Chapter 1 : Supply Chain Network Design | Managed Analytics Services | Chainalytics

Supply Chain Network Design is an excellent book that would be of value not only to all supply chain executives, managers, strategists, and analysts and researchers but also to students and instructors of advanced supply chain management and/or logistics courses.

Most business units or functional areas within a company are impacted by a network design project. When designing a supply chain the following steps must be followed: Once the path forward is determined and the design approach has been completed correctly, the business will reap many significant benefits. What Creates Real Economic Value? Business and operations strategy - the formulation of strategies that drive investment, operations, and competitive positioning - is where all value begins. There are five strategic questions that need to be answered: What business is the CPG company in and why? How should value be added to the business? What are the target markets? What are the products and why will customers buy from the CPG company? What capabilities are needed to assure that the company adds value and differentiates? Most companies develop strategies for target markets and products 3 and 4. Some at least consider 1 and 2. Few companies resolve 5 effectively. This is generally because operations strategies are not developed or implemented with the same scenario plan or rigor that is given to the more often seemingly interesting issues of markets and products. The alignment of business and operations strategies is often weak or non-existent. Mission and vision statements, plans, goals, objectives, and performance measures while important for driving execution, most often do not ensure that capabilities will be built for scenarios from the business strategies. Therefore, companies do not always have carefully developed alternatives for customer demand, new channels, competition, supply risks, and product development. Achieving clear and sustained alignment between operations execution and the plans derived from business strategies is challenging. They are beginning to understand that supply chains are about more than logistics regarding the buying and selling of goods, they are about competitive differentiation and profitable business growth. Log in to download this paper.

Chapter 2 : Artificial Intelligence and Supply Chain - SCM World blog

"Supply chain management (SCM) is a rapidly growing area of study—and network design is one of the fastest growing areas within SCM. This book would make a great.

In addition to teaching at Northwestern, Watson is a founding partner at Opex Analytics. One of the things we talked about that needs further explanation is artificial intelligence, especially because it is definitely one of the big trends in supply chain analytics right now. It is one of the big trends because everyone is using the term. It feels like just last year, no one in supply chain or operations even used it, but now it feels that every type of analytics is being called artificial intelligence. But, what does the term even mean and what should a supply chain or operations manager know about it? What do you say? Click here to send us your comments Here are the three things you need to know: Plus, if you are a vendor, it has the added benefit of having the audience think your solution does more than it really does. This leads to the second thing you need to know: Artificial intelligence does not mean full automation of a task or process. In the news and in magazines, artificial intelligence is usually associated with self-driving cars or machines that can outplay the best players of Chess , Go , or Poker. But it should be noted that AI is a long way from using more sophisticated algorithms to having a fully automated system. Artificial intelligence often means, specifically, deep neural networks. The people on the cutting edge academics, researchers, the data scientists building systems to win at Poker, etc use the term artificial intelligence to refer to deep neural networks. A deep neural network is a type of algorithm that got its name from its similarities to how the brain works. Breakthroughs in hardware specifically GPUs have allowed researchers to actually get deep neural networks to run. Around , there were several big scientific breakthroughs with deep neural networks— they showed a dramatic increase in the ability to recognize images as well as people could and translate language. These are definitely exciting breakthroughs. And, deep neural networks show promise to transform many different aspects of business. However, to apply these neural networks to your business, you need a lot of data millions of records with s or s of existing or derived attributes , a lot of hardware, and you need to tailor the neural network to your business the neural network for playing Go is very different from the one for Poker. There is a lot of work to go from the prediction to fully automating the decision. Final Thoughts As you come across people and vendors talking about artificial intelligence, hopefully these definitions will help you better figure out what they are talking about. Any reaction to this Expert Insight column? Sep, 06 "However, to apply these neural networks to your business, you need a lot of data millions of records with s or s of existing or derived attributes , a lot of hardware, and you need to tailor the neural network to your business the neural network for playing Go is very different from the one for Poker. The first layer of recognition that Esker uses among three is OCR and first-time recognition. If there is no master data to pull information from, the technology is taught to pull from the places where it might find the information, and gets smarter from there so s or s of records are not needed. Also, Esker offers their solutions in the cloud, so a lot of hardware being needed is untrue. And on that last point, the software is built for your business, so there is no additional "neural network" planning needed. I think the fact that this article boldly states that all of those items are needed is false. Sep, 08 Artificial intelligence is the new most talked about or trending. Thanks for sharing this amazing article.

