Addis Ababa University
College of Social Sciences
Faculty of Business & Economics
Master of Management (Regular Program)

ASSESSMENT OF RISK MANAGEMENT AND AIR FREIGHT HANDLING PROCESS: THE CASE OF ETHIOPIAN CARGO AND LOGESTICS SERVICES

A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of quality management and organizational excellence

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DECLARATION

I, the undersigned declare that this thesisentitled “Assessment of risk management and air freight handling process: the case of ethiopian cargo and logestics services.” Is my own original work and that all sources have been accurately reported and acknowledged, and that this document has not been submitted for a degree in any other universities.

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Statement of Certificate

This is to certify that **Serkalem Tefera** has completed her thesis entitled "Assessment of risk management and air freight handling process: the case of ethiopian cargo and logestics services" is her original work and is submitted for examination with my approval as thesis.

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ABBREVIATIONS AND ACRONYMS

ADD: Addis Ababa

ACROT: Aircraft rotation

EMS: Environmental Management System

ERP: Enterprise Resource Planning

ET: Ethiopian airlines

HUB: Central Part

MSDS: Material Safety Data Sheet

SBU: Strategic Business Unit

SMS: Safety Management System

SMSM: Safety Management System Manual

SPSS: Statistical Package for the Social Science

ASSESSMENT OF RISK MANAGEMENT AND AIR FREIGHT HANDLING PROCESS: THE CASE OF ETHIOPIAN CARGO AND LOGESTICS SERVICES

Abstract

This research examined the assessment of risk management in the air freight handling process. To achieve the objectives of this study descriptive design was used. Data was collected through a questionnaire from a sample of 109 employees of Ethiopian cargo and logistics at Addis Ababa airport that were selected using Slovakia sampling techniques. After carefully collecting the data descriptive statistics such as mean, standard deviation, and percentage used to analyze the data. The results of this study indicate that risk management practice dimensions such as (objective setting and risk identification, risk assessment, risk response, control, inform and monitor risks) have scored above the minimum requirements of Cronbach's alpha. The finding of the study indicates also that employees were satisfied with the risk management in the air freight handling process dimension. Based on the findings of the study, the researcher forwards sound recommendations including that need assessment should start analyzing the organization, tasks and people level, the risk identification evaluation and feedback which have to be done before, during and after risk assessment. Finally, Ethiopian cargo and logistics at Addis Ababa airport have to reassess its risk assessment and the air freight handling process and design as much as possible.

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CHAPTER ONE

1. Introduction

This chapter contained introductory part of the entire study. It provides some insights about the ground and assumptions where the study is conducted. It stats background of the study, statement of the problem, objectives, significance, scope, definition of key terms, and organizations of the study. Accordingly, it begins with background of the study.

1.1. Background of the study

Risk management (RM) is a concept, which is used in all industries, from IT related business, automobile or pharmaceutical industry to the construction or manufacturing sector. There is no a single universally agreed definition of risk management. It has been inconsistently defined by different scholars and researchers differently at a different time across different industries. However, the basic concepts remain the same regardless of the sectors.

According to Schmidt and Roth (1990), risk management refers to the integration of activities aimed at minimizing the negative effects attributed to uncertainty pertaining to potential loses. Risk management is also identified as a systematic process utilized to identify and evaluate the level of pure loss exposure subjected to a firm or individual, which will develop the basis for the selection and consequent integration of the relevant techniques necessary in attending to the identified levels of exposure. The process integrates several steps including the identification, measurement and consequent management of the identified risk. (Hassan, 2012).

Bessis (2010) identifies that risk management integrates a set of tools and models utilized in the measurement and control of the identified and potential risk levels and he adds that in addition to its being a process, risk management also involves a set of tool and models for measuring and controlling risk. According to Fatemi and Glaum (2000), risk management incorporates several objectives. These include the minimization of foreign exchange losses, the reduction of volatile cash flow, protection of earnings fluctuations, increasing profitability together with the integrate of several measures aimed at enhancing the firm's survival.

International air trade and its development have brought about the rise demand for airfreight transport networks.

The air transportation is a new phenomenon to the transportation industries in comparative to the land and sea transport system. The air transport can only operate with the fulfilment of certain requirements in relation to nature which is a kind of something to the logistics business. Basically, air transport can offer a lot of benefits such as fast and safe transport and deliveries of goods over a long distance. Enarsson (2006) states that air transport can offer both suppliers and customers the possibility of flexibility and it can also allow them expedition of shipments in time constrained environments. Nowadays, an increment in international air transport and trade has brought high demand for airfreight transport networks.

The empirical evidence from previous research shows that there is a strong relationship between risk management and the success of a certain project (Winch,2002; Potts,2008). In general, the concept of risk management process is a concept most commonly used in the field of risk management and it basically consists of four major steps: identification, assessment, taking action, and monitoring of the risks are the most commonly used (cooper et al.,2005). In each of these steps, there are a number of methods and techniques, which facilitate handling the risks. There are many literatures have been carried out addressing different types of risks particularly in the banking industry. Despite a concerted effort, the researcher has found few empirical studies conducted on the assessment of foreign exchange risk management practices particularly on commercial banks. The previous literatures on foreign exchange risk management practices of banks in Ethiopia are in a different way.

According to different studies the risk managements practices of foreign exchange in Ethiopian banks are quite different. For instance, (Tadesse, 2015); (Eneyew, 2013); (Worku, 2016). And many other studies also conducted outside the country (Sabri, 2011), in Kenya (Dons, 2014). In Ethiopia a few researches attempted on insurance risk management practice for instance Kokeb and Gemechu (2016) conduct their research on risk management technique and financial performance of insurance companies. They aggressively investigate the existence of relationship between risk management technique and financial performance.

1.2. Statement of the problem

The word management can be defined as the process of identifying, analyzing, and managing opportunities and threats of a business in uncertain environments. it's quite common that effective risk management can play an instrumental role in the success of a project.

By proactively addressing uncertainties, in combination with a strong project management program, problems within the project can significantly decrease. Many researchers have worked on the risk management practice such as (Sabri, 2011), (Dons, 2014), (Getachew 2009; Wakjira 2011; and Yimam 2011), FasikaFirew (2012), Tibebu Tefera (2011), Abraham K. (2015), Kokeb and Gemechu (2016), (Tadesse, 2015), (Worku, 2016). The previously conducted research assesses the practice of risk management in the banking industry, insurance, and construction sector respectively and the other research focus on the existence of a relationship between financial performance and risk management. Despite these studies, there is a need to explore the assessment of risk management and the air freight handling process in Ethiopian cargo and logistics service.

Hence, the thesis can be suggested how to handle cargo business and how we can avoid risks since the idea is unexplored locale. The afterwards improvement and growth of cargo business make the subject zone more important.

Therefore, I initiated this study on getting more information about the assessment of risk management and the air freight handling process in the Ethiopian cargo and logistics service at Addis Ababa airport.

1.3. Research questions

1. To what degree does Ethiopian cargo and logistics service use component of objective set and risk identification?
2. What are the Ethiopian cargo and logistics service use component of risk assessment?
3. What are the Ethiopian cargo and logistics service use component of risk response?
4. What are the Ethiopian cargo and logistics service use component of risk control, information and communication and risk monitoring?
5. What is the perceived practice of air freight handling processes of Ethiopian cargo and logistics service?

1.4. Objective of the study

Depending on the issue chosen for investigation, the study has both general and specific objectives.

1.4.1. General objective of the study

The general objective of this study is to assess risk management and the air freight handling process a case study in Ethiopian cargo and logistics service at Addis Ababa airport.

1.4.2. Specific of the study

1. To assess the practice of objective setting and risk identification of Ethiopian cargo and logistics service.
2. To identify the practice of risk assessment of Ethiopian cargo and logistics service.
3. To evaluate the practice of risk response of Ethiopian cargo and logistics service.
4. To assess the approaches that Ethiopian cargo and logistics service used to control, inform and monitor risks.
5. To reveal the perceived practice of air freight handling processes of Ethiopian cargo and logistics service.

1.5. Significance of the study

This study, apart from assessment of risk management and the airfreight handling process a case study in Ethiopian cargo and logistics service at Addis Ababa airport and identify problem areas, which exist in the system and suggest improvements. The paper tries to see the benefits of risk management in the air freight handling process. In general, the research study attempts to provide the following benefits:

- ✓ The study would be used by researchers to get enough knowledge in research activities.
- ✓ The study would suggest better and effective risk management methods and processes.
- ✓ The study would find possible solutions that are deemed to improve risk management and methods.
- ✓ The study empowers a business with the necessary tools so that it can adequately identify potential risks and provides a business with a basis upon which it can undertake sound decision-making.
- ✓ It would give a full understanding of how risk management is being implemented in the study area.

1.6. Scope of the study

This study is confined to the assessment of risk management and the air freight handling process a case study in Ethiopian cargo and logistics service at Addis Ababa airport. The geographic scope of this study is confined to Ethiopian cargo and logistics service sections in relation to their role in the airline. It focuses on specific sections that play a major role in the assessment of risk management in the airfreight handling process of the Ethiopian cargo and logistics service. The research conducted with the employees who are permanently working in the Ethiopian cargo and logistics service. Finally, the research time limit includes from 2019 to 2020

1.7. Limitation of the study

The researcher tried hard in collecting the relevant information for the research report. The limitations of the study will relate to the generalization of the findings. Due to limited time and current uncertain COVID 19 diseases, the study did not consider a large sample size but a large sample may generate different results. limited number of participants to fill the questionnaire since employees are at the home due to COVID19; Because of this, the possibility of generalization from the finding of the present study may be limited.

CHAPTER TWO

2. Literature review

The literature review is a milestone in a research study as it accomplishes several issues. As per Creswell J., (2003) as sited by Abdulhamid Yusuf, (2013) Literature review shows what literatures say about the subject under consideration, what other studies reveal or failed to reveal regarding the subject by filling in gaps and extending prior studies (if any). This chapter deals with the theoretical framework in which the practice of Enterprise risk management developed.

2.1. Theoretical review

2.1.1. Risk definition

In the past times, risk is about the likelihood of approximately wicked happenings (Kate Woodford, et al,2003). According to oxford English dictionary, the term risk defined as the likelihood of hazard, damage, wound or other hostile consequences. However, all the above definitions show the understanding of the term risks focuses on the negative aspects of it. Today, however the perception of risk also results in an optimistic result (Paul Hopkin,2010)

A risk can be defined as an unplanned event with financial consequences resulting in loss or reduced earnings (Vasavada, Kumar, Rao & Pai, 2005). An action with a probability of earning profits or result in a harm/loss can considered as a risk proposition as a result of unforeseen or volatility of future trade. By the same token, it can also define as the uncertainty of the result. It can also define as a condition where there is a probability of unwelcome existence of a specific result that can be measurable and insurable (Periasamy,2008). The risk may not eventually occur or happen on the ground. Risks may be defined as uncertainties resulting in an adverse outcome, adverse in relation to planned objective or expectations (Kumar, Chatterjee, and Chandrasekhar & Patwardhan 2005).

In the simplest words, the risk may be defined as the possibility of loss. It may be financial loss or loss to the reputation/ image (Sharma, 2003). Furthermore, Osborne (2012) has indicated that, “Risks can arise as a result of our business’s activities or as a result of external factors such as legislation, market forces, and interest or exchange-rate fluctuations, the activities of others or even the weather. They can be a product of the

business environment, the natural environment, and the political or economic climate or of human inadequacies, failing or errors. The bottom line is that risk may impact on our ability to meet our business objectives or even threaten the business itself."

