# Lean Green And Resilient Practices In Uence On Supply

Evaluating the role of logistics and supply chain management skills or applications is necessary for the success of any organization or business. As market competition becomes more aggressive, it is crucial to evaluate ways in which a business can maintain a strategic edge over competitors. Contemporary Approaches and Strategies for Applied Logistics is a critical scholarly resource that examines applied research and development in logistics and supply chain management. Featuring coverage on a broad range of topics, such as computational logistics, inventory management, and partnership formation, this book is geared towards academicians, researchers, and practitioners seeking current research on enabling an efficient and sustainable economy.

"Resilient by design provides managers with a more complete approach to creating lasting success in a changing world. Rich with examples and case studies, it explains how to connect the external systems, stakeholders, communities, infrastructure, supply chains, and natural resources, to create innovative organisations that survive and prosper." --Publisher description.

This book provides some regional aspects considered by manufacturing firms in their decisions to gain competitiveness and have effects on the performance of their supply chains (SC). Some of the main aspects considered are: government's policies, fixed costs, the availability and quality of infrastructure services. This book also discusses the risks for the SC; based on a perception approach, some aspects studied are: demand, suppliers and production processes and how these are related to other elements of the SC. The authors use structural modeling to analyze the evaluation of some manufacturing practices and their impact on customer service satisfaction, agility and flexibility of the SC. The context of this study is immersed in the Mexican manufacturing industry of exportation, also known as maquiladora industry of Ciudad Juarez, México. This borderland is among the top 10 manufacturing Mexican cities. World class industries are located in this region and have been recognized around the world for their competitiveness and high performance. Therefore, the methods and results exposed in this book may be valuable and useful for readers and researchers of the SC worldwide.

This book presents the proceedings of the Tenth International Conference on Management Science and Engineering Management (ICMSEM2016) held from August 30 to September 02, 2016 at Baku, Azerbaijan and organized by the International Society of Management Science and Engineering Management, Sichuan University (Chengdu, China) and Ministry of Education of Azerbaijan. The aim of conference was to foster international research collaborations in management science and engineering management as well as to provide a forum to present current research findings. The presented papers were selected and reviewed by the Program Committee, made up of respected experts in the area of management science and engineering management from around the globe. The contributions focus on identifying management science problems in engineering, innovatively using management theory and methods to solve engineering problems effectively and establishing novel management theories and methods to address new engineering management issues.

The purpose of supply chain management is to make production system manage production process, improve customer satisfaction and reduce total work cost. With indubitable significance, supply chain management attracts extensive attention from businesses and academic scholars. Many important research findings and results had been achieved. Research work of supply chain management involves all activities and processes including planning, coordination, operation, control and optimization of the whole supply chain system. This book presents a collection of recent contributions of new methods and innovative ideas from the worldwide researchers. It is aimed at providing a helpful reference of new ideas, original results and practical experiences regarding this highly up-to-date field for researchers, scientists, engineers and students interested in supply chain management.

In recent years, our world has experienced a profound shift and progression in available computing and knowledge sharing innovations. These emerging advancements have developed at a rapid pace, disseminating into and affecting numerous aspects of contemporary society. This has created a pivotal need for an innovative compendium encompassing the latest trends, concepts, and issues surrounding this relevant discipline area. During the past 15 years, the Encyclopedia of Information Science and Technology has become recognized as one of the landmark sources of the latest knowledge and discoveries in this discipline. The Encyclopedia of Information Science and Technology, Fourth Edition is a 10-volume set which includes 705 original and previously unpublished research articles covering a full range of perspectives, applications, and techniques contributed by thousands of experts and researchers from around the globe. This authoritative encyclopedia is an all-encompassing, well-established reference source that is ideally designed to disseminate the most forward-thinking and diverse research findings. With critical perspectives on the impact of information science management and new technologies in modern settings, including but not limited to computer science, education, healthcare, government, engineering, business, and natural and physical sciences, it is a pivotal and relevant source of knowledge that will benefit every professional within the field of information science and technology and is an invaluable addition to every academic and corporate library.

