



The running head of the paper should not exceed 50 characters inclusive of the spaces and the punctuations used. The page number will be flush right while the running head will be flush left. In the title page, the words “Running head” appear before the title that should be in upper case. In the next pages the title will be the running head will be repeated flush left without the words “Running head”.

The running head of the paper is a shortened version of the paper’s title. The main purpose of the running head is to allow readers to easily identify publications. All APA papers must have a running head even if the paper will not be published.

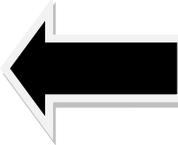
The red boxes highlight the directions for writing and citation in APA writing style.

The blue boxes indicate the writing guidelines and explanations for the guidelines in APA writing style.

The Evolution of Green Logistics and Transportation in Sustainable Supply Chains Today

Student’s Name

Institutional Affiliation



On the title page, the title, typed in 12 point Times New Roman, is centered approximately mid-page. The title should not be underlined, italicized or bolded. The Author’s Name and institutional Name should be double spaced, centered but not bolded italicized or underlined.

The main purpose of the title is to summarize the main ideas presented in the paper and underscore the variables discussed in the paper in relation to one another.

CLASS ASSIGNMENT

## Table of Contents

Introduction.....	2
Current Problem.....	2
Thesis Statement .....	3
Background.....	3
Historical Overview .....	3
Current Status.....	4
Environmental Conservation .....	4
Lean Management and Saving Costs.....	4
Lean Thinking and Production Principles.....	5
Lean Production and Supply Chain Strategies.....	6
Lean Production, Supply Chain Strategies, and Sustainable Development.....	7
Importance of Green Supply Chain Management (GSCM).....	8
Significance of ‘Green’ Design.....	9
Life Cycle Assessment (LCA) .....	9
Eco-Design (ECD).....	9
The Evolution of SCM and Trends Influencing the Future .....	10
Conclusion .....	12
References.....	12

The table of contents is usually on the second page of the paper right after the title page and it indicates the headings and subheadings of the paper and is normally formatted in 12 point Times New Roman. To insert a table of contents the click on the reference tab on the menu bar and then click on the table of contents. Using styles on the Home menu tab, use the different options for the heading whether ‘heading 1’ or ‘heading 2’

The table of content is not a common feature of APA format, but can be included if the instructions require a table of contents. A table of contents highlights the topics and subtopics of the paper as discussed and allows the readers to easily access the content.

## ➔ The Evolution of Green Logistics and Transportation in Sustainable Supply Chains Today

### Introduction

#### Current Problem

Business organizations are determined to improve their efficiency and effectiveness in order to survive in the current dynamic environment. The only way to accomplish the improvement is by improving customer care and lowering the cost of doing business (Coyle, Novack, & Gibson, 2016). The treatise investigates the main green supply chain management practices with an aim of demonstrating their real and potential influence on the business performance and competitive advantage. To establish this aim, the essay undertakes a brief literature review on green logistics, environmental sustainability, eco-designs, and trends influencing the future practices of supply chain.

#### Thesis Statement

➔ A critical element for realizing the two objectives simultaneously is the transportation and supply chain management. Transportation is the key ingredient that gives meaning to the supply chain. The environmental conservation aspect of corporate social responsibility is becoming a global trend, where most companies and multinationals strive to go green as much as possible.

### Background

#### Historical Overview

Since the introduction of logistics and cold storage firms was in the twentieth century, most businesses have evolved to meet their efficiency and effectiveness needs. In the recent years, there have been changes in the roles of logistic services to meet globalization demands and the needs of the emerging markets. With increased logistic complexities, businesses often face

The in-text citations used in APA 6<sup>th</sup> and 7<sup>th</sup> edition include the Author's or Authors' name and the publication year. If the in-text citation includes a direct quote from a publication, then the page number of the reference must be indicated in the in-text citation and the in-text citation must be introduced by a signal phrase unless the quotation is longer than 40 words, in that case, the quotation will be stated on a new line and indent 0.5" from the left margin

The in-text citations usually have the names of the authors and the years of publication only because APA users are more concerned with the year of publication rather than the page number of the references with users encouraged to use current articles.