2.1.2. The concept of risk management

Nowadays, there are so many explanations of risk and risk management have been advanced, and actually, it's a kind of difficult to choose among them mostly they are true. However, each scholar provides their own definitions. The description depends on the profession, project and type of business Samson, (2009). Risk management in general is a very broad subject and definitions of risk can therefore differ and be difficult to apply in all industries in general. Risk and uncertainty are the two most often used concepts in the literature covering the RM field. Although these terms are closely related, a number of authors differentiate between them Samson, (2009). Basically, risk or uncertainty are customised for specific purpose or projects. On the other hand, practitioners most often struggle to define and distinguish risk and uncertainty. To make it more systematized, literature research was done. The findings of this search resulted in a number of definitions of risk and uncertainties.

The future cannot be precisely predicted and no one has ever been successful in forecasting all types of risks with their major financial implication (Michel et al, 2006). Nevertheless, all organisation is affected by uncertainty or risk with a substantial impact (Giancarlo Nota,2010). Therefore, in order to minimize the negative consequences of risks and enhance the positive once in achieving the objectives of the organization as stated by Michel et al, (2006) organizations should try to manage the financial risk that arises from uncertainty.

2.1.3. Benefits of effective risk management

Effective risk management helps a company and enhance the positive impacts of risks and thereby assist the company to sustainably stay in business. A company that ha decisions; can increase the likelihood of successful risk-taking exploiting opportunity risks; can protect improve the quality and reliability of its products and services; can increase the likelihood of achieving strategic goals or objectives; can reduce costs and/or increase profit to reduce the negative has effective risk management can make informed its reputation/ goodwill; can profit; can reduce failure or downtime; and above all can properly utilize competitive advantages Osborne, 2012).

In 2016, 52 million tons of air cargo was transported based on international air transport association data in the world. Accordingly, its less than 1% of the global trade with more than 35% of the global trade value, which accounts up to around 6.8 US$ billion dailies. Basically, cargo transport covers around 9% of the total aircraft operator's income. it's almost double of the income coming from first-class passengers. Directly and indirectly, the air cargo business provides around 32 million workplaces around the world. Air Cargo Handling Process at airports may be rendered by airports themselves, as the case was for instance at Zagreb Airport before it was taken over by the Concessionaire, or by a daughter company founded solely for provisions of airport ground handling services, the case of Zagreb Airport after the takeover by the Concessionaire.

Pursuant to ordinance on provision of ground handling service (Official Gazette 39/10), the service market for of the air cargo transport should be liberalized and opened to other service providers to enhance the service handling process when the cargo traffic in reached 50,000 tons annually. In countries like Croatia, and its surrounding such as Slovenia, Bosnia, and Herzegovina, Serbia, Macedonia, Kosovo, and Montenegro they open up without having airport with annual air traffic of 50,000tons. The air cargo transport is among the area which has stiff computation peculiarly in a relation to the intercontinental traffic movement. To win the market airports must have a competent staff, complete cargo infrastructure, developing a network of route, and connecting railways, and application and implementation of latest technology development, quality based on ISO standards, IATA projects such as Cargo 2000 (C2K) management system [2], e-freight technology IQ and the like.

Cargo IQ is an IATA interest group with the objective of generating and executing excellence standards for air cargo industry. As a result, cargo management service providers and agents to improve quality in the value chain to be competitiveness in the market.

2.1.4. Classification of Risk

Waters (2011) claims that the interior and exterior dangers are not basically distinctive in hone. For occurrence, as before long as firm's incapable to pay off an outside chance, it without further ado gets to be an inner chance due to the affect it may have on the recipient firm's cash stream. Furthermore, the Author claims that there is no clear boundary between inside and outside dangers which it can be claimed that all inside dangers are really

actuated by an outside occasion. For occurrence, changing the requests of the client can lead to an increment in generation taken a toll. Essentially, late conveyances from providers can lead to a deficiency of stock. In this manner, hazard can exchange up and down among systems inside a supply chain.

The commonly known types of risks are 'Pure' and 'Speculative' risks, whereby the pure risk can be transferable, and the latter will not. Others, however, indicate the third type of risk as 'control' or uncertainty risk which is defined as "risks that cause doubt about the ability to achieve the mission of the organization" (Poul Hopkin,2010). Control or uncertainty risk is a risk of deviation from the anticipated benefits of a project in time, budget and quality.

Therefore, as indicated in Poul Hopkin (2010) control management is concerned with reducing the uncertainty associated with significant risks and reducing the variability of outcomes. However, there is no 'right' or 'wrong' subdivision of risks as different scholars in different disciplines classify risk differently (Poul Hopkin, 2010). Accordingly, companies have to categorized with its own classifications of risk systems that fit their demands (Poul Hopkin, 2010).

Manuj and Mentzer (2008) created a common system to categories chance in worldwide supply chains. These can incorporate supply, operational, request, security, large scale, approach and competitive, and assets dangers. These categories highlight that there are nonexclusive commerce angles of hazard source that can be portrayed as defenseless. supply chain disturbances may have long-term, negative impacts on an organization's budgetary performance.

Tang (2006) states that hazard may emerge in a diverse way. On the one hand, they may happen routinely but give as it were a minor unsettling influence, be that as it may, numerous events at one time can cause basic impacts. Be that as it may, the creator recommends that they can be of a more troublesome nature and can influence the operations of a supply chain at any specific time.

Knemeyer, Zinn and Eroglu (2009) finding too affirms the over point of view and portray it as a tall affect with a low possibility (LP-HC) occasion. Writing appears that there are numerous proposals as to the definition and determination of hazard categories. Blackhurst, Scheibe and Johnson (2008) propose that pertinence depends on the supply

chain in address, and the foremost imperative angle is how these categories can be characterized, in terms of their relative weight and how they can be compared and quantified.

Mason-Jones & Towill (1998) states that the hazard supply chain can be well-defined as inner dangers which emerge from administration choices or dangers within the outside environment. These sorts of dangers highlight the introduction to the defenseless of a specific supply chain and the ensuing disturbance which is brought almost with respects to the dangers inside each organization, between on-screen characters in s supply chain, and from the outside environment. Other creators have proposed elective category's chance which incorporate provider, administrative and supply methodology dangers (Minahan, 2005), and natural, request and supply, prepare and control dangers (Mason-Jones &Towill, 1998).

The classification and four displayed streams of chance (physical, budgetary, data, and organizational) by Waters (2011) will be utilized in this proposition to create the experimental ponder and as a structure for the investigation. These streams of chance show a great nonspecific base to utilize within the ponder, without being as well particularly characterized. A definition of chance has been displayed inside a supply chain environment setting. The other portion will investigate chance in a discuss cargo setting by firstly giving a brief introduction of the industry and its performing artists included within the industry, taken after by hypothesis related to dangers particular to the industry.

2.2. Historical development of risk management

Historically, risk management initiated from insurance management in the united states of America (Poul Hopkin,2010). Because of the action taken by insurance corporations in 1950, the insurance cost increased enormously while the dangers coverage decreased. But firms are called to not only relied on shifting the risks to insurance corporations because the coverage was not only inadequate to handle other related risks such as product liability and safety issue also not economical (Poul Hopkin,2010). Moreover, the insurance can only be used for the percentage of risk threats. Hence, risks related to funding, marketability, and issue related to reputability which are recognized as beneficial yet outside the historical scope of insurance (Poul Hopkin, 2010) since management of risk has become a necessity.

2.3. Theories of risk management

2.3.1. Financial economics approach

The financial economics approach to corporate risk management has so far been the most prolific in terms of both theoretical model extensions and empirical research. This approach builds upon the classic Modigliani-Miller paradigm (Miller and Modigliani, 1958) which states conditions for the irrelevance of financial structure for corporate value. This paradigm was later extended to the field of risk management. This approach stipulates also that hedging leads to the lower volatility of cash flow and therefore lower volatility of firm value.

Rationales for company risk management subtracted from the inappropriate conditions and including higher dept. capacity (Miller and Modigliani, 1963) and also progressive tax rate, lower expected costs of liquidation (Smith and stulz,1985), safeguarding inside funding (Froot et al.,1993), info irregularities (Geczy et al.,1997) and proportional gain in information (Stulz,1996).

The ultimate result of hedging, if it indeed is beneficial to the firm, should be a higher value – a hedging premium. Evidence to support the predictions of the financial economics theory approach to risk management is poor. Although risk management does lead to lower variability of corporate value (e.g., Jin and Jorio,2006), is the key precondition for many other possessions, and there is some proof of the links of benefit stated by the theory. The most commonly referenced literature by Tufano (1996) discoveries no evidence to support financial premise and focused on the effects of managerial preference. On the other hand, some other researchers disprove that higher dept. capacity hypothesis seems to have a positive relationship as shown by Faff and Nguyen (2002), Graham and Rogers (2002) and also Guay (1999).

The internal financing hypothesis was positively verified by Guay (1999) and Geczy et al. (1997), though it was not accepted by researchers like Faff and Guyen (2002) and Mina (1996). Judge (2006) found evidence in support of the financial distress hypothesis. The tax hypothesis was verified positively by Nance, Smith and Smithson (1993), while other studies verified it negatively (Mian, 1996; Graham and Rogers, 2002). Recently, Jin and Jorion (2006) deliver a robust signal about lack of value significance of hedging, although

some previous researchers also found a hedging premium (Allayannis and Weston, 2001, Carter et al., 2006).

2.3.2. Agency theory

Agency hypothesis amplifies the investigation of the firm to incorporate partition of possession and control, and administrative inspiration. The impact of administrative states of mind towards risk-taking and supporting are right now involved within the teaching of corporate hazard administration (Smith and Stulz,1985). The hypothesis moreover clarifies a conceivable jumble of intrigues between shareholders, administration, and obligation holders due to asymmetric in winning distribution, which can result within the firm taking as well ample threat or not locks in accommodating net esteem ventures (Mayer's and Smith,1987).

Subsequently, the agency hypothesis suggests that characterized supporting approaches can have a critical impact on firm esteem (Fite and Pfleiderer, 1995). The premises are related to financing structure and allow figures comparable to the budgetary hypothesis. Administrative inspiration components within the usage of corporate chance administration have been empirically investigated in a couple of thinks about with a negative impact (Faff and Nguyen, 2002; MacCrimmon and Wehrung, 1990; Geczy et al., 1997). Astoundingly, a positive relationship was found by Tufano (1996) in his investigation of the gold mining business within the joined together states.

Financial coverage hypotheses hadbeen tested in research ofthe economic principle since bot h theories supply comparable predictions in this respect. However, majority of the studies implied that there is an empirical evidence that contradict the agency theory hypotheses. Agency concept gives strong support for hedging as a response to a mismatch between managerial incentives and shareholder interests. The following hypotheses are designed to test the basic implications of this theory. The first hypothesis is to measure/test if the firms hedge in order to decrease risk to block stakeholders. The next three hypotheses address the question of hedging as a tool to safeguard debt holder interest and thus increase debt capacity.

2.3.3. New institutional economics

The new institutional economics shows different perspective about the risk management, which shifted the focuses to governance processes and socioeconomic organisations that direct these process as stated by Williamson (1998). Even if, no empirical studies show the institutional economics method to the risk management have been carried out yet, the concept provides an alternate explanation of corporate behaviour. To mention, it used to predict that risk management practices that might be determined by the institutions or normally accepted practices in the market become more with years.

