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**MBA Semester – IV Research Project**

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| --- | --- |
| **Name** | G. Aksharasree |
| **USN** | 221VMBR00897 |
| **Elective** | Logistics and Supply Chain Management |
| **Date of Submission** |  |

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## A study on “Specify your title”

Research Project submitted to Jain Online (Deemed-to-be University) In partial fulfillment of the requirements for the award of:

## Master of Business Administration

*Submitted by:*

**G. Aksharasree**

USN:

**221VMBR00897**

*Under the guidance of:*

**Prof. C Selvaraj**

(Faculty-JAIN Online)

Jain Online (Deemed-to-be University) Bangalore

## 2023-24

**DECLARATION**

I, *G. Aksharasree,* hereby declare that the Research Project Report titled *“Green Logistics and Carbon Footprint Reduction” has been* prepared by me under the guidance of the *Prof. C Selvaraj.* I declare that this Project work is towards the partial fulfillment of the University Regulations for the award of the degree of Master of Business Administration by Jain University, Bengaluru. I have undergone a project for a period of Eight Weeks. I further declare that this Project is based on the original study undertaken by me and has not been submitted for the award of any degree/diploma from any other University / Institution.

Place: Bengaluru \_G. Aksharasree\_

Date: *Name of the Student*

*USN:* *221VMBR00897*

## CERTIFICATE

This is to certify that the Research Project report submitted by Ms. G. Aksharasree *bearing* *221VMBR00897* on the title *“Green Logistics and Carbon Footprint Reduction”* is a record of project work done by her during the academic year 2022-23 under my guidance and supervision in partial fulfillment of Master of Business Administration.

Place: Bengaluru

Date: *Prof. C Selvaraj*

## ACKNOWLEDGEMENT

I would like to extend my sincere appreciation to my dedicated guide, Prof. C Selvaraj, whose unwavering support and expertise have been indispensable throughout this research journey.

My heartfelt thanks go to the esteemed University officials for having

project as a part of the MBA Curriculum and for their continuous encouragement and for providing us with the resources necessary to carry out our research effectively. Their commitment to fostering a conducive academic environment has been a driving force behind our success.

I owe a debt of gratitude to our esteemed faculty guide, Prof. C Selvaraj, whose mentorship and insightful feedback have been instrumental in shaping our research methodology and refining my ideas.

I would also like to express our appreciation to the other faculty members, their diverse perspectives have been instrumental in shaping the quality of our research.

Lastly, I extend my thanks to all those who have supported us along this journey, whether through encouragement, advice, or assistance in any form. Your contributions have been invaluable, and I am deeply grateful for your role in my success.

\_G. Aksharasree\_

*Name of the Student*

*USN:221VMBR00897*

## EXECUTIVE SUMMARY

Logistics management activities impact environment and in this context the concept of green logistics assumes importance. Green logistics is concerned with the systematic measurement, analysis, and minimizing of the ecological impact of logistics. This includes all activities of the forward and reverse flow of products, information, and services between the point of origin and the point of consumption. It is associated with green inventory management, green facility location, operational implications of environmental regulations, responsible purchasing, green technology choice, and principles of eco-design. It aims to create a sustainable company value using a balance of economic and environmental efficiency. The implementation of green logistics is necessary for a sustainable global future.

Green logistics involves the integration of environmental considerations into all stages of the logistics process, from the procurement of raw materials to the delivery of finished products. This can include the use of more sustainable transportation methods, such as rail or electric vehicles, as well as the implementation of more efficient and eco-friendly packaging and storage solutions. The adoption of green logistics practices can not only help reduce the environmental impact of chemical industries, but can also lead to cost savings and improved efficiency.

The supply chain management function accounts for a significant part of the carbon footprint (on average 50%) and overall environmental footprint of an organization. Therefore, staff and volunteers working in Logistics functions have a big role to play, but need to be supported by management and other departments. Decisions about supply chains are not made only by Logistics staff. Regular feedback and communication between program and logistics staff are key. Reducing our environmental footprint is complex as we need to take into consideration many factors when making decisions: finance, security, speed of humanitarian response etc. Humanitarian assistance will always have an environmental impact, our first aim is to be aware of it, and then to reduce it as much as possible.