Chapter 3 : Supply chain network - Wikipedia

Michael Watson is currently the world-wide leader for the IBM ILOG Supply Chain Products. These products include the network design product, LogicNet Plus XE.

Fast forward 60 years and artificial intelligence â€" or machine learning as many call it â€" is emerging as the next big technology. One of these is machine learning, which in cemented its place in the technology mainstream. Artificial intelligence can be defined as the use of computers to simulate human intelligence, specifically including learning â€" the acquisition and classification of information, and reasoning â€" finding insights into the data. At the core of artificial intelligence is the ability to recognize patterns across the 3Vs of big data volume, velocity and variety and find correlations among diverse data. Today, the term artificial intelligence encompasses everything from speech recognition to machine vision and from chatbots to collaborative robotics. The benefits of this technology lie in speed and accuracy beyond the reach of human capabilities, which is also feeding a debate about its implications in the future of work. Business activities that require to collect and analyze lots of structured and unstructured data can benefit from artificial intelligence and its ability to support faster and smarter decision making. Supply chain is therefore a natural fit for artificial intelligence. Hokey Min from the College of Business at Bowling Green State University, predicted a number of applications of artificial intelligence in supply chain management. These include setting inventory safety levels, transportation network design, purchasing and supply management, and demand planning and forecasting. The system uses cognitive technology to track and predict supply chain disruptions based on gathering and correlating external data from disparate sources such as social media, newsfeeds, weather forecasts and historical data. One area of application is new product introduction. The software begins with creating a baseline forecast for the new product. As the algorithm learns from early sell-in and sell-out demand signals, it layers this output to determine more accurate demand behavior, which feeds through to optimized inventory levels and replenishment plans. The machine-learning technology of TransVoyant is able to collect and analyze one trillion events each day from sensors, satellites, radar, video cameras and smartphones. In logistics applications, its algorithm tracks the real-time movement of shipments and calculates their estimated time of arrival, factoring the impact of weather conditions, port congestion and natural disasters. The technology firm Sentient uses machine learning to deliver purchasing recommendations to e-commerce shoppers based on image recognition. Rather than only using text searches and attributes like color or brand, the software find visual correlations with the items that the shopper is currently browsing through visual pattern matching. The awareness and ability to make fact-based decisions that artificial intelligence makes possible is completely new to supply chain management. This technology is expected to create the sentient supply chain of the future â€" able to feel, perceive and react to situations at an extraordinarily granular level. Welcome to the future!

Chapter 4 : Supply Chain Network Design : Michael Watson :

Using strategic supply chain network design, companies can achieve dramatic savings from their supply chains. Now, experts at IBM and Northwestern University have brought together both the rigorous principles and the practical applications you need to master.

Chapter 5 : Supply Chain Network Design - Michael Watson (Hardcover) | Raru

SUPPLY CHAIN NETWORK DESIGN APPLYING OPTIMIZATION AND ANALYTICS TO THE GLOBAL SUPPLY CHAIN Michael Watson, Sara Lewis, Peter Cacioppi, and Jay Jayaraman.

Chapter 6 : Michael Watson | Supply Chain Network Design

Supply Chain by Design. Dr. Michael Watson, one of the industry's foremost experts on supply chain network design and advanced analytics, is a columnist and subject matter expert (SME) for Supply Chain Digest.

Chapter 7 : What Is Supply Chain Network Design & Why Is It Important? - Supply Chain 24/7 Paper

Supply Chain Network Designcombines best practices, the latest methods in optimization and analytics, and cutting-edge case studies: everything you need to maximize the value of supply chain network design. Readers will learn how to use supply chain network design to select the right number.

Chapter 8 : Supply Chain Network Design - Michael Watson - Bok () | Bokus

Supply Chain Optimization, powered by Watson AI, enables your organization to proactively predict, assess and mitigate disruptions and risks while establishing and managing your business partner network.

Chapter 9 : Supply Chain Network Design Quotes by Michael Watson

Network design is important because a good design helps a firm execute its strategy. To do it right, it requires analytics and optimization. And, when firms do it right, they can reduce supply chain costs by % which can translate into tens of millions of dollars of savings for the firm.