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Abstract

Sweden is an eco-modernist society where environmental, social and economic growth support each other. It is an industrialized country where the trade via road has tremendously increased. Road freight is a fundamental issue of sustainability because it is environmentally, socially and economically very challenging to move the product from the origin to end user. In addition to road freight, all components of logistics system are necessary to take into account in order to move the product from the origin to consumer. All logistics components have environmental, social and economic impact because there is a relationship between sustainability and organizational activities. In this dissertation, by using inductive approach, it has been analyzed that how the logistics organizations in Sweden are dealing with sustainability issues.

The practices of the companies related to environmental sustainability and social sustainability are effective, technically feasible and economically viable. Organizations are working on the behalf of their sustainable integrated business plan that is simultaneously valuable for the environment, people and for the company itself in terms of profitability. For the firms, sustainable integrated business plan means that their strategies to earn profit reflect the environmental and social sustainability as well. The both environmental and social strategies are actually the regulators of the value chain of the organization with a vision to get profitability. These strategies engender the proficiency and competency into the company to remain profitable and competitive in the market. Doing business in a way that the society and the environment would not be harmed is actually economically beneficial for the organization because it actually helps the organization in reducing its cost. Each pillar of sustainability is important to sustain another pillar. Economic sustainability is important to improve environmental and social sustainability however, environmental and social sustainability are the key to achieve economic sustainability. Above all, it has been found that economic sustainability is not only dependent upon environment and society but also on the target market, business trend and other measures. Some futuristic concerns of the organizations regarding sustainability have also been found and all organizations are determinant to achieve more sustainability on the basis of those futuristic concerns.

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Abbreviations

ADR: International Carriage of Dangerous Goods by Road

AEO: Authorized Economic Operator

B2B: Business to Business

B2C: Business to Consumer

CEN: Committee of European Norms

CMR: Convention on the Contract for the International Carriage of Goods by Road

CPC: Certification of Professional Competencies

CO²: Carbon Dioxide

FSC: Forest Stewardship Council

FTI: Forpacknings & Tidning Insamlingen

GHG: Greenhouse Gas

GPS: Global Positioning System

HACCP: Hazard Analysis & Critical Control Points

HVO: Hydrotreated Vegetable Oil

IFS: International Featured Standards

ISO: International Organization for Standardization

IUCN: International Union for Conservation of Nature

LED: light emitting diode

PEFC: Programme for the Endorsement of Forest Certification

SC: Supply Chain

SQAS: Safety & Quality Assessment for Sustainability

SSCM: Sustainable Supply Chain Management

UNCTAD: United Nations Conference on Trade and Development

YKB: Yrkeskompetensbevis (Professional Certificate)

1. Introduction

This chapter clears the sense of the reader about research topic and scope of the study. It creates the sense by explaining the importance of sustainability to Sweden, the role of logistics in sustainable supply chain management. Moreover, on the basis of the background of the study and problem discussion, this chapter respectively clarify the purpose of the study.

1.1 Background

Sweden is one of the pioneers and ecologically modernized countries in the world. Among all countries around the world, Sweden has taken many initiatives and developed many policies for the environment. Moreover, this country has achieved social sustainability by decreasing social segregation problems and as well as achieved economic sustainability by decreasing unemployment rates and poverty. This eco modernization has been achieved through the implementation of ecofriendly policies. For sustainable development, Sweden has confronted many economic challenges and always faced the pressure of social welfare system. It is eco modernist society where environmental, social and economic growth support each other. This country officially develops the policies according to the concept of eco modernization (Lidskog et al., 2012).

On the other hand, after study on the environmental management, the importance of sustainable supply chain management (SSCM) has increased in last decade (Corbett et al., 2003). For a single product, supply chain is very complicated and thus achieving sustainability in each part of the supply chain is also complex (Ageron et al., 2012). The complexity of supply chain has been tremendously increased. It is the effect of globalization (Hutchins, 2008). And due to the effect of globalization container transport is increasing. According to the World Shipping (2011), in 1990, worldwide the number of containers which have transported were 28.7 million while in 2010 the numbers were 153 million. And consequently, the environmental impact has also increase due the container transport. In transport sector, the level of the CO₂ emission has increased (EEA, 2019). According to the Skinner et al (2010) without solid measurements and policies, the CO₂ emission level in 2050 in Europe would be 74% higher than the emission level was in 1990 and 25% higher than the emission level in 2010. Due to the growing trend in supply chain such as online deliveries and shorter lead time, the carbon emission level is increasing (Piecyk et al., 2010). So, it is necessary to bear in mind, this increasing level of carbon emission in directly connected with the freight transport, forwarders and distributors (McKinnon, 2014).

Due to the increasing complexity of supply chain, the trend of sustainability and the development in sustainability has also emerged because the people have become very conscious about their wellbeing (Hutchins, 2008). According to Mentzer et al (2001), supply chain management is a strategic coordination in which the information is systematically flowed among functions of one business and among multiple businesses. The purpose of information sharing in a firm is to improve the business and to improve the supply chain as a whole. On the other hand, scholars

like Croxton et al (2001) explained that the purpose of the management of supply chain is to integrate the processes of business from suppliers to the end users and this integration creates value to the stakeholders as well as to customers. Shrivastava (1995) says that these processes and activities are linked with the sustainability which is a fundamental issue. The solution of this issue must be the integral part of the organization and its effectiveness.

Traditionally, the organization's focus is to reduce the cost and to maximize the profit through increased sales but with the growing issues of limited resources, climate change, CO2 emissions, and growing concerns about people's health have pushed the organizations to integrate the sustainability into their business plan and strategies (Lee, 2010). In the past decade, the importance of sustainability has increased in businesses around the world when states and governments has started to take initiatives. Issues related to the carbon emissions and related to the limited resources forced the organizations to dissolve their previous functional strategies and forced to implement the sustainable integrated plan and strategies into their business functions (Ageron et al., 2012). Other than states instructions to companies, people are very literate and conscious about the good environment and about healthy lifestyle. The freedom of media and with the revolution in internet, the activities of each organization are not hidden. Unsustainable practices can damage the value of the organization and its brand which can impact on the stakeholders. With the growing concerns of people, media and states about sustainability, the expectations and demand of investors has also increased to add sustainability into business's strategies. Organizations must be careful that operations do not harm the community and the environment (Prokesch, 2010).

The importance of the sustainability in supply chain can be indicated and figure out with the large body of literature that shows the relative issues. Sustainability in supply chain requires to broad the strategies of supply chain management but it is not an easy task to deal with the systematic issues related to sustainability because supply chain not only consider the product at one level instead it focuses the product form the process of material use to the delivery of end user (Linton et al.,2007). Different people work in a single supply chain of a product. Among these people and managers, some are responsible for the logistics, some are dealing in marketing and sales while some are responsible for strategic planning and information flow (Sarkis, 1998). These managers are very conscious and understand the importance of their decisions that can impact the people, investors and environment positively and negatively (Murphy et al., 2003). If the decision has a negative impact, then it is considered unsustainable. Therefore, incorporating the sustainability into business strategies is a creative task and every organization strives to learn that how they could be valuable more than their competitors (Gold et al., 2011). The inter-relationship and interaction between supply chain and sustainability is very complex which has proved from organizations' strivings (Corbett et al., 2003).

Although according to the Seuring et al (2008) the relationship between supply chain and sustainability has been highly focused in literature but the logistics, logistics components and their role in sustainability have not been considered too much in literature. To move the product

from the origin to end user, the management of logistics activities are required (Bin et al., 2005). Since, logistics impact the environment and sustainability, it is a key area to study thoroughly and to explore the opportunities that could help to achieve the consistent sustainability in this sector. Within supply chain I focused my attention on the area of Logistics and its important components. The components of logistics such as Transport, inventory management, warehousing, order processing, packaging, customer services, procurement and IT system and additionally the reverse logistics are considered to study. In each logistics components, issues related to sustainability have been figured out. In this research the Swedish Logistics firms have been chosen to study because Sweden is a country that has taken many initiatives related to sustainability in every field of business. There is a detailed discussion related to these initiatives have been explored in the background and in research problem of this dissertation. I have discussed not only the strategies of the logistics organizations but the way of implementation of those strategies have also been explored in this research. The study gives the opportunities to logistics managers to understand the importance of sustainability in each logistics component.

In the first part of the thesis, the importance of the research area which is based on the purpose of the study and research problem have been clarified. In the second part, a detailed literature which is based on the scholarly articles, written blogs, newspapers and published books. Theoretical framework has been classified by describing the importance of sustainability, sustainability pillars, interrelationship of logistics and supply chain management, interrelationship of sustainability in logistics, interrelationship of sustainability and components of logistics which are the key areas of this research. The data from the organizations have been collected on the basis of these logistics components. Such components are, transport, inventory control, order processing, warehousing, information system, customer services, packaging and procurement. In transport section, I specifically focused on the road transport and do not consider the other modes of the transport such as rail, air and ship. Additionally, the area of reverse logistics has also been considered to study because reverse logistics has a major effect upon logistics operations and sustainability. These effects have been explained thoroughly in theoretical framework. Moreover, the connection among environmental, economic and social sustainability has also been explained. In the third part, the analysis of the key findings has been described thoroughly. Respectively, in the last and fourth part, a conclusion has been drawn based on the findings and analysis. The research gap and limitation of the research have also been explained in this part.

1.2 Problem Discussion

According to (Rundcrantz, 2007) the road network in Europe is growing very fast but the problems related to environment are also growing. The other problems such as transport safety, congestion, resources depletion and pollution are impacting the society (Rassafi et al., 2006). In Sweden, from 2000 to 2011, the transport assignment remained stable, but the total numbers of freight vehicles increased by 46% while the vehicles kilometers increased by 39% (Sika, 2009). The numbers of vans below 3.5 tons increased higher than the heavy vehicles. From a social

perspective, this increasing numbers are so far not satisfactory and cause the major environmental and social problems (Olsson et al., 2014).

The entire logistics system is based on specific activities which are carried out from obtaining raw material to distribute the finished goods of right quantities to the right place at the right time (Markley et al., 2007). According to the Ballou (2004), these activities can be extended such as source of raw material, production, distribution and reverse logistics. Transport is one of the logistics components where Sweden has done a lot to provide better environment to their people. According to Månsson et al (2014), in Sweden the demand of biogas has increased with the increasing activities of logistics. But on the other hand, the issue of climate change is also concerning for the country. The demand has been increased for the scarce resources of biogas in Sweden in last 10 years. On the other hand, scholars like Borjesson et al (2014) also highlighted the importance of biofuel on the behalf the Swedish sustainability vision of 2050. It has predicted that for road transport, the demand of biofuels will be increased by 6% annually during 2010 to 2020. In that case, according to this prediction, until 2050 this demand would be increased 78% if it increases 6% annually.

Due to the unsustainable performance of the organizations, environmental problems arise which cause the society in terms of un-healthy lifestyle and climate change issues. People and government both are confronting with unsustainable activities. Due to unsustainable activities of the organizations the life on the earth is in danger. For example, water is filtered before consumption, fish is not consumable where rivers are important economically, smog cause by traffic in urban areas. Moreover, global warming, dangerous wastes, acid rain, scarcity of natural resources and ozone depletion are the exemplary problems that are caused by unsustainable operations (Kroon et al., 1995). The trucks consume more fuel than rail and this consumption is so far two times higher than rail. The benefits and problems of road transport go parallel. The benefits and problems are inequitable. Due to the factor of traffic congestion, the road transport is not efficient. It can cause the severe disabilities and major deaths which are the major social problems. The quality of life due the environmental impact can be damaged. The road transport is dependent upon the natural resources which can be scarce in near future (Litman, 2003). According to (Thambiran et al., 2011) the road transport is majorly contributing in air pollution and increasing the level of greenhouse gas emission and the influence can be counteracting in measurement to control to these issues.

From unsustainable strategies the image of the company can be damaged. The freight transport is a risk to society for example, a truck driver drives two major social risks with him. First, there are the chances that he himself be killed or disabled if an accident comes into being. Second, he may kill others or can cause the disabilities of others. For instance, pedestrians, cyclists and other road users may come under mishap (Persson et al., 1995). Moreover, for example, in 1999 the Nike faced the consumer boycotts when the unethical treatment with employees have been exposed. The image of the company damaged, and the company brand value dropped from 8 billion dollars to 7.6 billion dollars (Preuss, 2001). According to the (Pepper et al., 2009) the

conscious consumers pay more intentions on the firms' activities and claim for sustainable measures such as transparency and accountability.

It is a fact that unsustainable code of conducts can utilize the resources excessively such as gas and oil. According to (Pescatori et al., 2008) due to the misuse of the natural resources such as gas and oil can increase the prices and because of this fact the logistics and transportation cost can also be increased.

1.3 Purpose and Research Question

Due to the globalization, the competition is tough among logistics organizations to reach the sales target and profit. In that case, organizations always seek to implement the strategies which are in favor of generating profit for business. Since, in Sweden the volume of road freight is increasing day by day therefore, activities in logistics are getting more and more importance from the people and from the companies in supply chain as well. Logistics activities play an important role in sustainable supply chain operations (Mollenkopf et al., 2010). For example, if a firm invests to improve the efficiency of delivery truck tyres, it will improve the performance and it can be considered a sustainable step in logistics operations. Sustainable strategy is necessary for the goods which demand special storage such as energy-intensive storage because only sustainable strategies can reduce the level of energy in warehouse, and travel time with proper loading. Moreover, to manage the warehouse operations, sustainable strategies are necessary to take into account because in supply chain network, it is very hard for companies to manage distribution and warehousing (Tan et al., 2009). Since, the logistics system of the supply chain has massive impact on the sustainable supply chain management (Elhedhli et al., 2012), the study of logistics is necessary for the success of whole supply chain. For example, according to the Klevas (2005), the packaging of the product has a massive impact on logistics operations of supply chain. Scholars like Bowersox et al (1999) say, due to unsustainable packaging all the logistics activities can be affected.

In addition, according to the (Molina et al., 2009), there is a positive relationship between organization activities and sustainability. On the behalf of this fact, organizations must be realistic in their activities and should implement the sustainable strategies. On the other hand, according to (Landy et al., 1990), without the support of corporations, government programs and policies cannot mitigate the environmental impact and cannot meet the sustainable target. And for Sweden, the vision and target of 2050 is to reduce 80% carbon emission. So, it is necessary that organizations must contribute their efforts in order to mitigate ecological problems. Therefore, it is necessary to analyze the strategies and role of organizations in dealing with sustainable problems (Shrivastava, 1995). To corporations, the sustainability must be integrated concern that they should integrate environmental and social issues in their strategies (Srivastava, 2007). In order to understand the concerns of logistics companies towards sustainability, we need to better understand the strategies of the logistics companies. Furthermore, by specifically

targeting the freight forwarders and distributors the collective study of environmental, social and economic sustainability with all components of the logistics system is missing in the literature. This dissertation will make the contribution in the literature and will support the further researches in the field of logistics and sustainability.

