

# Book Review on David B. Grant, Alexander Trautrim, And Chee Yew Wong (2017). Sustainable Logistics and Supply Chain Management: Principles and Practices for Sustainable Operations and Management, Second Edition. | New York: Kogan Page Ltd, | Revised, ISBN

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Review

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## Overview

The book Sustainable Logistics and Supply Chain Management: Principles and Practices for Sustainable Operations and Management, Second Edition, authored by David B Grant, Alexander Trautrim, and Chee Yew Wong, includes 9 chapters covering the context of sustainable logistic and supply chain management and sustainable operations management. As the authors mentioned in the introduction, this book discusses sustainability issues about logistics and supply chain management and is different from other books as it takes a holistic view across the supply chain from point of origin through point of consumption and back within the reverse logistics chain. The reviewer adopted the academic approach in reviewing this book as adopted by Dewasiri and Iddagoda (2021), Peiris et al. (2020), Iddagoda and Dewasiri (2021), De Silva and Rathnasiri (2023), and Hartley (2006).



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## **Introduction**

One of the most observable trends in the global where the open market economy is dominant in all the areas in socio-cultural spheres is that the management of commercial sectors attempts to maximise profit in their businesses without caring much for its social well-being and environmental steadiness. Further, it is discernible that most firms pay more attention to profit maximisation techniques, mainly when the supply chains are managed. The supply chain encompasses various components, i.e., purchasing, raw material extraction, manufacturing, transportation and distribution, warehousing, wholesaling, retailing, consuming, disposal, and reverse logistics. Within these components, logistics, which consists of transportation and distribution activities, is the major contributor to greenhouse gas emissions after the manufacturing processes. As early as 1987, the World Commission on Environment and Development (WCED) defined sustainable development as “*Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs*”. Since the logistic activities create environmental problems, mainly emitting greenhouse gases, it is necessary to manage logistic operations sustainably to align with WCED requirements.

Logistics and Supply Chain Management (SCM) play a crucial role in the global economy and daily life, ensuring efficient transportation ('Go') and storage ('Stop') of products. The word logistic was first used for transporting military equipment during the Second World War. However, nowadays, logistics means the transportation and distribution of any goods. Despite benefits like increased globalisation, outsourcing, technology use, and streamlined supply chain processes, these trends have posed sustainability challenges. Issues include Greenhouse Gas (GHG) emissions, excessive fuel and natural resource consumption, pollution, and increased waste due to packaging.

This book provides the importance of managing logistic activities and insights into managing them sustainably. Further, this book consists of nine chapters, and the authors have sequenced the chapters logically to make readers aware systematically. Moreover, case studies were included in each chapter to give real-world examples for further clarification to the readers.

## **Chapter One - Logistics and Supply Chain Management**

The chapter explains that the key themes for sustainable logistics and SCM include the need for firms to integrate sustainability into their strategies, emphasise efficiency in internal operations such as transportation and production, foster sustainable relationships with suppliers and customers, and recognise the importance of reverse logistics to ensure the return of products upstream in the supply chain.

The authors emphasise that over the past 15 years, sustainable logistics and supply chain issues have gained increasing importance due to the realisation of the urgent need to address economic and environmental sustainability concerns. The impact of logistics and supply chain activities on the natural environment is significant, prompting a growing interest in this domain. While there are ongoing initiatives to improve sustainability, particularly in energy use and emissions, the field remains underdeveloped and under-researched. The chapter emphasises a

need for more exploration of trade-offs between sustainable supply chain practices and current logistical approaches, which often involve long, global, one-way supply chains dependent on technology, outsourcing, and time compression to meet customer demands for more and better products promptly. This disclosure enables readers to understand the latest issues of logistics and SCM.

## **Chapter Two – Science of sustainability**

Chapter two discusses the science of sustainability, which gives tremendous knowledge to the reviewers. First, the authors explain major and world-accepted definitions. Furthermore, the chapter reserves space to explain the Triple Bottom Line (TBL) concept, i.e., economic, environmental, and social, introduced by John Elkington (1997). Since the TBL concept has found wide acceptance across firms, governments, and non-governmental organisations (NGOs), very significantly, the TBL concept was described in this book.