All Level 1 headers are typed in 12 point Times New Roman and are centered. The Headers must also be bolded. Level 2 headings are left-aligned and boldfaced with upper case and lower case letters. 'Historical Overview' is an example of level 2 heading.

The title of the page should be center and should not be bolded, italicized or underlined. The title should be written in 12 point Times New Roman. The headings such as introduction will be bolded, centered and written in 12-point Times New Roman.

The main purpose of an introduction is to present the ideas or problems that are discussed in the paper and give the reader a preview of what to expect in the rest of the paper. The thesis statement that exists in the introductory part of the paper highlights the main idea of the paper to be discussed in the body.

their competitors providing advanced services designed for highly competitive and environmentally friendly supply chain management. Historically, manufacturing companies are known to be the main environmental pollutants due to their poor waste management practices, high energy consumption, and poor inventory management practices. Green technology, on its part, offers the opportunity to change these practices as they enhance the supply chain management, reduce various risks, and ensure the development of the sustainable development system.

### **Current Status**

More businesses have, however, shifted their attention to the impact of the supply chains on the environment. They are looking for the ways to deal with the carbon emissions associated with the production and distribution of commodities. Ensuring that the transportation component of distribution is greener is a common role played by most supply chain organizations (Fahimnia, Bell, Hensher, & Sarkis, 2015).

### **Environmental Conservation**

According to the report by the Green Supply Chain Management (GCSM), the integration of the environmental thinking into the supply chain management is a positive step in the minimization and elimination of waste. Solid waste, hazardous emissions, and chemical waste are all considered harmful to the environment according to GCSM. According to Van den Broek and Van den Broek-Serlé (2010), other wastes associated with material selection and resourcing, such as product design, manufacturing process, the distribution of finished products, and the lifetime of the end products, are also harmful and may pollute the environment.

In-text citations of articles that have three to five authors have to include all the last names of all the authors in the first citation the next citations of the article will only have the last name of the first author followed by 'et al.' Citations of articles that have more than five authors will use the last name of the first author followed by "et al."

### **Lean Management and Saving Costs**

The implementation of green supply chains is vital in promoting lean operations, gaining customer confidence, attracting more investments, improving employee retention, and enhancing profit margins of businesses. In the intensely competitive business environment global economy, the survival of most organizations depends on their ability to enhance continuously their quality while adequately reducing the cost. Meanwhile, sustainability is gradually becoming a vital subject for the manufacturing strategy. However, recently, there have been the emergence of customer driven markets, which changed rapidly the strategies adopted by organizations (Aitken, Christopher, & Towill, 2002). Most manufacturing systems responded to the continuous changes and sustainability needs, thereby changing the methods of production of mass production through high inventory to a leaner operation with low inventory. In the recent years, the focus has been on lean manufacturing and the wider concept of the lean enterprise. With the market becoming highly competitive, most organizations have adopted lean thinking paradigm with an aim of optimizing their performance and competitive edge (Carter & Rogers, 2008).

Nonetheless, the paradigm lean and sustainability should not be considered in isolation within the supply chain. Lean management focuses on 'the right,' which means getting the right things to the right place at the right time and in the right quality and quantity. During such process, the aim of lean management is to strive to achieve the perfect work flow while reducing the waste and being flexible to changes. Lean manufacturing is known to be effective towards reducing the costs; however, to convince the management to support a culture that embraces lean manufacturing process, there is a need for outward confidence to help understand the concepts of real effective and measurable lean savings.

### **Lean Thinking and Production Principles**

When distributing finished products to multiple consumers, green supply chain management aims to reduce emissions, fuel consumption, and consolidate waste products. Transport management departments should always upgrade their fleets to meet modern standards, improve fuel efficiencies, and operate trucks at full capacity to cut down the number of vehicles on the road and assist reduce the emission of greenhouse gases. To integrate lean management into the production processes, it is a necessary requirement that businesses embrace various principles: specify the product value, identify the value stream of the product, make value flow without interruptions, let the customers pull the value, and pursue perfection (Coyle, Bardi, & Langley, 2006). Through clear understanding of such principles and incorporating them into the business, managers have the ability to ensure full use of their lean techniques while maintaining the steady course. Even though most studies stress that the competitiveness of lean management depends on the physical savings on the technical side, the focus also needs to be on the psychological efficiency through commitment, cognition, empowerment, communication, and autonomous (Chan, He, & Wang, 2012). While specifying the value of the product, the business needs to understand that customers buy result, not products. Therefore, an organization should accurately specify a value, as customers define such value. Lean thinking must start with a clear definition of value that makes it vital to approach production from the customers' perspective. When identifying the value stream, businesses set all the actions and processes needed to bring specific products from the raw material to the client.