The volume contains latest research on software reliability assessment, testing, quality management, inventory management, mathematical modeling, analysis using soft computing techniques and management analytics. It links researcher and practitioner perspectives from different branches of engineering and management, and from around the world for a bird's eye view on the topics. The interdisciplinarity of engineering and management research is widely recognized and considered to be the most appropriate and significant in the fast changing dynamics of today's times. With insights from the volume, companies looking to drive decision making are provided actionable insight on each level and for every role using key indicators, to generate mobile-enabled scorecards, time-series based analysis using charts, and dashboards. At the same time, the book provides scholars with a platform to derive maximum utility in the area by subscribing to the idea of managing business through performance and business analytics.

This edited book discusses lean production as a suitable platform for global development by developing systems and products in a quicker, costless and sustainable way and educate people for a lean consumption. Lean thinking principles are totally and synergistically aligned with a lot of disciplines and current issues such as logistic, supply chain, construction, healthcare, ergonomics, education, project management, leadership, coaching, startup, product development, farming and sustainable development. Lean-Green is particularly related to this last issue, sustainable development, the first global challenge for humanity that are totally connected to all remaining 14 global challenges because they are interdependent. Attaining these challenges

could bring solutions for the 17 Sustainable Development Goals. Lean Production and Consumption have an important role in providing these solutions, by systematically reducing wastes in all activities performed, and at the same time, instruct people in having a lean consumption. The target audience primarily comprises research experts in lean management, but the book may also be beneficial for practitioners alike.

The global supply chain creates environmental and social burdens during different stages of production and distribution. Ethical and sustainable practices along the supply chain seek to minimize these burdens and ensure fair labor practices, lower emissions, and a cleaner environment. Ethical and Sustainable Supply Chain Management in a Global Context uses cases, qualitative studies, empirical results, and analyses of legal frameworks to focus on ethics and sustainability as they relate to the management of global supply chains. Featuring research on topics such as production planning, consumer awareness, and labor laws, this book is ideally designed for managers, policymakers, professionals, researchers, and students working in the field of sustainable development and related disciplines including marketing, economics, finance, operations management, supply chain management, environmental science, and waste management.

This book presents the latest developments in optimization and optimal control models; exact, approximate and hybrid methods; and their applications in lean and green supply chains. It examines supply chain network design and modeling, closed loop supply chains, and lean, green, resilient and agile or responsive networks, and also discusses corporate social responsibility and occupational health and safety. It particularly focuses on supply chain management under uncertainty – employing stochastic or nonlinear modeling, simulation based studies and optimization – multi-criteria decision-making and applications of fuzzy set theory, and covers various aspects of supply chain management such as risk management, supplier selection or the design of automated warehouses. Lastly, using experimental applications and practical case studies, it shows the impact of lean and green applications on vehicle/fleet management and operations management.

Health, safety, and environmental regulations have been traditionally perceived as distinct entities from trade policy, yet today they have become intertwined on a global scale. In this pioneering work, David Vogel integrates environmental, consumer, and trade policy, and explicitly challenges the conventional wisdom that trade liberalization and agreements to promote free trade invariably undermine national health, safety, and environmental standards. Vogel demonstrates that liberal trade policies often produce precisely the opposite effect: that of strengthening regulatory standards. The most comprehensive account of trade and regulation on a global scale, this book analyzes the regulatory dimensions of all major international and regional trade agreements and treaties, including GATT, NAFTA, the Free Trade Agreement between Canada and the United States, and the treaties that created the European Community and Union. He explores in depth some of the most important trade and regulatory conflicts, including the GATT tuna-dolphin dispute, the EC's beef hormone ban, the Danish bottle case, and the debate in the United States over the regulatory implications of both NAFTA and GATT. This timely book unravels the increasingly important and contentious relationship between trade and environmental, health, and safety standards, paying particular attention to the politics that underlie trade and regulatory linkages. Trading Up is essential reading for the business community, policymakers, environmentalists, consumer interest groups, political scientists, lawyers, and economists.