A more concrete implication of this theory is that shareholders may be interested in attracting block ownership by reducing company risk. or industry. Moreover, the theory links security with specific assets purchase (Williamson, 1987), which implies that risk management can be important in contracts that bind two sides without allowing diversification, such as very big funding contract or close cooperation within a supply chain. The institutional factors that played a significant role in hedging are observable in the data, even though there might be a difference between sectors

2.3.4. Stakeholder theory

The stakeholder theory originally developed by Freeman (1984) as an administrative tool, since progressed the theory of the firm with high explanatory potential. The theory emphases openly on a steadiness of shareholder benefits as the main determinates of a corporate policy. The most helpful contributions of risk management are an implicit extensions of contracts theory from its application for other contracts such as sales and financing (Cornell and shapiro,1987). In some industries like high-tech and services, the trust of the consumers with the company to continue by offering service for the future can significantly contribute for the firm value. Nevertheless, the implicit values dues are that a highly sensitive expected cost of financial distress and insolvency. Meanwhile, corporate risk management practices can minimize expected costs which may lead to an increase in firm's value (Klimczak,2005). Therefore, stakeholder theory provides new insight into the possible rationale for risk management. However, it has not yet been tested directly. Surveys of the financial distress premises (Smith and Stulz,1995) delivers an indirect evidence (e.g., Judge,2006)

2.4. Risk management process and system

To overcome the risk and to make banking function well, there is a need to manage all kinds of risks associated with banking. Risk management becomes one of the main functions of any banking services and consists of identifying the risk and controlling them, which means keeping the risk at an acceptable level. It can be different from one organisation to another and state to state. the main objective of risk management is to add shareholders value by maximising the profit and enhancing the capital funds for ensuring long term solvency of the banking organisation. The risk management system outlined here can be a standard for banks to follow.

- ✓ **Strategic level:** It encompasses risk management functions performed by senior management and BOD. For instance, definition of risks, ascertaining institutions risk appetite, formulating strategy and policies for managing risks and establish adequate systems and controls to ensure that overall risk remains within an acceptable level and the reward compensates for the risk taken.
- ✓ **Macro level:** It encompasses risk management within a business area or across business lines. Generally, the risk management activities performed by middle management or units devoted to risk reviews fall into this category.
- ✓ **Micro level:** Basically, involves management of risk on the line where the risk actually happened. This is the risk management activities performed by individuals who take a risk on the organization's behalf such as front office and loan origination functions. This management of risk in above areas is restricted to the following operational measures and procedures set by management.

2.5. Risk identification

Risk has to be identified before taking any measure or meaningful action to address the risk. Every product and service the bank offered has a unique profile composed of numerous risks. For example, at least credit risk, interest rate risk, liquidity risk and operational risk are usually present in most loans. The identification process of risk must be clarified at transaction and portfolio levels. In short, risk identification involves:

- ✓ Fully understanding the nature of different types of risks
- ✓ Circumstances that lead a situation to become a risk situation and
- ✓ Due to which the risk can arise.

2.6. Risk measurement or quantification

Risk quantification is an assessment of the degree of the risk, which a particular transaction or an activity is exposed to. Though the exact measurement of risk is not possible the level of risk can be determined with the help of risk rating models. According to the NBE guideline (2010), each risk should be viewed in terms of its three dimensions: size, duration, and the probability of adverse occurrences. Accurate and timely measurement of risk is essential to an effective risk management system.

2.7. Risk control

After risk identification and measurement banks should control or minimize risks. Different scholars identified three ways to control or minimize the adverse consequences of risks:

- ✓ Avoiding or placing limits on certain activities/risks
- ✓ Mitigating risks and
- ✓ Offsetting risks

To perform the above mentioned activates banks have to control the risk using different tool such as diversification of business, insurance and hedging, fixation of exposure ceiling, transfer the risk to another party at the right time and securitization and reconstruction.

2.8. Risk monitoring & reviewing

Keeping close track of risk identification measurement activities in the light of the risk, principles and policies is a core function in a risk management system. For the success of the system, it is essential that the operating wings perform their activities within the broad contours of the organization's risk perception as Ashan& Poonam (2013). In risk monitoring, the bankers have to fix up the parameters on which the transaction is to be tested to be sure that there is no risk to the viable existence of the financial unit.

2.9. Drivers/barriers to risk management

2.9.1. Risk management drivers

Traditional risk management was driven to deal with various threats from within and outside the organization. In contrast, the new paradigm as discussed elsewhere in this paper is aimed at achieving the objectives of the organization and in creating and

protecting value not only by responding to threats but also by enabling the organization to pursue opportunities. Risk management is gaining increased focus because of various influences which can be external or internal to the organization. Hill et al. (2010) identified the following as major macro-influences driving such an increased need for risk management:

- ✓ The increased separation of the ownership of entities from the management of those entities,
- ✓ The complexity of modern society, with many inter-relationships and interdependencies,
- ✓ The increased threat of litigation for perceived contractual and service failures increased attention to environmental and sustainability issues, including the effects of climate change,
- ✓ Governmental regulatory requirements for risk management processes, and regulatory penalties for non-compliance, and the presence of influential standard-setters promoting good governance and risk practices in major corporates, [e.g. regulators, rating agencies, stock exchanges, institutional investors, and corporate governance oversight bodies].

Hudin and Abdulhamid (2014) compiled a number of external and internal drivers identified by various researchers. Among the external drivers are included corporate governance, compliance to regulations, technology advancements, competitive advantage, corporate companies 'failures, good business practice, the complexity of risks, shareholder requirements, globalization, and improved communication.

Identified as factors internal to the organization driving enterprise risk management, on the other hand, are the presence of Chief Risk Officer and internal auditor, strong support and encouragement from top management including from board of directors, types and size of firms, company turnover, corporate governance, adherence to the rule and regulations, and also pressure from external auditors. Hudin and Abdulhamid (2014) added that organizations may also implement a risk management practice due to the acknowledgement of the potential benefits of risk management, the emergence of new trends in business, amplified incidence of risk events, and companies' vulnerabilities. Lewis (2012) and Spedding and Rose (2008) have also identified list of drivers which are more or less similar.

The authors emphasized that future risk management activities are influenced according to what drives risk management and thus need to be adjusted accordingly. Otherwise, in Hudin and Abdulhamid ‘s words, ‘regardless of the maturity of risk management theory, the wrongly implemented risk management practices will only become a false safety net to organizations ‘‘. The risk management system needs thus to be geared to achieve what it set for in the first place and procedures and measures put in place need to be consistent and aligned to the driving objectives.

2.9.2. Barriers to risk management implementation

According to previous studies, a number of barriers were identified to hinder the implementation of risk management in different industries. These hindrances either precluded organizations from implementing risk management at all or forced them to implement the same only partially. The Economist (2007) listed lack of time and resources, difficulty in identifying and assessing emerging risks, lines of responsibility for managing risk not sufficiently clear, the threat from unknown, unforeseeable risks, lack of support from management, difficulty harmonizing risk appetite across business units and geographies, regulatory complexity, lack of available data, lack of skills for effective risk management, difficulty obtaining buy-in from employees as the greatest factors to the effective management of risks in organizations.

Zhao et al. (2014) have conducted a study aimed at identifying the critical hindrances to ERM implementation in Chinese Construction Firms and investigating the interrelationships among these hindrances. A total of 36 hindrances identified in 27 previous studies by consultancies and academics were investigated. The results of the analysis implied that 20 out of the 36 hindrances identified from the literature review were critical hindrances. They are summarized as follows:

- ✓ Unavailability/inadequacy of data, not quality data,
- ✓ Lack of risk management tools and techniques, processes, ERM performance measurement metrics, lack of clear ERM implementation plan,
- ✓ Insufficiency of resources - financial, people, time,
- ✓ Lack of internal knowledge, skill, expertise in the organization, lack of qualified personnel to implement ERM,
- ✓ Lack of risk management information system,
- ✓ Unsupportive organizational structure,

- ✓ Lack of commitment of the board and senior management, risk management not perceived as a priority by senior management, lack of board and senior management leadership, unclear ownership and responsibility for ERM implementation,
- ✓ The perception that risk management adds to bureaucracy, administration and costs, interferes with business activities.
- ✓ Lack of risk awareness, lack of perceived value/benefits of ERM, inadequate training on ERM.

2.10. Air freight handling process

In 1920 after analyzing its potential in customers and carriers market a regulated air freight transport. In the beginning, freight used to be predominantly carried in the stomach of passenger planes. As demand grew, carriers quickly started out to introduce committed plane and tools to facilitate freight movements and meet the wishes of freight shippers and their customers (Rushton et al., 2010).

Air transportation empowers quick travel times which has had an impact on worldwide dispersion. The speed of discussing transportation combined with the recurrence of planned flights has decreased a few worldwide travel times from a month to as to were 1-2 days (Langley, Coyle, Gibson, Novack & Bardi, 2009).this strategy of transportation is proposed to be more suited to tall esteem, perishable direly required commodities that can bear the higher taken a toll of discussing cargo, besides, express carriers that give door to door administrations are utilized by firms to transport time critical parts and components ,in the back of just in time fabricating coordination's and supply chain administration (Park et al., 2009).

Langley et al. (2009) claims that discuss transportation can permit a bundling advantage due to moo thorough necessities when compared to ocean shipping. it is since of lower dangers of harsh taking care of both within the treatment forms and amid shipment itself. airfreight has created specialized holders, which can decrease dealing with costs and giving extra security. In any case, they can moreover make intermodal transportation more troublesome as their odd shape requires products to be repacked sometime recently and after the discuss section of the travel. Modern developments have made a difference to ease this with the conceivable outcomes to stack 20-foot (around 6 meters) holders onto bigger cargo flying machine.

Air Cargo Handling Process belongs to core business processes regardless of if the airport itself conducts it or it is managed by a specialized organization in the liberalized market conditions. The word process originates from Latin word processes, meaning ... flow, the way in which something becomes or is, development, procedure. To deliver the expected outcome the process of has to be an interconnected and interrelating activities. Further on, process means transforming or reshaping input values to output ones, however, not in any way but within the framework of set rules and controls and with the application of defined mechanisms, or resources.

Other creators have proposed elective categorizes of hazard which incorporate provider, administrative and supply methodology dangers/risks (Minahan, 2005), and natural, request and supply, prepare and control dangers (Mason-Jones &Towill, 1998). The classifications and four displayed streams of chance (Physical, Financial, Information, and Organizational) by Waters (2011) will be utilized in this proposal to create the experimental ponder and as a structure for examination. Without barely indicating these streams of chance give a great common bases to utilize in us ponder.

The physical limitations of the airship have driven to a modern dealing with the framework being created. Typically to encourage the quick and secure stacking, emptying, and moving ULDs. Tracks fitted with rollers, frequently fueled, have been received so that the ULDs can be moved around the aero plane. Lifting gadgets are utilized in arranging for the cargo to be stacked through different entryways of the airship, which are regularly a few meters off the ground (Rushton et al. 2010).

There is inherent confinement within the discuss cargo industry that the planes are limited to certain airplane terminals to arrive to. subsequently, a combination of transport administrations, when utilizing discuss cargo, is utilized in arrange to bridge crevices in shipments. The other portion will display how this relates to intermodal transportation. Intermodal transport benefit includes transporting merchandise through two or more sorts of carrier modes in a bound together stream (Slack,1990).

The essential reason for them utilize is for the shifting benefit characteristics and costs among the modes of transport. In some cases, transports like discuss, rail, or ocean can be inaccessible for a portion of the voyage as a result trepidation needs to utilize another

strategy. By utilizing different modes, products can be transported within the most time and cost-effective way.

Langley et al. (2009, p.294), state that 'intermodal administrations maximize the essential preferences characteristic within the combined modes and minimize their drawbacks. There are different sorts of intermodal services that exist nowadays. The foremost utilized shapes tend to be truck-water, and truck-air.

The utilize of trucks in most intermodal transports can be ascribed to the tall availability calculate, which this sort of transport encourages. Over exceptionally expensive separations where the utilize of trucks would not be conceivable, or for shipments of items that are time sensitive the utilize of trucks is not profitable. In any case, as portion of intermodal transport, a truck permits superior availability with respect to the root and last goal of the shipment, where ports, airplane terminals, railroads may not eventually be reached.

With any intermodal transportation strategy, the points of interest and drawbacks of each strategy are experienced. It does in any case require coordination between distinctive performing artists and can include costs since of the extra dealing with when exchanging the cargo from one transportation strategy to another (Rushton et al. 2010).