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However, there are also challenges associated with the implementation of green logistics in the chemical industry. For example, some companies may face regulatory hurdles or difficulty in finding sustainable alternatives to traditional logistics practices. Additionally, there may be a lack of awareness or commitment to sustainability among some stakeholders in the industry. Nonetheless, the potential benefits of green logistics make it a promising approach for chemical companies looking to improve their sustainability and reduce their environmental impact.

Adopting green logistics practices is essential for businesses aiming to reduce their carbon footprint and contribute to environmental sustainability. While challenges exist, the benefits far outweigh the initial hurdles, leading to cost savings, regulatory compliance, and an enhanced corporate image. Businesses that embrace green logistics can achieve long-term success and make a positive impact on the planet.

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# CHAPTER 1 INTRODUCTION AND BACKGROUND

The chemical industry is one of the largest and most important industries in the world, providing essential materials for many other industries and products. However, the production and transportation of chemical products can have significant environmental impacts, including air and water pollution, greenhouse gas emissions, and waste generation. To address these issues, many chemical companies are turning to green logistics as a strategy for improving sustainability and reducing their environmental footprint.

Green logistics refers to the application of sustainable practices within logistics and supply chain management, aiming to minimize environmental impacts while maintaining efficiency and effectiveness in the movement, storage, and handling of goods. As concerns about climate change, resource depletion, and environmental degradation grow, businesses are increasingly adopting green logistics strategies to enhance sustainability, reduce carbon footprints, and meet regulatory and consumer demands.

Green logistics, also known as sustainable logistics, is the practice of integrating environmentally-friendly principles and practices into logistics operations. It involves the design, planning, implementation, and control of efficient and effective transportation, storage, and distribution of goods, while minimizing the negative impact on the environment.

Green logistics aims to reduce the carbon footprint, energy consumption, and waste generated by logistics activities, and promote the use of renewable energy sources, recycling, and waste reduction practices. It involves collaboration between logistics providers, shippers, and other stakeholders to develop and implement sustainable solutions, such as using eco-friendly modes of transportation, optimizing delivery routes, reducing packaging waste, and improving supply chain visibility and transparency.

In summary, green logistics is an essential component of modern supply chain management, addressing the need for sustainability in an era of heightened environmental awareness. By implementing green logistics practices, companies can significantly reduce their environmental impact, achieve regulatory compliance, and meet the growing expectations of consumers and stakeholders for sustainable operations. Embracing green logistics not only benefits the environment but also enhances operational efficiency and fosters long-term business success. Green logistics is an approach to logistics management that seeks to balance economic, social, and environmental sustainability, and is becoming increasingly important as businesses and consumers alike seek to reduce their impact on the environment.

**Key Concepts in Green Logistics**

1. **Sustainability**: Integrating environmental considerations into logistics operations to ensure they are not only economically viable but also environmentally friendly. This involves reducing emissions, conserving energy, and minimizing waste throughout the supply chain.
2. **Carbon Footprint Reduction**: A major focus of green logistics is to lower the carbon dioxide (CO2) and other greenhouse gas emissions associated with logistics activities. This can be achieved through various methods, such as optimizing transportation routes, using fuel-efficient vehicles, and shifting to renewable energy sources.
3. **Efficiency and Optimization**: Enhancing the efficiency of logistics operations to reduce environmental impact. This includes better route planning, load optimization, and the use of technology to streamline processes and reduce resource consumption.
4. **Eco-Friendly Practices**: Implementing practices that reduce environmental harm, such as using recyclable packaging materials, promoting waste reduction and recycling programs, and designing energy-efficient warehouses and distribution centres.

