ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

GREEN LOGISTICS PRACTICES AND CHALLENGES IN LOGISTICS SERVICE PROVIDERS, CASE STUDY ON PANAFRIC GLOBAL PLC.

BY: FIREZER TADESSE

SEP, 2021

ADDIS ABABA, ETHIOPIA

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A RESEARCH PROJECT SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILMENT OF MASTERS OF ART'S IN LOGISTICS AND SUPPLY CHAIN MANAGEMENT

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SIGNED DECLARATION

I, **Firezer Tadesse**, declare that the thesis has been composed alone which the work has got to not be submitted for the opposite degree or professional qualification. My contribution and other people of the other authors to this work are explicitly indicated below. The appropriate credit also has been given within this thesis where reference has been made to the work of others.

Name: Firezer Tadesse

Signature: _____

LETTER OF CERTIFICATION

This is to certify that **Firezer Tadesse** has conducted this thesis entitled **Green logistics practices and challenges in logistics service providers, a case study on Panafric Global Plc** by my supervision.

This project work is original and suitable for the submission in partial fulfillment of the requirement for the award of Master of Arts in Logistics and supply chain management

Tariku Jebena (PHD)

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Date _____

APPROVAL SHEET

Green logistics practices and challenges in logistics service providers, a case study on Panafric Global Plc.

By

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ABSTRACT

In the last 10 years the radical change of the environment, becomes a deep concern to the world. Understanding and placing a greenhouse emission on the strategies of the company policies are not only for the competitiveness of their organization it's rather becoming fundamental for the living. In these regards the research aim to assess the practices and challenges of implementing the green logistics in the logistics service providers by taking a case on Panafric global plc. The research mainly focused on two key points, the strategies the company uses and challenges its facing. To achieve its objective the researcher guided by three interrelated research questions, data collection were made using both qualitative and quantitative methods. For the quantitative a total of 32 questionnaire distributed to the management and employee of the company and returned 22 of them with a respondent rate of 70.7%. For the qualitative, an interview taken place to assess the necessary data for the study and based on the data gathered its analyzed and interpreted. The result classifies three variables; awareness of the green logistics, the strategies and the challenges that the logistics sectors faces on practicing green initiatives. In general, its noted that customer awareness requires to be improved and the constraint on practicing green logistics are both material wise and human resource as well as government policies. Thus the company need to create an awareness to its customers and the government requires to take different type of approaches to persuade all the stockholders in order to see a substantial change on the green practice.

Key words: Carbon Dioxide emission, Green logistics, LSP

CHAPTER ONE

In this chapter, the purpose that the researcher initiated to study the subject will be presented along with the question and objectives that the researcher aimed to answered will be discussed.

1.1. Introduction

The growth of world economy and also the consumption of products have created an outsized drawback on this environmental crisis. The movement of the assembly, transport, storage is taken into account in concert the reason for these environmental disaster.

In the past 2 decade due the priority of the setting, the general public and also the government pressure, turning into a pressure to the businesses to scale back their logistical operations. This impact is diverse, in terms of the range of externalities and the distances over which their adverse effects are experienced (Alan M., Michael B., Maja P. and Anthony W. 2015). And based on that companies are redesigning and redeveloping their logistics practices to make the activities more energy efficient and environmentally friendly (McKinnon and Woodburn, 1996).

Piecyk and McKinnon, 2010 have done studies of the foremost relevant factors for CO2 emissions in road transport. They developed a framework with 5 varieties of factors, viz. structural factors influencing modal split, industrial factors influencing load factors, operational factors, practical factors and eventually external factors influencing carbon intensity of fuel (Rommert D. , Jacqueline B. and Ioannis M., 2011).

On the findings of the influence on green logistics varies in step with client pressure on company's environmental behavior and it should be related to the various position of corporations standing within the supply chain. (Oksana Seroka-S, 2014).

Structure factors square measure important for many industries however technological factors ought to be taken under consideration within the future by logistics managers. Pressure through legislation isn't the sole method of fostering the environmental behavior of a firm, rather, there square measure alternative suggests that like increasing the environmental awareness of managers, however it's takes a long term objective at a corporate level. (Oksana Seroka-Stolka, 2014).

Based on the analysis of professor. Manjunath (2014) in India, that because of the tremendous demand of the public and the government concern for the environment, becomes a pressure to business sectors to decrease the environmental impact of their provision operation. The transportation of products encompasses a negative impact on the air quality, generates sound pollution, results in accidents and, in totality, makes a stimulating input to the global warming. In recent years, the impact of logistics on the weather change has increases the attention partly as a result of the increasing controls on pollution and road safety enhancements have mitigated the opposite environmental issues. The business organizations ought to perceive the construct of green logistics and need to rethink and plan their logistics operation so as to guard the setting through green logistics initiatives. In these study it tries to raise a problem on implementation of green logistics in developing country by assessing the economical and effectiveness of the logistics Service providers company. To fulfill this objective, qualitative assessment on the employees and the management of the company. Secondary sources like books, articles, newspapers square measure used and proposals are created supported the analysis findings.

1.2. Background of the Study

Since Gregorian calendar month 2011, the CRGE initiative, below the leadership of the Prime Minister's, the Environmental Protection Authority and the Ethiopian Development analysis Institute, has been developing a method to create an new economy. The target is to spot economy opportunities that might facilitate Ethiopians to reach its bold growth targets whereas, keeping gas emissions low. The government intends to attract development partners to help implement this new and sustainable growth model including the logistics sectors.

Different studies were made and a few international enterprises already incorporated the green logistics in their company strategy and vision. According to Oksana Seroka-Stolka (2014), The influence on green logistics varies in step with client pressure on a company's environmental behavior and it should be related to the various positions of firms standing within the supply chain. Structure factors are vital for many industries however technological factors ought to be taken into consideration within the future by supplying managers.

In Southeast Europe is much removed from such a perception. The in-restructure and construction don't fulfill high international environmental standards, and consequently, not all

the regional parties from the producing trade and supplying sector are driven to develop and adopt the green logistics ideas (BOJAN B. 2010). These also are true for countries like Ethiopia. Since logistics is one of the sectors that increases the CO2 emission it requires the companies to rethink their strategies. These study will assess the bottleneck on implementing the green logistics by taking one of the leading logistics firm in Ethiopia

1.3. Statement of the Problem

New research project has exposed that the global warming presents a way larger and a lot of fast threat than earlier thought. it's expected that product transportation accounts for around 8% of energy-related greenhouse gas emissions worldwide. The inclusions of warehouse and freight management are adds another 3% from the total CO2 emission creating sustainable within the long term can involve more than cutting carbon emissions.

If CO2 released from shipping continues to grow at the forecasted rate while governments cut the CO2 release from their national economies by an average of 50 per cent to around 2050, shipping alone still would account for around 15-30 per cent of the total CO2 release, even if allowing for a 33-50 per cent improvement in its energy efficiency until then (Committee on Climate Change, 2008).

Green logistics becoming into progressively well-liked in developed countries and has been enforced for quite a while and show a major improvement in terms of minimizing logistics price and reducing carbon emission. However, even if it's been enforced in several developed countries; it still shows the rise of the greenhouse gas emission due to the high market demand within the logistics sectors.

Nevertheless, in developing countries due to limited study done on the topic of green logistics and lack of training and skill, it shows a concern on the greenhouse gas emission particularly in logistics sectors. This was conjointly proved by study done South Africa (VAN RENSBURG, S. L. J. 2015) that only a few firms are actively implementing these practices. The most reasons for not practicing the green logistics are associated with a scarcity of training, knowledge, and skill in GSCM, a scarcity of commitment by top management, and a scarcity of management initiatives for logistics.

