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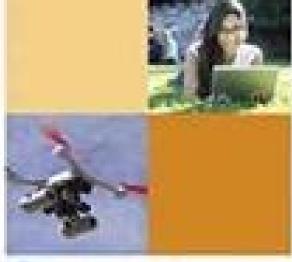
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ECONOMIC TODAY The Micro View

Roger LeRoy Miller

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The first aspect was that the customer wanted to buy Turkish chemicals to be used for fertilizers in agriculture. Ketchen Jr., Garry L. The scanners record inventory data and may be directly attached to a computer that uses the data to adjust inventory records and track product movement. Nix, and Robert F. Note that many of the preceding suggestions are common sense in nature (e.g., decals, locked forklifts); indeed, common sense is viewed as a basic foundation for controlling theft. These plants, which began in the mid-1960s, provided much needed jobs to Mexican workers and allowed for low-cost, duty-free production so long as all the goods were exported from Mexico. Virtually the entire product was assembled from components purchased from outside vendors. Processes that manage relationships, performance, and information for a supply chain. A common reason for facility relocation involves a lack of room for expansion at a current site, often because of a substantial increase in business. This chapter also looks at inventory flows and special concerns with inventory and concludes by discussing several contemporary issues with managing inventory. Raisinghani, and Manoj Singh, "Global Supply Chain Management in the Telecommunications Industry: The Role of Information Technology in Integration of Supply Chain Entities," Journal of Global Information Technology Management 5, no. Meixell, Mary J. "That figures," muttered Pon. M., 40n Ryals, L., 141n Ryan, J., 133n 03/06/14 5:39 PM 306 Name Index S Sachs, A., 30n Saenz, Jr. N., 50n Sanburn, J., 233n Sanchez-Rodrigues, V., 78n Sarkar, A., 112n Scott, G., 141n Scott, J., 184n Scuka, D., 48n Seikel, A., 98n, 99f Sengupta, S., 58n Seungin Whang, 97n Shacklett, M., 43n, 98n, 100n, 188n Shelton, M., 175n Sherlock, J., 276n Siepenkort, A., 133n Siferd, S.P., 116n Sim, T., 177n Singh, M., 104n Smith, F., 21 Songini, M. Would your answer to Question 5 change if the shirts are exported through the Port of Kolkata? The company picked a site for a new grocery store, received the appropriate construction permits, built the store, hired relevant personnel, and stocked the store with products. Hult, Thomas M., David J. 5 M07 MURP4846 11 GE C07.indd 129 04/06/14 11:56 AM 130 Part III • Elements of Logistics Systems industry in the early 1980s, and if a customer telephoned to learn about a shipment's status, a very m anual—and, unfortunately, a time-consuming (at a minimum, the phone call had to be answered) and not always successful—shipment tracking process was initiated. Profitability analysis is an important means of assessing logistics activities and proposed changes to a firm's logistical systems. Time Time refers to the period between successive events, and clearly the order cycle is an excellent example of the time dimension of customer service. CASE Case 12.1 Truck Company HDT Truck Company HDT Truck Company HDT Truck Company has been located in Crown Point, Indiana, since 1910. Has the arrangement been structured so that unexpected occurrences can be dealt with in a timely and satisfactory manner?33 One measure of the pervasiveness of outsourcing in SCM can be seen in the evolution of fourth-party logistics (4PL), or the lead logistics provider (LLP), concept, which emerged in the mid-1990s. Entire books are devoted to demand forecasting, and space limitations prevent a comprehensive discussion of the topic in this text. 1 (2005): 14-19. Norman Pon, HDT's treasurer, wanted to give priority to building trucks that were being sold on an FOB plant basis because that would improve his cash flow position. Recall from Chapter 1 that the systems approach to logistics is predicated on the total costs of various logistics activities. in mobilizing people, resources, skills, and knowledge to help people who have been affected by either a natural or a human-made disaster.11 For example, natural disasters such as a catastrophic earthquake require food and medicinal supplies to be located, collected, transported, and distributed—and sooner, rather than later. Also covered are enablers and barriers that affect one's ability to integrate their network of relationships. However, this may result in low space utilization, particularly with seasonal products. Packages are referred to by number; they are described in great detail in the classification document. 