The book highly concentrates on the concept of sustainability, and therefore, the chapter describes various themes of the world summits of sustainable development. Over the past four decades, the natural environment has been a focal point, beginning with the first UN Conference on the Human Environment in 1972. The chapter clearly explains that subsequent events and meetings, including the Brundtland Commission in 1987, the initial UN 'Earth Summit' in Rio de Janeiro in 1992, the 1997 Kyoto Protocol establishing global greenhouse gas reduction targets, and subsequent gatherings like the 2000 New York Millennium summit, the 2002 Johannesburg summit, the 2009 Copenhagen climate change conference, and the 2012 Rio+20 conference, have collectively aimed to elevate awareness and address environmental and climate change issues worldwide. These authors mention essential agreements related to ecological conservation signed by member countries. This information adds real value to the book.

The chapter next discusses the Species and Ecosystems. Under this, the chapter elucidates the importance of conserving the world's flora. The mission of trees and plants in photosynthesis is discussed deeply to emphasise the support of the flora for the breathing of humans and animals. Moreover, it highlights the global and external variability of climate change. Hence, the chapter takes considerable space to describe GHG Emissions created by human beings.

Energy usage and its impact are discussed next. In this section, the authors emphasise the adverse effects of non-renewable energy and the environmental advantages of renewable energy sources. However, the most important information given by the chapter is the presentation of the highest and lowest energy consumption countries in the world.

Moreover, this chapter explains the Industry after the topic of energy. They said that industry is central to the economies of modern societies and an essential engine of growth. The importance of industry in economic development is highlighted, and the rapid growth of industries after World War II is described for readers of the book to understand clearly. After World War II, the rapid development of outsourcing, diversification of production into manufacturing and services, minimisation of cost, decreasing transport cost, and assembling parts produced in different places for global distribution have been described under the industry. Another value addition comes from the presentation of GDP and the percentage of significant

manufacturing countries worldwide. This information is essential, and graduate and undergraduate students can use it as literature for their research studies. The chapter highlights the Logistic Performance Indicator (LPI), which is a multidimensional assessment that consists of six dimensions (Arvis et al., 2016), i.e., the efficiency of clearance processes, quality of trade and transport-related infrastructure, the ease of arranging competitively priced shipments, the competence and quality of logistics services, the ability to track and trace consignments, and the timeliness of shipments in reaching their destination within a scheduled or expected delivery time. Even though the researchers conduct studies in the field of logistic activities, they usually do not consider logistic performance; thus, researchers have the opportunity to follow these dimensions to assess logistic performance within their research studies.

Then, the chapter discusses the food. This section emphasizes that “*the UN’s Food and Agriculture Organization (2012) reported that about 870 million people in the world suffered undernourishment in 2010–12, representing 12.5 percent of the global population or one in eight people*”. Further, fluctuation of this percentage has been presented, and according to that, southern Asia and Sub-Saharan African countries are the worst Regions.

### **Chapter Three – Freight transport**

This chapter elucidates the freight transport. Since the book has drawn attention to sustainable logistics and supply chain management, all the components of logistic activities have been concerned. Furthermore, they confirmed that freight transport activities contribute to global GHG emissions; although their (freight transport) share is much smaller than manufacturing, there is significant pressure to reduce transport emissions. The freight transport section mentions that not only GHG emissions but also transport causes more environmental problems such as noise and accidents. However, they did not forget to indicate the positive side of transportation, i.e., it makes goods available to people, enables us to travel and explore other cultures, and allows participation in society; more generally, transport makes our modern lifestyles possible.

### **Chapter Four – Sustainable warehousing**

Chapter four presents sustainable warehousing. The Authors systematically divided the chapter into eight sub-sections to better understand the book's readers. Hence, these sub-sections are The environmental impact of warehouses, The roles and functions of warehouses, Warehouse location, Handling equipment, Assessing the impact, Reduction of ecological implications, Social dimension of sustainability in warehousing, and Risks and vulnerability in warehousing.

Chapter mentioned that the World Economic Forum (2009) estimates that about 13 per cent of all supply chain emissions stem from logistics buildings. The UK Warehousing Association (UKWA, 2010) quantifies warehouse emissions as about 3 per cent of the UK’s total GHG emissions. When paying attention to GHG emissions in the supply chains, it mainly concerns the GHG emissions of manufacturing, transportation & distribution. Little or no attention was given to warehouses. Hence, this information is beneficial for future researchers to conduct studies related to this particular new area.