When we came to Ethiopia the government has an green policy that enforces since 2011 E.C to minimizing carbon emission and are implementing different ways for the sustainability of the environment. Such as, green industries like garment and leather, building different infrastructure like railroad and deploying a multimodal system. Though, even if the government is on the right track on the reduction of the CO2 emission it does not give an impression to the logistics sectors to execute the green policies due to the luck of human or financial resource.

The researcher systematically explore the implementation of the green logistics and the challenges that the logistics sector faces on one of the well-known logistics company in Ethiopia.

1.4. Research Question

To attain the objectives of the study the following are the fundamental queries aiming to be raised by the researcher and got answers at the end of the study.

- How the green logistics is being practiced at LSP of Panafric Global Plc. ?
- What are the challenges that affects LSP in implementing the green logistics practices?

1.5. Objective of the Study

1.5.1. General Objective

As the current economic process mandating to embrace green logistics, we as Ethiopians tend to adapt such commercial activity to cope up with market demand. So, this study tries to access and establish the matter on practicing the green logistics in Ethiopia by take-up as a case study on Panafric Global plc.

1.5.2. Specific Objectives

- To assess the green logistics practices of LSP of Panafric
- To Assess the challenges that the LSP face on implementing the green logistics practices

1.6. Significance of the Study

Services sectors like logistics don't seem to be well observe business sectors in Ethiopia however contributed a great deal on the increase of the pollution. Thus, this study can show the challenges that the logistics sector faces on implementing the green logistics. The study findings, can help the government and different involved bodies on the practices of the green logistics on the LSP and to take a corrective action. The study also can be used as a reference for different researchers who would really like to conduct any studies on green logistics.

1.7. Limitation of the Study

To specify the challenges, the study mainly uses descriptive analysis and as a research tool. But as green logistics isn't well-practiced in the LSP and the result can solely be restricted.

The other limitation is on information assortment technique. The study use different types of data collection tools like questionnaires and interviews and this data assortment would possibly end in the non-reliability of the responders due to the respondents may not be totally understand the idea of the topic matter. Also, as there's limited research done on the topic particularly on LSP it’s difficult to seek out comfortable information to form the study occupied for the secondary data collection.

1.8. Organization of the Study

The thesis structured in to five different chapter. The first chapter covers the background of the study, the research problem and objectives, the research question, significance of the study and the limitation of the study will be discussed. The second Chapter discussed the theoretical and empirical literature review along with the frame work of the theoretical and conceptual of the study. Within these the chapter will identify the literature gaps.

The third chapter discussed on the methodology the researcher uses to complete the research. And chapter four discussed on the data interpretation and discussion on the result that was conducted based on the methodology used on chapter three. The last chapter covers the conclusion and made recommendation as per the finding of the research.

CAPTER TWO

REVIEW OF RELATED LITERATURE

In this chapter the theoretical review for this thesis is presented. A sufficient literature review on the topic of green logistics is examined; subjects related to the awareness towards green logistics, the problems that green logistics encounters and the potential ways through which companies can add value with the use of them are discussed

2.1. Theoretical Literature Review

Fast technological development and the necessity for new transport ideas result in high degree unbalanced development. In the past the ecological facet were not taken into consideration as a key part within the social surroundings. Throughout the last 2 to 3 decades, ecological awareness grown drastically, and it reached satisfactory levels within the developed economies. Globally, 35% of firms say that they need incorporated the green supply Chain strategy within the company's vision (B. Beškovnik, L. Jakomin, 2010). But the initiation of greenness in developing countries is less than the developed countries, that the environmental result has been unnoticed from the attitude of developing countries, that is due to a few study done on regards to the environmental concern. (Yang Wang, 2010).

According to the report of United Nations agency, (2017) more than 2.1 million people die round the globe from pollution yearly. Also, the report of the EU (European Union) added that 10.3 million workforces were related to logistics and transport sectors, covering 4.5% of total employment round the globe. The logistic industry mainly depends on fuel and this industry consumes 96% of its energy needs. For that reason, the logistics and transport sectors have a bigger contribution to carbon emissions (Prof. Syed Abdul Rehman Khan 2019). Thus, the logistics providers plays an enormous degree in maintaining business competitiveness and sustainability, furthermore as demonstrating social responsibility. (Chia-Nan Wang, 2017).

2.1.1. Green logistics

Green logistics generally is minimizing the ecological factors in logistics. On Pls logistics outlined the green logistics as a company's effort of lowering emissions, implementing a lot of logistics operations processes, and reducing the environmental pollution.

The same as a logistic company called euro senders outlined the green logistics that connects the environmental concern with logistic activities. This idea ties environmental and economic efficiency to logistics by making an attempt to scale back the impact of the sector on the environment. For this purpose, establishments attempt to be eco-conscious whereas playing their activities at very cheap price possible.

(McKinnon et al., 2010) describes green logistics as an aim of the movement and deliver raw materials and product at lower possible price whereas maintaining the very best standards and minimizing environmental impact within the method. It implies innovation altogether steps of the supply chain, the conception of a product, and in some cases the end use of product.

Typically, logistics is seen as the objective to ultimately reducing the cost and maximizing profits. The term was used largely and strictly on business areas exhibiting firms and in financial reports. But, for several years, the term logistics was utilized in conjunction with the "green" by making "Green Logistics" - the term containing prices, however didn't appear on financial reports and therefore the environment and society (Oksana S. 2014). The idea of green logistics refers to supply chain practices that plan to scale back energy and environmental footprint in terms of freight distribution. To be a lot of specific, it focuses on encompasses a good form of dimensions, firms that focus solely on one specific dimension will still be implementing green logistics, handling, waste management, packaging, and transportation. (Prof.Manjunath.G. 2014).

The greening of logistics is mostly supported the action of 3 main players

1) The government that ought to build laws and rules effective;
2) An enterprise that ought to place offer chain management in practice;
3) The shipper that ought to promote inexperienced consumption (COSIMATO, S. & TROISI, O., 2014)

Also, employee engagement plays a significant role in implementing green logistics practices particularly 'dedication' which implies that workers area unit extremely concerned in their work and have a way of significance in higher cognitive process. (Sara E., 2020)

According to (Y. S. GÜLmez and S. TÜZÜN Rad, 2017) despite the green logistics profits the environment there are other reasons that the businesses shifted to green logistics because of

- To manage the results on the environment by applying original procedures for service and production systems and operations,
- To improve the qualities and efficiency of services, products, processes, and suppliers,
- To design product that answer the environmental desires and so produce a distinction in product,
- To alleviate the consumer pressure and create a transition to the popular business standing,
- To increase on-line sales and establish a presence in new distribution channels,
- To expect the speedy technological developments additionally within the domain of green technology,
- Rising prices of energy, increasing scarceness of resources, and therefore the interruptions leading to higher prices,
- The aging population exaggerated energy usage because of immigration, and therefore the growing importance of energy efficiency project,
- Increasing client awareness on property and social responsibility.

2.1.2. Logistic Service Providers/LSP/

Due to the high demand of the manufacturing and the retailer, the Logistics service suppliers (LSPs) were created (Dat T., Wing-K., Massoud M., San B.,2019). LSP has evolved from being a plan of action demand and a strategic activity that links customers and suppliers by managing flows of products, services, and data from purpose of origin to purpose of consumption. the foremost common activities are related to supplying transport and warehoused. but alternative activities like forwarding, customs clearance, packaging. Labeling and varied aspects of knowledge management also are being thought-about as a part of logistics(Azlan Amran, 2011)

The logistics business also can be same to be "a classic example of the birth and development of a significant new service-based business, transforms from the business thought of transportation that of serving the whole logistic needs for customers". This puts pressure on LSPs to completely

perceive the Supply chain of their customers to develop and supply customer-oriented logistics solutions. Those LSPs that need to make a grip of competitive advantage should fight this challenge to fulfill these completely different needs. The dynamical transportation and logistics markets have forced LSPs to regulate their business models to produce the next share worth to customers (Karin I. 2014).