9.7 What are maquiladoras? Behavioral issues should be considered when establishing and implementing a system of logistics measures. With respect to international shipments, the International Air Transport Association regulates the packaging of air shipments, and limited packaging requirements apply to ocean shipments. L., 49n Sowinski, L., 174n Spector, S. L., 260n Child, J., 71n Christopher, M., 61n, 94n, 97n Cimperman, J. "Implementing Sustainable Sourcing—Does Purchasing Need to Change?" Journal of Purchasing & Supply Chain because all parties read the same labels; in addition, the transfer of goods between parties can be recorded by simple electronic means. 2.19 What is an online reverse auction? These orientations include the following: process strategy (management of logistics activities with a focus on reducing complexity for customers); and information strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activities with a focus on cost); market strategy (management of logistics activitie goal of achieving coordination and collaboration through the channel).10 These strategies have been found to remain stable over time and provide a basis for meeting organizational goals. Surface carriers give volume discounts to customers shipping large quantities of freight at one time. 6 The material in this section is drawn from Robert Monczka, Robert Trent, and Robert Handfield, Purchasing and Supply Chain Management, 3rd ed. M11 MURP4846 11 GE C11.indd 213 03/06/14 6:19 PM 214 Part III • Elements of Logistics Systems Indeed, some importing nations levy fines against products that are not sold in metric measurements. A review of the new warehouse one year after its opening revealed that only 55 percent of the available space was actually being utilized and the company concluded (reluctantly) that it could have satisfied current and future demand with a 450,000 square foot facility. The latter may differ between ocean lines, coastal areas through which the shipments are moving, and for a variety of other circumstances. B., 111n Hang, Z., 44n Hanna, J. 1.16 Define what is meant by a landed cost and explain its relevance for pricing decisions. Land bridge services Refers to a combination of water transportation between an origin and destination port. There was one authorized Handy Andy factory distributor in each large urban area and the distributor was responsible for filling orders from licensed Handy Andy retailers. The inventory of nails. Although domestic shipments might only require several pieces of documentation, export shipments typically require approximately 10 documents, and for some cross-border trades, more than 100 separate documents can be required! Documentation can act as a nontariff barrier in the sense that all the necessary documents are required at the point of importation. There are presently three major ocean carrier alliances: the Grand Alliance II [consisting of HapagLloyd, Nippon Yusen Keisha (NYK) Line, and Orient Overseas Container Line (OOCL)]; 20 No author, "Asia Shippers Push for Ban on Liner Conferences," The Journal of Commerce, September 12, 2011, 6. Moreover, weather conditions such

as fog, snow, and thunderstorms can have an adverse effect on the reliability of airfreight transportation. See Enterprise resource planning (ERP) Estée Lauder, 58 EU. of Chicago Press, 1929). Demand management is important because effective and efficient supply chains have learned to match both supply and demand; failure to do so can result in oversupply (more supply than demand) or undersupply (less supply than demand) of products. A commonly used intermediary is the freight forwarder, whose function is to assemble small shipments and then tender them in truckload or rail carload quantities to truck lines or to railroads. This segmentation should also be reviewed and updated on a regular basis. 4 (2009): 291-302. "The largest set we have sold to date retails for \$159 and weighs only 125 pounds." "There must be some mistake," thought Don as he walked down the hall to the office of Olga Olsen, KiddieLand's buyer for play sets. Issues associated with an expansion of p-cards overseas include currency differences, availability of technology, difference in card acceptance and cultural issues with the program. Michael, Walter Zinn, and Cuneyt Ergolu. 13.17 How does an averaging agreement work? "RFID in the Supply Chain: Lessons from European Early Adopters." International Journal of Physical Distribution & Logistics Management 38, no. 2.8 Discuss the relationship between automatic identification technologies and point-of-sale systems. 04/06/14 12:19 PM 244 Part III • Elements of Logistics Systems Chris Reynolds, production manager at HDT, estimated that production could start approximately April 1, 2003, and the order would take 18 working days to complete. • Using the waterways instead of trains to reach the Hamburg port from Prague would decrease the transportation cost by € 48 per bus. Trunick, "To Catch a Thief," Logistics Today, July 2005, 35–40. Indeed, one lesson learned in the early years of online retailing was that many companies were quite good at 126 M07_MURP4846_11_GE_C07.indd 126 04/06/14 M07_MURP4846_11_GE_C07.indd 126 M07_MURP4846 11:56 AM Chapter 7 • Demand Management, Order Management, and Customer Service 127 understanding and stimulating customer demand as well as receiving orders associated with the demand. M10 MURP4846 11 GE C10.indd 195 04/06/14 12:03 PM 196 Part III • Elements of Logistics Systems example, the Midlands section of Britain located between London and Birmingham, is a popular site for distribution centers—there is available land for development, and the land is reasonably priced. 