In order to answer the following research question, the purpose of this study *is to determine, how logistics organizations in Sweden are environmentally, socially and economically sustainable.*

The following research question has been developed in connection to this study:

“In what ways do logistics organizations in Sweden achieve environmental, social and economic sustainability?”

2. Theoretical Framework

This chapter has been designed to get the supporting literature. The findings and analyses have based upon this chapter. It provides the existing concepts and models for the research. It clarifies the concept of environmental, social and economic sustainability and their relationship in the field of logistics. More specifically, it clarifies the role of each component of the logistics system in sustainability.

2.1 Sustainability

Today it is an alarming situation to the world due to the damage and losses of natural resources. Sustainability is defined by theories and models that develop interactions between natural and social system and by identifying practical problems. It is an integrating research of natural, social, biological and engineering sciences. Sustainability science reacts to the identified problems of sustainability through knowledge (Kates, 2001). It builds the understanding of human environment in which people strive to meet their needs while, making sure the safety of life support system of the planet. These objectives such as societal need and sustainable planet require the dialogue between decision makers and science (Turner et al, 2003).

The first major contribution towards sustainable development was by Brundtland report in 1987 which was followed by the International Union for Conservation of Nature (IUCN) World Conservation Strategy in 1980 (Kates, 2001). According to Brundtland (1987) sustainability comprises the protection of natural resources and environment by making sure to provide the economic and social welfare to present generations and respective generations. Sustainability sciences increasingly identifying the global environmental change and addressing the consequences of this change which is taking place in biosphere. Such changes raising the questions that what or who is vulnerable behind these environmental changes and where? How the consequences of these changes impact on people and environment? What are the important measurements that should be taken to reduce these changes and their consequences (Turner et al. 2003)?

For the development of economic, society and environment the United Nations has adopted the sustainable development as guiding principles. These guiding principles ensure the fulfillment of the needs of the existing people and as well as ensure the natural resources for the needs of the future generations. Moreover, it makes sure the equal sharing of the benefits of economic development and the equal sharing of environmental costs between and within the countries. These principles are ethically and socially acceptable. For a contemporary society, sustainability is considered as major normative regulation principle. These principles make sure the long-term ethical relationship between present and future generations (Laws et al., 2004). According to Bettencourt et al (2011) the concept of sustainable development has achieved greater success from the very first day because it has become an integral and important part of policies of corporations and governments.

In sustainability, one of the major challenges is to ensure the Brundtland (1987) definition operational. It is necessary to use this definition for guiding the decisions. In that case one of the alternative definitions that includes this issue is suggested by Hutchins (2008). He says, there is a need to design the operation of human and industrial system that makes sure that cycle of using natural resources by human will not impact the quality of life, will not finish the economic opportunities for future generations, will not impact the social conditions, environment and people' health. These statements indicate that in order to judge the efficiency of decisions related to sustainability there is a need to develop measures of performance.

2.1.1 Three Pillars of Sustainability

According to Szeto et al (2015) sustainability has three pillars which are also called dimensions. Such are environmental dimension, social dimension and economic dimension. The overall sustainability is based upon these three pillars (Goodland, 1995).

2.1.1.1 Environmental Sustainability

The stress related to environmental sustainability is emerging from the human activities of using natural resources in order to transform into goods or services that are required by society. It has clearly seen that the little use of the quantity of energy and material can result the least environmental impacts. Such observation has been measured in all stages and sectors such as in transport, in mining, in manufacturing sectors and in final consumptions (Bernardini et al, 1993).

Environmental sustainability refers to maintain and sustain the human life systems or life support systems. Protecting human life is a most important objective and element of environmental sustainability and which is anthropocentric. The most important necessities of human upon which the human life is dependent are food, quality air for breathing, shelter, waste absorption, plants and other life support services (Goodland, 1995).

According to Morelli (2011) environmental sustainability is referred to meet the resources and services that are needed to meet the need of present and future generations while taking care of the ecosystem. Moreover, it is necessary to keep the balance between the resources and the needs. The condition of resilience is also implied where society fulfills its need but without exceeding the capacity in order to protect the resources which are necessary to fulfill those needs and not on the behalf of our negative actions which are not compatible for biological diversity.

To make sure the environmental sustainability the ISO 14000 series of standards are followed by private and public sectors. To set the technical standards for industry the ISO standards were established in 1946. The main objective was to facilitate international trade by ensuring the compatibility of goods. It resulted the large efficiency in technical specification. These standards have supported the effort of organizations towards environmental sustainability and offered the guidelines to organizations to consider environmental aspects in all of their operations. The members of the ISO have developed the environmental management system (EMS) in their operations as official international standards. Thus, for organizations the ISO 14000 series of

standards are very important because of their impact on other private industry. Governments and countries appreciate these types of industry efforts to improve the environmental quality. The positive results of these standards have been seen in the developing countries that losing their voice on environmental issues. These standards do not create much differences of environmental quality in developing countries. Moreover, transfer of clean technologies and clean production between developing and industrialized countries are not required by the standards (Clapp, 1998).

2.1.1.2 Social Sustainability

Social dimension is a recent and emerging concept and it is very important to identify all the important aspects related to it. Social sustainability is about the traditions, preferences and practices. People like to see these aspects maintained, sustained and improved. These practices support the quality of life of the people, living spaces of the people, social networks of the people and leisure opportunities of the people. Thus, social sustainability indicates towards the ways that support the cultural preferences and social characteristics are sustained over time. And this sustainability comes through the positive attitude, positive habits, through actions against unsustainable activities such as shortage of resources, through technological influence, immigration, opportunities, employment and through other forces (Vallance et al., 2011). Moreover, it is a concern about wellbeing of people in noneconomic form of wealth (Choi et al., 2011).

The problem of sustainability is to balance the need of society and human with the support of nature's capacity and other concerns related to ecosystem (Choi et al., 2011). Therefore, due to the various scandals of businesses, due to public distrust towards organizations' activities and because of growing expectations of public with organizations for social wellbeing, the social sustainability has become more apparent (Mohr et al., 2005). Social sustainability refers to the sustainable city where people by their selves want to live. According to Burton et al (2003) the sustainability in city comes with support of local residents.

Social sustainability is essential because it contributes to make the sense of environment in which people adopt or resist the measures that are imposed on the bio physical environment. Because it happens sometimes, what is good for the environment is also good for the people. And with the relative support of institutions, all the changes are easy to adopt. But on the other hand, it also happens sometimes, what is good for the environment is not good in the favor of people. Or which is good for environment sometimes clashes with the habits and preferences of people which are important for them and not easily be changed (Vallance et al., 2011).

Organizations also acknowledge the concept of social sustainability and its importance. There is a strong connection between social sustainability and corporate social sustainability. The definition of Brundtland (1987) is widely accepted but rigorous definitions of social sustainability and CSR which differentiate these two concepts have not been found in literature. Lots of definitions CSR that comprise the ethical behavior towards environment, society and

economy (Hutchins, 2008). According to Carroll (1991) CSR is somewhat conducting a business in a way which is adapted with the values of the society and which is not a requirement of law.

2.1.1.3 Economic Sustainability

Since 1945, the politics has been dominated by the growth in economic. Environmental concerns are always parallel with growth objective, but they were introduced later (Schneider et al., 2010). The economic pillar of sustainability must be the active concern and common practice by decisions makers (Hutchins, 2008). In economics there are many theories which counters each other. It shows the complexity of economics science which is very tricky. Economics science is about that how to achieve and allocate the scarce resources to meet the human needs. The ways and strategies to achieve that resources are differently described by economists. All economists rarely agree with one another. In that case, economic sustainability is described by Doane et al (2001) as a process. A process which makes sure the allocation and protection of scarce resources. Moreover, this process must make sure the positive social and environmental outcomes.

According to Sheth et al (2011) the economic sustainability is relying upon two distinct aspects. One is ‘cost reduction’ and other is ‘economic interests of the people’ for example the continues improvement in income and in standard of living. Moreover, it is about the financial performance of the company and its relationship to the community. On the other hand, according to Doane et al (2001) there are two approaches to achieve economic sustainability. First approach is about the strategies to deal with internal issues and second is about the firm’s economic impacts on society. In that case, economic sustainability is about to look internal and external issues of sustainability. Therefore, economic sustainability must make sure the financial performance of the company, efficient way of managing intangible assets, positive influence on the society, economy and environment. Scholars like Barbier et al (1990) described that economic sustainability is about economic efficiency and equal distribution of income. In that case, the compensation is required by present generation to ensure the wellbeing of future generation.

According to Choi et al (2011) around the world, the economic sustainability got the attention after the financial crisis of 2008 when Wall Street financial institutions collapsed. People and consumers are deeply concerned with economic sustainability. Their concerns are related to job losses, financial risk to government and their concerns are related to insecurity as well. Economic sustainability is necessary to maintain the permanent income of the people which is possible through the non-declining financial stocks. According to this perception, constant numbers of people, social capital, man-made capital are necessary for sustainable development (Pearce et al., 1993). Man-made capital is dependent upon the ‘market’ which is the most important motivator. Positive collective opinions around the globe has been generated about the importance of market for the financial success or profit of the company (Doane et al., 2001).

2.1.2 Relationship Among Three Pillars of Sustainability

Sustainability is an integrative concept which has developed by the integration of its three dimensions such as environment, social and economic. These three aspects are accounted as pillars of sustainability. These pillars reflect that there is a need of development and to achieve development there is need of responsible consideration. This responsible consideration must be towards the natural resources, human and economic aspects such as profit (Elkington et al., 1997). In the case of sustainable transport, the definitions may vary but there are some aspects which are common, and all are agreeing. For example, green and environmentally transport, inclusive transport for the social point of view and efficient and competitive transport form the dimension of economic (UNCTAD, 2019). Thus, interrelationship among these three dimensions are necessary for sustainability and we must connect these three pillars in industrialized nations in order to get sustainability. But this is very complicated because in order to achieve the balance among these three pillars it is necessary to figure out that how the actions of the people effect the environment how their actions effect the future generations. Thus, there is a need to develop understanding through knowledge and awareness about sustainable development (Hutchins, 2008).

Different interests and preferences of different people create the conflict within single pillar of sustainability, and it is very complicated to balance their interests. According to Hadorn (1999) sustainability involves many different values which are not directly related to each other and because of this fact sustainability is criticized. Such values are beauty of landscape, health, biodiversity, equity, profit, cultural values, costs, etc. On the other hand, according to Foladori (2005) different fields of life for example, human geography, psychology, environmental sociology and socioecological studies are connected with each other. The connection of these various disciplines is to make sure the better bridges among human and better and sustainable environment. And the goal of sustainable environment by Hobson (2003) is to promote environmental ethics and to promote eco-friendly behavior. Forrest et al (2003) has described that in order to achieve environmental sustainability the support of social conditions is necessary. Scholar like Demeritt (2002) says that environment is socially constructed. According to all these facts, the environment is considered a barrier in human progress. Or simply, for social sustainability the life support system which has linked with environmental sustainability is important (Goodland, 1995).

Change is considered very necessary for the human life while sustainability is considered a driver of change. Lots of sustainability program and environment friendly proposals has disrupted the established values, traditions and behavior of people. Consequently, people are afraid and resist to these kinds of changes that drive them far away from their values, traditions or preferred way of living. But by knowing these kinds of implications and reasons it is necessary to achieve the goal of sustainable environment because the goal of sustainability is to make sure the improvement and preserving the environment and because our survival is dependent upon that environment (Vallance et al., 2011). Assefa et al (2007) argued that social

acceptance is necessary to develop and implement environmental policies and it must not be odd for the people (Scott et al., 2000). For example, the strategy of car parking fees is designed to promote the public transport, but people park their cars at the nearest mall where parking is free. Thus, the functioning of society must be an essential concern (Burton, 2000a).

On the other hand, Scholars like Doane et al (2001) described, economic sustainability is based upon environmental and social policies. Good environmental management saves money to organization. Strategies related to social sustainability ensure that a business will be sustained for a long time. Implementing various programs and social activities for the betterment of workers and community ensure the benefits to the bottom line of the company. Choi et al (2011) investigated the influence of the price on consumer response. They investigated the consumers' purchasing intention on the behalf of environmental and economic dimensions. They analyzed that consumers prefer sustainability. Consumers prefer to purchase the services of the company which is more environmentally sustainable. Moreover, they analyzed that consumers respond negatively to purchase the services of the company whose sustainability commitment is low. Comparatively, consumers first consider the caring of environment than economic dimension of a company. Consumers do not prefer the low prices if they found the company's poor commitment towards environmental sustainability.

2.2 Interrelationship of Logistics and Supply Chain Management

Logistics is referred to manage the flows between the company, suppliers and customers. It is viewed with in one company while supply chain management includes the logistical flows, production processes, order management and the flow of information which is necessary to carry out all the activities in supply chain (Lummus et al., 2001). Logistics is known as a supply chain enabler. Logistics system is considered to connect the source of supply with the source of demand. It fulfills the gaps between demand and supply. When this gap becomes larger, there arises a need of integrated system to counter this problem. Here, supply chain management is an integrated system or integrated process that bridge the gap between supply and demand. Because, supply chain system tries to figure out the demand of target customers and plan and execute the logistics services accordingly. Logistics carry out physical activities which are integrated in supply chain process. And It is not possible to integrate the supply chain without logistics operations because supply chain management require the support of logistics to meet the demand of customers. Cost reduction and customer satisfaction are relying upon the logistics system. And it is only possible through efficient inventory management, warehousing, material handling and transportation. To deal with the changing attitude of customers supply chain and logistics both are dependent on each other. They cannot be separated because they are part of the customer service solution. The success of supply chain is depending upon the logistics system (Sople, 2012). According to the Cooper et al (1993) the emergence of the term supply chain management in logistics literature as a management of inventory approach. Logistics is a key

function in supply chain process. Logistics managers play an important role by providing knowledge to design the integrated supply chain.

2.3 Sustainability and Logistics

The word ‘logistics’ was first time used in 17th century by French army. It was referred to move the army and supplies. During the second world war logistics has gained much importance but now a days, this term is used in businesses to move the inventory from source of origin to source of consumption. It is information based and planning process (Sople, 2012). On the other hand, according to Gudmundsson et al (1996) the sustainable logistics refers to the movement of inventory in a way which is not harmful for the environment, people and economy. The movement of goods must be environmentally, socially and economically sustainable. In supply chain process, the sustainability can be implemented in all operations of logistics (Pagell et al., 2009). These operations are critical in different scenario to different organizations and contribute in the cost of logistics. Such operations are also called logistics components for example, transport, inventory management, order processing, packaging, warehousing, reverse logistics, purchasing and information system. These functions are important on the behalf of their nature but may not be significant to every organizations (Ballou, 2004).