### **Lean Production and Supply Chain Strategies**

The practices of reducing fuel consumption, decreasing the number of vehicles distributing goods, and upgrading the available vehicles to meet current environmental standards contribute to environmental conservation, augment of performance, and sustainability of the supply chain. In addition, environmentally conscious initiatives are key in reducing emission of carbon gases as well as in improving the efficiency of supply chains. As Coyle et al. (2016) note, there is a rapid growth experienced in the field of green supply chain management. While using lean models, the business would require less stock, space, material movement, time to set up machinery, employees, computer system, as well as more frugal technology. On the other hand, lean supply chain strategies are important in reducing waste, assisting businesses eliminate the non-value activities, which contribute to excess time, labor, space, and equipment across the supply chain. Using these strategies, assists businesses to improve quality, reduce costs, and enhance service to customers. Based on the taxonomy for pipeline selection, there could be four generic supply chain strategies: lean which involves planning and execution, 'leagile' which is postponement, lean for continuous improvement, and agile for quick response. Throughout the years, studies have established that the lean concept works properly in situations where demand is relatively stable which makes it predictable. Lean production paradigm impact positively several market sectors where cost is the main order criteria. Therefore, there is a need for another approach if the demand is volatile while customers' requirement for variety is high. The reason behind the failure of most implemented supply chains is wrongful configuration to the demand.

### **Lean Production, Supply Chain Strategies, and Sustainable Development**

In the recent studies, there have been debates on the relationship between lean management and environmental sustainability. The reason most businesses adopt lean

management is for the economic and environmental benefits of going green. Sustainability has become a crucial issue in lean, especially from the environmental perspective. The idea of most organizations to reduce the waste of material, ensure high energy efficiency, and avoid pollution activities fits properly within the lean management. Such lean paradigms and sustainability can be integrated within the organization to facilitate the development of a highly competitive supply chain that has the ability to compete effectively within a volatile and cost-conscious environment.

In most cases, lean and green strategies are considered compatible initiatives since they focus on waste reduction. To be effective, lean thinking needs to be 'green' since it reduces the amount of energy and wasted by-produced need to generate another product. With the currently experienced tough economic times for most manufacturers, lean could be the best priority (Carter & Rogers, 2008). Through integrating lean management in their supply chains, business would be driving effective and efficient methods of utilizing the resources, reducing the wastes, ensuring efficient energy consumption, optimizing both direct and indirect resources, and assisting in production of quality products at reduced costs. Lean production and sustainable supply chain create eco-advantage in various ways: eco-innovation which involves enhancing the designs of products and services to be based on the green processes and eco-efficiency which involve reducing the wastes, enabling productive use of resources, and reducing carbon footprints. Through eco-efficiency, the lean methods have the ability of developing sustainable green practices, especially in the area of waste reduction. Eco-transparency involves gaining and sharing full visibility into the value chain to enable organizations promote their green brands, improve, and protect the brand.

In APA, the paragraphs have a basic structure that is subdivided into three key areas that include topic sentence, body and conclusion. The topic sentence relates the paragraph to the thesis statement earlier highlighted. In the body, an introduction sentence gives preview of the context and evidence to the reader. An explanation sentence portrays the significance of the evidence by relating the evidence to the topic sentence. Lastly, the conclusion sums up the paragraph.