2.10 How might try using it to answer the questions that follow. What is the time limit for filing a claim? Mentzer, John T. Traditionally, laser scanners have been used to read bar codes. Figure 8.2 presents an illustration of inventory flow, based on the following assumptions: an EOO of 120 units, average demand of 30 units per day, and a replenishment or order cycle of two days. Recall that we calculated \$500 (100 units) to be the EOQ. Grimm, and Valdis Blome. My sample wasn't very well structured in a metropolitan market sense; you will recall that it was a nationwide sample that was trying to look at repairs." Questions 1. In either port, it costs another € 45 per bus to have it unloaded and driven to alongside the vessel. In so doing, the high fixed costs can be spread out over more units of inventory, thus reducing the cost per unit of storage. "A Review and Evaluation of Logistics Management 5, no. To this end, experts recommend that the best pilferage policy should be based on zero tolerance because problems inevitably arise for those companies." that tolerate a "small amount" of pilferage. These revenue effects must be built into the analysis of logistics performance. Center-of-gravity approach An approach for locating a single facility that minimizes the distance to existing facilities. With respect to the former, electronic devices such as closed-circuit television systems can be helpful, particularly if they are monitored on a regular basis. "Just what are our return policies, Lori?" "Well, until today, I thought we had only two," said Lori. His father complained that they were being "eaten alive" by warehousing costs. It was a pleasant meeting. The ability to determine that the customer wants, say, a black shovel, is nice, but is the customer able to communicate this desire to an organization? "We can't back out of the Super Gym now," she moaned. Lisa M. Karl Huber was the N.A.M. regional vice president of sales for South America, and he supervised a team of local sales representatives in the countries of that continent, plus a small group of people in the Munich headquarters. The interior dimensions of the intermodal container were 8 feet wide by 8.5 feet high by 40 feet long. 1 (2006): 22-35. Meyers was angry because, in firing Bigelow on Wednesday, Jason may have also blown the suspension of Bigelow on Wednesday. uncertainty, under conditions of lead time uncertainty, or under conditions of demand and lead time uncertainty. Johnson, Carol J., Curtis M. The new data (see Table 9.2) indicate that the monthly volume for the five locations is 20 tons (3 + 5 + 4 + 2 + 6) and that the weighted center-of-gravity location is 2.6 miles north and 3.7 miles east. 9 Trish Lorenz, "No More Pass the Parcel," Design Week, April 14, 2005, 9. Glaskowsky, Jr., and Robert M. "Be careful," said Lori. Moreover, many online retailers are challenged by "last-mile" considerations (those related to delivering product to the customer) such as congestion, frequent stops, and return trips if the customer is not available to accept the delivery. S., 104n Rawlinson, R., 21n Reade, L., 212n Reese, A. The air forwarding industry works with the air carriers and air forwarders to consolidate shipments and tender them in containers that are ready for aircraft loading. These nonstorage activities include, but are not limited to, the following: 1. The need to fully evaluate the implications of global sourcing has motivated an increased examination of the total cost of ownership (TCO) when procuring items from outside countries. Let There Be Light learned that the transportation cost from the Port of Shanghai were \$800 for a 40-foot container. Population is one proxy for market size, and you might recall from Chapter 9 that China and India are the world's two most populous countries. Common carrier Transportation carrier that has agreed to serve the general public and assumes four legal obligations: service, delivery, reasonable rates, and avoidance of discrimination. From Wonsan, the lumber could be shipped to a port in Syria, in this case Latakiaation carrier that has agreed to serve the general public and assumes four legal obligations: service, delivery, reasonable rates, and avoidance of discrimination. From a carrier perspective, there may be reluctance to accept small shipments because they tend to require a high degree of manual labor, thus increasing labor costs. At 3 p.m. Don summarized the alternatives discussed: 1. Finance The finance staff is often charged with the responsibility of allocating the firm's funds to projects desired by the various operating departments. 