2.4 Components of Logistics system

Since, Logistics play a key role to bridge the gaps between market demand and source of supply, and to accomplish these tasks there are some components that are connected with each other and develop the logistics system. Such components are warehousing, transportation, inventory management, information sharing, order processing, customer services, procurement and packaging. These components work together to deliver the right product to right customer at right time at right place.

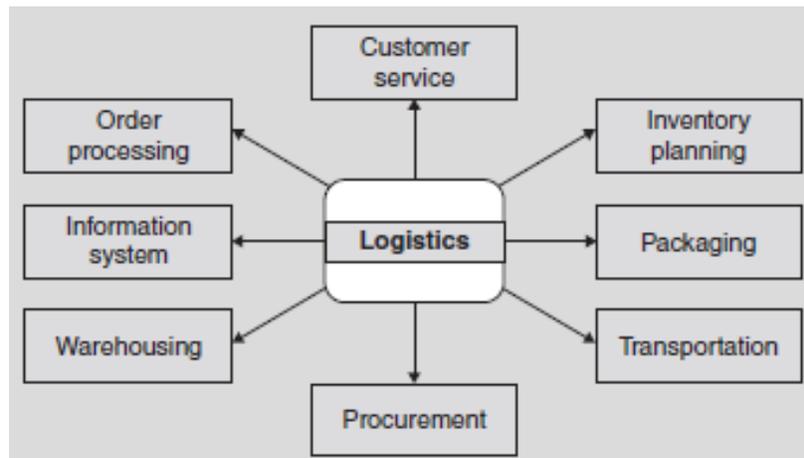


Figure 1: Components of Logistics System (Sople, 2012)

The implementation of sustainable strategies and techniques within these logistics components make the supply chain more sustainable and efficient. The sustainable strategies and techniques have a positive effect over environment, people and economy.

2.4.1 Sustainability and Transport

At various global forums the sustainable transport is considered as a development objective. These global forums are, 1992 Earth Summit, UNCTAD XIII, United Nations Conference on Sustainable Development and United Nations General Assembly resolution. Moreover, sustainable transport is a major concern for countries and in order to recognize the importance of sustainable transport and to provide suggestions and recommendations on sustainable transport at all level the United Nations Secretary-General High-level Advisory Group on Sustainable Transport has been established (UNCTAD, 2019).

The heart of logistics is transportation. It makes the movement of inventory from supplier to customer possible. The physical movement of goods is possible through transportation. There are various modes of transportation such as air, rail and road transport (Sople, 2012). There is no specific definition to sustainable transportation, but it is necessary to think that the movement of goods must have least impact on environment, must be efficient and effective and equitable by socially and by economically to its users and it must promote economic development. There are some facts which are connected with transportation which must not be ignored for example, the movement of billions of goods ever day requires large amount of fossil fuels. During transportation these fossil fuels burn and cause the emission of CO₂ which is harmful for the environment and to the people as well. The sustainable transport in this regard, must be environmentally integrated, safe, must promote economic development and it must provide the effective and equitable access to people (Jeon et al., 2005). To ensure the least impact on environment and on people the logistics managers must make sure the development and implementation of strategies accordingly. A country that considers the sustainable challenges seriously is refer to sensitive economy. It makes sure the efficiency for both its citizens and its industry. So, towards sustainability the role of transportation activities in logistics is to make sure the safety, easy accessibility and efficient energy consumption (Olsson et al., 2014).

As transport sector plays a major role towards sustainability (Chesneau et al., 2012) and on the other hand, it contributes in production cost 21% in industrialized countries (Anderson et al., 2004). According to Berg et al (2017) the transport sector that is highly dependent on fossil fuel vehicles is likely the cause of climate problems and as well the cause of social and economic problems. All the firms have equal share in these problems because globally, the transport sector accounts for 25% of CO₂ emissions and in Europe it accounts 21% and consume 70% of fossil fuels (Anderson et al., 2004). Regardless of knowing these problems, according to Fenton et al (2015) it is very difficult to implement the sustainable strategies in transport sector. According to Chesneau et al (2012) the reduction of GHG emission in transport must not ignore the fact that it must be remaining competitive in market as well.

Reducing the level of CO₂ is always complex and challenging in transport sector. Throughout the supply chain the transport is more challenging because identifying the liability of carbon emissions to each organization is complex. To achieve the long-term sustainability in transport, it is necessary to figure out the dramatic changes in connection with climate change (Roth et al., 2002). To reduce the carbon emissions, firms use the intermodal transport such as air, ship, rail and road (Winebrake et al., 2008). And it is necessary to consider a detailed examination of all impacts of transport at every level and in each scenario. Decision makers should figure out the best solutions for the reduction of GHG emissions on the behalf of the socio-economic and environmental information throughout the supply chain and at reasonable cost (Chesneau et al. 2012). Similarly, scholars and researchers such as Jeon et al (2006) instruct the logistics practitioners to meet the issues of sustainability that arise from transport sector. In their research they describe that throughout the transport system the sustainability is a major issue in terms of people health, worse air quality and congested highway. Keeping these issues in mind, it is necessary to provide the equitable access to people at reasonable cost and to take environmentally friendly initiatives in transport sector around the world.

In that case, transportation system requires significant changes. One other fact, it has been argued that transport sector is not an ordinary economic sector. It is undoubtedly and fascinating economic sector but complicated. These complications cannot be finished only by changing vehicles designs however, until and unless the way of dealing with problems will not be changed by logistics managers (Litman, 2003). But in this scenario, for different logistics practitioners the problems are different which are the constraints for sustainable development. Around the world, the organizations have started using indicator system to measure sustainability which is one of the best solutions (Jeon et al. 2006). After knowing about these all growing issues, to achieve sustainability, there is need of efficient, equitable, environmentally friendly and sensitive transport. To deal with interrelated and indirect impacts, there is need of comprehensive decision making. It is necessary to rethink and to redevelop the strategies to achieve sustainability in transport (Litman, 2003). And it is necessary to keep this in mind that transport is connected with socio-economic and the relationship between income and transport is obvious (Preston, 2001).

2.4.1.1 Sustainability and Freight Transport

In order to make sure the coherence and complementarities the sustainable freight transport should balance the dimensions of sustainability in an integrated manner. These dimensions of sustainability are, economic, social and environmental. Sustainable freight system comprises the safe transportation which must be socially inclusive, affordable, accessible, reliable, environmentally friendly and fuel-efficient which ensures the least carbon emissions and resilient to vulnerabilities which are caused by natural disasters (UNCTAD, 2019).

In GHG emissions, the portion of freight transport is very large, and it is not efficient as it should be. The freight transport is an area that must be addressed by all logistics practitioners involved. In Europe this area has gained much importance and grown rapidly in last decade. It is considered for trade activities, retaining services, development of lifestyle of people and for the

competitiveness of the region. To reduce the societal, environmental and negative impacts, the measures such as better terminal handling, proper planning of distribution through routes and proper vehicle utilization through loading techniques are necessary to take into account (Lindholm, 2012). But according to Dablanc (2011) this sector is heterogeneous. For different actors the problems are different, and they demand different requirements. If the optimization of activities of each firm is according to the optimization of transport capacity, the results would be more efficient (Olsson et al., 2014).

According to the Hall et al (2006) the interrelationship of people, economic, movement of goods and social development is must stronger than ever. In last decades the reducing cost of oil, growing infrastructure for transport, falling transportation cost and innovative technologies have changed the role of freight transport in trading but economically, these improvements were considered very effective. On the other hand, Forkenbrock (1999) describe, from a societal perspective, it is necessary to pay full social cost. In freight trucking, it is estimated four types of external costs. These costs such as accidents in which injuries, property damage and fatalities come, emissions in which GHG and air pollution come, unrecovered costs in which public facilities, operations and maintenance come, and noise cost. Logistics organizations likely to purchase insurance for accidents which covers the compensation of people injury, if a person kills, and compensation for property damage. In order to understand the complications and to achieve sustainability, it is not sufficient only to understand the vehicle movements but there is need to understand the factors that influence them and the nature of the goods which is going to be transported (Lindholm, 2012).

2.4.2 Inventory Management

The efficient inventory management throughout the supply chain is dependent on the efficient logistics management. There are two opposite ways to control the flow of inventory. First, making sure to have an enough stock to meet the customer need. Second, keep the stock in hand at minimum cost. It is a sustainable way of managing inventory by making sure the demand of market and to make the arrangements to keep the inventory at minimum cost (Sople, 2012). In cost effective management of inventory in different locations of warehouses, the logistics managers play an important role. Managers should implement cost effective strategies because there is cost which is associated with inventory on hand. These cost-effective strategies such as reducing the number of items, reducing manufacturing lead time, demand forecasting, just in time approach, improving supplier reliability and reducing supplier lead time (Ballou, 2004). These strategies have impact on company's carbon footprint as well. The sufficient inventory on hand requires smaller facilities such as less energy in terms of heating, cooling and workforce (Franchetti et al., 2009). Similarly, if the company manage its inventory in a way to send it to intermodal terminals, storage cost and lead time would be reduced. Because of these intermodal techniques, the environmental impact per ton mile would be reduced instead of relying totally on road transport (Dekker et al., 2009).

2.4.3 Warehousing

Warehousing is not only a place of keeping inventory, but it provides the switching facility in logistics system. Inefficient management of warehousing can cause the late delivery. Number of warehouses, their locations, size, design and layout matter a lot in successful and sustainable logistics system (Sople, 2012). Logistics managers all around the world striving to seek the ways to minimize the energy cost which logistics buildings are consuming. Such energy cost is utility expense. One way to reduce this cost is by using the natural lights such as larger windows and skylights because it saves utility expenses and employees appreciated it as well. On time maintenance and cost-effective replacement are also considered sustainable ways. For example, with growing innovative technology the replacement of normal bulb to LED lights and sensor lights.

2.4.4 Order Processing

The activities in order processing are:

- Checking the order against the agreed terms and conditions
- Price negotiation
- Check out the availability of stocks
- Production or replenish the shelves
- Acknowledge the order

In the large organizations where orders are received in thousands per day, a manual process of handling the order cannot be considered a sustainable way or can cause the time delay (Sople, 2012).

2.4.5 Information System

Through-out the supply chain, one of the important logistics components is ‘information system’. with proper flow of information, the movement of goods and efficient inventory management is possible. For the purpose to improve the accuracy of information and communication, logistics firms consider efficient information system among their suppliers (Dey et al., 2011). According to Fugate et al (2009) the empty trucks and vehicles can be re-routed to replenishment which is cost effective and have least environmental impact. Generally, companies use the information for an internal perspective, but it is argued that in order to improve the sustainability efforts the efficient flow of information throughout the supply chain is necessary. For a sustainable perspective, sharing knowledge throughout the supply chain is considered an effective strategy. Moreover, the utilization of knowledge in an integral way is helpful to reduce the negative effects of transport and logistics activities in supply chain (Evangelista et al., 2015).

2.4.6 Packaging

Packaging play an important role in protecting the goods and it saves the storage space as well (Sople, 2012). According to Fugate et al (2009) one of the best ways to reduce the carbon footprint is by making sure the efficient utilization of space. For logistics managers it is an

opportunity to get sustainability economically and environmentally (Routroy, 2009). According to Boch (2010) it is a good way if a company update its packaging technique in eco-friendly manner because it results in building customer loyalty. Experts and managers have declared in the research of Twede et al (2007) the packaging play an important role in the utilization of pallets and the selection of pallets is a key component of sustainable packaging. They also argued that managers should use the substitutes of wooden pallets such as plastic pallets.

2.4.7 Customer Service

It is a universal concept and most of the companies have their customer service department. Organizations that strives to become profitable, make sure the quality services to their customers. Good customer services increase the customer loyalty that results in boosting the revenue. For sustainable organizations, customer service is an essential component. To sustainable profit growth in an organization, customer service is a key contributor. In today's volatile competitive market, an organization barely think about losing its customers. If a customer turns his back to any business there are very rare chances that he will be back again because there many alternative options available for him in the market (Chowdhury, 2014). Because of loyal customers, good businesses become great. Loyalty of the customers make sure they will retain with the company over the years. And to achieve this loyalty there is a need to give good customer services. Customer Services retain customers and give competitive advantage which directly increase the profitability or economic sustainability. Moreover, it also helps to achieve the social sustainability because it gives the confidence to employees. When customers praise the business and its services, it boosts the morale of employees (Bhasin, 2018). Social sustainability is a way of identifying and managing the business impacts on employees, customers and communities. It is about understanding the corporation's impact on people (Adec Innovation, 2019).

2.4.8 Procurement

Purchasing or procurement is considered as a lever for sustainable development. This concept has emerged with the objectives of sustainability. It also involves in balancing economic, social and environmental sustainability (Walker et al., 2009). According to Kilby (2008) outsourcing or purchasing of logistics operations is considered an effective strategy of the organizations to achieve sustainability. Organizations have increasingly turned towards third party logistics to remain sustainable and to maintain the standard of the corporation.

2.4.9 Reverse Logistics

Reverse Logistics is a logistical activity which impacts the business. Most often, manufacturers do not think about the damaged products which are mostly found in the water and on the road that cause the environmental issues and effect the living creatures badly. Not only the damaged products or wrong delivered products but handling of 'packaging waste' also comes under reverse logistics (Sople, 2012). Because of the large existing literature of reverse logistics, the attention of bot practitioners and researchers is mounting (Gonzalez-Torre et al., 2010). In starting, the reverse logistics has used as reverse direction from end user to supplier but later on,

researcher identified its impact on environment (Chakraborty, 2010). According to Dowlatshahi (2010) in order to understand the impacts as well as benefits for supply chain the researchers have considered both aspects of sustainability such as economic and environmental. Moreover, studies are also going on to understand the barriers to implement the reverse logistics. According to Sarkis et al (2010) there is a relationship between reverse logistics and social responsibility which is largely ignored in literature.