The importance of warehouse location is clearly explained in this chapter. Further, the disadvantages of wrongly located warehouses are also described. Therefore, these explanations provide invaluable information, especially for industry practitioners. The chapter describes the two factors of warehouse emissions: construction and operations. The book's authors consider the employees of warehouses as a social factor of TBL. People or social factors cannot be omitted if we need to achieve sustainability in any sector.

### **Chapter Five - Product design, cleaner production and packaging**

This chapter describes an essential topic of sustainable logistics and supply chain management, i.e., Product design, Cleaner production, and Packaging. The chapter describes that conventionally, the primary imperatives governing product design, manufacturing, and packaging revolve around cost mitigation, concomitantly aligning with product pricing strategies, adhering to specified requirements, and addressing customer needs. Simultaneously, a paramount focus is placed on upholding compliance with stringent health, safety, and environmental legislation. The chapter summary says there is a burgeoning acknowledgment that the methodologies employed in product design, production, and delivery necessitate a paradigm shift. Furthermore, ensuring the fiscal viability of a product entails an imperative to curtail the utilisation of natural resources and chemicals, concurrently safeguarding against adverse health impacts on workers and mitigating environmental degradation. Undoubtedly, this is the message we must convey to the world.

### **Chapter Six - Sustainable purchasing and procurement**

The topic of Sustainable Purchasing and Procurement is described in chapter six. Under this main heading, the authors arrange the subtopics such as the role of procurement in the supply chain, what sustainable procurement is, Drivers and barriers for sustainable procurement, Procurement frameworks, Sustainability labels and certifications, Lifecycle assessment, and Comparing purchasing options. When a reader goes through these arrangements, they can clearly understand how the purchasing and procurement process can convert into green, how to mitigate the barriers, and at the same time, how to employ drivers for implementing sustainable practices within the procurement systems. This is a direct and clear guidance for practitioners who wish to establish sustainable practices within their procurement practices. Ultimately, they conclude that “procurement is crucial to improving the sustainability of the overall supply chain”. This statement enables particular stakeholders to concentrate more on procurement practices, which can be supported to gain sustainable performance through their supply chains.

### **Chapter Seven - Reverse logistics and recycling**

This chapter discusses Reverse logistics and recycling, and it divides logically into four major sub-areas: Circular economy and regulations, Product recovery options, Reverse logistics, and Recycling.

The authors emphasise that reverse logistics and recycling are crucial for maintaining a healthy environment because of the increasing scarcity of natural resources and the adverse effects of putting end-of-life products into landfills. Since landfilling gains negative environmental

and health impacts, this discloser will tremendously contribute to maintaining a green environment, especially in the world's logistics and supply chain context. Moreover, they confirm that reverse logistics and recycling enable the transformation towards a circular economy because they help keep products, components, and materials in use rather than in landfills. The circular economy is a new concept to prevent or minimise waste by using the waste of one manufacturing system as raw material for another manufacturing process, and this should continue as much as possible among the manufacturing industries. Not all end consumers, especially in developing countries, are participating in reverse logistics and recycling or are aware of the consequences of their throw-away habits; this explanation can play a significant role as the mentor for engaging relevant people in reverse logistics and recycling practices. To prevent or minimise the environmental degradation created by end customers, not only recycling but also repair, remanufacturing, reuse, reducing, and recovery can be used; however, surprisingly, it has been elucidated by the book.

### **Chapter Eight - Risk, resilience and corporate social responsibility**

This chapter mainly focuses on Corporate Social Responsibility (CSR) in supply chains. The chapter has pointed out some critical cases related to CSR, i.e., “the dark side of chocolate” Kit Kat Killer, and protests against the use of water resources by Coca-Cola production facilities in India. These cases address child labour issues, the welfare of animals, the depletion of natural resources, etc. The chapter emphasises how the risk of logistics and supply chains can be managed by making the supply chains more resilient. This literature is more appropriate for undergraduate and postgraduate students pursuing supply chain and logistics courses. Chee Yew Wong (2017), as the author of this chapter, mentions ten types of supply chain logistics risk, i.e., demand risk, supply risk, operational risk, competitive risk, security risk, macro-economic risk, policy risk, reputational risk, corporate fraud and criminal risk, and resource (sustainability) risk and their sources and consequences. These risk factors may have been gathered from a deep literature review; however, readers of this book can find them via easy access. Since the chapter indicates how to mitigate these logistics and supply chain risk factors, readers must not worry about reviewing more literature to find ways to overcome the said risk factors.