11 (2012): 36-40. For example, cans of shaving cream cause little problem in fires because if they explode, the shaving cream serves to extinguish the fire; that is not the case with aerosol cans containing paints or lacquers, and such cans are often kept in special cages because in a fire they might become burning projectiles. 1 (2012): 44-72. "Evaluating the Private Fleet." Transportation Journal 47, no. See Organizational and managerial issues, timeline for presenting electronic advance manifest information Carriage and Insurance Paid To (CIP), 275 Carriage Paid and-effect (associative) forecasting, 128 CBP. Adams, and Jeannette A. M01 MURP4846 11 GE C01.indd 32 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 33 Demand forecasting refers to efforts to estimate product demand in a future time period. 12 (2011): 112-117. Results have been promising, as illustrated by Kohl's Department Stores, which has reduced empty truck movements by nearly 4 million miles since joining the partnership.31 You might be surprised to learn that the annual cost of reverse logistics, which refers to the process of managing return goods, exceeds \$100 billion in just the United States. This was accomplished through the class rate system, which simplified each of the three primary rate factors—product, weight, and distance. See Supply chain management (SCM) SCM implementation, barriers corporate cultures, incompatibility, 104 globalization changes, 104 information systems, incompatibility, 103 lack of commitment, top management, 102 political considerations, 102 regulatory statutes, 102 reluctance, information sharing, 103 SCOR. In the following years, the Turkish economy took many more hits, including the financial crisis in the Asian markets, the Russian market crash, and most recently, the Argentinean crisis. 14 The material in this section is largely drawn from Jim Sherlock and Jonathan Reuvid, eds., The Handbook of International Trade (Edinburgh, UK: GMB Publishing, 2005), Part 8. It involves an approach to inventory that, in turn, forces a complementary approach to production, quality control, supplier relations, and distributor relationships. With respect to size considerations, truck trailers can be a maximum of 102 inches wide; the maximum length for tractor-trailer combinations varies from state to state. 3 (2012): 353-367. 4 (2011): 251-269. One reason that address the issues of current concern to them. 5 (2009): 342-348. Today AILS is handling an average of 200-plus TEUs (20-foot container equivalents) of imports and exports every month between Delhi and Mumbai (Bombay), which is the nearest big port (a distance of 1,407 kilometers). Distribution centers emphasize the rapid movement of products through a facility, and thus they attempt to maximize
throughput (the amount of product entering and leaving a facility, and thus they attempt to maximize throughput (the amount of product entering and leaving a facility, and thus they attempt to maximize through a facility. in a given time period). Consider, for example, the potential consequences of a supply chain disruption—a challenge faced by many for-profit organizations—in a war zone. "Shoot," responded Pon. The seller is responsible for the transportation costs associated with delivering goods and purchasing minimum insurance coverage to the named place of destination. What if they are truly defective, but improperly disposed of, then fall into the hands of children who play with them and the defect causes an injury? Order processing refers to the time from when the seller receives an order until an appropriate location (such as a warehouse) is authorized to fill the order. In addition, there is a belief by some carriers that they lose money on small shipments because the revenues from them don't sufficiently reflect cost considerations. Can the company afford new people or new technology? In an effort to retain customers and to reduce losing customers to other automotive repair facilities, Toyota now offers same-day delivery (rather than one-day delivery) of automotive parts to certain Toyota dealerships located in major metropolitan areas. One of the challenges with the analog, because an inappropriate selection will reduce forecast accuracy, were caught red-handed, it would be fined a sum of double the total value of goods. entering the country. Thus, a particular organization can compare its turnover figures to those of direct competitors or other organizations with "desirable" turnover ratios. Blanchard, "Moving Ahead by Mastering the Reverse Supply Chain," Industry Week, June 2009, 58–59. We learned that a number of ethical