Recycling and disposal of damaged products, expired goods and wastes of packaging material have largely impact on environment which is not found in traditional logistics system and in forward distribution. Considering the reverse logistics into logistics system can be the sustainable strategy to reduce the environmental, social and economic impacts (Carter, 1998). Reverse logistics has other names such as reverse distribution, green logistics and sustainable end of life cycle. To achieve the environmental, economic, marketing and competitive improvements, supply chain feels the need to adopt the reverse logistics as a logistics activity (Shankar et al., 2008). There are three motivations that agitate the firms to include the reverse logistics into their operations such as economic value of a used product, government legislation and customer satisfaction. To implement reverse logistics there are multiple drivers (Meade et al., 2007). But according to Rogers (2001) the implementation is extremely difficult because there are many barriers to the firms and the advantages are less. For instance, for a single firm, if forward logistics and forward distribution activities are carrying out from the multiple years and in that case if that incorporate reverse logistics into the existing logistics system, it would be inefficient and costly at the same time for that firm. All the firms must redesign their logistics operations to include the reverse logistics. To implement reverse logistics, the managers must reconsider the functions such as collection, sorting, testing and reprocessing.

3. Methodology

The chapter contains the information about the research methodology in which the related research philosophy, the research type, research design, research approach and respectively, data collection method and data analysis techniques have been discussed. Moreover, the ethical considerations have also been discussed in this chapter.

3.1 Research Philosophy

The ‘nature’ of this dissertation is following the relativism of ontologies. Ontology has been described by Easterby-Smith et al (2015) as ‘philosophical assumptions about nature of reality.’ Since, this study may infer different perceptions by different observers that result multiple truths, it indicates towards the ontological approach of relativism.

Whereas, the ‘ways’ to inquire this study is following the social constructionism of epistemology. Epistemology has been described by Easterby-Smith et al (2015) as ‘the ways of inquiring into the nature of the world’. Since, this study is not objective, socially constructed and the interactions of the people are involved, it indicates towards the epistemological approach of social constructionism.

3.2 Research Design

To write the thesis or the research, the ‘research design’ is a main thing that need to be made (Easterby-Smith et al., 2015). In order to get the maximum findings, the combination of ‘archival research’ and ‘multiple case study method’ have been considered. The archival research has been described by the Easterby-Smith et al (2015) as to review the data which is already existed. This data directly belongs to the events or organizations about which the research is conducted. The sustainability reports of the organizations have been reviewed which draw the attention towards archival research. In addition, the interviews with logistics organizations have been also considered which draw the attention towards multiple case study method.

3.3 Research Approach

The study has carried out by “inductive approach”. Inductive reasoning starts with the general observation of the world. It begins with the topic and respectively the identification of the relationship (Neuman, 2003). In this dissertation, I put the light on the determination of Swedish state regarding sustainability and respectively developed the relationship by defining the concerns of logistics organization regarding sustainability. On the behalf of literature, it has been observed, that to achieve the ‘sustainability targets’ the organizations and country both are interdependent. Moreover, the relationship between logistics and sustainability has also been explored in this study. Inductive approach is called ‘bottom up’ approach in which researcher

observes to build an abstraction or to explain the phenomenon which is being studied (Lodico et al., 2010). In this research, it has been analyzed the ways determined by the logistics organizations in Sweden to achieve sustainability.

3.4 Research Type

It is a qualitative research with exploratory study. According to Saunders et al (2009), with exploratory study researcher can be flexible, may carry out the changes in the study over time. In addition, the purpose of the study can be changed from the broad perspective to narrow perspective in exploratory study. Furthermore, exploratory study does not allow the researcher to provide conclusive evidence rather, it only develops a better understanding of the problem (Saunders et al., 2012). Similarly, the research purpose and the research question of this dissertation have been designed in the same context. It is about to understand that how logistics organization in Sweden achieve sustainability and what are their concerns which are under-consideration regarding sustainability. The way they implement their strategies to gain sustainability has been explored in this dissertation. Possibly, the more and other understandings and results can be drawn with the help of this dissertation which is possible by exploratory study.

3.5 Data Collection

Primary Data has been generated from the 8 logistics companies such as freight forwarders and distributors in Sweden. Face-to-face semi structured interviews have been conducted and the sustainability reports of the organizations have been reviewed. Within sustainability reports, only general information has been found such as organization calculate or does not calculate the carbon emissions, they are reducing the environmental impacts or not reducing, etc. However, the semi structured interviews have been conducted to gain more information for example, how they calculate the carbon emissions and they are reducing the environmental and social impacts etc. The semi structured interview is also known as non-standardized interview in which a specific problem is examined thoroughly (Tenenbaum et al., 2005). According to Saunders et al (2009), semi-structured interview allows the researcher to add or remove the questions if necessary. The purpose of this dissertation and the characteristics of semi-structured interviews go parallel. All the interviews were 60 to 90 minutes long and the questions were open ended. The interviewees have been contacted through friends' references and through web search. In both cases, an initial email has been sent to the interviewees with reference or without reference, with research topic and research purpose. The communication has been matured further with their response towards initial email.

On the other hand, in order to gain the insight into sustainability and into logistics, scholarly articles have been studied thoroughly. Moreover, written blogs, newspapers, magazines and published books have also been explored. With the help of the scholarly articles and with other resources, logistics components such as freight transport, inventory management, warehousing,

order processing, packaging, information system, customer services and procurement have been studied. In transport section, only the role of road transport in which vans, cars, trucks and fleets are used by companies are highlighted. I specifically focused on the road transport and did not consider the other modes of transport such as rail, air and ship. Additionally, the area of Reverse logistics has also been considered to study because reverse logistics has a major effect upon logistics operations and sustainability. These effects have been explained thoroughly in theoretical framework. With the help of scholarly articles, the relationship between sustainability and logistics components has been explored in theoretical framework. For this purpose, 'google scholars' database has selected.

3.6 Data Analysis Technique

The analysis of the data that has been collected from the sustainability reports of organizations and from the interviews has based on the 'content analysis technique'. This technique has been defined by Easterby-Smith et al (2015). In that case, themes of environmental sustainability, social sustainability and economic sustainability have been developed which were based on the coding. Some general coding was e.g. CO2 calculation, vehicle maintenance, drivers' trainings, food and other allowances, donation, waste management, customer services, contract review, IT system, energy efficient assets and vehicle replacement, etc. At the end, the conclusion, gap and the limitation of this research have been described based upon the analysis.

3.7 Ethical Consideration

No individual has been affected either psychologically or physically during interviews. Before the interview meetings, an authentication letter with written purpose of the interview and research has been send to interviewees as per their demand. During interviews the respondents have been asked to speak freely.

The privacy of the respondents and of the company has been ensured in the research. The collection of the data has been kept confidential and did not share to anyone. Names of the companies have not been disclosed in order to make sure the secrecy. However, the companies' type on the behalf of its work, size, total number of employees, the geographical area, its turnover and all other important details have been figured out. The names of the companies have been defined as company 'A', 'B' and so on.

The following table representing as ‘Table 1’ is summarizing the important aspects of the methodology.

Methodology	
Data Collection	8 Logistics Organization in Sweden
Types of Companies	Freight Forwarders and Distributors
Geographical Locations of the Companies	Southern and Eastern Sweden
Interview Type	Semi Structured Interviews
Interviewees	Logistics Manager, Operations Manager
Questions type	Open-ended Questions
Other Sources of Data Collection	Blogs, Sustainability Reports of the Organizations, Magazines, Newspapers, Published Books

Table 1: Summary of the Research Methodology

4. Findings

This chapter illustrates the empirical findings of the research which is based upon the methodology. To analyze that how logistics organizations in Sweden are dealing with sustainability issues, the following data has been collected from eight logistics organizations on the basis of their logistics components.

4.1 Company A

Company 'A' offers logistics and transport services globally. It has 1000 offices and warehouses with 47000 employees and the company operates in 75 countries of six continents around the world. It provides thousands of logistics solutions daily. It deals in both B2B and B2C business. Apart of road freight, the company operates and offers complete solutions to customers, suppliers and to the whole logistics chain all over the world. In 2018 it has 5.8 billion SEK sales. The company is certified by ISO 9001 and ISO 14001.

On the behalf of 'transport data system' the company measures its carbon footprint on daily basis. Company has a fleet board and every day this board gets this data systematically. This data belongs to every single vehicle which is on the road. Total payload, total Kilometers, transit time of each delivery is considered for the calculation of the carbon emissions. Total stops the driver takes, how many routes the fleet has taken in a single day and total fuel consumption by the fleet. If the company find any inefficiency which impact the social and environmental sustainability, decisions are taken with the help of this data. This system helps to reduce the carbon footprint. Moreover, in order to minimize the carbon emissions, company considers the HVO 100 gas which has a least CO₂ emission. This gas is other than normal diesel and petrol. Moreover, this gas helps to reduce 90% CO₂ and less exhaust fumes emission. These are compatible in cold weather condition. In 2018, the company has successfully reduced 40% emissions. 95% vehicles fleet now has Euro 5 engines. In addition, the company follows a specific strategy of loading and unloading of pallets which is also helpful in reducing carbon emissions. More weight means more fuel consumption and more fuel consumption mean more CO₂. After every three years the company replace the old fleet with new ones and with new and innovative technology. This is one of the important areas and important part of the sustainable strategy. Currently, the company does not have any hybrid or electric vehicle but it's a vision of 2025. To improve transportation safety, every single morning, inspection of each vehicle is considered first by drivers and report is send directly to the logistics department. After careful consideration of tyres and its air pressure, oil level, brakes, etc. by logistics department, driver is allowed to drive. The company injects 'ultra-seal' into the tyres. It improves the road safety and prevent from punctures. It is also useful to maintain the air pressure in tyres which is good in reducing the fuel consumption and environmental impact. Speed regulator have been installed in 60% of fleets. Every driver has to pass the 'YKB driving course' before joining the company. And to drive dangerous goods from one place to another, driver must have 'ADR driving license'. Company does not offer any driving training or course internally. But the company has set the standards of driving on the

behalf of YKB and ADR. To reduce the environmental impact, the company has a 'Eplan' software which has designed for the route specification. With the help of Eplan drivers do not feel stress and drive smoothly. After every 4 hours, drivers take rest for 30 minutes.

The company has a specific transport method which has less environmental impact. On the behalf of fuel management, less stops and preplanning of all the deliveries in a day are set to considered which help to judge the environmental impact. The company consolidate all the consignments and deliveries and plan a route to avoid more stops and to avoid coming again and again on the same place and route. All the orders are received and organized electronically. To small packages, drivers pick up from the suppliers and bring it to the relative terminals where all the packages are sorted city wise. Each pallet belongs to one location or one city after sorting. These all sorted pallets which belong to one location are loaded in one truck for delivery. On the way back, driver pick up the goods from the suppliers and bring it to the relative terminal. Whereas, for bulk transport, drivers pick up from the suppliers and directly deliver it to the customer. The company also handles the reverse logistics which is not a big problem due to its dispersed logistics network. With the proper information sharing system among partner companies, the company preplans for the reverse logistics which does not carry extra cost and extra fuel consumption. Normally, drivers deliver the goods as a daily task on a specific route but with proper planning and with the help of information sharing drivers contact the customers who live on the way of a that route to receive the goods which customers claim. This strategy is cost effective, get the customer satisfaction and does not influence the environment because of no extra fuel consumption. To achieve the full sustainable transparency of the supply chain, the company is connected systematically with its supplier with the help of 'My Company' software. This digitally designed system helps the companies that are connected with the supply chain to share information. Sharing information about loading and packaging of pallets in a proper way results the least environmental impact.

To manage a flow of inventory the company has a proper scanning system which is called 'Mobility Scanning'. Scanning has done with specific devices, but the company does not rely only scanning devices, scanning can be done with the help of smart phone. At the time when driver reaches to customer, he scans the goods with smart phone and gets the receiving from customers electronically. The company does not use paper or invoices which indicates the company's effort towards sustainability. Only goods which are considered dangerous have written details and specifications. Police and customs are often said the detail of dangerous goods on paper. With the proper replenish and cross docking system, inventory is kept in the warehouse only for few hours. On every single point from first place to end place, each package is scanned with 'Mobility scanning system'.

Apart of the infrastructure and operation of the warehouse and terminal, they are equipped with sensor lights which turn on in the presence of someone otherwise they remain shut down. Sensor lights help to consume the least energy. There is a proper glass ventilator system with least environmental impact. The company always considers innovative technology for terminal and

warehouse operations and for transport purpose as well. The company is very careful about noise pollution. In every warehouse a proper system has installed which report about noise of sorting machine. This system has a standard of average, above average and low average to control the noise. If system reports above average and low average, it indicates some problems in sorting machine. The company follows the safety standards of Sweden and every employee before starting the work gets the safety instructions. These two days instructions take couple of hours and are given to every single employee who intends to join the company. Moreover, the company uses the electric forklifts for loading and unloading. In terminals, there are specific routes to drive forklifts.

All the goods received form the suppliers are already packed. But at the time of sorting and arranging the pallets, the company utilize the plastic sheet. The wastes of plastic sheet are sent to recycling. The company has a contract with one of the companies that specializes in recycling. It pays extra money for recycling in order to clean the environment.

Apart of its social sustainability, the company always open the doors to employees to get new opportunities. The company offers training and courses if any employee wishes to be promoted. Every year, each employee gets 2% increment in his/her salary and wages. Employees have equal rights, obligations and opportunities regardless of gender identity, age, sexual orientation, ethnicity, belief and disabilities. Gender equality and diversity helps to create a good social work environment. In addition, company provides the allowances to employees for the extracurricular activities such as gym, swimming etc. All the employees are insured for their health and injury during working hours. To maintain the positive corporate image the company measures the quality of services. It gets the feedback from the customers and suppliers which is called 'KPI' reporting. On the behalf of this reporting system, company mange the behavior of customers and suppliers. Within cities, company delivers the order in day lights in order to avoid noise pollution for the people. Moreover, company arranges the food for 14,000 school children daily. For refugees, it always strives to create the job for them.

In order to remain competitive in the market, it reviews the contracts with customers every year. To remain sustainable and profitable, the company has carried out many changes in transport rather than other components of logistics. For the company, it is difficult to sustain the compatible drivers. In road freight, environment friendly vehicles and compatible drivers are the key components for the company. the company has a plan to consider the electric and hybrid trucks in order to reduce the carbon footprint in future.

4.2 Company B

Company 'B' is a worldwide distributor of workplace supplies solutions. Its nature of work is business to business. It is operating in 42 countries of 4 continents with 9,000 employees. It possesses 1700 vans which are used to distribute the goods to customers. Its service rate is 99.3%. In year 2018, company has a turnover of 2.2 billion Euro. Sustainable development is the

logical continuation of its long-term consideration for Quality Environment, Health & Safety matters. The company outsourced the services from subcontractors as well. 50% deliveries are taken by subcontractors and other 50% by the company itself.