Since the most focus of logistics is to reduce price and maximize profit the EU Commission (2001) has expressed that the goal for the logistics sector is to decouple quality from its adverse effects. With a read to environmental property, specifically, among all completely different service sectors (Enrico M., Alessandra C., and Ewa W. 2016)

According to Maisam A. and Fredrik M. 2016, sustainable issue from the LSPs' have a powerful tendency towards economic/profit-related problems followed by environmental issues, and there forth, social/people-related ones. They additionally placed the three-dimensional simultaneous engineering thought placed on logistics pillars accentuation the role and ability of LSPs in contributing to the sustainability development of product, processes, and provide chains.

But despite the fact that the importance of inexperienced supplying is simple the employers of LSPs would want to coach and educate their workers on the worth and importance of environmental property in their sector and to initiate reward schemes supported the employees' contribution to the LSPs inexperienced goals. In return, this could increase the employees' engagement and alter LSPs to achieve their property goals (Sara E., 2020).

Therefore green logistics and SCM is crucial for the LSPs' sector because it became a key choice demand by firms that ask for the services of LSPs. To be a part of a worldwide sustainable SC, LSPs should supply green logistics services that may meet the requirements of their customers (Sara E., 2020).

Logistics service provider s in Ethiopia

According to UNDP 2017, Ethiopia has 3 forms of logistics service suppliers

- Forwarding and shipping agency service suppliers,
- Forwarding service suppliers and
- Customs clearing agents.

But foreign participation within the sector isn't allowable under the investment law till when Dr. Abiy Ahmed became in power 2018. The state-owned Ethiopian Shipping and provision Services Enterprise (ESLSE) provides freight forwarding and clearing, shipping, furthermore as shipping services. ESLSE provides Multi-modal and Un-modal transport operations 8% of those services area unit provided by the non-public sector. Forwarding services represent 17% of the logistics market however the majority lack financial bases and faces some issues in management and organization. Customs clearing agents comprises informal operators and represent 75% of the market and target individual consignments during which they supply cheaper services supported personal contacts. The majority also lacks financial, management, and organization.

Even if the info shows the logistics service is junior degree rising business in Ethiopia especially on the private sector they contribute a great deal to the economy. On this globalized company the Ethiopian logistics market has got to be mature to be competitive within the business these embody active all the necessities of the worldwide market including the green logistics.

In this analysis, we'll be taking one of the well-known and senior logistic provider companies on the implementation of the green logistics and therefore the challenges they are facing on the practice of the green logistics system.

2.2. Theoretical Framework

Different students describe the green logistics in four or 5 parts however (Xia_Y. and Wang_B, 2013) labels the green logistics on to 5 parts. Green transport; green warehousing; green packaging; Green supplying information assortment and waste management.

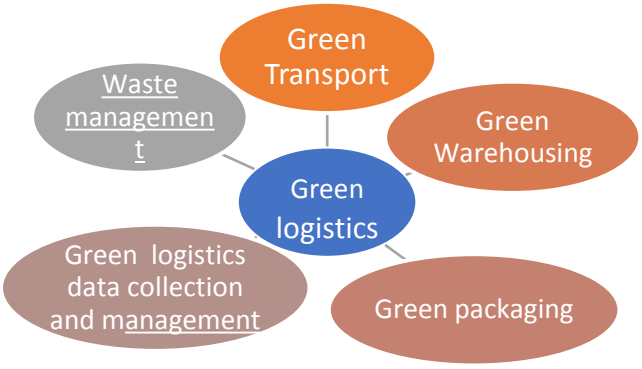

Figure 1 Source: Green logistics Model (Xia_Y. and Wang_B, 2013)

2.2.1. Green Transport

According to UN agency European Region, the results on the health, transport-related pollution are leading considerations regarding transport. Study in recent years systematically indicates that outside pollution harms human health, and therefore the proof points to pollution stemming from transport as a crucial contributor to the effect of the environment.

Several factors are known as influencing the number of emissions because of the transport sector, and an efficient strategy can take of these factors under consideration. They include:

- ✓ The quantity that vehicles are employed in a given country or metropolitan space, together with the extent to that this use is known as "excessive";
- ✓ The age of the vehicle fleet and therefore the technology used among it;
- ✓ The extent to that vehicles are properly maintained;
- ✓ The handiness of applicable fuels and therefore the extent to that they're used properly; and region, climatological, and topological conditions (Roger G., 2002).
- ✓ The involvement of the government number of organization is enclosed in these ways and use practices like consolidation, Model Choices/multimodal system/ clean vehicles or fuel-efficiency vehicles, employ pallets or packing materials, standardize the truck size etc.. (Xia Yingying Wang ,2018),

A. Model Choices

Currently, there are several transport models to pick out for higher efficiency of services. For the priority of the environment, several organizations choose to use a multimodal system. These systems won't solely be most popular for minimizing price however additionally facilitate to decrease CO2 emissions.

B. Freight consolidation

Logistics is maximizing profit by minimizing price and for these functions, consolidation plays a great deal and in the main follow, in several supplying corporations for the efficiency of the service. These will additionally not solely minimize the price, it'll also cut back the CO2 emission. However requires planning and management.

C. Clean Vehicles/fuel potency vehicle

By exploitation vehicles/trucks that perform higher with minimum fuel consumption and make sure the quality of the vehicles and have a frequent check if there's no leak or contamination on air on the vehicles with a frequents maintenance. This cannot solely cut back CO2 emission, additionally minimize the accidents occurred because of the non-maintenance.

D. Re-usage of pallets or packing materials

Packaging has been proclaimed to be a reason for the high level of pollution; so, the necessity for eco-friendly packaging is in continuous growth (Gheorghe O., 2018). In logistics industries, packages are the second-largest waste. By reusable pallets and packing materials like exploitation product which will be recycled, consuming materials that are already recycled are among some of the many practices that can be used for packaging materials.

2.2.2. Green Warehousing

A. Cross-docking:

Cross-docking systems are enforced for several years within the business world, being outlined as a warehouse strategy the involves movement of fabric directly from the receiving dock to the shipping dock with minimum time in between. In alternative words, it's a follow of moving merchandise through distribution centers while not storing them. (Juan Pablo., 2011). These minimizing inventory or simply in time system, automatic deposit system and minimize the usage of fuel need materials and shift to electrical material equipment's (Xia Y., 2018). However sensible warehouse layouts and warehouse management will save.

B. Automated warehouse systems

Technologies want to contour processes among the warehouse, as an example, automated storage and retrieval systems that optimize the flow and temporal order among the warehouse (Thiell et al., 2011).

C. Facility style and construction

The layout and construction of warehouses directly influence the amount of energy want to conduct operational activities. many green practices want to use 'green' warehouses: going

paperless, putting LED lighting, painting walls white, and putting in a lot of windows for natural lightweight. putting in star panels and warming systems, training operators to maximize fuel efficiency (Thiell et al., 2011).

D. Reconditioning and employ of pallets and containers,

Plastic pallets is easier recycled than wood pallets, as a result of their lighter and may include reusable material.

E. Disposing of product and on-the-site recycle

This entails exploitation a lot of environmentally friendly ways that of eliminating broken or returned product. product can be disposed simply if they're properly prepacked. 'Green packaging' is additionally called 'ecological packaging' or 'environmentally friendly packaging' and may be need to recycle or employ product a lot of simply and doesn't damage the environment throughout the product's life cycle (Zhang & Zhao, 2012).