**Drivers of Green Logistics**

1. **Regulatory Pressure**: Governments around the world are enacting stricter environmental regulations and standards, compelling companies to adopt greener practices to comply with laws and avoid penalties.
2. **Consumer Demand**: There is a growing demand from consumers for sustainable products and services. Companies that demonstrate a commitment to environmental stewardship can attract eco-conscious customers and enhance their brand loyalty.
3. **Cost Savings**: In the long term, green logistics can lead to significant cost savings through improved efficiency, reduced energy consumption, and lower waste disposal costs. Investments in green technologies often yield financial benefits over time.
4. **Corporate Social Responsibility (CSR)**: Many companies are incorporating sustainability into their CSR strategies. By adopting green logistics practices, businesses can fulfil their social responsibilities and contribute positively to the community and the environment.

**Strategies for Implementing Green Logistics**

1. **Transportation Management**: Adopting strategies such as route optimization, using low-emission vehicles, and promoting intermodal transport to reduce emissions from freight transport.
2. **Energy-Efficient Warehousing**: Designing and operating warehouses to maximize energy efficiency, using technologies such as LED lighting, solar panels, and energy-efficient HVAC systems.
3. **Sustainable Packaging**: Using packaging materials that are recyclable, biodegradable, or reusable, and optimizing packaging design to reduce material usage and waste.
4. **Collaborative Logistics**: Partnering with other companies to share resources and transportation capacities, thereby improving load efficiency and reducing the number of trips and emissions.
5. **Technology and Innovation**: Leveraging advanced technologies like the Internet of Things (IoT), big data analytics, and artificial intelligence to monitor and optimize logistics operations for better environmental performance.

## INTRODUCTION AND BACKGROUND

* 1. **Purpose of the Study**
  2. **Introduction to the Topic**
  3. **Overview of Theoretical Concepts**
  4. **Company/ Domain / Vertical /Industry Overview**
  5. **Environmental Analysis (PESTEL Analysis)**

# CHAPTER 2 REVIEW OF LITERATURE

## REVIEW OF LITERATURE

* 1. **Domain/ Topic Specific Review**
  2. **Gap Analysis**

# CHAPTER 3 RESEARCH METHODOLOGY

## RESEARCH METHODOLOGY

* 1. **Objectives of the Study**
  2. **Scope of the Study**
  3. **Methodology**
     1. **Research Design**
     2. **Data Collection**
     3. **Sampling Method (if applicable)**
     4. **Data Analysis Tools**
  4. **Period of Study**
  5. **Limitations of the Study**
  6. **Utility of Research**

# CHAPTER 4

**DATA ANALYSIS AND INTERPRETATION**

## DATA ANALYSIS AND INTERPRETATION

**The Learners are expected to present their analysis in the form of Tables, Charts and Graphs. Each of the tables and graphs should have a number and heading. The table should be put on top and the graph should be put below. Just below the graph, the analysis as well as the interpretation should be written. Preferably one page for one set of table and graph. The next table and graph should be on the next page. For Learners who have prepared a questionnaire, the sequence in the questionnaire and in this chapter should be the same.**

# CHAPTER 5

**FINDINGS, RECOMMENDATIONS AND CONCLUSION**

## FINDINGS, RECOMMENDATIONS AND CONCLUSION

* 1. **Findings Based on Observations**

Write in serial numbers or bullet points

## Findings Based on analysis of Data

Write in serial numbers or bullet points

## General findings

Write in serial numbers or bullet points

## Recommendation based on findings

Write in serial numbers or bullet points

## Suggestions for areas of improvement

Write in serial numbers or bullet points

## Scope for future research

Write in one paragraph

* 1. **Conclusion**

Write in one or two paragraphs

## REFERENCES

**(APA style; below is only a sample)**

* Atodaria, Z., & Sharma, R. (2019). Investment Pattern of Salaried Class of Somnath (Daman) –A Study of Various Investment Options Available. International Academic Journal of Social Sciences, 06(01), 49–61. https://doi.org/10.9756/iajss/v6i1/191000

## Plagiarism Report

**ANNEXURE (if any)**

**The questionnaires, financial statements and any other relevant document can be put here. The annexures have to be numbered in case there are more than one annexure.**