issues are associated with procurement. Other reasons for the maquiladora resurgence include Mexico's close proximity to the United States, higher fuel prices, and a narrowing of the wage gap between Mexico and the People's Republic of China.9 Companies interested in locating in countries with low-cost labor should recognize that there are sometimes limits to the number of supervisory personnel that can be brought in from other countries. Many companies evaluate their service performance through benchmarking, which refers to a processes found inside and outside an organization. Terim's position regarding rusvet was unclear. In an effort to learn more about population size and characteristics, many countries conduct a detailed study, or census, typically once every 10 years or so. Today, much of this information must also be placed outside the larger cartons as well, because some retail outlets sell in carton lots, and the buyer does not see the consumer package until he or she reaches home. 6.15 What is total cost of ownership and why is it important to consider? One suggestion for dealing with these weather extremes is to hire experts to evaluate site in which to locate is a free trade zone, also known as foreign trade zones, export processing zones, or special economic zones. Whereas early spreadsheet programs for personal computers were little more than speedy calculators, today's spreadsheets have a multitude of capabilities that allow managers to solve a variety of complex business problems relatively. 28 Adapted from a definition of the personal computers were little more than speedy calculators, today's spreadsheets have a multitude of capabilities that allow managers to solve a variety of complex business problems relatively. "marketing information system" provided by Philip Kotler and Gary Armstrong in Principles of Marketing, 11th ed. "Moving Places: The Geography of Warehousing in the U.S." Journal of Transport Geography 16, no. Taxes represent yet another component of inventory carrying costs, and they are calculated on the basis of the inventory on hand on a particular date; considerable effort is made to have that day's inventory be as low as possible. Processes, additions and modifications to processes, additions and modifications to processes, additions and modifications to processes over time, and/or changing process requirements. increase because they are believed to be less risky than holding cash or securities. Because processes and value creation tend to be customers. (Harlow, England, Prentice Hall-Financial Times, 2005). www.desicant-solution.com 16 M11 MURP4846 11 GE C11.indd 218 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 219 Beyond the Unit Load The next step in the building-blocks process is to stow the unit load pallets into a waiting truck trailer, railcar, or container van. For example, eliminating some or all of a company's dead inventory automatically reduces both beginning and ending inventory—hence average inventory is also reduced. Discuss the pros and cons to allowing Handy Andy trash compactors to be sold only through licensed retailers (i.e., factory distributors would no longer be able to sell to consumers). The chapter concluded with a discussion of materials handling equipment, and this equipment should be aligned with an organization's objectives, customers, and products. Michael Knemeyer. One basic decision concerns the design of the reverse logistics system, such as whether return operations should be incorporated into existing warehousing and products. Michael Knemeyer. One basic decision concerns the design of the reverse logistics system, such as whether return operations should be incorporated into existing warehousing and products. PM 102 Part II • Supply Chain Management should be defined. Supplier selection and evaluation has taken a "traditional" approach in the sense that there has been underlying assumptions that (1) suppliers initiate marketing efforts toward purchasers and (2) potential suppliers are available and willing to serve prospective purchasers. With respect to changes in the external environment, contract warehousing is viewed as more flexible than private warehousing is viewed as more flexible than private warehousing but less so than public warehousing. carriers, unless the customer is located on a rail line or has a rail siding (a track that runs from a main line to a particular facility). The question arises, "Should the retailer recover the wholesale price?" If the products destroyed were going into a general inventory replacement stock, the retailer would recover the wholesale price?" plus freight costs (if they had been paid) because the retail price has not been earned. As noted earlier, one requirement for the utilization of a fixed order quantity is ordered. Globally Harmonized System of Classification and Labeling of Chemicals (GHS) An