The company is certified by the ISO 14064 as a guideline to build the Carbon Footprint Calculator. To reduce the environmental impact, company implements the strategy named 'Eco Future' which was built in 2012. This strategy is based on 'green products, CO2 emission and waste recycling'. In the company a special team has the charge to measure the carbon footprint. A template is given to all subsidiaries for the purpose to collect data. This data further helps to develop the strategy to reduce carbon footprint. The carbon footprints are measured by total payload and its impact on CO2. 70% of old vehicles have been replaced from hybrid vehicles. Respectively, 30% would be replaced in next couple of years. In 2017, the company has successfully reduced 22.93% CO2 in freight as compare to 2010 base line. The carbon calculation is based upon the company's digital system in which all the data is stored during the year. In this system, the details of all deliveries, its weight, transit time, total miles are stored day by day. This data is further used to calculate the total carbon emissions.

In order to ensure the road safety, every driver gets the instructions before starting to work. The company has its own professional trainers who instruct the drivers. Moreover, company also outsource the professional trainers time to time. These trainers give guidelines about eco driving and pay extra intention on reducing the risk of accidents. Drivers follow the route specifications by company's own 'route app'. This smart phone application helps the driver for route optimization. Drivers are allowed to have 30 minutes break every after 4 hours. In 9 hours shift, every driver takes one-hour break. In addition, in every vehicle, the speed regulator is installed which force the drivers to drive in a speed limit. All the vehicles are inspected every day before going to the road.

To reduce the environmental impact, the company process the orders and deliveries on the behalf of the preplan strategy. If customers demand early orders or when there is no schedule of delivery, the company charges the extra amount as 'environmental fee' from customers. This strategy helps the company to drive less and once and customers themselves do not resist or demand early or later. Customers are allowed to get a free return in one month If product is not in perfect condition. The company always reach to the customer if the driver is near to the customer's location otherwise, to reduce the CO2 impact, company compensate the customer's claim in next order. Receiving from the customers are taken by the smart phone app which avoids the use of paper. Transaction among the company, customers and suppliers are driven electronically. Paper is used as per demand because less consumption of paper helps to control the environmental impact.

The company has 11000 articles with its own number on the shelves. The weight of every article is measured and placed on the shelves accordingly. The flow of inventory is managed by systematically. Demand forecasting and replenishment of inventory are processed by system. the

company has adjusted the system to indicate to reorder if inventory reaches at specific level. Moreover, at the time outbound of logistics, system shows the clear the indication that which article would go first and from which shelf. In addition, company has a strategy to control the inventory at time of delivery of the goods. The same indications are shown at the time of inbound of logistics as well. Before delivery, three different people check the articles on the behalf of the information provided by the customers. To reduce the energy cost, warehouse is equipped with lights which keep the warehouse warm in the cold weather condition. As compare to LED or sensor lights, these lights save the maximum amount which could be used to keep the warehouse warm. But if there is no work at any part of the warehouse, lights are switched off manually. Moreover, warehouse has a good ventilator system. From a safety perspective, company conduct 4 to 5 meetings in a year. Every week a clear inspection of warehouse is executed to check the safety measures. Employees are encouraged to disclose the facts if they counter anything harmful. Company has a clear record of all mishap and investigated all the reasons behind them.

In order to make sure the sustainable way of using scarce resources, company follows specific packaging strategies. They use the card boxes which can be used multiple times. More than 50% of deliveries are send to customers as received from supplier which save the huge amount of cardboard. In a year around 100,000 boxes are used which are useful for around 1.5 million packaging. The company successfully reduced 8% boxes material because one box is used for multiple times. It is following this strategy from last three years. This strategy is good for the environment and as well as for the company economically because one box costs 5 SEK and in one-year company saves 300,000 SEK. In addition, each supplier follows the sustainable packaging strategy. If a product is labeled with tree symbol, this means that the product has environmental benefits. If a product is labeled with the FSC® logo, this means that the product supports sustainable forestry and is certified according to the FSC rules. If a product is labeled with the PEFC logo, this means that the product contributes to the work with sustainable forestry through third party certification.

The company has a proper bonus system for employees on the behalf of their performance. Employees get extra 9 SEK in their wages if they do least mistakes at the time of delivery of the goods. Moreover, employees get 2% increment in their wages annually. The company encourages the female employees to work and keeps the balance of gender equality. 90% employees think they are properly trained and satisfied. Company pays 96 SEK every day to every driver for their food. Other allowances are also paid by the company for gym, swimming etc. as per employee requirements. All the employees are insured for their health and injury during working hours. On the other hand, Customers are allowed to get a free return in one month If product is not in perfect condition. Every second year, company gets the feedback from customers to sustain the positive image of the company.

To be economically sustainable, the company check its tender procedure and specify the new prices and contracts with suppliers. To achieve maximum sustainability and profitability, the

characteristics of internal and external logistics activities are changed with the passage of time and according to the need. Order processing is a key component of the business. The company carefully process the orders to customers and avoid less mistakes of delivering wrong orders. For this case, the company puts its effort in sharing information and interaction among employees. Company is considering the best IT system which will be helpful to reduce the mistakes in ordering delivering. And to reduce the carbon emission, company is going to replace its remaining 30% vehicles with electric or hybrid in future.

4.3 Company C

Company 'C' is specialized in distribution that reaches quarter of a million people who are the customers, every day. The company is operating in southern part of the Sweden which covers Jonkoping region. Company reaches to their customers through morning newspapers. It distributes many newspapers and weekly magazines as well. Around 300 distributors work every night in which around 200 people reach to the customers by company's own cars and rest of the people access to the customers by electric bicycles. Around 700,000 newspapers are produced every week. Moreover, the company has recently taken an initiative to distribute parcels as well. Distribution activities are carried out 7 days in a week. Company is facing loss from last couple of Last year, company reaches at 'breakeven point'.

All the vans and cars are automatic and operated by normal petrol and diesel. The company prefers to use small cars and vans for distributions which have least environmental impact. Company does not have any specific strategy to measure carbon footprint due to its poor financial condition but on the other hand, company has a proper system to keep an eye on all drivers. The company is very conscious about traffic safety, vehicle maintenance and vehicle efficiency. In a company, one department is responsible that take cares of the vehicle maintenance from time to time. All the cars and vans are equipped with speed regulator which allows the drivers to reach maximum at 110 Km per hour. At 120 Km per hour, an alarm buzz in the vehicle which forces the driver to slow down. In addition, if driver forcefully press the gas or forcefully press the brake, alarm buzz in these situations as well. Moreover, every time the alarm buzz, every time it is automatically recorded in the system. But the company is not following any standard policy to replace the old cars with new cars. The company does not offer any special driving course to drivers but 2 to 4 days of training to make the person familiar with route. A new person who intends to join a company as a distributor, he or she can have 2 to 4 days of training in nights. During working hours, one distributor has to distribute around 150 to 500 newspapers daily. It means, driver stops the vehicle 150 to 500 times normally in 3 to 5 hours job. The company has its own navigation software which is named by 'Eniro'. It helps the distributors in new locations especially in country sides.

Every day, the company keeps the 2 newspapers of each type in its record. A proper place has been allotted to keep the inventory of newspapers. On the other hand, there is no inventory of

newspapers and parcels. Each day, company receives the newspapers and parcels from the suppliers which are directly distributed on the same day. All the newspapers waste and packaging materials go through the recycling process. In warehouse, company uses the electric forklifts. The lights and other operational assets are time scheduled which is connected from the security system.

The company works on team building strategy. In that case, all employees are connected and coordinate with each other. For example, employees in middle management are familiar with all the tasks of one another. So, employees do not take working stress, and all are available for each other. The company does not support the employees' activities such as gym, swimming etc. but all the employees are insured for their health and injury during working hours. Drivers are not allowed to take a break during working hours because it is only a 3 to 5 hours job. In a bad weather condition specially in winters, the situation become worst for the all the distributors especially the people who distribute by bicycle. All the bicycles are electric but other safety measures such as helmet and waterproof shoes are not offered by the company.

On the other hand, it is very common that a specific percentage of customers complaint that company receives every day. Sometimes, customers do not get the newspaper or get the newspaper late. In addition, it is very challenging to the company when landlords often change the lock and change the code of the doors. In that case, distributor does not enter into apartments to deliver newspaper. In this situation, company always compensate the customers by giving them the next day's newspaper free of cost. If a customer complains 15 days in 365 days of a year, the next year customer will pay for 350 days. Customers pay advance for the full year at once. A paper invoice is sent to the customers to pay for newspaper subscription. In order to respond to the customers' complaint company's customers service remains open from 7 o clock morning to 5 o clock evening in normal working days. On Saturday, it also remains open till noon.

The company is facing loss in distribution of the newspapers due to changing of trends of the market. It seeks the profit first rather than environmental and social sustainability. Order and delivery process and customer satisfaction are more important to the company to achieve the profitability because on time delivery is very challenging to the company. the company has a plan to discard the delivery of newspaper in near future because media industry is going to be digitalized soon in Sweden. For its own survival, the company has different plan and contracts for distribution other than newspaper with other suppliers.

4.4 Company D

In Sweden Company 'D' is specialized in delivering food to consumers who orders to restaurants. It is working with 900 restaurants in Sweden. People get their food on their doorstep. In every 1 hour, it gets more than 3000 online orders for home run and takeaway from restaurants in Sweden. The company is working in 22 cities of Sweden. Its yearly turnover is

around 412 thousand SEK. It has decreased his profit ratio as compare to last year. Delivery is processed by company's own 200 cars, 2000 bicycles. The company is having only 5 electric cars among 200 cars.

The company does not have any system or strategy to measure its carbon footprint. Moreover, the company does not have any policy to replace old vehicles with new ones. But on the other hand, in order to ensure the road safety every week vehicles efficiency is considered and checked by a detailed check list in which tyres, oil, brakes are other important things are considered. In addition to reduce the environmental impact, the company instructs the drivers about Eco driving. It is just a couple of minutes instructions when a new delivery person intends to join the company. These instructions include the traffic safety and are about the efficient fuel consumptions. The company designed smart phone application which guide the drivers about addresses. If the driver takes a wrong route, a notification is popped up which shows to driver that he is on wrong route. But there is no proper tool, strategy or code of conducts are considered by company to improve the traffic safety. Moreover, there is no specific system to keep an eye on drivers such as speed regulator etc. It is more often when orders are back which double the cost of fuel and wage. These mistakes are usually done by company when one order replaces with other order mistakenly. The company does not charge extra from the customers, but it has a huge impact on scarce resource, environment and company's economic sustainability.

All the orders are received through websites or smart phone app. Every restaurant and customer have their separate account which are connected with company's IT system. In order to have the food on the doorstep, customers order to restaurants through the website or through the smart phone app. Delivery persons have their account on the same smart phone app. When customers give order, one of the delivery persons receive the food from the relative restaurant and deliver to the customer's given address. Customers pay for the orders online via card and Paypal. Company always welcome the employees as delivery persons who have their own vehicles for delivery.

The company always look forward to getting the customer satisfaction by delivering the order on time but usually there are many issues that come from customers' side. Different customers have different tastes and food specifications. Mostly people order with extra demands and specifications such as mostly do not like souses, ketchup, or other things due to which they are allergic. In that cases, restaurant does not care about these things and pack the orders. Due to these mistakes, customers do not fully satisfy and always seek their money back. The company does not prefer these customers next time and block their user account from the phone app if the same customer orders again and again with extra demand. Moreover, at the time of receiving the orders, it is most often that customers are half and full naked. On the other hand, some issues between delivery persons and restaurants are seen most often. Employees in restaurants do not deal the delivery persons in a good way.

The company always take the problems and issues of employees on a serious note. Each employee has a medical insurance by the company in the case of road injury during working

hours. Moreover, company as well as takes care of the belongings of the other people by third party insurance. In recent times, company has replaced the material of the food preservation bags which are carried by delivery persons. The material and stuff of the bags has changed because it has been seen that when it wets due to the rain it becomes heavy which was very hard to carry on shoulders by bicycle delivery persons.

The company always strives to maximize the profit. Timely order processing is a key component in the value chain of the company to achieve customer satisfaction and to get profit. Most of the decisions are taken in the company are related to order processing. A large amount every month company pay back to customers in case of wrong orders and wrong delivery. Moreover, in big cities like Stockholm, traffic congestion problems and expensive parking fees are also challenging to the company. the company is deciding to deliver orders by electric bicycles in big cities in near future and replacing its old cars with new electric or hybrid cars. By implementing this plan, company will sustain the profit.

4.5 Company E

Company 'E' is specialized in offering complete logistics-specific solution. It has a smooth service chain from the suppliers to the consumers. It is dealing in both B2B and B2C and ensure the quality management of the flow of goods. It is consistently carrying out its activities in sustainable manners. It is operating in 44 countries with 399 locations worldwide. The company annual turnover is around 5.57 billion Euro. Total 30,609 employees are currently working. It does not own trucks and vehicles however it is working with various subcontractors. The company's own name, logo and color themes are printed on the trucks and containers as part of the contract with subcontractors. On the other hand, it has its own terminals and warehouses. The warehouse network has spread in 40 countries. Warehouse services are offered as part of 'contract logistics'. Warehouses are the central element for the company. It makes sure the space for over 2 million pallets in warehouses. The storage and management of both raw and finished goods are ensured as part of the contract logistics. Company is certified by ISO 9001, ISO/IEC 27001, IFS Logistics, DE-OKO-003 and SAQS.

The company is committed to sustainable policies and conscious about its responsibilities. It believes that these policies provide stability. Apart of environmental sustainability, it avoids unnecessary transport. Peak and low season situations are handled through flexible network management. For the analysis and calculation of CO2 emission level, there is an internal calculation model which is based on transport network. The calculation is based on the information of total kilometers and payload. CEN standard (16258) is followed for calculation. In Europe, it is a common methodology for the calculation and declaration of energy consumption and GHG emission. Moreover, to reduce the environmental impact company utilize the optimal route and direct the flow of goods through IT-assisted planning. A conscious monitoring and control are ensured through EURO class trucks which are gradually replaced

with new and innovative trucks after 5 to 6 years. Company is considering hybrid and electric trucks in 2020. To reduce the emission level and to reduce the energy consumption, vehicles maintenance such as tyres with low rolling resistance, brakes, oils and other things are ensured regularly. There is a largest training centers for drivers. The company is also focusing on logistics agent trainings and warehouses and terminals staff. Together with its subcontractors, company tackle all environmental issues regarding vehicles and drivers. Through a proper digital communication system, subcontractors share all the possible information.