### Importance of Green Supply Chain Management (GSCM)

In the last two decades, the scholars have recognized the significance of GSCM in promoting the production of quality products that are easily recyclable. Such changes are set to ameliorate resource management within an entity. Some scholars consider GSCM as proactive, reactive, and value-seeking strategy, which represent the methods used in businesses to implement 'the green' element within the supply chain management (Coyle et al., 2006). In the proactive approach, the management spends additional investment to use recyclable products. Markedly, proactive approach is practiced in businesses with the aim of promoting environmental sustainability while value seeking approach focuses on implementing environmentally friendly manufacturing processes including 'green procurement or ISO certification (Chan et al., 2012). The concept of GSCM has developed global business operations to ensure compliance with the 'green' regulations, 'green' purchasing, implementation of the scales for measuring 'green' performance, and development of 'green' practices. Through GSCM, businesses are likely to realize the closer relationship with others that further leads to a more globalized 'green' thinking and efficient supply chain management processes.

Topic Sentence

Statement of Evidence

Conclusion Sentence

### Significance of 'Green' Design

Based on the analysis of the significance of GSCM, it is evident that there is a need for the 'green' design element. Without the latter, green thinking would not be implemented entirely within the supply chain. Most businesses are unaware of the significance of green design in their processes, thus contributing to the failure to implement more environmentally friendly product lifecycle. With increased awareness on the importance of sustainability, most consumers have become keen on the products they purchase as they incline towards the products whose manufacturers integrate environmental value in their manufacturing processes (Sople, 2012). As

a result, most global businesses are focusing on green designs while developing their supply chains. The commonly used methods to facilitate the green design are life-cycle assessment (LCA) and environmentally conscious design (ECD). If businesses are able to understand and effectively apply these approaches, they are likely to allow implementation of a product design that has the ability to bring environmentally compatible products.

### **Life Cycle Assessment (LCA)**

The LCA measures the environmental effects of a product with the focus on the health and safety of the consumers. Moreover, it assists in evaluating whether the end product would harm the environment and to what extent (Sople, 2012). Nonetheless, the LCA method is not only related to the final product, but also the entire life cycle that leads to the end product. Such a life cycle involves the choice of raw materials, logistics, purchasing, manufacturing, re-use, recycling, and waste control. Apparently, LCA is a more general approach.

### **Eco-Design (ECD)**

ECD is considered as an approach used to implement solid green practices, which are set to be an important part of a business. ECD involve processes such as reduction of waste and design to ensure that the products are reusable. The Eco-design is the action taken while developing a product to reduce environmental impacts during the entire life cycle from acquisition of raw materials, manufacturing, use, and, finally, to the disposal without compromising other important factors such as the cost and performance (Chan et al., 2012). ECD is the prime initiative as it involves the integration of various environmental aspects into the product design processes and supply chain. Based on the analysis, it is vital considering that most environmental impacts emanate from production, consumption, and disposal. All these are consequences of poor decisions at the design stage. While designing the product, it is of the

essence that the organization defines the functions and processes to assist in determining the amount of power that would be consumed during the creation and the amount of wastes generated from production to disposal. To ensure effectiveness in the eco-design, the design should minimize the use of hazardous materials, focus on reuse of the product or component with or without minimal treatment, and establish a recycling feature to facilitate disassembly of the waste products. In addition, there is an urgent need to have a remanufacturing feature to facilitate actions such as repairing and refurbishment with an aim of returning the product new or bettering the condition (Aitken et al., 2002). Eco-design should encourage efficiency with an aim of reducing materials and power consumption of the product besides promoting the use of renewable energy.

### **The Evolution of SCM and Trends Influencing the Future**

There have been rapid changes in the business environment to accommodate internationalization and global competition and social and environmental trends that affect organizational supply chain in various ways (Coyle et al., 2006). Such changes result in new and evolving requirements of the supply chain design. The most evident features of green supply technology are emphasized on the life cycle costing, reduction of waste, safeguarding asset efficiency, innovation, and recycling. When effectively executed within the transport industry, GCSM has the ability stimulate innovation of various products and services, improve utilization of the assets, and deepen customer relationship through a shared focus which involved cost and waste reduction (Carter & Rogers, 2008). With globalization, the supply chains have become lengthy and complex, which is quite challenging for logistic companies to maintain the oversight role. The main side effect of globalization on the logistics businesses is that some operations were shifted to market with weaker environmental protection, which has led to costly product

recalls of the contaminated products, damage to the health of the workers, and pollution of various resources. Clearly, there is a link between cost, service level, and sustainability.