This book introduces students on Multiple Criteria Decision Aiding and Making courses to practical, real-world cases. Each case study introduces a problem or situation together with a method, and a description and explanation of a computer application. In this sense each chapter is based on four pillars: the problem, the model building, the methods and their implementation. The book presents and elaborates a rich and comprehensive set of practical problems comprising multiple criteria, including numerous approaches for their solution, for decision support or decision aid. It complements traditional textbooks and lecture material by employing case studies to promote a deeper understanding of the investigated concepts and help students apply these methods to other areas.

We look at green supply chain management from the vantage point of the triple bottom line: environmental, economic, and social. There are many sustainability decisions that can be made on which we have an incredible impact. Usually, managers have the opportunity to make decisions in five areas of the supply chain: plan, source, make, deliver, and return. Nowadays, consumers care more about where and how the products are produced and delivered, what they are made of, and who made them. Regulatory bodies are continuously creating pressure on firms to adopt eco-friendly practices in their businesses for better environmental sustainability. As a result, firms have just two choices: to adopt green and/or eco-friendly practices in their supply chain operations to fulfill their customers' and regulatory bodies' requirement or not to adopt green practices and lose their business position and potential customers.

This book details a process of creating a long-term sustainability and resilience plan for local governments to use in designing and implementing sustainability and resilience-related policies, initiatives, and programs. It offers guidance and methods in applying sustainability and resilience strategies to attain the prosperity of organizations and communities. The recommendations in this book are based on the author's years of experience in directing applied resilience and sustainability planning for a local government, and years of research covering diverse aspects of sustainability and resilience from climate change, climate preparedness and readiness, quadruple bottom line strategy, greenhouse gas emission reduction policies, climate adaptation and mitigation to sustainable energy policies and initiatives. Chapter one defines terms related to sustainability and resilience and addresses how the topics reshape local governments and communities. Chapter two maps out the sustainability and resilience process for organizations and communities, determining the appropriate steps to be taken at each level of sustainability and resilience planning. Chapter three identifies community and organizational level

engagement, with internal and external stakeholders, including designs necessary throughout these processes. Chapter four contains measuring, tracking, monitoring and reporting methods using the quadruple bottom line strategy, and developing a sustainability and resilience progress report to ensure accountability, transparency, and good governance. Then, chapter five details the implementation of a sustainability and resilience plan once it is established, describing potential programs and initiatives to achieve sustainable and resilient communities. Chapter six describes the intersection between sustainability and resilience, and chapter seven examines the tools and resources available to create a practical sustainability and resilience plan. Chapter eight concludes the text by addressing the future of sustainability and resilience, and complexities of the modern dynamics of the interconnected systems in cities, counties, and organizations, and recommends how local government administrators in their planning methods and strategies must consider these challenges.

This book presents the proceedings of the Seventh International Conference on Management Science and Engineering Management (ICMSEM2013) held from November 7 to 9, 2013 at Drexel University, Philadelphia, Pennsylvania, USA and organized by the International Society of Management Science and Engineering Management, Sichuan University (Chengdu, China) and Drexel University (Philadelphia, Pennsylvania, USA). The goals of the Conference are to foster international research collaborations in Management Science and Engineering Management as well as to provide a forum to present current research findings. The selected papers cover various areas in management science and engineering management, such as Decision Support Systems, Multi-Objective Decisions, Uncertain Decisions, Computational Mathematics, Information Systems, Logistics and Supply Chain Management, Relationship Management, Scheduling and Control, Data Warehousing and Data Mining, Electronic Commerce, Neural Networks, Stochastic Models and Simulation, Fuzzy Programming, Heuristics Algorithms, Risk Control, Organizational Behavior, Green Supply Chains, and Carbon Credits. The proceedings introduce readers to novel ideas on and different problem-solving methods in Management Science and Engineering Management. We selected excellent papers from all over the world, integrating their expertise and ideas in order to improve research on Management Science and Engineering Management.