For case, the utilize of ULDs within the discuss cargo industry implies that re-shipment from these holders to the trucks must be performed to fit into the trucks and proceed with the transportation.

Specific transportation arrangements which utilize intermodal transport, counting discuss cargo, are regularly utilized in association with hub-and-spoke systems. Taking after the foundation will be given. Inside the discuss cargo industry, these hubs-and spokes tend to be deliberately found around the world in topographical positions with nearness to markets for discussing cargo (Rushton et al. 2010).

These discuss Centre points are utilized by aircraft, cargo sending companies and discuss cargo clients in arrange to realize the leading efficiencies from the utilize of caring cargo over long distance. Operators consolidate cargo when the cargo is transported between these centers and after that deconsolidate for ahead transportation by another feeder airship or by an elective mode of transport to the ultimate goal. This does not essentially cruel

that the cargo will be carried by the most limited course, or maybe by which the least taken a toll for the administrator can be accomplished (Rushton et al. 2010).

Ishfaq and Sox (2011) contended that the ideal course of action of a hub and spoke arrange may be a steady trade-off between the lot of sort and ought to dispatch in financial bundles. These clashes tend to be between sort times, volumes, and time affectability. The following and last portion of this chapter will look to put the calculate of hazard in to the discuss cargo set. Chance characterized and displayed from the point of view of the supply chain environment. Another portion will investigate hazard in and discuss cargo setting by firstly giving a brief introduction of the industry and its performing artists included within the industry, taken after by hypothesis relating to dangers particular to the industry.

Process input is always a requirement of the customer/user, regardless in which form it is presented (contract, specification, order, etc.). Process output is a product or service with features that fulfil the client's requirements as defined at the process input. Rules and controls that must be observed when transforming inputs into outputs can be international standards, laws and other regulations, contracts, specifications, procedures, work instructions, methodologies and the like. Mechanisms or resources needed for process running can be competent staff, infrastructure, equipment, financial means, work environment, hardware, software, partners, etc.

2.10.1. Hierarchy of air cargo handling process

Any process has its hierarchy. The Air Cargo Handling Process is a very complex process for several reasons: Cargo handling activities at arrival (receipt) and departure (dispatch) run simultaneously so that this process has two sub-processes:

Air cargo handling sub-process – arrivals and

2) Air cargo handling sub-process – departures; Airside and landside activities run simultaneously;

Physical and documented receipt and dispatch activities run instantaneously. Each of the listed sub-processes encompasses several process steps consisting of numerous activities to be carried out to complete all actions within that process step. In this way prerequisites for the transition from one process step to the next are created, in such a way that at least one output from the previous process phases is also the input process that

follow. Except, all former activities within the previous process or phases completed activities in the process steps cannot proceeds.

2.10.2. Air cargo handling process decomposition

In the air cargo handling process, the input is a requirement of the cargo owner or its agent, to convey out the air cargo transport from one point to other point safely and on time. The process output should be the completion of the air transport service from point A to point B, in accordance with the requirements set by the cargo owner or its agent. The rules to control for running the process of an international documents to regulate air trafficking and aircraft cargo transport, customs regulations, security regulations, special regulations for individual cargo types such as for instance the IATA – Dangerous Goods Regulation (DGR) for the transport of hazardous substances, cargo handling contracts with aircraft operators, contracts with customers and their agents or forwarders, national regulations and principles, internal excellence process ,and work instruction s and methodologies.

Through different techniques for performing the process can be: capable staff holding all the required licenses for handling certain cargo types or managing special equipment, infrastructure including storage area with all required types of distinct units (cold chambers, security value, regulated storage room ,area for DGR goods , human remains storage (HUM), live animals storage(live animals regulations-LAR), distinct equipment (forklifts, weighing devices, pallets, dollies, thermometers, refrigerators, security screening apparatus.

2.10.3. Air cargo handling sub-process (arrivals) – airside

On the airside, upon aircraft (AC) arrival, the Unloading cargo from aircraft is carried out. Shipments whatever it's are unloaded onto dollies located alongside the AC. After all, shipments have been unloaded and loaded on the dollies, and after the AC crew has taken over the accompanying documents, cargo is transported to the cargo warehouse by special tractors. All transport executed based of the proper procedure. Transport enters the cargo warehouse.

2.10.4. Air cargo handling sub-process (arrivals - departures) – landside

After the transport is prepared, activities from the process step Transportation to aircraft take place. As in the case of arrival, transport is performed according to a special procedure. Loading cargo into AC is also carried out in accordance with a special

procedure. Loading is supervised by responsible persons all the time. When loading is completed, the documentation accompanying the cargo is submitted to the AC crew.

2.10.5. Air cargo handling sub-process (departure) – airside

After the transport is prepared, activities from the process step *Transportation to aircraft* take place. As in case of arrival, transport is performed according to a special procedure. Loading cargo into AC is also carried out in accordance with a special procedure. Loading is supervised by responsible persons all the time. When loading is completed, the documentation accompanying the cargo is submitted to the AC crew.

2.11. Types of cargo and documentation

Basically, air transport is used for higher value goods that endure the transport price. In general, air transport is higher than other mode of transports. This is regularly correct as already explained in the introduction part of the paper.

2.11.1. Air cargo types

In exceptional situations, due to various circumstances, such as delivery time, contract penalties, urgency or other contract obligations, goods that would in usual circumstances be transported in another way (truck, ship, railway) are also transported by AC. As a result, many goods are transported by air. For instance, IT components, technical goods, perishable goods, weapons and explosives, and dangerous goods, bust also goods such as construction joinery, metal elements and assemblies, live animals, animals for zoos, transformers, cars, pesticides, machines and devices, human remains, value shipments (gold, money, noble metals), human organs for transplantation, etc.

For individual cargo type a warehouse with a special room are provided and the cargo handling process for these types of goods goes through a special procedure. Similarly, staffs that manipulate these cargo types should be trained and licensed for manipulating that cargo types either at the forwarders or in the organization providing handling services.

2.11.2. Cargo documentation

Appropriate documentation has to be fulfilled for each cargo shipment in the air traffic. Cargo Manifest and Air Waybill are documented accompanying every type of shipment. These documents are similar throughout the world that contains information on the

shipment and other data related to participate in the process such as data relating to the point of departure and destination.

2.12. Risk in air freight

A lot of firms who performed their activities in air freight industry faces a lot of dangers. The air freight industry risk is used to formulate interview guide and questions which will be presented in later part of this research.

2.12.1. Operational

Due to the limitation of air transport is only accessible by airports several carriers depend on land carriers to enable carriage to and from these airports. More players entered in the transportation sectors that added the risk and the complexity of the operation (Rushton et al., 2010). The climate conditions also interpose operational difficulty by increasing transit times and costs of carriers. Re-positioning of aircraft due to different reason can bring a certain risk such as compensating customers for that (Rushton et al., 2010).

2.12.2. Accidents

Based on air cargo operations safety published (1999), specifically smaller air cargo operations around the globe involved in an ad hoc-flights faces much greater safety risk than passenger airlines.

Ad -hoc-flights is a spontaneous flight with or without predetermined plan because of operational demands. Based on research's statistics among 1980 and 1996 from the CAA Fatal Accident Database and International Civil Aviation clearly stated that non-scheduled cargo operations have five times higher accident rate than the scheduled one.

Reasons for this fact with ad-hoc operations were concluded to unfamiliarity with routes, airfields with poor infrastructure, a high percentage of night flights and inexperienced crews. Mostly this kind of problems often happened/seen in developing countries because of the rule and regulations of they used to minimize ad-hoc operations by developed countries (Biederman, 1999).

2.12.3. Cargo Theft

On a global scale the risk of cargo theft has increased as a result of economic crisis and unemployment (Palmer, 2010).

Every good has unique associated risks and also customer demands are changing so fast as they want it to be delivered on time so that air freight operating companies need to change their working schedule accordingly.

As a result, mostly cargo theft happened in indiscreet positions between the hubs and weekends.

Tarnef (2008) propose theft-prevention mechanisms such as (1) thoroughly screen prospective employees, (2) carefully select transportation partners and mediators, (3) establish a safety values within your corporation, (4) factor in security when determining shipment routing, (5) integrate counter surveillance into the duties of your security guards, (6) take advantage of technology, and (7) conduct periodic security audits.

An alternative way to avoid or minimize the theft of cargo the manufacturer may attach or print their logo on trailers, packaging, shipping documentation. If the corporate logos are displayed it could provide unsought consideration from offenders. Moreover, traditional ways of security such as trained and skilled guards can be applied on storage facilities and cargo terminals to make sure the technical solutions gap are filled (Tarnef, 2008).

2.13. Empirical review

Besides looking into the project types that impact the style of managing risk, it is worthwhile to view how risk management takes place in different industries such as construction, engineering, information technology, business and research and development. Generally, manufacturing, construction, and engineering industry tend to be dealing with mega projects that involve high investment expenditure, substantial uncertainty and having a certain degree of impact on the environment.

It is observed that financial risk is the key focus of such projects before go-no-go decision is made due to the fact that pattern of risks inherent in projects is largely influenced by the financial structure of the projects based on studies by Lam (1999) on infrastructure development projects. Moreover, Bruzelius et. al. (2002) found that cost overruns, inaccurate forecasts and often over-optimistic forecasting of project viability are common problems of

mega projects. Thus, risk management and analysis are found to be applied way before the project is initiated, usually during the feasibility study.

According to Miller and Lessard (2001), large engineering projects often carry with it substantial commitments which are binding, high probabilities of failure as well as reward structures that are skewed even in successful cases regardless of the success or failure of the project. They stated that risks are essentially broken down into categories like market-related, completion and institutional, thereafter, decision theoretic approaches and managerial approaches are applied in order to manage them.

On the other hand, Flyvbjerg (2006) noticed a high percentage of inaccuracy of cost forecasts for the transportation infrastructure projects such as rail, roads, bridges and tunnels and this has not improved over the past 70 years based on available cost data. This is because most individuals and organizations are applying the conventional and intuitive way of thinking about complex projects by focusing on the project itself rather than its details. Thus, inaccurate forecasts of the project such as costs and demand become a major source of risk in project management.

He then proposed the application of reference class forecasting to mitigate such risk in terms of any type of human bias (including strategic bias) and strategic misinterpretation. This approach was applied in the Edinburgh Tram Line 2 project in 2004 that helped to improve risk management of the project. This method coupled with measures of accountability is necessary in order to achieve more accurate forecasts. The measures of accountability were found to be applied in the feasibility study of the link across the Baltic Sea connecting Scandinavia and Germany project.

The four specific measures that were applied to increased accountability are transparency, performance specifications, explication of regulatory regimes and involvement of risk capital as mentioned by Bruzelius et al (2002). The manufacturing technology projects can be found in our daily life, from the food processing factories to advanced technology military and civil aircraft manufacturing. These kinds of projects are defined by Charette (1991) as part of the new technologies trend that organizations and governments are spending on to improve our life. Unfortunately, it is found that 5 to 15 percent of the projects that are initiated were either

stopped before completion of the projects or fail to deliver the project's requirements and objectives.

Some of the projects require reworking, shifting their scopes or will not completely fulfill the customer requirements. This is due to several problems, but in a study by Boehm (1991), the lack of interest in the process of identifying and determining high-risk elements is one of the main issues faced by many practitioners. In a recent survey carried out by Charette (2006), the results show that 80% of the organizations in the manufacturing sector declared that they are practicing risk management but the continuous exercise of risk management has only matured by approximately 25% along this period.

The result of this survey indicates that the three highest weaknesses areas faced are the difficulty in getting an accurate estimate of the level of risk encountered, the difficulty of getting organizational buy-in, and the difficulty in separating risk management based on traditional risk management. Following the same trend, the Bakker et. al. (2009) study encountered that risk management is not being conducted in order to be effective, where risk management can only be effective in some specific project situations.