Traditionally, the supply chains aimed to balance service level and cost efficiency. However, the consumers, commodity, and rising energy costs have pushed most businesses to redesign their supply chain networks with an aim of mitigating the negative environmental impacts. In the recent decade, sustainability has become the third lever that intends to address organizational costs, service levels, social, and environmental impacts. Sustainability is not a new concept though it has changed over the years. Unlike the environmental movement, sustainability has a strong connotation of win-win situation, increased efficiency, and high performance. Despite the current economic recession experienced across the globe, several businesses are set to make supply chain sustainability a crucial element in their strategies for the development to manufacturing of products (Aitken et al., 2002). From the transport and logistics perspective, 'greening' represents an emerging topic that has contributed to a wide range of environmental issues, especially those related to logistic strategies and operations sustainability.

### Conclusion

Managements viewing their business operations as too small to benefit from green initiatives and those waiting for the green hype and sustainability to slow down are engaging in risky ventures. They are only missing the opportunity to grow or build their customer base. Environmental responsibility has evolved from a mere talk to a trend that determines the achievement of company goals. Besides the growing trend of adopting green supply chain management practices, consumers have also evolved and prefer to buy products that are toxin free, goods that are produced under minimum pollution, and products that have minimum impacts on the environment. Companies that have successfully implemented the green policy



In the conclusion of the paper, the main idea or problem of the paper is restated. In addition, the body of the paper is summarize and possible solutions to the problem. The conclusion might also suggest further research in certain areas that are yet to be explored.

have reduced environmental influence, promoted positive social impact, and improved profit margins. By engaging in promotions of environmentally safe practices, businesses get to advertise their value for the environment, that is, the lives of third parties or the community. Such actions expand their market bases albeit it remains an expensive venture.



## References

- Aitken, J., Christopher, M., & Towill, D. (2002). Understanding, implementing and exploiting agility and leanness. *International Journal of Logistics Research and Applications*, 5(1), 59-74.
- Carter, C. R., & Rogers, D. S. (2008). A framework of sustainable supply chain management: Moving toward new theory. *International Journal of Physical Distribution & Logistics Management*, 38(5), 360-387.
- Chan, H. K., He, H., & Wang, W. Y. (2012). Green marketing and its impact on supply chain management in industrial markets. *Industrial Marketing Management*, 41(4), 557-562.
- Coyle, J. J., Bardi, E. J., & Langley, C. J. (2006). *The management of business logistics: A supply chain perspective*. Mason, OH: South-Western/Thomson Learning.
- Coyle, J. J., Novak, R. A., & Gibson, B., (2016). *Transportation: A global supply chain perspective* (8th ed.). Boston, MA: Cengage Learning
- Fahimnia, B., Bell, M. G., Hensher, D. A., & Sarkis, J. (2015). The future of green logistics and transportation. In *Green logistics and transportation* (pp. 193-197). New York, NY: Springer International Publishing.
- Sople, V. V. (2012). *Logistics management: The supply chain imperative*. Delhi, India: Dorling Kindersley/Pearson Education.
- Van den Broek, F., & Van den Broek-Serlé, N. (2010). Green supply chain management, marketing tool or revolution? *NHTV, Breda*. Retrieved from [http://logistiek.nl.s3-eu-central-1.amazonaws.com/app/uploads/2015/04/attachment-008\\_logistiek-download-LOGNWS109613D01.pdf](http://logistiek.nl.s3-eu-central-1.amazonaws.com/app/uploads/2015/04/attachment-008_logistiek-download-LOGNWS109613D01.pdf).

The reference list is started on a new page with the title "References" centered and typed in 12 point Times New Roman and it should not be bolded. The entries of the references should be alphabetized and the double space format should be used. All the articles that have been cited in the paper MUST have an entry in the reference list. APA encourages the use of recent or current articles that have scholarly background from reputable journals or periodicals, websites, or books.



CLASS ASSIGNMENTS