This book is the first among many books in supply chain management, which provides the readers with insights on how to select the best global supply chain out of inter-firm network, fables system or market firms. This process is clearly expounded in the book through case studies, which include Apple, Toyota, BMW, IKEA and Taiwan TSMC. The main editor, Prof Yasuhiro Monden, is the founding father of Lean Production Management who published Toyota Production System from IIE in 1983, which is called the classic of Lean System. This book will explain how the global supply chain (GSC) could be organized by considering causal relationships of the stage differences in (1) market needs, (2) product design architecture, and (3) product life-cycle, for the purpose of reducing the total costs of GSC. Contents:Lean Management of Global Supply Chain Management: Lean Management of Global Supply Chain: Dynamic Combination Model of Market, Product Life-Cycle, Product Design, and Supply Chain (Yasuhiro Monden)How to Facilitate Inter-Firm Cooperation in a Fabless Global Supply Chain (Yoshiteru Minagawa)Ikea's Almost Fabless Global Supply Chain — A Rightsourcing Strategy for Profit, Planet, and People (Rolf G Larsson)Effects of Transfer Pricing Taxation on the Performance Control of Japanese Foreign Subsidiaries (Makoto Tomo and Anson Yoshiharu Matsuoka)Innovation of Eco-Cars Based on the Global Inter-Firm Collaboration (Yasuhiro Monden)Communization Strategy and Performance Management in the Japanese Automobile Industry (Noriyuki Imai)Lean Management and Performance Evaluation in the Business Operations:Financial Performance Measures for the Lean Production System (Zhi Wang and Yasuhiro Monden)Management Control Systems for Lean Management in Medical Services — A Case Study at Lund and Kameda (Rolf G Larsson, Yoshinobu Shima, and Chiyuki Kurisu)Management Control for Horizontal Network Organizations of SMEs — In the View Point of Profit Allocation Mechanism of Joint Manufacturing on Order (Yoko Ogushi)Measuring the Performance of Lean Implementation at a Commercial Printing Company — An Action Research Approach (Khodayar Sadeghi and Mohammad Aghdasi)Related Topics in Managerial & Cost Accounting:Mechanisms for Lowering Budgetary Slack in Japanese Companies (Ken Lee, Naoki Fukuda, and Satoko Matsugi)Influence of Decision-Making Goal and Accurate Product-Costing Goal on the Design of Sophisticated Costing Systems: Proposal of Multi-Goal Coordination Approach (Nikhil Chandra Shil, Mahfuzul Hoque, and Mahmuda Akter) Readership: For the general public, researchers and students who are interested in understanding the global supply chain. Key Features:Principal editor is Prof Yasuhiro Monden, who was one of the fathers of Lean Production ManagementDr Monden published Toyota Production System: the 1st edition from American Institute of Industrial Engineers, 1983, which is called the classic of lean production systemKeywords:Supply Chain;Global Supply Chain;Value Chain;Global Value Chain;Lean Management

The issues of sustainability and corporate social responsibility have become vital discussions in many industries within the public and private sectors. In the business realm, incorporating practices that serve the overall community and ecological wellbeing can also allow businesses to flourish economically and socially. Green Business: Concepts, Methodologies, Tools, and Applications is a vital reference source for the latest research findings on the challenges and benefits of implementing sustainability into the core functions of contemporary enterprises, focusing on how green approaches improve operations. Highlighting a range of topics such as corporate sustainability, green enterprises, and circular economy, this multi-volume book is ideally designed for business executives, business and marketing professionals, business managers, academicians, and researchers actively involved in the business industry.