F. Clean material handling equipment and select of different equipment

This entails selecting a lot of property handling equipment's among the environment. Forklift are one in all the most varieties of handling equipment's among a warehouse. Diesel forklifts is modified for electrical forklifts, or biofuel is used (Thiell et al., 2011) for the operative prices and cut back surroundings.

2.2.3. Green packaging

Green packaging, also known as "ecological packaging" is defined as the technique of packaging, that values human and animal health, as well as the environment throughout the lifecycle, using reusable or recycled materials altogether created from natural materials (Yavuz S., 2017). Packaging has been identified as one of the highest level of pollution; so, the requirement for eco-friendly packaging is in continuous growth. Packaging has modified radically, particularly as a results of unlimited client access to info. In alternative words, shippers are aware on the high impact of the packaging on the, the waste of resources, and finding packages that suit their demand. during this sense, one amongst the first needs for shippers is

ecological packaging; that's, they require packaging that uses less waste, incorporates recycled materials, and might be recycled once empty (Gheorghe O., 2018).

2.2.4. Green Logistics Data Collection and Management

The scientific ways of data collection and management that are greater in logistic management cannot solely optimize the management of the resources however additionally cut back fuel consumption and increase profit by using Radio frequency identification, Fuel Consumption observance are among some of the solution for reducing the CO2.

2.2.5. Waste Management

Even though the logistics service providers doesn't essentially manufacture waste of their own, there are always some materials that would be recycled, like worn tires, stuff oil, packaging things, or maybe work that's not required. By implementing recycled strategy, the corporate are contributing to an alternative economy that generates new product with waste that, otherwise, would be merely discarded.

Also, the corporate will encourage the client to use reveres supplying, for example, a freight forwarder assists a corporation that creates shoes. The work scope consists of taking the raw materials the corporate has to their shoe assembly line, furthermore as transporting the ultimate product to distribution centers. however regarding increasing this scope to additionally aggregation the materials utilized in the shoe assembly line and discarding them appropriately? or maybe higher – taking these materials to recycled centers, wherever they will be converted into one thing helpful for the client? These actions can create the assembly additional profitable to your customer, increase the vary of services they rent , and, additional significantly, contribute to the environment (Thiell et al., 2011).

2.3. Empirical Literature Review

Different scholars has studied on the practice of green logistics and the challenges they experienced in their country. The result shows that most of the logistics service providers challenges circled around financial or human resource, customer and also government policies.

2.3.1. Logistics in China

The logistic business plays a vital role within the Chinese economy. logistics firms offer supply services for his or her customers, that embrace deposition, transportation, inventory management, order process, and packaging. With the quick growth within the economy, the demand for logistics services has been growing considerably in China. (Chieh-Y. 2010).

The analysis has been done by initial distinguishing if the organization technical, structure, and environmental factors influence the adoption of green practices, and therefore the result shows that regulative pressure, the corporate size of the organizations, for higher performance, for economic advantages, are a number of the benefits of the implementation of the green logistics in China.

Even though the China supply company have several positive benefits on implementing the green logistics there are some challenges like restricted technical support, understanding the capability on the human resource, a lot of observe on the green logistics on the logistic service sectors to master the system.

Thus, with the assistance of the govt. by supporting the supply sector financial, technical, academic resources, organization support to the staff particularly top managers, support from the specialists on the green sectors will eliminate those challenges.

2.3.2. Green logistics in Morocco

Morocco is another country that implements green logistic (Elbaz, 2017) the green logistics is enforced for the priority of the environment although some corporations applied it for the reduction of price. However most of the businesses sectors that initiate the green logistics are European-based companies in Morocco.

But lack of environmental strategic policies, lack of monetary instability, and insufficiency of trained personnel is a few of the blocks on practicing the green logistics.

As there are restricted analyses done on green logistics in developing countries the research is restricted on finding literature on the topic matter. However as per the article with the support of

the govt. financially and with skilled training with the assistance of the management of the logistics sectors Morocco is on the proper path on the implementation of green logistics.

2.3.3. Green Logistics in South Africa

SUZANNE L. 2015, created a quest on the utilization of green logistics within the logistics service sectors in South Africa. supported their finding, due to the reducing supply prices, the South African corporations were initiated to practices green logistics is one the reasons for implementation of green initiatives. additionally, the competitive advantage, rising price of fuel, Decreasing fuel bills, increasing offer chain potency, compliance with government rules, up capitalist relations, and up packaging are the other reasons of implementing green logistics in South Africa.

Using a comprehensive literature review and collection questioners the analysis have used SWOT analysis to research the finding of the general logistics service sector in South Africa. To implement the green logistics the country have used completely different ways like dynamical truck fleets, making distribution centers, property carrier choice, Facility style and construction, Carbon footprint assessment, green client criteria gathering, Introducing pursuit and tracing systems, Environmental certifications, Freight consolidation, Night-time deliveries, mistreatment completely different packaging technologies and material to scale back contamination, using electrical forklifts, consolidate shipments are among several of the practices that they applied.

whereas several factors force them to implement green logistics. There are several barriers that they face in practicing green logistics such as principally due to the lack of data and knowledge that relates to the lack of training green supply chain management additionally are lack of professional treatment and semipermanent contracts for adopting GSCM from government Lack of management initiatives for transport and logistics and lack of top level management commitment, lack of integrated technology systems, lack of acceptance of advancement in new technology are a number of the barriers that the country faces upon implementing the green logistics.

Also, the culture may be a hindrance for implementing the green logistics, as there's not a culture for caring for environment, and therefore the issue with the country culture is creating the

staff awareness to the environmental problems and therefore the effects that they need (Hampus G. 2014)

Between these challenges the researchers finding shows that the green logistics created up fuel potency, Reduced emissions, increased company social responsibility reduced overall logistics prices, reducing waste/improving disposal/.

2.4. Conceptual Framework

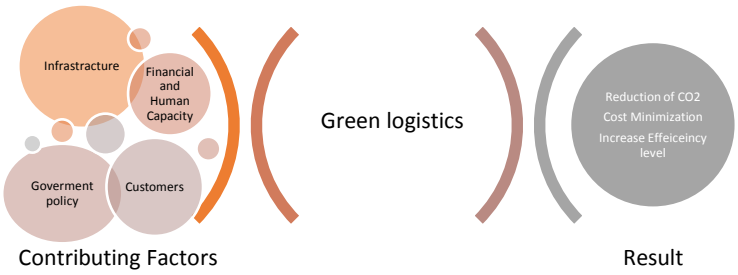

Figure 2 Conceptual Framework

2.5. Identified Literature Gaps

The increase of the global warming becomes alarming to the business sectors to take up their logistics and reduction of their waste. Many researches done there study in terms of green supply chain and green logistics in manufacturing or production companies specially in developed countries and have also been practicing and seeing a significant change on the reduction of CO2 and increasing their efficiency level. But when we came to developing countries green logistics is not much practice nor given attention due to various reasons. One of the cause is the lack of academic research done on the green logistics particularly in the logistics service providers, these research thus can be a break for the literature gaps on the implementation and the challenges of the green practice on the LSP.

CHAPTER THREE

METHODOLOGY

The research methodology is the a roadmap to categories the approaches utilized in the analysis. On these chapter, it contains description of the study, research design and approach, population and sampling, data source and type, data collection procedure, Method of data analysis and presentation, validity and reliability and Ethical consideration.