To lower down the fuel consumption and to ensure the environmental and economic sustainability, company schedules all the deliveries and routes planning and to replenish the trucks. It rarely happens if a truck comes back empty. 1 out of 20 deliveries, a truck comes empty at terminals. It happens during B2C operation because the end users live in cities. It is challenging to replenish the trucks in that case because living areas are most often far away from industrialized areas. Moreover, in B2C there are the chances of revers logistics, but company scheduled all the deliveries and routes for not to utilize extra fueling and kilometers. Every time for every single delivery, sender makes the link between the receiver and us. Company charge the cost for every single delivery from sender. 90% of deliveries' receipts are handled digitally through handled devices. Company's information technology is preferred to use to avoid papers. In some cases, paper is used where paper is necessary to keep the record such as customs but FSC certified paper is used. 90% computers are energy efficient instead of personal computers.

Other than providing the transport solutions through its subcontractors, the company is offering customers standardized multi-user inventory solutions. Inventory is controlled by its own warehouse management system. Its warehouses ensure the integrated supply chain solutions for the distributions and procurement of goods. During in and out of the inventory in warehouses it is scanned 4 times with handled devices. It is kept in the warehouse only for few hours. Sorting of inventory is made sure by proper coding system. on every product, there is code which gives the information about city, targeted location of delivery. All the goods are sorted by proper scanning of their codes. And good are placed on the pallets on the behalf of code category. The inventory comes and goes in a same day. Security of goods are ensured by video surveillance. Cargo securing, temperature monitoring and hygiene practices are made sure to protect the inventory.

To avoid the damaging of goods during transport, trucks are used with double-deck loading. Special trainings to warehouse' employees about loading, unloading and for other logistics operations are given by the company on daily basis. Employees make sure to keep the right balance and use equal space while loading. For dangerous goods, specialized employees are always there to handle who make sure no leakage before loading and unloading. In addition, different warehouses are used to handle dangerous goods. To reduce the noise pollution and emissions, electric powered forklifts are used. To reduce the energy consumption, high frequency loading devices with long life batteries are used. Lithium ion technology is used for the charging purpose. There are special routes within the warehouses to drive forklifts. All

employees are asked to wear reflected yellow jacket and safety shoes. If a visitor come to warehouse, this yellow jacket is compulsory to wear for him. Other sustainable measures such as use of LED lights to save energy, proper ventilation system, cooling systems as well as geothermal energy for heating are ensured in warehouses. To avoid the loss of cooling of freezers the inflatable door seal is used. Warehouses are equipped with sensor lights. Outside lights of warehouses are time scheduled which are turn on and turn off automatically. Once a year, government officials visit to check all the safety standard however, company's internal audit team also visits all the warehouses and terminals to make sure the safety and environmental measures.

Well tested storage bags, assurance of seal with IDs also contribute in protection of inventory. To make the goods sustained on the pallets, plastic sheet is used. It is use for packaging or making a pallet. The company has the contract with Renova which is specialized in recycling the plastic. Company pays extra cost to recycle the plastic. Once a week, one of Renova employees come to pick-up the plastic and on every single visit company pays for it.

The company is very committed about its social responsibilities and take this seriously not only for employees as well as community around the globe. It works with aid agencies to support aid projects. Through its career management system, company offer the opportunities to employees to grow personally and professionally. In 2018, the company has invested 126 million Euro on personnel and other sustainable innovations such as logistics facilities, technical equipment, IT system, education and training of employees. The company's corporate public relation department is actively work for the interests of the people. The company supports the activities of employees and community. It covers the extra allowances such as for gym, swimming and other activities of employees. All employees are insured for their health and injury during working hours. There are 11 percent of employees worldwide are trainees. Promotion of employees are ensured through the 'Academy and Talent Management programs. There are programs for retirement and healthcare as well. Company conducts the meeting with employees to discuss the issues related to them and find out the solution according to their interests.

A part of its value-added services to its customers. It also ensures the quality control, packaging, order pickup and display design. The company's product lines cover the different needs of the clients. The company makes sure the complete transparency in delivery process. Both B2B and B2C customers are ensured about transit time and delivery times. Proactive delivery tracking and tracing through 'active report' is ensured to employees and product search through 'product pilot' is ensured to customers. Here 'active report' actively monitor the entire logistics process throughout the supply chain. This system automatically monitors the history of delivery and reports errors. Any errors can be deducted automatically. This report is generated by the company transport management system. whereas, 'product line' helps the customers to determine the transit time for their products. These tools have a major contribution to get customers satisfaction. To provide best quality services to their customers, company offers different suitable options regarding receiving time, receiving date and fixed transit time. After

every two years, company conducts a survey to get feedback from customers. Customers services department works from 7 to 5:30 o'clock in working days. In most cases, customers argue with drivers in case of late deliveries which is very rare. But drivers are trained and do not argue more with customers. In addition, customers demand Swedish speaking drivers more often. To avoid the noise pollution, all the deliveries are carried out during 8 to 4 o'clock because not to disturb the people in late nights and early mornings.

Apart of economic sustainability, the company believes that the implementation of these strategies and policies make sure the development in profit over the long-term. It has a short-term impact on profitability but in a long-term it is profitable for the company. As compare to last year the company financially growth has increased by 5.5%. Getting competitive drivers is challenging for the company. They often leave because of their high demand. Dealing with customers is most challenging to the company when they claim for late delivery. Moreover, subcontractors with compatible drivers are hard to find. Traffic congestion problems and parking problems are faced in cities. The company seeks the improvement in these cases in near future. It is thinking to buy electric bicycles for the deliveries in the cities. It is going to approach the subcontractors who utilize HVO 100 or other alternative fueling or electric and hybrid vehicles in near future but currently it is expensive to the company.

4.6 Company F

Company 'F' is specialized in delivering the raw food such as vegetables, fruits, meet, seafood, canned food, beverages, birds, cheese and diary, bread, desserts, ice cream, disposable materials and finished goods and processed foods e.g. burgers to restaurants in Sweden. It is B2B business that started in 1961 as a small whole seller and distributor. However, the company has reached around 700 million SEK in sales. The Company's environmental management system is based upon ISO 14001. The company is owning 32 fleets in order to deliver the goods and three big warehouses in order to manage the inventory and timely fulfilling the customers' need. In all warehouses 800 Sqm refrigerators are installed.

To reduce the carbon footprint through transport, company invests to buy latest technology which is environment friendly and resource efficient as well. Every year, company's 'fleet management system' calculates the carbon footprint. This system calculates the emissions level on the basis of information such as total kilometers and total load. Moreover, in all the vehicles there is a speed regulator system, which does not allow the drivers to accelerate the speed more than 80 km/hour. This is a good strategy to ensure the traffic and public safety. In addition, company has a proper digital system, which gives the information about driving styles and techniques of the drivers e.g. how many stops he took and how many times he pushed the brakes. This system prevents the drivers for not to do any major mistake. In addition, the company does not require any special driving license for handling food. A normal truck license is enough to join the company, but other measures are part of the training. All the drivers are trained by the

company. This training goes around 2 weeks in order to understand all the delivery points, routes and to understand the customers behaviors. In order to understand these all things, newly joined driver goes on the routes with the trained drivers for almost 2 weeks. In order make sure the vehicle efficiency and its maintenance, transport manager goes through all the trucks every day. The right pressures in the tyres, cooling system and other things are ensured which may have impact on the environment. Every 5 years the vehicles are replaced with the new ones. In 2020, company has a plan to consider hybrid trucks.

20% orders are received via web and by email every day in the case of new customers while 80% orders are received via phone by the old customers. company makes sure the delivery in a same day when it receives order. In the case if company does not have the stock, customers wait for 3 days. Just-in-time approach is considered to manage the flow of inventory. The company buys the food from the suppliers on daily basis which is helpful to reduce the environmental impact. After delivery, in most cases the truck driver approaches the nearest supplier and reload the truck again. It saves the fuel, and it saves the inventory management cost as well. It is rare case if a truck comes back empty because company schedules all the deliveries to all the locations. The company plans all the deliveries in a way that a truck covers all the route from starting point to the end point. Receiving of the goods are taken digitally from the customers in order to least use of paper. All the delivery and pick up information is provided through the company's digital app to drivers. These deliveries and pickup are predesigned before starting of the day.

To manage the inventory in warehouses, company follows sustainable strategies. To ensure the correct and feasible temperature in freezers and refrigerators, the company uses the 'cool guard monitoring system'. It also makes sure the right temperature for different types of food for the purpose to save the energy for example, vegetables and fruits require different temperature as compare to meet and sea food. In warehouses, inventory is managed by its category and placed in freezers and refrigerators by its category. Wooden or plastic pallets are not used instead of, steel racks and plastic baskets are used to move the inventory. The company use to wash these racks and baskets in order to ensure the sustainability. To ensure the preservation of food, the company is working on the behalf of industry specific quality system which is called HACCP. It stands for 'Hazard Analysis & Critical Control Points'. It is operating method which is internationally recognized. It helps to identify safety risks and provide other legal guidance to all organizations that deal in food and beverages. These operating methods are mandatory in Europe and US. All the suppliers of the company are HACCP certified as well. Supplier HACCP certification is necessary in the case if authorities want to trace the product. Moreover, the use of electric forklifts is considered to reduce the noise pollution and energy. While, company is focusing to install the sensor lights in future.

The company and its suppliers are affiliated with FTI in order to ensure the sustainable packaging. The objective of FTI is to collect and recycle the packaging material. All affiliated companies pay packaging fees on the behalf of packaging material they use. All the suppliers are responsible for paying fees as producer packaging. The 'cooperation' with suppliers in order to

make sure the sustainability in operations is considered as an important part of the business. It is compulsory for the suppliers to mention ingredients, nutritional facts and allergens must be clear as part of the product's labeling. These are the requirements of regulation EU 1169/2011. This information is also useful for the customers and for their purchasing decision. Company make sure all the labels on the products that comply the legislation before making the contract to the suppliers. Cardboard boxes are used by suppliers for the food such as canned food, etc. Company delivers the foods to restaurants by using these card boxes which are thrown away by restaurants. Company does not collect these boxes back from restaurants.

During working hours, a part of his social responsibility, drivers take the break for one hour for lunch and for their ease. In the case of accident, company insurance policy covers all the damage of both parties. Company always strive to meet the interests of the employees. Throughout the year, company plans different activities to reduce the stress of the employees. Moreover, company covers the cost of gym, swimming or other activities in which employees are interested. Every employee gets the 2% increment every year in his/her salary. In order make sure the customer loyalty, company makes sure the delivery on time and delivers the right order. In the case if delivery is late, company informs the customers about it. Moreover, fresh food is ensured every day and it is checked before delivery that the food is not expire or damage. Near expire goods are sell to customers at cheaper prices or send it to social organizations and churches. The foods which is damage during inventory handling, or the wastes of the goods which is very little in quantity are thrown away.

Apart of economic sustainability, after every four months the prices are changed and new contracts with customers are signed. It happens due the change of prices by suppliers. Meet prices change every week from suppliers and company communicates with its customers and change the prices. All the changes in prices are updated on the website and communicated with the customers at the same time. The company believes that sustainable strategies have the short-term impact on profit but in a long term it is financially good for the company. City traffic congestion, getting compatible drivers and trainings of drivers are challenging for the company. In addition, the larger changes carrying out in warehouse operations within the company. In near future, the company is considering the hybrid trucks, changing the lights with sensor lights to make sure the least environmental impact.

4.7 Company G

Company 'G' is offering the transport services to its customers in Jonkoping region, Sweden. It is connected with one of the biggest logistics companies to get the business support. The same as company G more than 10 companies are connected with this logistics company to get the business. Its annual turnover is 1 billion SEK. 36 employees are working in this company. To carrying out the activities the company owns 25 heavy trucks and 15 vans. It has only one terminal/warehouse located in Jonkoping Sweden. The company is specialized in both B2B and

B2C business. Within B2B business, company offers its services to other logistics companies as subcontractor however, company purchases the transport from other companies which are considered its subcontractors. Simply, within B2B company purchases and sales the transport at the same time. While, it also accepts the orders from the end users. It is also specialized in moving dangerous goods. Company is certified by ISO 14001.

The company's effort towards clean environment is based upon the systematic strategies. On the behalf of the deliveries, its IT system automatically collect the data about total kilometers and total weight. Every six month this data is transferred to the other company with whose it is connected. The other company's system calculates the carbon footprint of the company G. Moreover, to reduce its carbon footprint, the company focuses on fuel management techniques, loading techniques, driving styles of the drivers as well. In addition, everyday it is made sure that all the vehicles are in good conditions. The air pressure in tyres, brakes, oil, lights, etc. are examined via daily checklist. After every 5 years, the old trucks are replaced with new ones. The company is considering 2 electric trucks in 2020 and till 2023 all the vehicles would be replaced with electric vehicles. To ensure the traffic and people safety, drivers get the training for two days. Eco driving, fuel management, loading, unloading and customers dealing communication are usually the part of trainings. For handling dangerous goods, company requires 'ADR' license. Every after 5 years each driver goes through the further instructions and trainings. This training is good for the environment and good for the safety of other people as well. In addition, to improve the safety standards, every vehicle is equipped with the sensor which warns the drivers if they are driving in a wrong way. During driving every after four and half an hour the driver takes the break for 45 minutes.

The company preplans all the deliveries. All the orders are delivered at the very next day after receiving by the company. the company follows its distribution lines which are called the routes. It preplans all the deliveries in a way that each distribution line or route starts from and ends at the Jonkoping terminal. This strategy is helpful to tackle the problems of reverse logistics as well. On the other hand, it is a good technique to manage the fuel. All the orders are directly picked up from the suppliers and directly delivered to the customers. In the warehouse, inventory or goods are kept just for few hours in a case if it is picked from the supplier at the day end and which is supposed to deliver at next day. 80% orders are received via digital system. the company's IT system allows the all the subcontractors to connect with each other and allows to send and receiving of orders. In order processing there are three steps such as, order receiving, pickup and delivery. At the time of picking the goods form the suppliers, drivers scan it via phone. After delivery, drivers take the customers' receiving electronically through company's smart phone app. In the terminal, goods are sorted by pallets. Every pallet has a separate barcode which is scanned when goods come to terminal. At terminals, for loading and unloading, electric forklifts are used and for scanning, the handheld devices are used. Loading and unloading is carried out by drivers. Every driver has a forklift license as well. To reduce the energy resources, company uses time scheduled lights both inside and outside of the terminal.

Company receives already packed goods from the suppliers. In order to sustain the goods on the pallet, company wraps the goods with plastic sheet when goods come to terminal. On the other hand, company has a contract with STENA in order to recycle the waste of packaging. Company pays by itself to STENA for this service.

In order to make sure the social responsibility, the company pays extra amount to drivers for the lunch. Once in every year, company conducts a meeting in order to listen to the problems of employees and asks for suggestions for a better work environment. Moreover, the company pays allowances to employees for activities such as gym, swimming, etc. All employees are insured for their health. In addition, company is thinking to increase 10% salary for employees every year. Moreover, insurance policy also covers the damage of third party or opposite party in case of accidents. All deliveries and pick-ups are carried out in daylight because company employees sleep at night. Daylight deliveries are a good strategy to reduce noise pollution. In order to tackle the behavior of customers, all drivers are instructed by the company not to argue with the customers.