Sustainability is an increasingly urgent and important factor in logistics and supply chain management, impacting the whole supply chain lifecycle from product design and development, to supplier management, packaging, transportation, warehousing and distribution. The third volume of the Supply Chain Case Study Collection, the Sustainable

and Green Supply Chains and Logistics Case Study Collection contains real-life scenarios from leading companies who are pursuing a sustainability agenda. Cases cover sustainability and 'green' practices in a range of different industries, from food through to manufacturing and construction, and in a variety of organization sizes. They are written by leading international academics and feature cutting-edge research from countries including India, Vietnam, Brazil, China and the UK. By exploring examples of waste reduction, supplier management, the circular economy and cross-industry collaboration, the Case Study Collection focuses on how organizations are currently trying to meet sustainability goals and achieve success in greening supply chains.

Across a variety of disciplines, data and statistics form the backbone of knowledge. To ensure the reliability and validity of data, appropriate measures must be taken in conducting studies and reporting findings. Research Methods: Concepts, Methodologies, Tools, and Applications compiles chapters on key considerations in the management, development, and distribution of data. With its focus on both fundamental concepts and advanced topics, this multi-volume reference work will be a valuable addition to researchers, scholars, and students of science, mathematics, and engineering.

Supply chain management has long been a feature of industry and commerce but, with increasing demands from consumers, producers are spending more time and money investing in ways to make supply chains more sustainable. This exemplary Handbook provides readers with a comprehensive overview of current research on sustainable supply chain management.

The field of intelligent decision technologies is interdisciplinary in nature, bridging computer science with its development of artificial intelligence, information systems with its development of decision support systems, and engineering with its development of systems. This book presents the 45 papers accepted for presentation at the 5th KES International Conference on Intelligent Decision Technologies (KES-IDT 2013), held in Sesimbra, Portugal, in June 2013. The conference consists of keynote talks, oral and poster presentations, invited sessions and workshops on the applications and theory of intelligent decision systems and related areas. The conference provides an opportunity for the presentation and discussion of interesting new research results, promoting knowledge transfer and the generation of new ideas. The book will be of interest to all those whose work involves the development and application of intelligent decision systems.

How the auto industry can replace obsolete strategies dating to Henry Ford's era with a system that reconnects customers to the value chain: a build-to-order model centered on process, product, and volume flexibility.

Organizations of all types are consistently working on new initiatives, product lines, and workflows as a way to remain competitive in the modern business environment. No matter the type of project at hand, employing the best methods for effective execution and timely completion of the task is essential to business success. Operations and Service Management: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source for the latest research on business operations and production processes. It examines the need for a customer focus and highlights a range of pertinent topics such as financial performance measures, human resource development, and business analytics, this multi-volume book is ideally designed for managers, professionals, students, researchers, and academics interested in operations and service management.

Exploring Lean manufacturing in a holistic manner, this book helps organizations to implement Lean principles successfully by offering theoretical, empirical and practical knowledge. It empirically demonstrates how a successful Lean initiative can improve organizational efficiency, and incorporates valuable primary research to substantiate findings. It argues that Lean principles need to be applied throughout the value chain in order to be successful , and suggests that these tools need to be aligned with culture and change management. Chapters examine issues including Lean cultures, impediments to Lean, Lean and performance measurement, and the impact of Lean. Viewing Lean as a never-ending journey, this book provides a valuable resource to practising Lean managers, and specialist researchers and students, and also offers an important reference for organizations embarking on their Lean voyage.

How well does your organization respond to changing market conditions, customer needs, and emerging technologies when building software-based products? This practical guide presents Lean and Agile principles and patterns to help you move fast at scale—and demonstrates why and how to apply these paradigms throughout your organization, rather than with just one department or team. Through case studies, you'll learn how successful enterprises have rethought everything from governance and financial management to systems architecture and organizational culture in the pursuit of radically improved performance. Discover how Lean focuses on people and teamwork at every level, in contrast to traditional management practices Approach problem-solving experimentally by exploring solutions, testing assumptions, and getting feedback from real users Lead and manage large-scale programs in a way that empowers employees, increases the speed and quality of delivery, and lowers costs Learn how to implement ideas from the DevOps and Lean Startup movements even in complex, regulated environments