Risk management has been accepted as an issue of particular significance in this industry. Nevertheless, some difficulties have been identified by Nosworthy (2000) beside the implementation process where there is an apparent lack of real effective approach and the incurring of excessive costs. In fact, the risk approach of this sector defined by Boehm (1991) is only applying the traditional method where risk exposure is used to detect the unsatisfactory effects. This is done with the use of decision-trees as a method for designation of project exposure while another technique applied is the sensitivity analysis, which is used with the finality of take strategy decisions.

On the contrary, business process re-engineering project as defined by Remenyi and Headfield (1996) as a subset of IT industry focuses on five main components of risk: business, financial, technology, corporate culture and organization structure.

For these kinds of project, a suitable framework of risk management which includes risk categories identification (using the weighted and score mechanisms), evaluations and control of risk, and financial risk. Some of the studies showed that risk management is an on-going process through the project lifecycle. According to charette (2005), the benefits

of risk management is to assist mangers in gauging problem situations and in the formation of practical solutions and formulation of practical solutions.one of a key example is risk exposure as a risk management concept. Risk, after all, reflects economic change and human ingenuity. Hence, there are new undoubtedly types of risk coming in every moment that will require new thinking on how to move toward according to Charette (2006).

Khalid and Amjad (2012) conducted research on risk management in Islamic banking in Pakistan. The authors use the same model suggested by Al-Tamimi and Al-Mazrooei (2007) of risk management practices. The results indicate that Islamic banks are somewhat reasonably efficient in managing risk where understanding risk and risk management risk monitoring and credit risk analysis, are the most influencing variables in risk management practices. The examination of Pakistan commercial bank risk management by Shafiq and Nasr (2009), the result shows firstly, the greatest exposures banks are facing are credit risk, liquidity risk, interest rate risk, foreign exchange risk, and operating risk. Secondly, the significance difference between risk management practice in public and private sectors and finally, the need for supplementary training among commercial bank staff even though they understand the basic to enhance their expertise in the area.

Hassan, (2010) the researcher conducts this research with the title of a comparative study of Handelsbanken and Swanbank; how risk has been managed during the last decade. In this thesis, the authors strive to investigate the risk management phenomena in the banking sector by conducting a longitudinal comparative study in two different banks. In a broader perspective to understand the phenomena, the authors depart from the theoretical framework that recognizes the social and cultural elements of risk. More precisely, the research specified the analysis in to three major main variables which are; how banks organize themselves for risk, how they measure the risk, and the tasks of IT and human judgment. The research can contribute in the way by giving an insight to banks about how to successfully manage risk. It highlights that the risk question should be addressed strategically and deemed to be a continuous phenomenon.

Hassan (2009) seeks to identify the risks posing the greatest exposure for Islamic banks in Brunei Darussalam and to examine the effectiveness of risk management techniques utilized in these banks. The results of the study reveal that the three major risks affecting the banks are a foreign-exchange risk, credit risk and operational risk. Also, Islamic banks

are reasonably efficient in managing risk; and risk identification and risk assessment and analysis are the most influencing variables in risk management practices.

Rekha (2004) banks are in the business of managing risk, not sidestepping it. To the researcher, Risk is the fundamental element that drives financial behavior. Without the possibility of a potential risk the financial system would be overly simplified. However, the risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The forthcoming of the financial industries will indisputably rest on risk management ability and dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. One of the serious apparatuses of a compressive risk management is an effective credit risk management for the long-term achievement of a bank. The researcher understood that Credit risk is the oldest and biggest risk that a bank, by virtue of its very nature of the business, inherits. This provide an opportunity in many ways, one of them is economic liberalisation that's a hot issue across the world. India is no exception to this swing towards a market-driven economy. Wood (1994) reviews the lending behavior and examines credit risk management practices of banks in Barbados. The results of the study are as follows: (I) banks utilized published and internally-generated information in the process of screening applicants; banks do not use interest rates alone to allocate credit but resort to other means like varying the maturity structure of loans, requesting collateral, and utilizing debt covenants and compensating balances in order to offset credit risk; the role of monitoring by banks is essential given the absence of credit rating agencies and lack of an active acquisitions market; monitoring activities of banks are characterized by regular (formal and informal) visiting (and telephone contact) between banks and clients and by periodic reviews of clients‟ accounts; credit rationing in Barbados can be usefully explained by the Stieglitz-Weiss "equilibrium-rationing model which focuses on the influence of deficient or unequal information on the bank actions.

CHAPTER THREE

3. Research methodology

The third chapter of this study present the methodology following to internalizing the problem to be study and the assessment of risk management in air freight handling process that backs in chapter one and chapter two, the methodology part tries to describe the methods through which the objectives of the study can be answered. Accordingly, it would state about the research design, population and sampling procedures, data gathering methods and instruments, validity and reliability of the study, and finally procedures of data presentation and analysis.

3.1. Research design and approach

Research design refers to structure of an enquiry. Research design refers to the overall strategy that you choose to integrate the different components of the study in coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blue print for collection, measurement and analysis of data (De Vaus, 2001). The research design based on descriptive type of research by applying quantitative and qualitative research approach. The rational for the choice of descriptive method is the fact that the descriptive studies were used in order to describe and interpret trends of events as it exists at present and quantitative involves statistical models such as means, standard deviations and qualitative research approach is interview analysis.

3.2. Data type and sources

There are two sources of data; these are primary and secondary sources. Thus, the researcher will use both primary (questionnaire for non-management and interview for directors and managers) and secondary sources to collect data. Primary data is the information that the researcher finds out by him/herself regarding a specific topic. Therefore, the source of primary data for this study are employees of Ethiopian cargo and logistics service. Secondary data are those which have already been collected by someone other than the investigator himself.

3.3. Data collection procedure

A questionnaire is a set of questions by using a five level Likert-scale. In order that the respondents can tick the appropriate clue of his/her opinion.

Permission obtain from the Ethiopian cargo and logistics service conduct the research. Primary data collected through the self-administered questionnaire. It is a self-scoring questionnaire (5 items for each dimension) was rated using a 5-point Likert scale labeled as 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree.

The researcher prepared in-depth interview questions with the director and managers of Ethiopia logistics and, since interview have a power to measure the respondents' opinion, attitudes, and beliefs.

3.4. The target population

Target population is defined as the entire aggregation of respondents that meet the designated set of criteria (Kothari, 2004). The population, also called the universe, is the set of people or entities to which findings are to be generalized and the population must be defined explicitly before a sample is taken (Garson. 2012). All fright handling process personnel and others department which has direct relation with freight handling process are taken to constitute the study population. Target population, which is 150 in number starting from acceptance up to loading and unloading the cargo so the researcher, by using Slovakia sampling technique from the population which will be 109 sample size.

3.5. Methods of data analysis

The data obtained from the questionnaires coded, captured and edited. First raw data was collected and edited in order to discard the inappropriate data and retain the relevant ones. Editing involved a critical examination of the completed questionnaire, in terms of compliance with the criteria for collecting meaningful data, and in order to deal with questionnaires that is not completed.

Descriptive Analysis

First, descriptive statistics of the variable was calculated in line with Malhotra (2007), which states that using descriptive statistics method helps the researcher in picturing the existing situation and allows relevant information. From descriptive analysis percentage, mean and standard deviation selected to analysis the result.

Frequency tables used to summarize the respondent's profile in the form of frequency and percentages whereas the descriptive statistics such as mean and standard deviations of employee' answers to risk management and the air freight handling process calculated in order to determine employee' perceptions of risk management air freight handling process.

Data collected from personal structured interview with 15 top senior leaders in the Ethiopian cargo and logistics that selected purposely to analyze in this section by using inductive approach to qualitative data analysis

3.6. Validity and reliability

It is important to make sure that the instrument that I develop to measure particular concept is indeed accurately measuring the variable and then in fact, I actually measuring the concept that we set out to measure.

Reliability estimates the consistency of the measurement or more simply, the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects. For this particular study, the questionnaires Likert scale items reliability will check by Cronbach's - alpha coefficient with the help of SPSS software. To confirm the reliability of the instruments, The Cronbach Alpha technique applied to assess reliability of the measurement scales used in the study.

Table 3.1: Rule of thumb of Cronbach's Alpha

Cronbach's Alpha	**Internal Consistency**
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: Cortina (1993).

3.7. Ethical consideration

A number of ethical considerations would be taken into account throughout the study. The researcher made it clear in the questionnaire that participation is voluntary and the research is

for academic purpose, and that confidentiality of participants will assure. They will briefly know about the nature of the study being carried out. Participants will assure that their responses will remain confidential. Therefore, the researcher tries as much as possible to respect persons'/organizations that would provide information and on whom information will collect.

CHAPTER FOUR

4. Data presentation, data analysis and discussion results

The major aim of the study was to find out the Assessment of risk management and the air freight handling process a case of Ethiopian cargo and logistics. Therefore, this chapter would present a discussion of the final results and the process through which the results were obtained. In addition to this, background information of respondents was presented. Finally, the statistical methods of analysis were discussed, which included a descriptive analysis through statistical package for social science (IBM SPSS statistics 20). In order to archive the objective of the study and tackle the key research questions the researcher has tried to conduct a detailed and technical investigations related to the study matter. In doing so the researcher has must collected relevant and reliable data from primary sources. And thus, the gathered data have been completed and analyses meaningfully.

4.1. Reliability analysis

The reliability of scale shows that how free the data is from random error. One of the most commonly used scales of reliability is internal consistency. Internal consistency refers to "the degree to which the items that make up

the scales are all measuring the same underlying attributes (i.e. the extent to which the items "hang together") Christopher, 2015). The Cronbach Alpha technique was applied to assess reliability of the measurement scales used in the study.

Table 4.1: Reliability Test Result

Variables	Cronbach's Alpha
Objective setting and risk identification	.727
Risk assessment	.721
Risk response	.712
Risk control, information and communication and risk monitoring	.715
Handling process	.774

Source: SPSS Result, 2020

As can be seen in Table 4.1, the variables scored from good to acceptable alphas. Handling process has a high reliability compared to other independent variables with α= .774, and this shows that Cronbach Alpha lays where α ≥ 07, so has a good reliability. objective setting and

risk identification also has a good reliability with α = 0.727, followed by risk assessment with α = 0.721 indicating that long term relationship has a good reliability, Risk control, information and communication and risk monitoring has a good reliability with α = 0.712, Risk response has an acceptable reliability with Cronbach Alpha α = 0.712. According to Cronbach (1951), a Cronbach Alpha of 0.70 is an acceptable level; this means that there is internal consistency in the items considered.

4.2. Descriptive statistics

In this section, the basic information of the respondents is explored. Table 4.2 is about the demographic characteristics of the respondents. This information is presented in order to make the reader understand the size of population taken, the age, gender, education level and working experience of respondents. Consequently, the findings are presented in Table 4.2.

		Frequency	Percent
Gender	Female	33	33.0
	Male	67	67.0
	Total	**100**	**100.0**
Age	20-25	12	12.0
	26-35	53	53.0
	36-40	15	15.0
	41-54	17	17.0
	55 and above	3	3.0
	Total	**100**	**100.0**
	Grade 12 and below	16	16.0
	Diploma holder	33	33.0
	Bachelor's Degree holder	43	43.0
	Masters	8	8.0
	Total	**100**	**100.0**
Working Experience	Less than 3 years	19	19.0
	3-5	43	43.0
	5-8	27	27.0
	More than 8 years	11	11.0
	Total	**100**	**100.0**

Source: SPSS Result, 2020

In the 4.2 table, the Gender specification of the respondents is presented. A total percent of male respondents was 67.0% and female respondents were 33.0%. This shows that male workers are more than female workers.