3.1. Description of the Study

The green logistics practices in LSP lacks literature, due to these the researcher will use a descriptive style to describe every scenario within the company of study and information are going to be collected from the PAG management and workers, and also interviews will present itself to assess on the green logistics practices and challenges and therefore the discussion and findings conferred a narrative kind. During presenting the paper, secondary information are going to be obtained from chosen websites, books, and journal papers associated with the topic.

3.2. Research Design

The aim to the research design is to give the readers scientifically interesting information, as well as a feeling of how this research was conducted. The thesis is based on case study that focused on one of the logistics service provider company in Ethiopia carrying out their environmental management.

3.3. Research Approach

Research approaches are plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation.

As its little known that the holistic picture of the green logistics challenges on LSP, Since the research subject is greening and for the Covid protocol the researcher will totally avoid papers and data will be conducted by distributing a questionnaire using a google form only and based on the respondents the researcher developed an interview to the two managers at the company. In addition to the two data collection methods the researcher also uses a secondary source data collection in order to strength the research academically understanding.

The analysis is going to be collection primary information from respondents and can use a non-probability sampling technique.

Since there's limited study done on the green logistics specially on the sector of logistics service providers, employing a non-probability sampling methodology could be a desirable information assortment methodology by applying a purposive and convenience sampling.

These is due to the purposive sampling is professional sampling concerns consultants in an exceedingly specific field to be the topics of the purposive sampling. this type of sampling is helpful once the analysis is predicted to require a protracted time before it provides conclusive results or wherever there's presently an absence of data-based proof.

The researcher is going to be employing a Convenient Sampling so it's easier for the researcher to work. Participants are going to be people who the researcher has comparatively "easy" access to,

The researcher also will use qualitative strategies, to support the questionnaire and the researcher to sort of theoretical information.

The research population targets are the Panafric Global Managers and staffs in different departments.

3.4. Population and Sample

To assess the problem of the study, the researcher uses a non-probability sampling technique and collect data by using a purposive and convenient sampling

The companies have a total of 160 employees and since the distributed questionnaire requires internet access and a computer, the researcher selects its participants that have those access using a convenient sampling technique.

Total Number of Employees	Respondents that fulfill the researcher criteria
160	50

Table 1 PAG Population size

Based on the questionnaire finding, the researcher shall use purposive sampling for the quantitative data collection.

3.5. Data Source and Type

The researcher will use both primary and secondary data sources. The secondary data source collection will be from websites, books, articles and journals. And the primary data source are those that are collected by questionnaire and interviews.

3.6. Data Collection Procedure

The researcher will firstly collect data from different article journals and books in order to have a better understanding on the subject of green logistics. Once these data collected and organized the researcher will generate a questionnaire on relation to the specific objectives of the study. These questionnaires will be the guideline for generating an interview question to the management teams of the company. The main advantage of these interview is to have a direct contact between the respondents and to have a concreate answers that may not be clearly responded on the questionnaires.

3.7. Methods of Data Analysis and Presentation

In order to analyze the data collected from questionnaire, the researcher will use a mean and standard deviation to interoperate the result by using SPSS as a tool. On regards to the gathering of interviews, a Content analysis will be applied to categorized in themes and sub-themes,.

3.8. Ethical Consideration

In these researches, all the five principles of Ethical consideration will be applied.

- Minimizing the risk of harm

Minimize the risk of getting consent from participants, protective the obscurity and confidentiality of participants, avoiding deceptive practices once planning the analysis, providing participants with the proper to withdraw from the analysis at any time.

- Obtaining consent

Participants ought to perceive that they're collaborating in analysis and what the analysis needs of them. Such info could embody the aim of the analysis, the ways getting used, the doable outcomes of the analysis, additionally as associated demands, discomforts, inconveniences, and risks that the participants could face, or any info that the participants have to be compelled to recognize.

Another part of consent is that the principle that participants ought to be volunteers, collaborating while not having been coerced and deceived.

- Protecting obscurity and confidentiality

Protecting the obscurity and confidentiality of analysis participants is another sensible part of research ethics. despite the fact that the analysis is completed with a volunteer there's some information's that the participants don't wish to disclose their identity. With the permission of the participants, such steer is disclosed.

- Avoiding deceptive practices

Since the analysis technique is especially supported questioners and interviews deceptive won't be applied to the current article

- Providing the proper to withdraw

The confidentiality and obscurity of individual respondents on the study are assured, as per the consent of the participants on the sound recording. Also, all participants within the analysis are treated equally with respect.

3.9. Data Sources and Types

The researcher will use each qualitative and quantitative ways to point out the result. All the info collected from the first sources is coded and concluding effective analysis of the info and can be analyzed using graphs and tables. Additionally to check the result the SPSS code are used.

In addition, the qualitative content analysis (QCA) technique are accustomed analyze knowledge collected through interviews.

3.10. Reliability and Validity

Reliability refers to how consistently a method measures something. If the same result can be consistently achieved by using the same methods under the same circumstances, the measurement is considered reliable.(Fiona M., 2019)

Validity refers to how accurately a method measures what it is proposed to measure. If research has high validity, it refers as it produces the results that correspond to real properties, characteristics, and variations in the physical or social world.

To check reliability of items 32 questionnaires were distributed for respondents. Then, the collected data were tested using cronbach's alpha which is 0.768 as shown below. As a rule of thumb a reliability coefficient of 0.70 or above is considered acceptable in most social science research situations.

Reliability Statistics	
Cronbach's Alpha	N of Items
.768	37

Table 2 Reliability Statistics

CHAPTER FOUR

4.1 DATA PRESENTATION, ANALYSIS, AND INTERPRETATION

In this chapter, the research will cover the company background that the data obtained, analyze the data and based on the finding the research will conclude and made a suggestion

The researcher will start by briefing the company that participates in the case study and will follow the empirical data, analyze the data, and finally will summarize the findings. By doing so, the research shall obtain the objectives that is the implementation and challenges of the green logistics on the logistics service providers.

The results of the study will be presented, examined, and interpreted using statistical and judgmental procedures. Accordingly, the quantitative result will be presented on a percentage to help us conclude the research. On the descriptive analysis tables and graphs will be shown to summarize the qualitative data found. For the collection of data, the researcher used both questionnaires and interviews.

4.1.1 Background of the Company

Panafric Global Plc /PAG/ is one of the largest and senior logistics companies with 27 years of experience in the logistics industry. PAG has 10 branches and three satellite offices with 159 employees and handles over 5000 operations per year. The company is also a member of FIATA, IATA, IAM, EFFSA. They handle shipments from personal effects, projects, commercial, reliefs, oil and lubricants, exhibition, diplomat items, and all types of cargos. The company officially started a green initiative in 2014 G.C. by launching one tree for one operation and since then they have been planting trees every year and now becoming one of their brands. The company also use a different type of promotional items that support and give awareness an. They also the company is one of the contributors to constructing tangible assistance to the government for the improvement of green logistics.

The data collection tool was used at first by distributing a survey questioner to the PAG employees using a purposive sampling technique followed by an interview with top-level managers using both open and closed-ended questions. This technique is used to charm the respondents plus they can also respond with their personal views on the subject matter.

From 31 questionnaires distributed based on the researcher selection, 70.97% of the return and viewed as follows.

From the respondents of the questionnaires, 15 of them are degree holders and the remaining have masters and above educational background. The 18.18% of these respondents has 1-3yrs, 36.36% has 4-6yrs, 27.27% with 7-10yrs and the remaining have over 10years of work experience on the logistics industry. This shows that the respondents are well qualified in terms of education as well as experienced in the logistics industry.