As the population of the world continues to surge upwards, it is apparent that the global economy is unable to meet the nutritional needs of such a large populace. In an effort to circumvent a deepening food crisis, it is pertinent to develop new sustainability strategies and practices. Food Science, Production, and Engineering in Contemporary Economies features timely and relevant information on food system sustainability and production on a global scale. Highlighting best practices, theoretical concepts, and emergent research in the field, this book is a critical resource for professionals, researchers, practitioners, and academics interested in food science, food economics, and sustainability practices.

Workplace technology is evolving at an accelerated pace, driving innovation, productivity, and efficiency to exceedingly high levels. Businesses both small and large must keep

up with these changes in order to compete effectively with fellow enterprises. The Handbook of Research on Enterprise 2.0: Technological, Social, and Organizational Dimensions collects the most recent developments in evaluating the technological, organizational, and social dimensions of modern business practices in order to better foster advances in information exchange and collaboration among networks of partners and customers. This crucial reference supports managers and business professionals, as well as members of academia, IT specialists, and network developers in enhancing business practices and obtaining competitive advantage.

A Perspective on Two Decades of Rapid Modeling It is an honor for me to be asked to write a foreword to the Proceedings of the 1st Rapid Modeling Conference. In 1987, when I coined the term “Rapid Modeling” to denote queuing modeling of manufacturing systems, I never imagined that two decades later there would be an international conference devoted to this topic! I am delighted to see that there will be around 40 presentations at the conference by leading researchers from aroundthe world, and about half of these presentationsare represented by written papers published in this book. I congratulate the conference organizers and program committee on the success of their efforts to hold the ?rst ever conference on Rapid Modeling. Attendees at this conferencemight?nd it interesting to learn about the history of the term Rapid Modeling in the context it is used here. During the fall of 1986 I was invited to a meeting at the Headquarters of the Society of Manufacturing Engineers (SME) in Dearborn, Michigan. By that time I had successfully demonstrated s- eral industry applications of queuing network models at leading manufacturers in the USA. Although in principle the use of queuing networks to model manufact- ing systems was well known in the OR/MS community and many papers had been published,the actual use of suchmodelsby manufacturingprofessionalswas almost nonexistent.

As part of the work implemented by CGIAR on COVID-19, the COVID-19 Research Hub Working Group 4 “Address food systems’ fragility and build back better” was tasked with implementing a global assessment of the impacts of COVID-19 on food systems and their actors, focusing specifically on the consequences that the pandemic had brought on the food security and nutrition of those who have been affected by the crisis. This includes formal and informal actors of the food supply chains (from producers to street vendors) as well as consumers, in both rural and urban environments. Building on this assessment, the task was then to draw on key principles of resilience in the context of humanitarian and food security crisis, to identify preliminary elements of a food system resilience research agenda.

The three volumes IFIP AICT 438, 439, and 440 constitute the refereed proceedings of the International IFIP WG 5.7 Conference on Advances in Production Management Systems, APMS 2014, held in Ajaccio, France, in September 2014. The 233 revised full papers were carefully reviewed and selected from 271 submissions. They are organized in 6 parts: knowledge discovery and sharing; knowledge-based planning and scheduling; knowledge-based sustainability; knowledge-based services; knowledge-based performance improvement, and case studies.

The integration of eco-friendly aspects, tools and solutions into a conventional supply chain leads to environmentally friendly global processes in the manufacturing and service industry. This book offers a selection of chapters that explain the impact of green supply chain solutions on value-making chains. The aim of this book is to help students at all levels as well as managers and researchers to understand and appreciate the concept, design and implementation of green supply chain solutions in the Industry 4.0 era.