effort by the United Nations to classify and label hazardous materials that provides three key pieces of information: (1) a symbol; (2) a signal word; and (3) a hazard statement. Zikmund and Michael d'Amico, Marketing, 7th ed. By consolidating shipments, they benefit from a lower rate per pound. It is far less likely that the same company would use expedited transportation to guard against an out-of-stock situation with a product in the decline phase of the aisle width, 196 build out versus build up, 195-196 contract warehousing, 193-194 03/06/14 5:39 PM Subject Index 317 conventional aisles, 196 cross-docking, 171, 190, 191f, 198 defined, 34, 47 design considerations, 194-197 employee safety, 199 fixed versus variable slot locations for merchandise, 195 hazardous materials, 263 Minnetonka Warehouse, 204-205 narrow aisles, 196 order-picking versus stock-replenishing functions, 196 picker-to-part versus part-to-picker systems, 223 private warehousing, 191-192 retail storerooms, 194 sanitation issues, 202 security, 201-202 security shortcomings, warehouse, 202 security shortcomings, warehouse, 202 security short and transportation, 189f sorting sortin out, 190 space requirements and considerations, 194-195 storage and handling equipment, 196 zo3 MURP4846 11 GE SIDX.indd 317 very narrow aisles, 196 warehousing productivity analysis, 198 Warehousing operations productivity analysis 198 safety considerations, 198-199 hazardous materials, 200-201 Liberty Mutual workplace safety index findings (2012), 199f motor vehicles, 200 property, 200 WARN. Closs, and M. What services do they perform? As pointed out in Chapter 7, a commonly used guideline is that it costs five times as much to acquire a new customer as it does to retain an existing one. Propose a policy for handling returns that should be adopted by the Johnson Toy Company. Under vendor-managed inventory (VMI), by contrast, the size and timing of replenishment orders 14 Lisa Harrington, "Getting Service Parts Logistics Up to Speed," Inbound Logistics, November 2006, 72–79. M10_MURP4846_11_GE_C10.indd 190 04/06/14 12:03 PM Chapter 10 • Warehousing Management 191 Facility should be as narrow as possible RECEIVING DOORS SHIPPING DOORS Figure 10.2 Ideal Facility for Pure Supplier Consolidation (Full Pallet Movement) Source: Reprinted by permission of the Warehousing Education and Research Council. Slow-selling (or nonselling) products may also increase a company's handling costs, as illustrated by a situation in which forklift drivers would not see the refrigerators sitting in the same place for an extended period of time! You may find it difficult to believe that these 150 refrigerators were moved throughout the warehouse for nearly five years before managers were alerted to the behavior. As an example, Nordstrom's (a high-end retail location (e.g., the Nordstrom's in Spokane, Washington is supplied from the Nordstrom's distribution center in Portland, Oregon). Ten materials handling principles can improve the effectiveness and efficiency of logistics systems. van Hoek, "The Contribution of Performance Measurement to the Expansion of Third-Party Logistics Alliances in the Supply Chain," International
Journal of Operations & Production Management 21, no. Supplier Relationship Management Product Development and Commercialization Returns Management Source: Douglas M. DeMaris, "Psychic Stock: An Independent Variable Category of Inventory," International Journal of Physical Distribution & Logistics Management 20, no. Although LTL companies tend to be limited in the type of freight types. Freight forwarder Consolidates freight shipments and buys transportation services in volume rates. The short form has the following statement on its face: "Every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading." Another kind of bill of lading—which may be long, short, order, or straight—is preprinted. Supply chains consist of a number of different parties and can include the end consumer; SCM requires companies to adopt an enterprise-toenterprise point of view. The CSCMP definition also indicates that logistics "plans, implements, and controls." Of particular importance is the word and, which suggests that logistics should be involved in all three activities—planning, implementing, controlling—and not just one or two. Business Performance Measurement: Unifying Theory and Integrating Practice, 2nd ed. Are they really sufficient? 2 (2002): 91-100. The EOQ can be calculated using this formula: EOQ = 12AB/C M08 MURP4846 11 GE C08.indd 154 03/06/14 5:23 PM Chapter 8 • Inventory Management 155 Figure 8.1 Determining EOQ by Use of a Graph Where EOQ = the most economic order size, in dollars A = annual usage, in do 12 * 1,000 * 25/.20 = 1250,000 = \$500 order size Alternatively, the EOQ can be calculated in terms of the number of units that should be ordered. Easter was pleased that things were going smoothly. Stephen Taylor. The product costs for the three other activities are calculated in a similar fashion. Egbunike, Obiajulu N. For example, frequent shopper cards, such as those offered by grocery chains, offer the opportunity to develop highly detailed profiles of individual customers. 