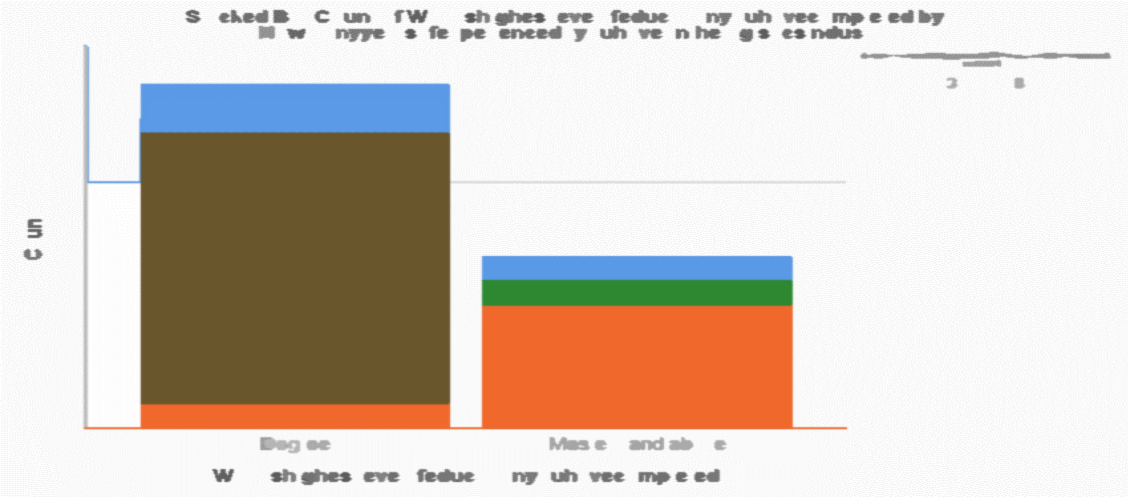

Figure 3: Source Questionnaire respondents' General information

In order to attain the objectives of the study, the researcher uses a questionnaire as an initial data collection instrument using a weight from Very High-5 to Very low-1/see table3//

Weighted average Result

Score	Result	Result Interpreted
1 – 1.79	Very Low	Too unpractical
1.80 – 2.59	Low	unpractical
2.60 – 3.39	Moderate	Average
3.40 – 4.19	High	Practical
4.20 – 5	Very High	Very practical

Table 3: Weighted Averages For 5-Point Likert Scales

To ascertain on the scores the data entered on the SPSS for determining the means. The data interpreted to understand how practical or not of each variable.

4.2.2. Overall PAG Green Logistics Implementation

The questionnaire was distributed considering the professionalism on implementing the green logistics by assessing the level of the employee understanding on the green logistics, the government and the customer's involvement in the implementation of the green logistics and the level of the company will on implementing the green logistics in the company.

	Mean	*Std. Deviation*	*Result interpreted*
Awareness on green logistics	3.14	1.32	Moderate
Customer requirement on green logistics	2.77	1.27	Moderate
Government Support on Green Initiatives	2.91	1.509	Moderate
Implementing green logistics	3.45	1.262	Practical

Table 4: Source Questionnaire Respondents on Implementation of Green Logistics

The higher the mean score, the stronger the agreement is and as per the result of table 4.1, it reveals that the green logistics implemented at the company scoring the highest of (Mean= 3.45, SD = 1.26). These result shows that the company have a high initiation on implementing the green logistics. These are also supported by the interview that other than the reduction of waste its practice highly in order to gain market.

The second highly score (Mean=3.14 , SD=1.32) is the awareness of green logistics by employees. These shows that the employee understand the needs of green logistics and according to the interview with the HR of PAG the company have its own training center in order to support its employees to build their capacity in every level.

However the customer demand for green logistics are at the Mean=2.77 and SD=1.27 scoring the least on the factors on practicing the green logistics. According to the Marketing director of PAG, local customers are more focused on cost rather than the environment and have a low understanding on the need of the green logistics.

The government support on the implementation of green logistics scoring the third with (Mean=2.9, SD=1.5) on table 4.1 shows that the government has a positive sign on initiating the logistics industries to practicing the green logistics. Also, in the interview with the commercial executive director of PAG, the government show a lot of interest in the subject and are shifting the policies to green procure such as purchasing electric materials, building infrastructure like an electric railroad, uplifting excise tax for the new vehicles and also using paperless customs clearing process.

Overall, the implementation of green logistics is at a moderate level and the customers' awareness need to be developed but shows a positive sign on the company on practicing the greenness and shows that the government have initiate the green logistics practice.

4.2.3. Green logistics Strategies

There are many types of green logistic strategies that are implemented in different companies depending on their resource and accessibility, the researcher summarizes the questioner into 4 common types of strategies that are essential for the implementation of green logistics, transport, warehouse and inventory, packing, and waste management and separated each type of strategies respectively.

4.2.3.1 Transport

	Mean	Std. Deviation	Result Interpretation
Freight Consolidation	2.95	1.362	Average
Fuel Consumption monitoring	3.55	1.143	Practical
Monitoring Vehicle Maintenance	3.95	0.899	Practical
Reduce empty running vehicles	3.64	0.902	Practical
Route plan for freighters	3.59	0.666	Practical
Training drives on safely and fuel efficiency	3.45	0.8	Practical
Transport Mode of Selection multi-modal, railway	3.59	1.141	Practical
Using double trailer trucks rather than single trucks	3.36	0.658	Average
Using less Polluted Vehicles	3	1.155	Average

Table 5 Source Questionnaire respondents on strategies of green logistics

Based on table 4, the result confirmed that Monitoring Vehicle Maintenance is one of the strategies that the company highly practices scoring (Mean=3.9, SD=0.99). Reduction of empty running vehicles scored the second strategy that the company implementing with mean value of 3.64 and SD of 0.902.

With the mean of 3.59 and SD 1.141 is the selection of Mode. According to the commercial executive director rather than using tracks customers prefer to use the railroad for cargos import or exported to DJI port due to various reasons such as the cost-effectiveness, the efficiency and time deliverance of shipments from Djibouti port to Modjo and to avoid theft. Also, these have a high advantage on the reduction of CO2 emission. Other than the selection of railroad, (Mean=3.59, SD=0.666) is Route plan for the freight and according to the interview conducted with the marketing director the company always consult and consider these method not only for the concern of the environment but for the cost and timely deliverance, .

Fuel consumption monitoring scored fifth on the section of transport strategies that the company practice with (Mean=3.55, SD=1.143) “We have a GPS that is installed in each heavy trucks to the small vehicle to track the vehicles and monitoring fuel consumption. Our vehicles are not the only ones that use a monitoring system also we force our selected transport partners to use tracking system,” said the commercial executive director. With the link to the fuel monitoring system, according to the interview with the HR director, the company has a training center for the growth of its employee and training the drivers on safety and fuel efficiency is one of the training programs that the company practices. These is also supported by the data with the Mean 3.45 and SD 0.8.

Using double trailers is the 8th score with mean=3.6, SD0.658. “Customers usually prefer to use a double trailer for cost reduction but these sometimes result in a delay in the delivery especially when there is a shortage of shipments to the intended destinations” said the Commercial executive director. also when it comes to route planning, and also the environment this statement also agreed by the respondents. In addition, 45% of the respondents confirmed that the freight consolidation is highly practiced.

With mean value 3, SD=1.15 is the usage of less polluted vehicle. PAG has a total of 25 heavy trucks but these trucks are not enough to satisfy customer needs and require to outsource the heavy trucks but most of the transport companies' trucks, are very old, and finding less polluted vehicles are very slim said the commercial executive director. And the least score on the mean value of 2.95 and SD 1.362 are the freight consolidation.