In the table, the highest and lowest frequency of the age groups is mentioned. The highest frequency among these employees is between 26-35 years of age. This means that most of the organizations have young employee. The lowest frequency is for 55 and above years, which shows that fewer employee works under this age group.

This table also shows the level of educational qualification that each respondent had. Respondents that had BA degree (43.0%) level have the highest level of frequency which shows that most of the Ethiopian cargo and logistics service have First degree holder's employee. After that come diploma holders (33.0%) and then master's degree holders (8.0%). These results show that level of qualification among employee of Ethiopia cargo and logistics is high and that most of the employees are educated more than a diploma certificate.

Regarding to service years of respondents in the Ethiopian cargo and logistics service, 43.0% of the respondents had 3-5 years of experience. 27.0% respondents are under 5-8 years experienced, 19.0% are less than 3 year experienced, and 11% are more than 8 years respectively. From this we can understand that, most of the respondents are under the range of 3-5 years experienced and more than 8 years of experienced respondents are the lowest as compare to others. It shows younger and educated employees are suited for the operation that have more flexibility for the working environment.

4.3. Risk Management in air freight handling process

4.3.1. Objective setting and risk identification

Risk identification is the process of determining risks that could potentially prevent the program, enterprise, or investment from achieving its objectives. It includes documenting and communicating the concern. In the Table 4.3, the researcher set out to assess objective setting and risk identification process. The assessment statements were ranked in terms of their mean and standard deviation as a way of interpreting the results. The findings of Likert scale measures were evaluated according to Best (1977) from 2.62-3.41 is average/moderate. The details of the study in this regards are discussed as follows: According to the findings, it is clearly evident that respondent was in moderate agreement as to the development of risk-related objective by board and senior manager evidenced by the mean score of 3.01. This

shows that they generally have moderate agreement on the development of risk-related objective by board and senior managers. This implied that most of the eight aspects were above moderate extent except the two aspects which represent low extent as discussed above and thus affected the performance of Ethiopian cargo and logistics in process of risk identification. The Ethiopian cargo and logistics need to consider involving all employees and also conducting workshop or panel discussion to identify risk. By clearly communicating employees about risk tolerance and also by participating all employees the Ethiopian cargo and logistics can increase broad understanding about risk management in consequence this would minimize the risk employee bring into the company with their action through reserving and underwriting. However, the standard deviation value of 1.26 suggests varied responses from the respondents. The finding could be those who participate in the objective setting do have divergent views on their opinion of objective setting; this could indicate that the board members and senior managers might not be in equal status.

Table 4.3: Mean and standard deviation of objective setting and risk identification

Objective Setting and Risk Identification	Mean	SD
The Ethiopian cargo and logistics risk-related objective are developed by Board and Senior Manager	3.48	1.95
The Ethiopian cargo and logistics risk capacity of the cargo clearly communicated to the employees.	3.1	1.02
The Ethiopian cargo and logistics risk tolerance of the cargo clearly communicated to the employees.	3.13	1.27
Ethiopian cargo and logistics risk identification is done by managers.	2.88	1.13
Ethiopian cargo and logistics risk identification involve all level of staff.	2.48	1.05
Ethiopian cargo and logistics roles and responsibilities for risk identification are clearly defined.	3.14	1.15
The Ethiopian cargo and logistics managers are aware of the risks inherent in the organization.	3.39	1.42
The Ethiopian cargo and logistics panel discussion have been conducted to identify risk.	2.49	1.07
Aggregated mean of objective setting and risk identification	3.01	1.26

Source: Source: SPSS Result, 2020

According to table 4.3 the respondents agreed that risks that are not acceptable by the organization are identified and clearly communicate to employees with a representative mean of 3.13. However, the standard deviation value of 1.23 suggests varied responses from the respondents. According to the findings, it is clearly evident that respondent was in moderate agreement as to existence of clear communication of risk appetite and risk tolerance. The Ethiopian cargo and logistics need to consider on the communication of risk tolerance since it is one of the requirements to be clearly communicated to all employees.

According to table 4.3, the respondents agreed that risk identification was done by managers with a representative mean of 3.48. The respondents disagreed that risk identification involve all level of staff with a representative mean of 2.48. Respondents agreed that the roles and responsibilities for risk identification were clearly defined with a representative mean of 3.14. The respondents agreed that all managers are aware of the risks inherent in the business with a representative mean of 3.39. The respondents disagreed that workshop or panel discussion has been conducted to identify risk with a representative mean of 2.49. This implied that the two aspects were below moderate extent and thus the result show the performance of risk identification with respect to involvement of all employees and conduction of workshop in Ethiopian cargo and logistics service is low. From the finding it is clear that involvement of all staff in the process of risk identification and conduction of workshop to identify risk are not maintained by Ethiopian cargo and logistics. The findings did not agree with earlier findings by Kevin., (2007) the firm had a fairly common approach across the firm to the identification of risk and delegated responsibility for risk identification and process of risk identification redone on quarterly basis.

4.3.2. Risk assessment

Risk assessment is a term used to describe the overall process or method such an identify hazards and risk factors that have the potential to cause harm (hazard identification), analyze and evaluate the risk associated with that hazard (risk analysis, and risk evaluation), determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control). A risk assessment is a thorough look at your workplace to identify those things, situations, processes, etc. that may cause harm, particularly to people. When this

determination is made, you can next, decide what measures should be in place to effectively eliminate or control the harm from happening.

This section contains the findings in respect to objective two which sought to assess the risk in Ethiopian cargo and logistics service. The respondents were asked to indicate their level of agreement with the following statements that relate to the assessment practice in Ethiopian cargo and logistics service. To this they responded as provided in Table 4.4. The assessment practice embraces many activities as shown in the below table 4.4.

Table 4.4: Mean and standard deviation of risk assessment

Risk Assessment	Mean	SD
Ethiopian cargo and logistics risks are evaluated with assumptions and uncertainties being clearly considered.	3.04	1.16
Ethiopian cargo and logistics risk is evaluated in terms of both quantitative and qualitative value.	3.43	1.10
Ethiopian cargo and logistics measurement of the quantities in which risk assessment is concerned potential loss and probability of occurrence is carried out by the company.	2.75	1.29
The Ethiopian cargo and logistics treated differently from one with a low potential loss and a high likelihood of occurring.	3.05	1.32
The Ethiopian cargo and logistics level of risk control is appropriate for the risks that it faces.	3.20	1.47
The Ethiopian cargo and logistics develops action plans for implementing decisions and management plans for identified risks.	3.07	1.40
The Ethiopian cargo and logistics training policies encourage formal training in risk management.	2.96	1.47
Aggregated mean of risk assessment	3.1	1.3

Source: primary data, 2020

The higher contribution to the outcome is achieved from the second item that means Ethiopian cargo and logistics risk is evaluated in terms of both quantitative and qualitative value with the mean value of 3.43 and 1.1 respectively. However lower contribution is by the third predictor that means the Ethiopian cargo and logistics measurement of the quantities in which risk

assessment is concerned potential loss and probability of occurrence is carried out by the company with the mean value of 2.75 and 1.29 respectively. according to Best (1977) from 2.62-3.41 is average/moderate, the mean score of the construct shows that the employee's perception of the risk assessment is moderately good with a mean value of 3.1 and 1.3 respectively. This implies that the risk assessment is not only an important step in ensuring a safe and healthy work environment, it is a legal requirement. It needs to be conducted before employee's complete work on current, new or unknown parts, processes or materials and must consider the possible causes of harm and what steps to take in preventing the harm in the first place. Furthermore, receive sufficient hazard identification and safety reporting processes; be motivated to practice proper hazard identification techniques; and ensure adequate risk assessment and mitigation strategies don't allow risk scenarios to affect operations.

4.3.3. Risk response

Risk response is the process of developing strategic options, and determining actions, to enhance opportunities and reduce threats to the project's objectives. A project team member is assigned to take responsibility for each risk response. This section contains the findings in respect to objective three which sought to assess the risk response in Ethiopian cargo and logistics service companies. The respondents were asked to indicate their level of agreement with the following statements that relate to the assessment of risk response in Ethiopian cargo and logistics service companies. To this they responded as provided in Table 4.5.

Table 4.5: Mean and standard deviation of risk response

Risk Response	Mean	SD
The Ethiopian cargo and logistics avoids risk by insuring different types of risks.	3.80	1.18
The Ethiopian cargo and logistics train insured parties to reduce risk.	3.17	1.39
The Ethiopian cargo and logistics has a mechanism for transferring certain risks.	2.80	1.40
The Ethiopian cargo and logistics management regularly reviews the organization performance in managing its business risk.	3.81	1.36
The Ethiopian cargo and logistics risk management procedures and processes are documented and provide guidance to staff about managing risk.	2.93	1.49
The Ethiopian cargo and logistics emphasizes the recruitment of highly qualified people having knowledge in risk management.	3.12	1.52
Aggregated value of risk response	3.27	1.3

Source: SPSS Result, 2020

The findings show most of the respondents were in high agreement with the fact existence of the components of risk response. It means thus, that proper application of these components enhances overall effectiveness of risk management practice of the institution.

The Ethiopian cargo and logistics service carried out risk avoidance, reduction, sharing and acceptance of risk practices as a risk response. according to Best (1977) from 2.62-3.41 is average/moderate this is revealed by overall moderate mean value of 3.27 and a significant standard deviation of 1.3 is clearly a sign of various understanding. The finding indicates risk response is actively maintained in the Ethiopian cargo and logistics service. The scores are above the midpoint mark of 3, which represent the good extent as per the Likert scale, used in this study. This implied that all the five aspects were above moderate extent and thus shows the company effectively use risk responses to manage their risks. By effectively applying risk response the company handle risk this in return helps them to minimize the consequence of losses and safeguard future payout. Moreover, this result indicates that the risk response planning involves determining ways to reduce or eliminate any threats to the project, and also the opportunities to increase their impact. Likewise, the managers are also responsible to decrease the probability and impact of threats and increase the probability and impact of opportunities.

4.3.4. Risk control, information and communication and risk monitoring

This section contains the findings in respect to objective four which sought to assess the influence of control, communication and monitoring in Ethiopian cargo and logistics service. The respondents were asked to indicate their level of agreement with the following statements that relate to the assessment of communication and monitoring in Ethiopian cargo and logistics service. To this they responded as provided in Table 4.6. Assessment of control, communication and monitoring are one of the main components of effective risk management. The controlling, communication and monitoring embraces many activities as shown in the below table. Questions on these areas were put before the respondents and the results indicate regarding availability of sufficient communication activity and monitoring activity for risk management practice.

Table 4.6: Mean and standard deviation of risk control, information and communication & risk monitoring

Risk Control, Information and Communication and Risk Monitoring	Mean	SD
Ethiopian cargo and logistics risk management program is well documented.	3.39	1.23
Ethiopian cargo and logistics risk management efforts are supported by senior management.	3.17	1.27
Ethiopian cargo and logistics employees are properly trained on risk management policies of the firm.	2.34	1.11
The Ethiopian cargo and logistics roles and responsibilities of each employee in the risk management efforts of the firm are well communicated to them.	2.30	1.05
Ethiopian cargo and logistics controls are in place to evaluate the efficiency of the risk management program.	2.74	1.35
Ethiopian cargo and logistics regular reviews of risk management efforts and reporting to senior management.	2.83	1.31
The Ethiopian cargo and logistics has internally developed risk management procedures.	2.20	.974
Ethiopian cargo and logistics monitoring the effectiveness of risk management is an integral part of routine management reporting.	2.80	1.34
Aggregated of Risk Control, Information & Communication and Risk Monitoring	2.72	1.2

Source: SPSS Result, 2020

The findings show most of the respondents were in agreement with the fact existence of the components of risk control, communication and monitoring positively affected the attainment of effective risk management. It means thus, that with proper application of these components enhance overall effectiveness of risk management practice. The Ethiopian cargo and logistics carried out regular review, document risk management program, support practice of risk management and place control mechanism.