Under the ethical framework and codes of conduct, the chapter emphasises the importance of the social dimension in the TBL approach. It indicates that only maximising shareholders' value or profit maximisation is not real sustainability. In addition, the chapter pointed out that the health and safety of consumers, employees, and society should be confirmed throughout the operations to achieve sustainability in logistics and supply chains. Accordingly, the authors highlight the tainted milk incident in the People's Republic of China in 2008, demonstrating the severe consequences of running a business without ethical considerations. Moreover, the chapter describes plenty of examples of companies being punished by the government, NGOs, and customers for negligence in caring for health, safety, society, and the environment. The authors are keen to say that even though some industries (for example, the chocolate industry) choose to create their codes of conduct voluntarily, progress is not always satisfactory.

## Chapter Nine - Sustainable logistics and supply chain management strategy

Sustainable logistics and supply chain management strategy is presented in this chapter. Under this, it identifies six subsections to describe the chapter's main topic. Therefore, Concepts of corporate strategy, Theoretical motivations underlying corporate and sustainable strategy, Sustainable logistics and supply chain performance Measurement, Environmental management systems, Lifecycle assessment, and Assessing sustainable choices and initiatives have been discussed separately for the deep understanding of the readers. Ten tenets of environmental management, i.e., Socially desirable/tolerable, Ecologically sustainable, Economically viable, Technologically feasible, Legally permissible, Administratively achievable, Politically expedient, Ethically defensible, Culturally inclusive, and Effectively communicable, have been presented. These are very supportive literature, especially for the researchers conducting research studies on sustainable development within any sector in local and global contexts. Furthermore, the chapter includes a set of five key competencies in sustainability, Systems thinking competence, Anticipatory competence, Normative competence, Strategic Competence, and Interpersonal competence, developed by Wiek et al. (2011), for the express purpose of guiding academics in program development. Sustainability means positive growth of all three dimensions of TBL: economic, environmental, and social. If a company earns huge profits without giving sufficient attention to the environment and human beings, that cannot be considered real sustainability. Further, if the same company highly concentrates on one of the other two factors of environment or social while earning more profits, that also cannot be accepted as real sustainability. Hence, true sustainability is the satisfaction of all three dimensions of TBL. At the end of the book, the authors directly mention TBL as the strategy for sustainable logistics and supply chain management.

In Conclusion, "Sustainable Logistics and Supply Chain Management" offers a comprehensive exploration of the multifaceted dimensions of sustainability within the logistics and supply chain realm. The nine meticulously crafted chapters delve into critical aspects, ranging from the foundational principles of logistics and supply chain management to the intricacies of sustainable strategies. The book navigates through the science of sustainability, freight transport, warehousing, product design, cleaner production, packaging, purchasing and procurement, reverse logistics, and recycling and culminates in examining risk, resilience, and corporate social responsibility.

Through each chapter, the authors thoroughly understand the challenges and opportunities associated with sustainable practices and offer actionable insights and strategies for integrating sustainability into every facet of the supply chain. The book emphasises the importance of a holistic approach, encouraging businesses to adopt environmentally friendly practices while enhancing operational efficiency and profitability. Furthermore, including real-world case studies and practical examples enhances the book's applicability, making it a valuable resource for academics and practitioners. As the global community grapples with the imperative to create a more sustainable future, this book stands out as a timely and indispensable guide. Its rich content and thoughtful analysis make it an essential read for anyone seeking to navigate the complex landscape of sustainable logistics and supply chain management. This book is a roadmap

for organisations aiming to forge a path toward a more environmentally conscious and socially responsible future in logistics and supply chain management.

While "Sustainable Logistics and Supply Chain Management" adeptly navigates the intricate landscape of sustainability in its nine comprehensive chapters, one discernible absence stands out – the omission of discussion questions. Discussion questions are intellectual catalysts that foster a deeper understanding of the presented concepts and encourage critical thinking. However, incorporating thought-provoking questions could have added an extra layer of engagement for readers in a work that deftly combines theoretical foundations with practical applications.

## Conclusion

The authors, in this book, provide a good overview of the subject matter relating to the various roles that logistics and supply chain management play in the physical and fiscal health of individuals, organizations, and governments. The writers of this book do a fantastic job of highlighting the importance of sustainability. The book contains coverage of the main sustainability aspects of logistics and supply chain management, including transportation, warehousing, purchasing and procurement, product design, production, and notably, reverse logistics.

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