Environmental measures and sustainable strategies impact profitability but for a short time. Getting drivers and their training is more challenging for the company and every year lots of changes carry out in this case. The company is seeking to improve operations in cities by using bicycle delivery in the future. It is helpful to tackle traffic congestion problems in cities and reverse logistics problems which often come from parcel delivery. It is seeking to replace electric trucks in the future and every year 10% increment in the salary of employees as well.

4.8 Company H

Company 'H' is dealing in ADR transport, bulk transport both dry and liquid and container transport and logistics solution in Sweden and abroad. It provides its services to wholesalers and other shipping companies. It has subcontractors in Germany, Holland, Belgium, England and France. All subcontractors are 100% in control of company H for its assignments. It is specialized in moving car parts, clothes, flowers, seeds, oil, chemicals, cement, plastic granules and food products. Approximately 80 employees are working in the company who are competent in planning, tracking, monitoring, ensuring safety standards and calculating driving times. The company has an aim to provide better services in the petrochemical industry. It is able to handle from 20 to 50 feet of containers. It is owning 60 trucks and 100 specialist trailers including silo trucks, road trains and tipper trailers with rotary feeders. Its turnover is around 1.2 million Euro annually. The company is certified in ISO 14001 for environmental standard and ISO 9001 for quality standard. In addition, company follows other various instructions such as AEO (Authorized Economic Operator) for safety and security, SQAS and SP for health, safety and environment.

The company believes that transport is a major contributor in carbon emission. It deals with environmental issues on the behalf of its significance. Clean environment and quality services

are the part of company's internal operational system. The company ensures that every employee is aware about its environmental policy. It has a modern vehicle management system that allows to track the vehicle, enable the company to monitor road safety issues and driving time. Its vehicle management system calculates the carbon emission on the basis of total kilometers and total load. In each consignment, this calculation differs from other calculation because every calculation also considers the fuel consumption. The fuel consumption is based upon the total load. 100% load means 100% fuel. All this information is achieved through pre-delivery schedule of each consignment which include all the details about transit time, total kilometers, total load and details about fuel consumption. All the detail of each consignment is stored in the system that is able to automatically calculate the carbon emission. Digital system which is called 'Trancis' in the vehicles assist the drivers to access the GPS and fuel monitoring. In addition, this system allows for communication between drivers and fleet management team which is called two-way communication system. Moreover, company is striving to minimize its carbon footprint through replacing its old trucks and vehicles with new ones. Normally, it replaces old trucks with new ones after 5 years in which it replaces 6 old trucks every year with new ones. But last year it replaces 20 old trucks with new ones in order to achieve maximum environmental sustainability. In addition, in 2020 company has a plan to buy some electric and hybrid trucks in order to minimize carbon emission. Electric trucks would be more often used for short distance consignments which is a plan of the company. the company has its own garage or maintenance workshop with its own employees. Every new and old vehicle is tested in this workshop before driving. Because of the special measures in workshop, its vehicles are considered more efficient economically in terms of fuel management through speed regulators, more efficient environmentally by checking engine proficiency and right air pressure in tyres and more efficient socially in terms of determining safety standards than its competitors' vehicles. Throughout the supply chain, all the subcontractors provide the data to Company H which is used for analyzing the carbon footprint. After reviewing the data company gives suggestions to its subcontractors regarding environmental sustainability.

In regard to road and traffic safety, the company strives to ensure safety measures such as valid driving license, driving times regulation, rest periods, vehicle maintenance, loading of goods, unloading of goods and speed limits. The company offers trainings and instructions its drivers for eco-driving which is also a good technique to reduce the carbon footprint and for the purpose of traffic safety. For trainings to drivers, company has installed computer systems with driving instructions videos and demos in its hard drive. All the drivers forcefully spend time to watch those videos. The videos show traffic regulation, safety standards, traffic safety, eco driving techniques and handling of consignments to drivers. The company does not take those assignments which force to violate the its environmental and safety standards. Other than valid driving license, every driver is forced to CPC (Certificate of Professional Competence) once in every year. 'ADR' driving license is required by the company from the drivers for handling dangerous goods.

All the orders are received through website and email. Some customers book their orders for the whole week. The company does not handle the inventory in its warehouses, drivers directly pick up the orders from suppliers and deliver it customers. There are 4 steps in order processing such as order receiving, loading, transit time and unloading. Customers require the receiving on paper at the time of delivering. Reverse logistics is very rare in bulk transport. All the deliveries are based upon customers' given information. In the case of reverse logistics, customer bare the cost because 99% mistake is determined by the customer. Delivery is made on the basis of the information provided by the customers. Since it is bulk transport in which only one order is delivered at one time and in which the distance is too long between supplier and customer, trucks come back empty in that case and It takes many miles to reach other supplier for replenishment.

Within warehouses company has a capacity to place containers. It has five side loaders for loading and unloading the containers. These side loaders are able to handle from 20 to 40 feet containers. Moreover, the company uses forklifts and tug masters as well. All these machines are having diesel engine. Form energy point of view, warehouses are equipped with sensor lights which save the energy. From safety point of view, cameras have installed inside and outside the surrounding area of the warehouses.

Since company is specialized in bulk transport, the packaging techniques are little different with other logistics companies. The company utilizes the plastic bag in a sustainable manner. The size of plastic bag is compatible with the size of container. Before loading the material, the entire container is covered from plastic bag from inside. In other words, the internal area of the container is covered from top to bottom and from left to right. Plastic bag is used to avoid contamination of materials. After delivering the material to customers, this plastic bag is recycled. For every delivery and for every type of material, new plastic bag is utilized and then it is recycled.

In regard to its social responsibilities, company ensures sustainable strategies. The company is very strict in maintaining quality standards and environmental sustainability. But company promotes its employees if they are doing good job. For example, if a driver stays in a company for a long time and care about environment and quality, company promotes him as a traffic leader. Company also pay for the employees' activities such as for gym and swimming. The company has a same salary system regardless the age factors. Moreover, every year salary is increased as per union instructions. 'Techo meter' has installed in the vehicles which automatically warns the drivers every after 4 hours for rest and breaks. The drivers who drive the consignments in nights, company gives extra money for their food to them. To avoid the noise pollution, the company only deliver the goods in day light to customer who live near the city. More often, all the delivery points are in industrialized area where people do not disturb by the activities. In addition, modern technology trucks with proper hydraulic and tripper system do not cause the noise. Employees work in a team which results in minimizing the waiting time and in efficient transportation to customers. On the behalf of quality and environmental strategies of the company, customers get the most reliable and safe transport services. On the basis on its

services, the company has an aim to develop and maintain long-term relationship with customers. For the protection of goods, the company is having insurance agreements in terms of CMR and Alltrans 2007 which cover the damage and loss of goods and transport as well. For the purpose to achieve customer satisfaction, from order sending to order receiving, customer can track the order, its positioning and its transit time. To ensure the customers satisfaction, the company gets the feedback from the customers every month about exact quantity of the order, on time delivery, etc.

Customers bargain the prices, but the company is competitive in the market because its modern digital system allows to calculate the cost and price which is helpful in achieving economic sustainability. Moreover, company offers the least price to new customers in order to sustain them. Every year suppliers' contract is reviewed in order to ensure the economic sustainability. All the financial documents are stored digitally. Through company's quality services and through employees' commitment towards quality, it achieves economic sustainability and social sustainability as well.

Overhead cost is too high in order to achieve economic sustainability. Consistency of compatible drivers in a company is challenging. In addition, traffic congestion problem is faced by the company as well. In future, company is considering tackling these all issues. The company has plan to buy hybrid trucks and also focusing to develop more sustainable strategies for drivers training.

5. Analysis and Discussion

The following section is the result of the findings which have been analysed. The chapter explains the strategies and sustainable operations of the logistics organizations in order to deal the sustainability issues. It also explains the interdependency of environment, social and economic sustainability. Moreover, the futuristic concerns of the logistics organizations related to sustainability have also been discussed in this chapter.

The strategies illustrated in ‘Table 2’ are the common strategies that are being apply into logistics components by logistics organizations in Sweden. These strategies are implemented into the logistics components such as transport, order processing, procurement, IT system, warehousing, reverse logistics, packaging, inventory management and customer services. The implementation of these strategies simultaneously effects the environment, society and profitability. The following ‘Table 2’ is showing their strategies towards environmental, social and economic sustainability.

Sustaining Environment Through	Mitigating Social Issues Through	Economic Sustainability Through
<ul style="list-style-type: none"> ✓ CO2 Calculation ✓ Vehicle Maintenance ✓ Speed Regulator in vehicles ✓ Drivers Training ✓ Fuel Management ✓ Alternative Fuels e.g HVO 100 ✓ Loading and Unloading Techniques ✓ Depreciated vehicle replacement ✓ Different Licenses for driving different types of goods ✓ Different employees for handling different types of goods ✓ Use of energy efficient resources in warehouse ✓ Pre-delivery planning ✓ Inventory Management ✓ Reverse Inventory Management ✓ Less use of paper ✓ Warehouse operations ✓ Sustainable Packaging 	<ul style="list-style-type: none"> ✓ Off-day Customer Services ✓ Order receiving through web ✓ Tracing and Tracking of Order by Customers ✓ Digitally Order Receiving ✓ Increment in Salary ✓ Allowances for Food and for Other Activities to Employees ✓ Insurance of employees and other people ✓ Day-time delivery ✓ Reverse Logistics ✓ Breaks for drivers during working hours ✓ Promotion ✓ Gender Equality ✓ Protection of customers’ goods ✓ Value added through customers feedback ✓ Donation and 	<ul style="list-style-type: none"> ✓ Environmental Sustainability ✓ Social Sustainability ✓ Contract Review ✓ Price Bargaining ✓ IT System for the calculation of competitive pricing ✓ Storage of financial documents electronically ✓ Timely Audit

<ul style="list-style-type: none"> ✓ Recycling of packaging material ✓ Data sharing within supply chain 	<p>contribution in other social activities by organizations.</p>	
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Table 2: Sustainable Strategies of Logistics Organizations in Sweden

To reduce the environmental impact, logistics organizations in Sweden implement the strategies illustrated in ‘Table 2’ in ‘sustaining environment through’ column. Respectively, to ensure the social sustainability, they implement the strategies illustrated in ‘mitigating social issues through’ column and for economic sustainability, strategies illustrated in third and last column of ‘Table 2’. It has been found that economic sustainability is because of environmental and social sustainability. However, the efficiency in economic sustainability can be possible through contract review with suppliers and customers, price bargaining, digitally storage of financial documents, timely audit and competent IT system for the automatic calculation of the prices. In order to get the efficiency in economic sustainability, companies review the contracts with customers and suppliers quarterly, semiannually and yearly. Companies use to invest in IT system to get the automatic calculation of competitive pricing. To attract new customers and for big cargo, companies offer less prices to customers.

After analyzing the data collected from Swedish logistics organizations, it has been found that sustainable environment and society are strategically integrated with their vision of profitability. They are striving to increase their profitability by making sure the sustainable environment and by comforting the society. They believe that environmental sustainability and social sustainability maximize the competitiveness and profitability. Both Profitability and competitiveness are possible because of the implementation of sustainable environmental and social strategies. The way they implement these all environmental, social and economic strategies into their logistics components are described in detail in ‘Findings’ of this dissertation.

Environmental strategies are simultaneously useful for the people, for the company and for environment. Similarly, Social strategies are simultaneously useful for the environment, people and for the company. For example, speed regulator in vehicles, drivers’ trainings for eco-driving education, for road safety, for fuel management and for handling of customers’ goods are simultaneously beneficial for the company, environment and for the people. speed regulator forces the drives to drive in a speed limit which reduce the chances of accidents which is good for the society and reduce the fuel consumption which is good for the company and less fuel consumption means low carbon emissions. Similarly, trainings of drivers infer the same benefits. Respectively, alternative fuels, loading and unloading techniques, different employees for handling different goods, energy efficient resources in warehouses or terminals and sustainable packaging benefit the company, environment and society at the same time.

Social strategies on the other hand, comfort the society and improve the life standards of people by providing easy access to their needs which is economically good for the company as well and which ensure the less consumption of scarce resources and reduction of environmental impacts as well. For example, order receiving through web, tracing and tracking of orders by customers and day-time delivery comfort the society and provide access to their needs whereas, digitally order receiving from customers make sure the less consumption of resources e.g. paper. Similarly, allowances for food and for other activities to employees, increment in salaries improve the living standards of the people and it also make sure the employees' retention and loyalty which is beneficial for the organization. Breaks during working hours especially for drivers reduce the chances of accidents. Donation and contribution in other social activities by organizations increase the value and good image of the organization in public.

The both environmental and social strategies are actually the regulators of the value chain of the organization with a vision to get profitability. These strategies engender the proficiency and competency into the company to remain profitable and competitive in the market. Doing business in way that the society and the environment would not be harmed is actually economically beneficial for the organization because it is actually helping the organization to reduce its cost. Reduction in costs and increased competitiveness make sure the economic sustainability of the organization.

But on the other hand, it has also been found that the implementation of these strategies is possible because of good financial condition of the company. Good financial condition is a base to reduce the environmental and social issues. Similarly, in the case of company 'C' and company 'D' the critical barrier to achieve the environmental and social sustainability is vulnerable financial condition however in the case of rest of the companies it has been analyzed that they have succeeded enough in mitigation of environmental and social issues are because of their good financial condition. When the question has been asked to the company 'C' and company 'D' that why they are not focusing on the calculation of the CO₂ emissions and rest of the environmental and social issues. The answer was that 'they are not profitable enough to see these issues.' However, all organizations somehow seek to reduce the environmental and social impacts which is delaying due to the finance, but they are determinant to reduce sustainability issues in near future. Futuristic determination regarding sustainability and the percentage of the organizations that are determinant are representing in 'Figure 2'.