The standard deviation of the above table shows that even if the company strategies greening on the transport of are the right track its needs improvement specially on practicing freight consolidation and usage of the less polluted vehicles.

4.3.2.2 Warehouse and Inventory

The following section deals with which practices that the company mainly practice on regards to the warehouse and inventory management. To attain this, the respondents were asked to rate from very high to NA.

	Mean	*Std. Deviation*	*Result interpretation*
Automated System	3.73	0.985	Practical
Minimum Inventory	3.41	0.734	Practical
Proper layout for the warehouse	4	0.69	Practical
Encourage Customers to implement Green logistics	3.59	0.959	Practical
Using electrical equipment's	3.09	1.109	Average

Table 6 **Questionnaire respondents on Warehouse and inventory**

The highest score according to table 4.3 is the proper layout system at the warehouse with mean=4 and SD=0.69. the second highest score with mean=3.73, SD=0.985 is automated system. These is also supported by the interview conducted with the marketing director that the has its warehouse system called PSMS/procurement and supply management system/ that integrates with the procurement and finance department that shows the availability and of the stocks.

Minimum inventory system scored third with mean=3.41, SD=0.734. According to the commercial executive director, most of the company inventories are personal effect and putting a time limit on these items is difficult since we are only a service provider and are based on the customer demand but for those items that are stack in our warehouse due to documentation problem at customs, we'll go extra mile by assisting to complete the necessary documents and forwarding to the intended destinations. With the least score of mean=3.09, SD1.109 is the usage of electrical equipment. the company highly used a proper layout system and as per the interview, this's due to the unavailability of thee electrical equipment's on the local market and importing such items are very expensive.

Overall, table 4.3 shows that all the four warehouse strategies practiced on the company for the reduction of CO2 emission but the respondents strongly agreed that the layout system of the company is outstanding but need to improve on minimizing the inventory.

4.3.2.3 Packaging

Table 4.4 shows that the practices that the company applied on regards to packaging for the reduction of CO2 emission.

	Mean	*Std. Deviation*	*Result Interpretation*
Eco Friendly materials	3.45	1.057	Practical
Procure Recycle items	3	1.195	Average
Reusage of packing and pallets	3.91	0.921	Practical
Working with ISO 14000 certified companies	2.91	1.63	Average

Table 7 Questionnaire respondents on Packing

The third one of the strategies of green logistics is packaging and with the mean value of 3.91 and SD=0.921 the reusage of the packaging scores the first one on the practice of green logistics and according to the interview with the marketing director these systems are usually practiced for local customers specially for moving services, as the service for such customers do not require new packing materials. But due to the standard requirement for international moving, the reusage of packaging materials are not well practiced.

Eco friendly materials with the score of mean 3.45, SD=1.057 takes the second practice of packaging strategy the company practices in terms of 90% of the respondent's states that the company uses eco-friendly packing materials. Based on the interview, most of the packaging materials are internationally standardized and are preferred to use cartoons and plastic products and are avoided unless and otherwise it's necessary and demanded by the customer.

But procuring eco-friendly packaging products or recycle items locally is difficult due to shortage of suppliers on such type of products these statement is also supported by mean=3,SD=1.95.

With the mean=2.91and SD=1.63, working with ISO14000 certified companies scores the least on practicing the green initiation in terms of packaging.

These shows that the company widely exercised re-usage of packaging and pallets more than other strategies.

4.3.2.4 Waste Management

This section focuses on identifying the companies waste management strategies. To address this, the respondents were asked on a five point with the rank from Very highly to NA.

	Mean	*Std. Deviation*	*Result Interpretation*
Encourage Customers to implement Green logistics	3.59	0.959	Practical
ICT system	3.91	1.342	Practical
Usage of Recycling items	3.32	1.211	Average

Table 8 **Questionnaire respondents on Waste Management**

The ICT usage on reduction with mean 3.9, SD=1.342 considered as the highest means of waste management practice that the company uses. According to the HR director, most of PAG wastes are papers and to minimize the waste, they use different types of the ICT system such as, rather than coping files; the company scanned each document at the initial clearance stage. These will not only help reduce the waste, but they can also be easily accessible which increases the efficiency level of the company. In addition, they have a system called IFFS/Integrated freight forwarding system/that can help them to track the status of each shipment from the beginning to the end. The company also have a reported system for this software on a weekly, monthly,

quarterly, and yearly basis and measure the performance of the ICT system and upgraded based on these feedbacks.

With the score of mean=3.59, SD=0.959, encouraging customers is the second best practice the company implemented on the reduction of their waste.

Usage of recycled products is the least strategy that the company practices with mean=3.32, SD=1.2. According to the commercial executive director, this is due to the non-availability of suppliers in the local market and such products have to be procured globally which is rather expensive and difficult to be competitive with such prices.

The above indicates that there are positive signs regards to usage of the ICT system but still need to improve on the usage of recycled products and encouraging customers on the implementation of green logistics

4.2.4. Challenges on Implementing the Green Logistics

In these section identifies the company challenges on the practice of the green logistics. Thus in order to examine which challenges that the company highly faces, respondents were asked on a five point of highly to NA

	Mean	*Std. Deviation*	*Result Interpretation*
High Expense	3.86	0.774	Practical
Accessibility of the new technology	3.86	0.889	Practical
Customer adaption on Change	4.05	0.653	Practical
Customer demand	3.27	1.077	Average
Employee adaption of Change	3.95	0.653	Practical
Government policies	3.41	1.469	Practical
Infrastructure	3.5	1.185	practical
Lack of Government incentive and support	3.68	1.129	practical
Lack of ISO 14000 certified Suppliers	2.68	1.46	Average
Lack of knowledge and Experience	3.41	1.26	Practical
Lack of market competition	3.55	1.011	Practical
Lack of Organizational culture	3.41	1.008	Practical
Lack of top management commitment	3.27	1.162	Average
Lack of training centers	3.5	1.102	Practical

Table 9 Questionnaire respondents on the challenges of implementing green logistics

From table 8 of the respondents confirmed that the adaption of change by customer takes the highest challenge that the company faces with mean=4.05,SD=0.65 and with the same statement, the adaption of change by employee takes the second highest score of (mean=3.95, SD=0.653).. The high expense to implement the green logistics with mean=3.86,SD=0.77 and the accessibility of new technology with mean=3.86 SD=0.889, takes the third and fourth challenge that the company faces. According to the commercial executive manager, the initial cost of executing the green logistics are very high as most of the items that support to implement green logistics such as electrical forklifts, eco-friendly packing materials are not accessible in local market and importing such items results additional costs in addition to these there are no technical companies that can support to these new technologies. Lack of government incentive and support is the other challenge that the company faces with mean=3.68, SD0=1.129. As per the interview even though the government show interest on the practice of the green logistics, still requires improvement on supporting the logistics sector by uplifting or reduction of the duty of the new importing the new technologies and materials. Mean=3.55,SD1.011 is the lack of market completion. And infatuation with mean 3.5 and SD 1.185 are also the bottleneck on the practice of green initiatives. per the interview, since the green logistics are not well practiced in the country or well-known without a competitors.

Lack of training centers(mean=3.5, SD=1.102) is also considered as a challenge. According to the HR director, even though the company has to give training to their employees the burden should not be fully go to the companies and the greening initiative has to be given at the school level as one subject to see a concerted change. Mean=3.41, SD1.469 is the government policies. Again as per the HR director, despite the fact the shows an interest there are some policies that need to be over seen such as paperless customs clearance. The paper less clearance shows the commencement for the adaption of new technology and efficiency of the clearance process but they also have a regulation that allows them to audit within five years after the clearance is completed. Even though these policies have many motives, the company are forced to hold all the hard files in case any question raised is contradicts with the environmental concept. With the similar mean and SD 1.26 are lack of knowledge and experience and organizational culture with SD=1.008. Customer demand and lack of top management commitment with mean3.27 and SD1.077 and 1.162 respectively. Last but not list the challenge that the company faces is the lack of ISO certified on 14000 suppliers.

CAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATION

5.1 Summary of the Findings and Conclusion

In this chapter, the researcher will summarize the data collected and analyze its findings and will conclude.

Green logistics is closely linked to sustainability. In fact it contributes to a reduction in pollution, traffic congestion and as a consequence it improves the quality of life and also reduces health diseases due to a reduction of air pollution. (Anil K. 2015).

Green logistics is not also practiced to reduce CO2 emission it can also benefits the logistics industries to improve their efficiency level and reduce cost. But these require the integration of all the stack holders.

In developed countries, green logistics have been practiced for over two decades but in developing countries like Ethiopia, the logistics industry is not yet advanced in terms of technology, manpower, and finances. As we are living in a competitive world, we need to advance our system to stand parallel on the market.

The primary objective of the study is to assess the practices and challenges of green logistics on the logistics Service providers in terms of human and financial resource

The data shows that Panafric Global has a high initiation on the implementation of green logistics. For instance, they have developed different ICT systems internally to reduce their waste at the warehouse, inventory, procurement, transport, and also minimize their usage of papers. The government also show much interest in greening and developed a paperless customs clearance system, build an electric railway, reduce taxes for the new vehicles and enforce the commercial importers to use only multi-modal systems, and installing a tracking system on all vehicles are among some of the policies that the government practiced.

Even though there is an initiation on the development of green logistics there are many constraints that the company faces. Since the logistics industry is a service giver and determines the customer demand it requires a high awareness on the customer's side to implement the green

logistics. Also, the availability of suppliers of eco-friendly materials such as electric forklifts, recycled packing materials is slim.

Also, the awareness of the employees and lack of training and culture are some of the many challenges that the company faces.

5.2 Recommendation

Overall Panafric global has shown a positive result on the environmental sustainability of green logistics but since the logistics industry is a stiff competition it requires rapid improvement. Thus, the researcher recommends as follows.

- As per the result of the research, one of the challenges is customer demand- most of the local customers are more concerned about the cost. This is due to a lack of awareness and trust within the company. Thus, a company needs to create trust within its customer and give awareness on the cost-benefit analysis.
- Among others, one of the core values on the implementation of green logistics is the government. Thus, the government still need to review their policies and reduce the taxes that are driven from the environmental issues so that it can persuade the stakeholders to think green
- Since the largest CO2 emission in logistics industries are transported, the government need to build more infrastructure in terms of road, dry ports, e-service
- The logistics industry in Ethiopia lacks academic studies and training centers and the government and all the stakeholders need to focus on building human capacity to have a tangible change.

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ANNEX

Green Logistics for implementation of sustainable development strategies in Logistics Service Providers; A case study at Panafric Global Plc

Dear respondent,

My name is Firezer Tadesse. I am third year master's student at Addis Ababa University, School of Commerce. I am collecting the information for the partial fulfillment of Master's degree on Logistics and Supply Chain Management on the subject of "Green Logistics for Implementation of Sustainable Development Strategy in Logistics Service Providers Case Study on Panafric Global Plc.". The main purpose of the study is to identify barriers that hinder the implementation of green logistics in the logistics service providers.

The researcher guarantees on the confidentiality and anonymity of the respondents and the researcher Kindly request your honest response. Your response will to be used to identify barriers in implementing green logistics and provide recommendation to the concerned parties that support for taking actions for improvement. The questionnaire will not take more than 10 minute to complete.

Questions marked with an asterisk (*) are required.

Thank you for your cooperation in advance!

General Information

1. What is highest level of education you have completed?

Highschool ☐ Certificate ☐

Diploma Degree ☐ Masters and above ☐

2. How many years of experience do you have on the logistics industry?

1-3 Years ☐ 4-6 Years ☐

7-10 Years ☐ > 10 Years ☐

3. What is your position in your current job?

Bottom Level ☐ Middle level Management ☐ Top Management ☐

5. Which department are you currently working in?

Transport ☐ Warehousing ☐ Packing and Moving ☐

Operation Commercial ☐ Other ☐

6. How much do you know about "Green Logistics"?

Very Little ☐ Litte ☐ Moderate ☐ High ☐ Very High ☐

7. To what extent does the company implement green logistics?

Very Little ☐ Litte ☐ Moderate ☐ High ☐ Very High ☐

8. To what extent does the customers of the company require the implementation of Green logistics?

Very Little ☐ Litte ☐ Moderate ☐ High ☐ Very High ☐

9. To What extent the government support green logistics implementation?

Very Little ☐ Litte ☐ Moderate ☐ High ☐ Very High ☐

Green Logistics Strategies

Transport

	Very Low	**Low**	**Moderate**	**High**	**Very high**
Lack of Knowledge and experience	◯	◯	◯	◯	◯
Customer demand	◯	◯	◯	◯	◯
Infrastructure	◯	◯	◯	◯	◯
Government policies	◯	◯	◯	◯	◯
Accessibility and new technology	◯	◯	◯	◯	◯
High Expense	◯	◯	◯	◯	◯
Lack of market competition	◯	◯	◯	◯	◯

Warehouse and inventory

	Very Low	Low	Moderate	High	Very high
Lack of Knowledge and experience					
Customer demand					
Infrastructure					
Government policies					

Packing

	Very Low	Low	Moderate	High	Very high
Lack of Knowledge and experience					
Customer demand					
Infrastructure					
Government policies					

Waste Management

	Very Low	Low	Moderate	High	Very high
Lack of Knowledge and experience					
Customer demand					
Infrastructure					

Challenges of implementing green logistics

	Very Low	Low	Moderate	High	Very high
Lack of Knowledge and experience					
Customer demand					
Infrastructure					
Government policies					
Accessibility and new technology					
High Expense					
Lack of market competition					
Customer adaption on change					
employee adaption on change					
Lack of training center					
Lack of top management commitment					
Lack of government incentive and support					
Lack of organizational culture					
Lack of ISO 1400 certified suppliers					

Interview Questions

1. What kind of green logistics organization structure do you have in your company?
2. Does the company measure the implementation of green logistics?
3. What are the company major waste
4. How do you manage your waste?
5. What kind of waste management training does your company have for your employees?
6. Do you have a recycling or a return policy? If so, please clarify?
7. Do you consider Green logistics consider as a trait or opportunity for your company?
8. Which services do you provide to reduce CO2 emissions? (terminal services, transport, etc.)
9. What are the materials you commonly used for packaging materials?
10. Do you think green logistics is important from your client's perspective? And do your client willing to pay extra for greener transportation products?
11. What are the most common shipping methods for your company to fulfill customer need?
12. Do you have your warehouse system? If you do, could you describe it to us? For how long can goods be stored in the warehouse?
13. Do you consider CO2 emission upon service provide? If so in what kind of services do you provide these?
14. Do you use a tracking system during transportation? What type?
15. What other system do the company use to reduce the carbon dioxide emission
16. How many different means of transportation do you offer? Which has the least emissions or is the most environmentally friendly in your opinion?
17. Which means of transport is the most efficient one?
18. What kind of quality system do you have inside your company?
19. Do you think the logistics industry doing enough when it comes to reducing CO2 emissions?
20. What are the main challenges of implementing green logistics in your company?
21. What's the company's plan for reduction of the carbon dioxide emission?
22. What do you recommend to implement the green logistics both on the government side and organizational side?