is not the best risk management strategy of all. Besides, however, the majority of the respondents agreed that the organization prepare framework contract with suppliers. Similarly, respondents strongly agreed that the organization conduct contract management system in order to ensure effective supply chain risk mitigation mechanism. In order to ensure risk mitigation measure effective in supply chain risk management practice in the organization, hence, the study found out, that majority of the respondents were disagreed that postponement is not the method used in supply chain flexibility to ensure effective mitigation mechanism.

5.2. Conclusions

Based on the findings the conclusions are mentioned on below so as to improve the supply chain risk management practices of ESLSE:

This study concludes that the supply chain risks management at ESLSE encountered by lack of practiced formal supply chain risk identification process, ensuring transparency among parties related to supply chain risk identification, rarely conduct supply chain risk identification practices seldom practice reporting and communication processes which support the effective supply chain risk assessment and poor supply chain assessment processing and documenting. Hence unable to conduct these essential elements of supply chain risk identification may lead the organization ineffective supply chain risk management practices.

The study also concludes that organization has insufficient risk assessment practice and process, very often follow the procedure to conduct the assessment, moderate stand about the organization ability to prioritize its main supply chain risks. Provide less emphasis about continuous review of evaluation process during supply chain risk evaluation stage Therefore, without awareness and emphasis of such important issues of supply chain risk assessment, the risk assessment and evaluation practices of the organization is futile exercise.

The study further concludes that organization is capable to conduct is able to conduct and apply risk mitigation measures to ensure effective supply chain risk management. Besides, as a better experience, the organization prepare and use framework contract with suppliers and conduct contract management system in order to ensure effective supply chain risk mitigation mechanism. Hence those positive experience should excel and ensure surpass mitigation exercise

5.3. Recommendations

On the basis of the findings and conclusions reached, the following recommendations are forwarded

- All concerned bodies such as managers, department head and employees of ESLSE should keep continuous and progressive supply chain risk management practices as a way of mitigating adverse effects of uncertainty existing in its supply chains.
- In order to ensure effective and efficient supply chain risk management practice in ESLSE, those who participating in the process of supply chain risk management practice should design a means that improve formal application of supply chain risk identification process, ensuring transparency among parties related to supply chain risk identification, improving reporting and communication processes so that the organization become strong in this competitive and dynamic business environment.
- The management, department head and employees of the organization should follow strictly risk assessment process and procedure to conduct the assessment, prioritize its main supply chain risks, provide emphasis about continuous review of evaluation process during supply chain risk evaluation stage
- Furthermore, all concerned bodies, should work together and come up with novel, practical and effective risk mitigation strategy which include risk avoidance, controlling measures and flexibility as core components of the for sought objective.

5.4. Limitations of the Study

The study focuses on supply chain risks management practices of a firm and how a firm practices supply chain risk management. So, the study doesn't cover all supply chain members but focus only Ethiopian Shipping & Logistics Service Enterprise at head office level. The descriptive statistics method as well as the data used for the analysis is not enough to infer and generalize the findings or the conclusion beyond to the case company or to other public organizations operating in Ethiopia.

5.5. Recommendations for further study

The study tried to see the supply chain risk management practice of Ethiopian Shipping & Logistics Services Enterprise at head office level. And based on this study findings we cannot generalized as company level as well as other organization. Therefore, this study recommended that for further research, the researcher may conduct in relation to the impact of supply chain risk management on organization performance.

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13. Addis Ababa University
College of Business and Economics
School of Commerce

The aim of the study is to assess supply chain risk management practice of Ethiopian Shipping and Logistic Service Enterprises (ESLSE) The researcher will use the data gathered through this questionnaire for strictly academic purposes. You are kindly requested to complete the questionnaire honestly. Your response will be kept confidential. Your genuine response to this study is indispensable.

NB: please do not write your names in any part of the questionnaire!

Thank you in advance for your kind cooperation!

Best regards,

Mestawet Assefa

Phone no. 0911094010

14. Email mestiake23@gmail.com

PART ONE: BACKGROUND INFORMATION

Direction: Please place an “X” mark on the space provided against the items

1. SEX:

- A) Mal.....
- B) Female.....

2. AGE:

- A) Below 20.....
- B) 21-30.....
- C) 31-40.....
- D) 41-50
- E) ≥51

3. EDUCATIONAL QUALIFICATION

- A) Diploma
- B) BA/BSc
- C) MA/MSc
- D) PhD

E) Other (specify).....

6) WORK EXPERIENCE

A) 0-5 years.....B) 6-10 yearsE) 21-25 years

C) 11-15 years..... D) 16-20 years.....F) 26-30 years G) 31 and above

7) DEPARTMENT.....

Please indicate the degree of your opinion about supply chain risk identification, supply chain risk assessment, supply chain risk evaluation & supply chain risk mitigation mechanisms practices in ESLSE.

Please us (X) mark the number that you feel most appropriate, using the scale form 1 to 5 (where 1= Strongly disagree, 2=Disagree, 3=Neutral , 4=Agree, 5=Strongly Agree)

PART TWO: SUPPLY CHAIN RISK IDENTIFICATION

SUPPLY CHAIN RISK IDENTIFICATION	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
The organization has a formal supply chain risk identification process					
Supply chain risks are identified by frequency of occurrence					
the organization ensure there is transparency on potential supply chain risks among the parties					
A risk matrix is the main tools used in the organization to record identified risks					

PART THREE: SUPPLY CHAIN RISK ASSESSMENT

SUPPLY CHAIN RISK ASSESSMENT	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
Your organization's level of supply chain risk assessment is appropriate for the risks that it faces					
Your organization's reporting and communication processes support the effective supply chain risk assessment					
Your organization's supply chain risk assessment processes are well documented					
Your organization's training policies encourage formal training supply chain risk assessment practice					
Your organization's has excellent supply risk assessment practices and processes					
Your organization follows supply chain risk assessment procedures					
Your organization's integrate all aspects of supply chain risk factor during the assessment					
Your organization's uses past lesson for supply chain risk assessment practice					

PART FOUR: SUPPLY CHAIN RISK EVALUATION

SUPPLY CHAIN RISK EVALUATION	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
The organization finds it difficult to prioritize its main supply chain risk					
It is important for your organization to emphasize continuous review of evaluation process					
Your enterprise well know the strengths and weaknesses of the supply chain risk evaluation systems					
Your enterprise currently has procedures in place to recognize evaluate supply chain risk evaluation and adjust policies accordingly					
Your enterprise is capable of accurately evaluate the costs and benefits to taking risks					
Your organization follows supply chain risk evaluation procedures correctly					
Your organization's integrate all aspects of supply chain risk factor during the evaluation					

PART FIVE: SUPPLY CHAIN RISK MITIGATION MECHANISMS

MITIGATION MECHANISMS	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
<u>Risk avoidance measures</u>					
The best risk management strategy of all is avoidance					
Avoidance strategies include the option of not performing an activity that could carry risk at all.					
Avoiding risks also means losing out on the potential gain that accepting (retaining) the risk may have allowed.					
<u>Risk control measures used</u>					
Continuous training on risk Management					
Framework Contracts With Suppliers					
Contract Management System					
Insurance of Supplies					
<u>Flexibility measures</u>					
Postponement is the method used in supply chain flexibility					
Postponement reduces their dependence on forecasts					

Thank you for your time and assistance