The overall scores are about 2.84, according to Best (1977) from 2.62-3.41 is average/moderate which represent the moderate extent as per the Likert scale, used in this study. From the information revealed by table 4.6, respondents believe that the Ethiopian cargo and logistics do have documented risk management program and the effort of risk

management supported by senior managers that complies with regulatory body requirements. This is revealed by a mean value of 3.39 and 3.17 respectively however a significant standard deviation of 1.23 and l.27 is clearly a sign of varied responses from respondents as far as risk management program are well documented and supported by senior managers.

From the information collected from respondents according to table 4.6 respondents believe that there are moderate controls on the efficiency of the risk management program and moderate regular reviews of risk management efforts and reporting to senior management. These are revealed by a mean value of 2.74 and 2.83 respectively however a significant standard deviation of 1.35 and 1.31 respectively is clearly a sign of varied responses from respondents. From the information collected from respondents according to table 4.6 respondents believe that there is low training on risk management policies of the firm and low communication of role and responsibility in the effort of risk management. These are revealed by a mean value of 2.34 and 2.30 respectively. However, a significant standard deviation of 1.11 and 1.05 respectively is clearly a sign of varied responses from respondents. The findings show most of the respondents were not in agreement with the fact existence of the training and communication of role and responsibility. The overall scores are 2.72, which represent the moderate extent as per the Likert scale, used in this study. This implied that all the six aspects were above moderate extent except the two aspects that are training and clear communication of role and responsibility which represent low extent.

Thus show the Ethiopian cargo and logistics is fulfilling the components those are communication, control and monitoring. Communicating risk to all employees enable them to carry out their responsibilities. By setting control and by reviewing regularly Ethiopian cargo and logistics service can evaluate risk management practice maintained this in return would help for decision making to continue as it is or to take corrective action. Risk monitoring ensures that risk standard and limit are compiled as intended and any deviation is duly approved.

4.3.5. Air Freight handling processes practice

Table 4.7: Mean and standard deviation of air freight handling process practice

Air Freight Handling Processes Practice	Mean	SD

The Ethiopian cargo and logistics considers the risk significance handling strategy.	3.17	1.32
The Ethiopian cargo and logistics considers the risk tolerance handling strategy.	3.16	1.26
The Ethiopian cargo and logistics considers the resource availability handling strategy.	3.14	1.36
The Ethiopian cargo and logistics considers the cost and benefit comparisons handling strategy.	3.37	1.36
The Ethiopian cargo and logistics considers the handling strategy.	3.29	1.28
The Ethiopian cargo and logistics considers the enterprise objectives handling strategy.	3.25	1.34
The Ethiopian cargo and logistics considers avoiding/excluding activity.	3.37	1.44
The Ethiopian cargo and logistics considers enhance controls.	3.09	1.37
The Ethiopian cargo and logistics considers undertake business process improvement.	3.18	1.25
Aggregated value of Air Freight Handling Processes	3.3	1.3

Source: SPSS Result, 2020

The overall scores are about 3.33, according to Best (1977) from 2.62-3.41 is average/moderate which represent the moderate extent as per the Likert scale, used in this study. From the information revealed by table 4.7, respondents believe that the Ethiopian cargo and logistics do have good air freight handling process program and the effort of risk management supported by the cost and benefit comparisons handling strategy and considers avoiding/excluding activity. This is revealed by a mean value of 3.29 and 3.37 respectively however a significant standard deviation of 1.28 and l.44 is clearly a sign of varied responses from respondents as far as risk management program are glowing defined the cost and benefit comparisons handling strategy and considers avoiding/excluding activity. Moreover, the express shipping options of air freight make it a valuable option for coordinating time-sensitive shipments to almost anywhere in the world. This can be particularly advantageous for smaller and mid-sized companies as it allows them to participate in international trade in an expeditious and effective manner. Because, shipping by air also offers the advantage of a high level of security, as airport controls over cargo are tightly managed. A large percentage of air cargo around the world is managed through freight intermediaries. Therefore, a robust relationship between business enterprises and air cargo providers is extremely important. The high importance given to timely delivery of goods around the world means that air freight providers are financially secure and have a stable workforce.

4.4. Qualitative analysis

1. **What was/is the main reason of the Ethiopian aviation to require Cargo to prepare their own Risk Management Program?**

The interview with the managers indicates that, due to the nature the business, customer & regulatory requirements and variety of process which results in different types of business as well as compliance risk from the passenger side, Cargo & logistics section need its own risk management program. As per their comments regardless of their departments; Most of the cargo operation needs transportation of Dangerous goods and such needs special attention in case of break or improper handling; Warehousing: -third party warehouses, a common component in the transportation process, can put products at risk if proper storage and handling procedures are not understood; Cargo is very susceptible to theft. Pharmaceuticals and electronics are the top targets but any easily resold product is at risk; Handling: - equipment used for loading and unloading such as cranes, forklifts and pallet movers present multiple risks to cargo particularly to fragile or special care products; Shipping lane disruptions: -political or social unrest as well as natural catastrophes can unexpectedly disrupt routes and timetables

2. **What is the role of Risk Management Program regarding the identification, assessment and response of Cargo risks?**

Per the interview undertake with the Safety and risk Management Manager; Risk management program is design to identify, assess, mitigate and monitor risks throughout the process (cargo handling) in order to make the business unit to adopt changes and cope effectively. The program mainly incorporates change management principles within its framework.

All managers described that as an airline with safety being its first priority, Ethiopian implements confidential/voluntary safety reporting systems encouraging and facilitating the reporting of events, hazards and/or concerns resulting from process, human performance and from any operational side.

There are a lot of Risk Management Program roles in the business to ensure the management of safety risk to cargo operations by developing and maintaining continuous monitoring process through hazard identification, analysis and safety risk mitigation and controls. There is also an integration of safety training for the operational personnel and addressing of the basics of safety management at all levels of operational personnel to ensure the compliance

with applicable regulations, Ethiopian policies, procedures and standards by all employees in discharging their daily responsibilities.

At last Manager Risk Management program emphasize Safety risk assessment and management aims in identifying, analysis and elimination and/or control to an acceptable level of those hazards, as well as the subsequent risk that threaten the viability of an organization. The Safety Mitigation process comprises steps taken to control or prevent a hazard from causing harm and to reduce the risk to an acceptable (tolerable) level. Security risk assessment matrix is a combination of the probability of an attack being attempted against a target within a specified time frame (security threats) and the severity of occurrence or the result/effect of an action or condition (consequence).

3. **Whom you think should undertake the responsibility of overseeing the risk management unit of the Cargo?**

Manager Safety or Risk Management advised that SBU compliance office undertake the responsibility of overseeing the program with the help of corporate quality assurance & risk management and The SBU managing director to see the overall activities of the program but all managers with direct oversight of frontline operations are accountable for reporting hazards and ensuring the risk in those areas is managed at an acceptable level All dangerous goods spillage clean-up on aircraft must be carried out as stipulated in the Ethiopian's Cargo Service Manual. All spills or leakage of all hazardous substances and materials should be handled or cleaned based on the information contained on the Material Safety Data Sheet (MSDS) or label which is provided by their manufacturer, vendor or shipper. The ground handling process safety data analysis identifies what interfaces and actors are most frequently involved and during which phase of the ground handling process aircraft damage is most frequently inflicted. Safety Standard reporting format which facilitates consistent reporting, storage and analysis of data are found. Methods of Proactive and Reactive safety data collection and processes for safety data analysis that identify existing hazards and predict future hazards are found in detail in Ethiopian Safety Management Systems Manual.

Per the rule and regulation as mentioned from the managers Both operational and confidential safety data gathering boxes shall be available at ADD HUB Airport Terminal and ADD HUB Cargo Terminal to proactively and reactively collect safety data every day as well as to report deficiencies, exposed hazards or any safety concern. Based on the feed backs, analysis shall be done at least once every month by the ADD Airport administration and Cargo Traffic Handling

administration respectively. ADD Airport Administration and ADD Cargo Traffic Handling Administration shall analyze, assess and prepare summary in accordance with Ethiopian Safety Management System Manual (SMSM) requirement, Chapter 5- Hazard Identification & Safety Risk Management of all potential risks to mitigate risk in ground handling. The summary and analysis report shall be distributed to all concerned operational departments for their appropriate corrective and/or preventive action. Copy of the report shall also be submitted to Director Corporate Quality Assurance, SMS, EMS, Industrial Safety &ERP for review.

All outstation offices, depending on their local regulations, shall also send proactive and reactive safety data with actions taken by the service providers to Director Corporate Quality Assurance, SMS, EMS, and Industrial Safety & ERP. Based on base line safety performance achievement of prior period, safety performance measures and targets shall be set by operational units in collaboration with corporate safety and Corporate Quality Assurance. Each operational unit shall reduce the incident/accident to zero level and/or tolerable target level and must validate risk control level of the operating unit. Currently the data are being submitted over the phone and not through the methods on the manuals but Quality and safety teams are forcing all to do same.

4. Can you tell us the best practice that undertake the risk management function properly?

When developing new product or introducing new system or process, well-structured risk assessment was conducted in order to identify potential risks associated with the change or the new process (system) and mitigate them to avoid disruptions per the manager's descriptive briefing during the interview. Commonly their will occur some damage due to improper packaging, spoilages and damages of the products. There is also a demonstration for the safety systems during fire and other incidents and also an assigned personnel to undertake each activity. Per the manager elaboration regardless of the best practices as we migrate from the corporate companywide risk management programs which intakes the process; identifying internal and external environments. Risk identification and assessment, Risk treatment, continual monitoring and review of risks and their treatment are also implemented in cargo handling process of risk management.

5. How do you evaluate that the Cargo and logistics are managing their risks properly?

The principles and process of risk management are well defined and incorporated in procedures but in the implementation part senior management roles are limited hence the risk management program is limited to the compliance office authority and scope not entirely the whole as to the process. The overall procedures and manuals needs to be implemented and needs an update through the consideration of the sister brother logistics or cargo handling companies

CHAPTER FIVE

5. Summary of findings, conclusions and recommendations

5.1. Summary of findings

The summary of the findings is based on the four study objectives that included: to assess practice of objective setting and risk identification of Ethiopian cargo and logistics service, to identify practice of risk assessment of Ethiopian cargo and logistics service, to evaluate practice of risk response of Ethiopian cargo and logistics service, to assess the approaches that Ethiopian cargo and logistics service use to control, inform and monitor risks, to reveal out the perceived practice of air freight handling processes of Ethiopian cargo and logistics service

Findings revealed that objective setting and risk identification are in place. Objective setting showed that it is developed by senior managers and approved by board members. This proves that Ethiopian cargo and logistics service set risk-related objective with caution. It can then be concluded that objective setting was practiced as per the requirement of regulatory body and framework. Those finding implies the board members and senior managers completely involved in the setting of risk-related objective which indicate there is supportive culture of risk management this in turn show the decision making take into consideration risk management and this will enable the Ethiopian cargo and logistics service to create value because value is created or eroded by management decisions.

Practice of risk identification showed that it involved managers, practice on clearly defining role and responsibility of employees and the component of risk identification especially risk appetite and risk tolerance have been communicated in moderate extent. However, the study also found out that in the practice of risk identification all level of staff was not included, workshops or panel discussion have not been conducted as part risk identification methodology. By clearly communicating employees about risk appetite, risk tolerance and also by participating all employees the can increase broad understanding about risk management in consequence this will minimize the risk employee bring into the company with their action through reserving and underwriting.