4.10 Discuss the reasons why logisticians might be concerned with theft. The 8-ounce bags of chips wholesaled FOB plant for 40 cents each and retailed at 59 cents. 10 Garrett Brown, "Global Electronics Industry: Poster Child of 21st Century Sweatshops and Despoiler of the Environment?" EHS Today, September 2009, 45-48. Average inventory for a \$500 order size is \$250, meaning that our carrying costs are \$50. The customers first required that N.A.M. had received for a shipment of 233 buses to the transit district of Buenos Aires, six months earlier. Thus, raw materials, component parts, labor, and markets all influence where to locate a manufacturing, processing, or assembly facility. For example, one logistics decision that could be made by an e-commerce company would be to provide overnight delivery to their customers at no cost. has contracts. 56 David Biederman, "Supply Chains Head to the Cloud," Journal of Commerce 13, no. For example, a firm stamps electronic components in the United States. To calculate the north weighted center-ofgravity location, each north coordinate is multiplied by the corresponding volume, and these values are summed; this total is then divided by the sum of the monthly volume. The kereste would be of various dimensions, bound together by metal straps into bundles measuring 1 meter by 5 meters, and the kereste aboard a break-bulk vessel in a North Korean port. Flexibility, which can be defined as an organization's ability to address unexpected operational situations, is predicated on avoiding early commitment to an irreversible course of action. The most significant contribution that the logistics channel makes to the overall channel process is the sorting function, which bridges "the discrepancy between the assortment of goods and services generated by the producer and the assortment demanded by the consumer."33 The sorting function has four steps, and these are important to understanding the concept of goods flowing through the logistics channel: • Sorting out is sorting a heterogeneous supply of products into stocks that are homogeneous. The carrier is paid on the basis of carton weight.) M13 MURP4846 11 GE C13.indd 266 Chippy management believed that because the new chips were less bulky, the LTL classification of 200 was too high. Another difficult area for shippers and carriers alike involves concealed loss or damage, which refers to a situation where loss or damage is not apparent until after a shipment has been unpacked and inspected. It's important to recognize that regulations (often in the form of state laws) may limit the degree of vertical integration that will be permitted in particular industries. Expediting The need to rapidly move a shipment to its final destination. The growth in popularity of washed, cut lettuce sold in plastic bags is an example of how packaging can benefit several members of the supply chain. For example, a motor carrier that specializes in dry van, general freight service would not be expected to transport a shipment of liquid chemicals. 3 (2008): 273-286. Product design, which is often the purview of marketers, can also have important implications for logistical effectiveness and efficiency. These shipments are then taken to a terminal, where they are loaded aboard line-haul trucks, which are driven to a terminal near the freight's destination. Recycling companies can specialize in plastic bottles, among others. Potential solutions for consolidating small shipments involve consolidation across time or place.10 Continuing with the 10-unit example from the previous paragraph, and supposing that 2 units are available for shipment of 8 units, which would mean a shipment on the fourth day) or time guidelines (e.g., ship every third day, in which case the shipment volume would be 6 units). For example, there are continuing efforts to reroute rail shipments of hazardous materials—because of terror concerns—away from major U.S. population centers, as oceangoing petroleum tankers have the potential to be used as mobile bombs. Indeed handise exports has nearly tripled since the start of the twenty-first century, growing from approximately \$6.2 trillion in 2000 to approximately \$18.3 trillion in 2012—despite the worldwide economic of the gross domestic product of all countries) grew from approximately 12 percent in 2000 to approximately 25 percent in 2012.2 1 World Trade Organization, International Trade Organization, Internation, Intern packaged products. International Airfreight Three types of international airfreight operations exist: chartered air carriers that specialize in carriers that specialize i to substitute products differ from a supermarket's decisions with substitute products? It is unlikely that loss and damage can ever be totally eliminated; because orders are picked and assembled, they are handled—and every time product is handled it provides opportunities for loss or damage. Product pipelines carry products such as gasoline or aviation fuel from the refineries to tank farms (storage tanks) located nearer to customers. 