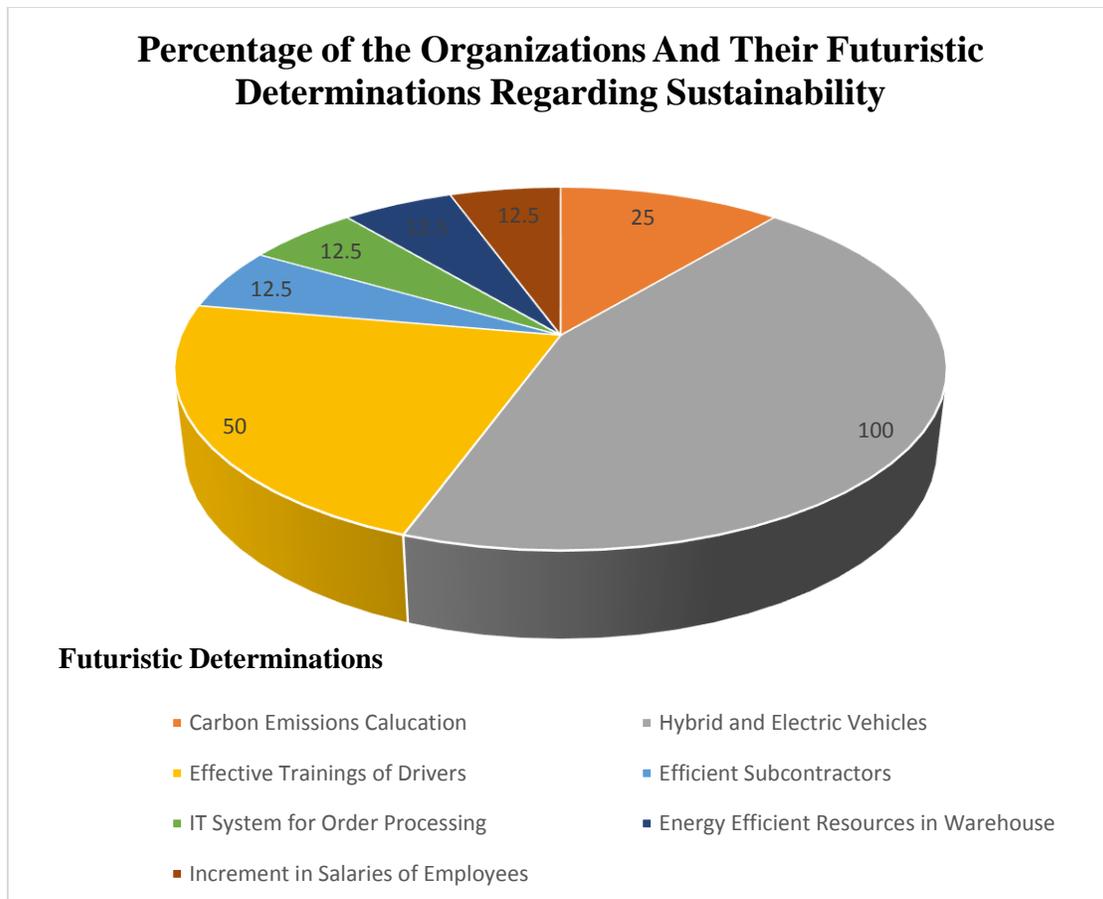


Figure 2: Futuristic Determinations of the Logistics Organization Regarding Sustainability

In Figure 2, eight logistics organizations are equal to 100%. All companies or 100% of the companies are determinant to improve the road freight transportation in order to reduce the environmental impact. They are considering to buying electric and hybrid vehicles in near future. 25% of the companies are determinant to improve the competitiveness of drivers through effective trainings. 12.5% of the companies are striving to find out the efficient subcontractors. The efficiency of subcontractors is based upon the innovative vehicles with compatible drivers they own. To improve the process of order and deliver 12.5% of the companies are going to invest in IT system or for digitalization in order to reduce the mistakes in deliveries. Whereas, 12.5% companies are determining to install energy efficient resources in warehouses and terminals. In order to sustain the employees 12.5% companies, have a plan to increase the salaries of employees every year with the ratio of 10%.

In this way, three pillars of sustainability are simultaneously important for the survival of the organization as Hutchins (2008) describes that in order to gain sustainability, the relationship is necessary among these three pillars. Mitigation of the environmental and social issues is dependent upon the economic sustainability of the organization. But on the other hand, the

environmental and social sustainability is necessary to achieve the economic sustainability or competitiveness. So, these sustainability pillars are dependent upon each other.

Scholars such as Doane et al (2001) described that economic sustainability is dependent upon the environmental and social sustainability whereas, Sheth et al (2011) are suggesting that the economic sustainability is relying upon the internal issues and company's economic impact on the society. Good environmental management saves money to organization as in this research it has been shown that fuel management techniques and drivers trainings save money. Strategies related to social sustainability ensure that a business will be sustained for a long time. Implementing various programs and social activities for the betterment of workers and community ensure the benefits to the company (Doane et al., 2001). On the other hand, internal issue is about 'cost reduction' and economic impact on society is about 'improvements in income and standard of living.' In today's competitive world, the organizations cannot be economically survived if the 'cost reduction' means to them not to utilize the cash in purchasing energy efficient assets, to their maintenance, to their replacement after vulnerability and to workforce training for the utilization of those assets. As in the case of Company "C" and Company "D" one can analyze that their strategies to reduce the environmental and social impacts are not effective as compare to rest of the companies. Therefore, they are less economically sustainable. So, the 'cost reduction' must also promote the sustainability as in the case of company 'B' where on the basis of sustainable packaging it saves money. In this dissertation, it has been analyzed that for the firms, in order to increase profitability, they must focus to overcome the environmental and social issues.

But all of the above it has been analyzed that particular business trend and target market matters a lot for economic sustainability. Such as in the case of Company 'C' where it is facing loss by distributing newspapers. People use to get the information through web which is the reason of full stop for the newspaper distribution business. It is dealing in old media trend which is going to be disappeared day by day due to the digitalization. Company 'C' must consider other projects for its survival. Similarly, in the case of Company 'D' that is dealing in a trend which is quite new in the market. I found that these two businesses are not market oriented which is a basic reason of their less profitability or loss.

So, in order to ensure the environmental and social sustainability, organizations must be economically sustainable first. And economic sustainability is not only based upon the environment, society and 'other measures' which have been clarified in third column of 'Table 2', but it is also based upon the business trend and the target market. However, sustainability cannot be achieved quickly or within a short period of time because of the three pillars dependency upon each other. For organizations, it takes long time to be economically, socially and environmentally sustainable. Firms must carry out their activities on the behalf of sustainable integrated business plan. The 'Figure 3' shows the dependency of three pillars upon each other as well as it shows the dependency of economic sustainability not only on environment and society but also on the target market, business trend, and on other measures.

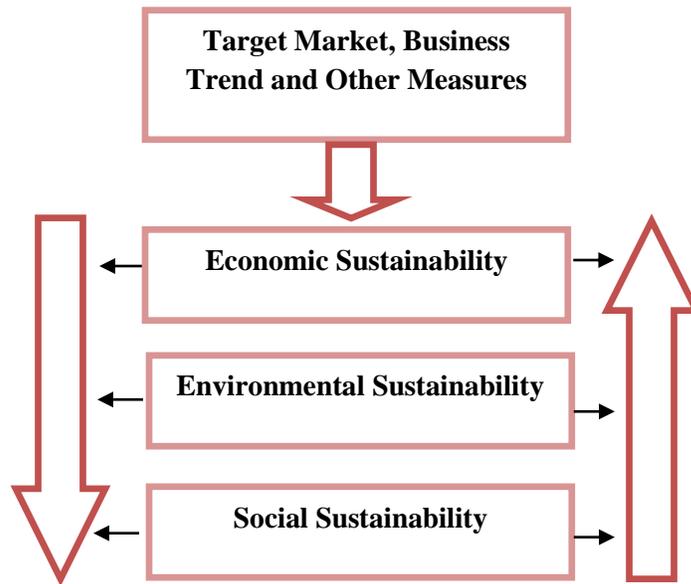


Figure 3: Interdependency of Economic, Environmental and Social Sustainability

In 'Figure 3' the big red arrows and small black arrows around economic, environmental and social sustainability shows the dependency of these three pillars upon each other while red arrow between 'target market, business trend and other measures' and 'economic sustainability' shows dependency of economic sustainability on target market, business trend and other measures.

6. Conclusion

The last chapter represents the conclusion of the research on the basis of the research questions and purpose. Moreover, the limitations of the study are identified and suggestions for the future research are given also given.

In this dissertation it was intended to explore the ‘ways’ on the basis of that logistics organizations in Sweden are contributing in reducing environmental and social impacts and how they are economically sustainable at the same time.

I analyzed that practices of the companies related to environmental sustainability and social sustainability are effective, technically feasible and economically viable. Organization’s environmental strategies support the environment, people and profitability at the same time. Similarly, social strategies also simultaneously support the people, environment and profitability. In the same way, on the other hand, the achievement of economic sustainability is based on the environmental and social sustainability because people prefer to become customers of those organization that are more environmentally and socially sustainable. But economic sustainability is dependent upon some other measures as well. These measures are analyzed in this research. On the basis these measures organizations become more economically efficient. These measures such as, timely reviewing contracts with suppliers and customers to negotiate prices, keeping the financial record digitally to get by one click access, timely audit of the financial record, price bargaining and other deals to attract new customers and IT system to get the automatic calculation of competitive pricing.

After analyzing the findings, it has been found that every organization is working on the behalf of its sustainable integrated business plan that is simultaneously valuable for the environment, people and for the company itself in terms of profitability. For the firms, sustainable integrated business plan means that their strategies to earn profit reflect the environmental and social sustainability as well. The both environmental and social strategies are actually the regulators of the value chain of the organization with a vision to get profitability. These strategies engender the proficiency and competency into the company to remain profitable and competitive in the market. Doing business in a way that the society and the environment would not be harmed is actually economically beneficial for the organization because it is actually helping the organization in reducing its cost. According to (UNCTAD, 2019) the economic sustainability is about the competitiveness. According to Pedraza (2014) Competitiveness is an ability to face competition, meeting the required demand (quality, quantity and price) and ability to ensure profit. Competitiveness comes and maximized by reducing the cost. However, literature endorsed that cost reduction is based upon good environmental strategies. Reduction in costs and increased competitiveness make sure the economic sustainability of the organization. For example, eco-driving trainings and loading and unloading techniques ensure the less consumption of fuels which is economically good for the organization and for the environment as well because less consumption of fuel means less carbon emissions, less accidents which is

socially good. Sustainable packaging and effective inventory management save the money and get the economic sustainability while it also makes sure the less use of scarce resources and less environmental impact. Intangible assets such as customer services, timely order processing play a key role in economic sustainability because intangible assets maximize the company's financial performance and increase the profit.

Moreover, it has been found that to achieve environmental and social sustainability, company's financial condition matters a lot. No organization can achieve environmental and social sustainability until its profitability is not high. The more profitable the company is, the more it is sustainable. Because small companies cannot cover extra expenditures to achieve sustainability. Organizations in Sweden have some plans to reduce the environmental and social impacts which are somehow delaying because of financial problems. They are committed to replace the vehicles with electric and hybrid, committed to develop the training centers to provide more compatible trainings to drivers, considering to replace the more energy efficient resources in warehouses and terminals, thinking to invest in IT system for the purpose to measure carbon emissions and to make the order processing more efficient, and want the efficient subcontractors.

Three pillars of sustainability are dependent upon each other and are the reasons of the survival of the organization in today's competitive world. Each pillar is important to sustain another pillar. Economic sustainability is important to improve environmental and social sustainability however, environmental and social sustainability are the key to achieve economic sustainability. Above all, it has been found that economic sustainability is not only dependent upon environment and society but also on the target market, business trend and other measures which have been clarified in second paragraph. So, in that case sustainability cannot be achieved quickly or within a short period of time because of the three pillars dependency upon each other. Each company is implementing its own strategies which are the best to their value chain and compatible to their vision of profitability. For organizations, it takes long time to be economically, socially and environmentally sustainable.

6.1 Limitations

The findings of this research are based upon the numbers and types of logistics organizations working in Sweden. Particularly, the data is collected from only eight logistics organizations including freight forwarders and distributors. The data collection from more organizations in numbers and from other different types of organizations such as manufacturers, wholesalers and retailers could be more useful for the research because these organizations also deal in some or all logistics components.

6.2 Future Research Suggestions

It has been found that suppliers usually do not get back the packaging material from the customers and that material is thrown away by customers which is considered un-sustainable.

This packaging material is specifically used for the products with big masses and volumes such as machinery and parts of the machinery. There is a need to study the facts that why organizations do not consider to developing the strategies to get that material back and how it could be harmful to the environment.

To analyze the total environmental impact, there is a need to explore the strategies of the companies towards all the modes of the transport such as air, ship, rail and road together.

Moreover, if the study would have been carried out on the basis of organizations' size and profitability, the result could be different. It is necessary to examine the effects of sustainability on small, medium and large organizations and the effects of small, medium and large organizations on sustainability.

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Appendixes

Interview Guide

1. Could you please introduce yourself and a little introduction about the company?
2. What are the key logistics components in your organization's business model?
3. How do you calculate your carbon footprint in road freight?
4. What are the strategies to reduce the carbon footprint?
5. How do you measure the vehicle efficiency?
6. How often you replace your old vehicles with new ones?
7. Are you considering the alternative powered vehicles such as LPG, Electric and Hybrid?
8. What transport methods you take into account which have least environmental impact?
9. To improve transportation safety, what measures company take into account?
10. Does company consider the Eco driving courses to divers to reduce the risk of accidents and emissions of co2? If yes, how long the duration of this training is?
11. For handling dangerous and liquid goods what are the measurements that company considers together with drivers?
12. How often drivers take break during working hours? Does company pay extra amount for lunch or dinners?
13. Before distribution of the goods, does company plan the schedule of the day?
14. How do you manage the reverse logistics and what strategies you implement?
15. How the orders are received and proceeded by the company?
16. How do you ensure the packaging of goods? In which way the packaging activities are performed by the company?
17. Do you recycle the material of packaging? How do you handle strategically?
18. How do you control the inventory flow? What are the special strategies to manage inventory?
19. How loading, unloading and sorting of goods be done in your company?
20. How do you replenish the truck or shelf? Any strategy such as Information sharing system for timely cross docking or to replenish the shelf?
21. From safety and energy point of view, how do you think that the Infrastructure of the warehouse or terminal is compatible?
22. Noise pollution is a major issue. How your company is dealing with this issue?
23. what methods are currently available for use in building and sustaining positive corporate image?
24. How do you deal with Employees Behavior and how does company make sure a better place for them?
25. How do you compensate to their employees? Allowances? Annual increment?
26. How do you deal with Customer Behavior?
27. How do you make sure the economic sustainability for the company?

28. How does the company keep the documentation record which could be beneficial to sort out the financial issues?
29. To achieve sustainability, in which logistics component the large changes have been carried out in last couple of years? And why?
30. What role does sustainability play in your company's overall strategic plan? Does sustainability perfectly align with business strategic plan? Or do you seek some improvements?
31. How do you get the full transparency of supply chain to achieve environmental/Social/Economic sustainability?