The study revealed that there are indicators that the Ethiopian cargo and logistics service commonly uses various techniques to practice risk assessment; these are considering occurrence of potential loss, treating based on loss and likelihood, evaluate in terms of quantitative and qualitative value. Risk assessment is in place and practicing as laid down regulatory requirement and framework. However, the study also found out that in the practice of risk assessment were not used as a risk measure. Treating risk according to the impact and likelihood enable the Ethiopian cargo and logistics service to respond in a manner that reduces the likelihood of downside outcomes and increase the upside.

The study revealed that there are indicators that the Ethiopian cargo and logistics service commonly use various techniques to practice risk response; these are considering risk avoidance, reduction, sharing and acceptance as a risk response. Risk response is in place and practicing as laid down regulatory requirement and framework. It can then be concluded that the Ethiopian cargo and logistics service effectively use risk responses to manage their risks. By effectively applying risk response the Ethiopian cargo and logistics service handle risk this in return helps them to minimize the consequence of losses and safeguard future payouts.

The study revealed that there are indicators that the Ethiopian cargo and logistics service commonly use various techniques to practice risk control, communication and monitoring; these are documenting risk management program, communicating each employee in the effort of risk management, evaluate efficiency of risk management program and monitoring regularly. It can then be concluded that the Ethiopian cargo and logistics service use in moderate extent the risk components in the practice of risk management. However, the study also found out that in the practice of controlling, communicating and monitoring risk employees were not trained and their role and responsibility were not communicated to them in the effort of risk management. By setting control and by reviewing regularly Ethiopian cargo and logistics service can evaluate risk management practice maintained this in return will help for decision making to continue as it is or to take corrective action. Risk monitoring safeguards that risk standard and limit are compiled as intended and any deviation is duly approved.

5.2. Conclusion

Based on the study findings, it is concluded that the Ethiopian cargo and logistics service has moderate risk management practice. Risk-related objective was developed by senior manager and approved by board members this lead to a well risk identification and communication of risk tolerance. However, the risk identification practice does not include all employees and workshop have not been conducted this lead the Ethiopian cargo and logistics service not to perform risk identification in effective manner.

In regard to risk assessment practice risk treated based on their loss and probability of occurrence and also evaluated in terms of qualitative and quantitative value. However, the risk assessment practice does not include at risk as a risk measure this lead the Ethiopian cargo and logistics service not to benefit from using of it.

The final conclusion of this indicate risk control, communication and monitoring, the Ethiopian cargo and logistics service carried out regular review, document risk management program, support practice of risk management and place control mechanism.

The overall indication of the study points out most of the component of risk management practice are in moderate extent this indicate most of the respondent are in neutral agreement which shows they are not sure on the practice of risk management and the Ethiopian cargo and logistics service need to give due attention and awareness about the practice of risk management.

5.3. Recommendation

- Regarding to the objective setting and risk identification: Ethiopian cargo and logistics service sated risk-related objective and practice risk identification with respect to regulatory requirement. However, there is need for improvement in the risk identification and management should ensure that involvement of all level employees in the practice of risk identification and conduction of workshop to identify risk.

- Regarding to the risk response practice: Ethiopian cargo and logistics service effectively practice risk response with respect to regulatory requirement. However, there is need for improvement in the risk reduction practice the Ethiopian cargo and

logistics service should grant training to their customer in doing so they will reduce loss caused by negligence.

- Regarding to the risk control, communication and monitoring practice: Ethiopian cargo and logistics service practice risk control, communication and monitoring with respect to regulatory requirement. However, there is need for improvement in the conduction of training to employee and communication of role and responsibility in the effort of risk management. The Ethiopian cargo and logistics service should give training to its employees regarding risk policies so as to enable them to acquire knowledge required to execute their duties.

- Regarding to the risk communication, although risk management is the responsibility of all staff at all levels, there must be an explicit allocation of risk management responsibility to ensure employee accountability for risk practice.

5.4. Suggestion for further studies

The researcher suggests the following areas for further studies: Assess Risk Management Practice by using different frameworks and also Assess Risk Management Practice by considering every unit of department.

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ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

Dear Participant:

My name is Serkalem Tefera, I am a postgraduate student at Addis Ababa University school of business and economics and I am conducting a study on ***"Assessment of Risk Management in Air Freight Handling Process: The case of Ethiopian Cargo and Logistics service".*** The intent of this questionnaire is to explore information regarding the ***"Assessment of Risk Management in Air Freight Handling Process: The case of Ethiopian Cargo and Logistics service at Addis Ababa airport"*** and to conduct research for the partial fulfillment of Masters of quality Managment. The questionnaires are distributed to the Ethiopian cargo and logistics. Hence, I kindly request you to fill the questionnaire genuinely your honest and genuine participation by responding to the questions is highly appreciated. Your answers are completely confidential.

Thank you in advance for your support and participation.

General Instruction

- Please do not write your name or address on the questionnaire.
- Please put a tick mark (√) in the appropriate box of your answer
- Contact address: if you have any question please contact through the following address

TEL:
+251923388729
Email: SerkalemTF@ethiopianairlines.com

With best regards

Questionnaire

<u>Part 1:</u> General information filled by Cargo and logistics employees

1. **Gender**
   - I. Female ☐
   - II. Male ☐
2. **Age**
   - I. 20-25 Years ☐
   - II. 26-35 Years ☐
   - III. 36-40 Years ☐
   - IV. 41-54 years ☐
   - V. 55 and above ☐
3. **How long have you been working in this Company?**
   - I. Less than 3 years ☐
   - II. 3-5 years ☐
   - III. 5-8 years ☐
   - IV. More than 8 years ☐
4. **Education Level**
   - I. Grade 12 & below ☐
   - II. Diploma holder ☐
   - III. Bachelor ‘s degree holder ☐
   - IV. Maters ☐
   - V. PhD ☐

Part 2: Please indicate your level of agreement (whether you agree or disagree) with each statement using the scale below as a guide: put (√) on your selection.

1= strongly Disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly Agree

	Objective Setting and Risk Identification	(1)	(2)	(3)	(4)	(5)
1	Ethiopian cargo and logistics risk-related objective are developed by Board and Senior Manager	☐	☐	☐	☐	☐
2	Ethiopian cargo and logistics risk capacity of the cargo clearly communicated to the employees.	☐	☐	☐	☐	☐
3	The Ethiopian cargo and logistics risk tolerance of the cargo clearly communicated to the employees.	☐	☐	☐	☐	☐
4	Ethiopian cargo and logistics risk identification is done by managers.	☐	☐	☐	☐	☐
5	Ethiopian cargo and logistics risk identification involve all level of staff.	☐	☐	☐	☐	☐
6	Ethiopian cargo and logistics roles and responsibilities for risk identification are clearly defined.	☐	☐	☐	☐	☐
7	The Ethiopian cargo and logistics managers are aware of the risks inherent in the organization.	☐	☐	☐	☐	☐
8	The Ethiopian cargo and logistics panel discussion have been conducted to identify risk.	☐	☐	☐	☐	☐
	Risk Assessment					
1	Ethiopian cargo and logistics risks are evaluated with assumptions and uncertainties being clearly considered.	☐	☐	☐	☐	☐
2	Ethiopian cargo and logistics risk is evaluated in terms of both quantitative and qualitative value.	☐	☐	☐	☐	☐
3	Ethiopian cargo and logistics measurement of the quantities in which risk assessment is concerned potential loss and probability of occurrence is carried out by the company	☐	☐	☐	☐	☐
4	The Ethiopian cargo and logistics treated differently from one with a low potential loss and a high likelihood of occurring.	☐	☐	☐	☐	☐
5	The Ethiopian cargo and logistics level of risk control is appropriate for the risks that it faces.	☐	☐	☐	☐	☐

6	The Ethiopian cargo and logistics develops action plans for implementing decisions and management plans for identified risks.	☐	☐	☐	☐	☐
7	The Ethiopian cargo and logistics training policies encourage formal training in risk management.	☐	☐	☐	☐	☐
	Risk Response					
1	The Ethiopian cargo and logistics avoids risk by insuring different types of risks.	☐	☐	☐	☐	☐
2	The Ethiopian cargo and logistics train insured parties to reduce risk.	☐	☐	☐	☐	☐
3	The Ethiopian cargo and logistics has a mechanism for transferring certain risks.	☐	☐	☐	☐	☐
4	The Ethiopian cargo and logistics management regularly reviews the organization performance in managing its business risk.	☐	☐	☐	☐	☐
5	The Ethiopian cargo and logistics risk management procedures and processes are documented and provide guidance to staff about managing risk.	☐	☐	☐	☐	☐
6	The Ethiopian cargo and logistics emphasizes the recruitment of highly qualified people having knowledge in risk management.	☐	☐	☐	☐	☐
	Risk Control, Information and Communication and Risk Monitoring					
1	Ethiopian cargo and logistics risk management program is well documented.	☐	☐	☐	☐	☐
2	Ethiopian cargo and logistics risk management efforts are supported by senior management.	☐	☐	☐	☐	☐
3	Ethiopian cargo and logistics employees are properly trained on risk management policies of the firm.	☐	☐	☐	☐	☐
4	The Ethiopian cargo and logistics roles and responsibilities of each employee in the risk management efforts of the firm are well communicated to them.	☐	☐	☐	☐	☐
5	Ethiopian cargo and logistics controls are in place to evaluate the efficiency of the risk management program.	☐	☐	☐	☐	☐
6	Ethiopian cargo and logistics regular reviews of risk management efforts and reporting to senior management.	☐	☐	☐	☐	☐

7	The Ethiopian cargo and logistics has internally developed risk management procedures.	☐	☐	☐	☐	☐
8	Ethiopian cargo and logistics monitoring the effectiveness of risk management is an integral part of routine management reporting.	☐	☐	☐	☐	☐
	Air Freight Handling Processes Practice					
1	The Ethiopian cargo and logistics considers the risk significance handling strategy.	☐	☐	☐	☐	☐
2	The Ethiopian cargo and logistics considers the risk tolerance handling strategy.	☐	☐	☐	☐	☐
3	The Ethiopian cargo and logistics considers the resource availability handling strategy.	☐	☐	☐	☐	☐
4	The Ethiopian cargo and logistics considers the cost and benefit comparisons handling strategy.	☐	☐	☐	☐	☐
5	The Ethiopian cargo and logistics considers the handling strategy.	☐	☐	☐	☐	☐
6	The Ethiopian cargo and logistics considers the enterprise objectives handling strategy.	☐	☐	☐	☐	☐
7	The Ethiopian cargo and logistics considers avoiding/excluding activity.	☐	☐	☐	☐	☐
8	The Ethiopian cargo and logistics considers enhance controls.	☐	☐	☐	☐	☐
9	The Ethiopian cargo and logistics considers undertake business process improvement.	☐	☐	☐	☐	☐

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF MANAGEMENT

Dear Participant:

I would like to express my deep appreciation for your generous time, honest and prompt responses. This questions of interview are designed to collect data about the ***"Assessment of Risk Management in Air Freight Handling Process a case of Ethiopian Cargo and Logistics at Addis Ababa airport".*** The information that you offer me with this interview used as a primary data in my case study which I am conducting as a partial fulfillment of the requirements for the degree of Masters of quality Managment. I want to assure you that this research is only for academic purpose authorized by the Addis Ababa university. No other person could access the collected data in any sort of report, but, I can not include any information that will make it possible to identify any respondent.

Serkalem Tefera

For any case contact me +251923388729

Structured Interview checklist

1. What was/is the main reason of the Ethiopian aviation to require Cargo to prepare their own Risk Management Program?
2. What is the role of Risk Management Program regarding the identification, assessment and response of Cargo risks?
3. Whom you think should undertake the responsibility of overseeing the risk management unit of the Cargo?
4. Can you tell us the best practice that undertake the risk management function properly?
5. How do you evaluate that the Cargo and logistics are managing their risks properly?