Properly performing health care systems require concepts and methods that match their complexity. Resilience engineering provides that capability. It focuses on a system’s overall ability to sustain required operations under both expected and unexpected conditions rather than on individual features or qualities. This book contains contributions from international experts in health care, organisational studies and patient safety, as well as resilience engineering. Whereas current safety approaches primarily aim to reduce the number of things that go wrong, Resilient Health Care aims to increase the number of things that go right.

Fundamentals of Logistics Management provides a unique opportunity to leverage high profile, quality authorship into a market segment that has had little prior access to it. This text approaches logistics from a marketing perspective which is unique to its competitors. It also integrates the area of marketing, accounting, finance, and manufacturing within the text.

This book is organized in 2 volumes and 6 parts. Part I is Big Data Analytics, which is about new advances of analysis, statistics, coordination and data mining of big data; Part II is Information Systems Management, which is about the development of big data information system or cloud platform. Part III is Computing Methodology with Big Data, which is about the improvements of traditional computation technologies in the background of big data; Part IV is Uncertainty Decision Making, which is about the decision making methods with various uncertain information, such as fuzzy, random, rough, gray, unascertained. Part V is Intelligence Algorithm. Part VI is Data Security, which is a particularly important aspect in the modern management environment.

In the increasingly competitive corporate sector, businesses must examine their current practices to ensure business success. By examining their social, financial, and environmental risks, obligations, and opportunities, businesses can re-design their operations more effectively to ensure prosperity. Sustainable Business: Concepts, Methodologies, Tools, and Applications is a vital reference source that explores the best practices that promote business sustainability, including examining how economic, social, and environmental aspects are related to each other in the company’s management and performance. Highlighting a range of topics such as lean manufacturing, sustainable business model innovation, and ethical consumerism, this multi-volume book is ideally designed for entrepreneurs, business executives, business professionals, managers, and academics seeking current research on sustainable business practices.

Climate change is one of the most pressing issues facing the world today, as it affects all sectors of life, be it global economics or human rights activism; timely action is required

to avoid global catastrophe. Understanding the importance of climate change mitigation, renewable energies, clean technologies, and green development has become necessary for effective leadership. The Handbook of Research on Green Economic Development Initiatives and Strategies provides the necessary information to reduce the climate change vulnerability of socio-economic systems in the most cost-effective manner. This handbook of research is ideal for policy makers, non-governmental organizations (NGOs), government agencies, businesses, and professionals looking to temper the effects of climate change.

Winner of IIE Book of the Month, December 2013 The introduction of reverse supply chains has created many challenges in network design, transportation, selection of used products, selection and evaluation of suppliers, performance measurement, marketing-related issues, end-of-life (EOL) alternative selection, remanufacturing, disassembly, and product acquisition management, to name a few. Under the guidance of an expert editor and with contributions from pioneers in the field, Reverse Supply Chains: Issues and Analysis addresses several important issues faced by strategic, tactical, and operation planners of reverse supply chains, using efficient models in a variety of decision-making situations providing easy-to-use mathematical and/or simulation modeling-based solution methodologies for a majority of the issues. The book introduces the basic concepts of reverse logistics and systematically analyzes the literature by classifying more than 400 published references into five major types of product returns. It then identifies the basic activities and scope of reverse logistics, examining its drivers and barriers as well as major issues and challenges. The chapters cover metrics for quantitatively comparing competing new-product designs for end-of-life disassembly on a reverse production line, how to use the theory of constraints thinking processes to determine the core problems in reverse logistics, and an integrated multi-criteria decision-making methodology using Taguchi loss functions AHP (Analytic Hierarchy Process) and fuzzy programming. They explore issues associated with remanufacturing and green and resilient supply chain management and propose system modeling based on graph theory and network flows application to analyze material resource flows in the life cycle of a product. Reverse supply chains is a new and fast growing area of research and only a handful of books are on the market, however those books discuss specific projects rather than provide a cohesive focus on the topics. This book will provide a foundation and understanding of the topic and also highlight how current issues can be approached in a decision-making situation—using the appropriate technique.