11 (2012): 24-28. This industry's conversion to the metric system, which began in the 1970s, illustrates several of the potential challenges that might stand in the way of the United States formally adopting the metric system. recognized as part of supply chain management means that logistics can affect how well (or how poorly) an individual firm— and its associated supply chain(s)—can achieve goals and objectives. As a result, some organizations prefer geographic areas in which unions are not strong; in the United States, for example, some states have right-to-work laws, which mean that an individual cannot be compelled to join a union as a condition of employment. This alarmed some U.S. legislators, and the result was a series of proposals that culminated in legislators, and the result was a series of proposals that culminated in legislators. environmental protection has profoundly impacted the packaging industry on a worldwide basis; in fact, over 80 percent of consumers view packaging are increasingly being recycled; disposable packing materials are often viewed as wasteful, and their disposal is becoming increasingly expensive as costs increase for dumping in landfill sites. However, in early 2009, DHS Secretary Janet Napolitano suggested that the 2012 scanning deadline probably would not be achieved, in part because of difficulties in achieving agreements with all nondomestic ports that ship containerized cargo to the United States. 19 Another example of the CBP's emphasis on containerized shipments is the Container Security Initiative (CSI), an agreement in which some of the world's ports agree to allow U.S. customs agents to identify and inspect high-risk containers bound for the United States before they are loaded onto ships. • Electronic tags or strips are embedded in products at the time of their manufacture, and they can activate alarms at warehouse or retail store doors. and Kenneth J. Autry. (See Exhibits 6.A and 6.B.) This would be the perfect solution, except, he suddenly realized, he would not be able to bring the lumber into Turkey legally because of trade sanctions against North Korea. Varying degrees of economic integration exist, ranging from a free trade area (such as the North American Free Trade Agreement), which integrates economic policies among member nations and allows the free movement of goods, services, and factors of production among member nations.9 While a comprehensive discussion of economic integration. Investment recovery Identifies opportunities to recover revenues or reduce costs associated with scrap, surplus, obsolete, and waste materials. Place Decisions Decisions of customer service—time, dependability, communication, and the marketing channel (which is discussed in greater detail later in this chapter). Williams, Brent D. At a
minimum, the measures should be consistent with the four dimensions of customer service—time, dependability, communication, and convenience—discussed earlier in this chapter. Toth chimed in, "According to our marketing research, 85 percent of our customers drive less than 25 minutes to the store, so a flat fee of \$40 for delivery would probably be okay." Randy continued, "The motor carrier that handles shipments from our distribution centers is a consolidator. recommend be dropped? AILS has slowly expanded its consulting offerings to include site selection for manufacturing plants and warehousing facilities. For example, one of the authors worked for a trucking c ompany that regularly utilized 25-year-old tractors to serve certain customers. Anthes, "Modeling Magic: IT-Based Operations Research Builds Better Supply Chains at Procter & Gamble," http:// www.computerworld.com/s/article/99484/ModelingMagic. Proximity to key suppliers has been the catalyst in the development of supplices has been the catalyst in the development of supplices has been the catalyst in the development of supplices has been the catalyst in the development of supplices has been the catalyst in the development of sup in Europe and has spread to other continents, including North America. All had been opened and p artially disassembled and became floorboards in Ford Model Ts.) The financing channel handles payments for goods. E., 53n Rogers, D. The freight forwarder exists by offering a service to shippers that must use LTL rates because they do not generate enough volume to use TL rates. I agree we are stuck with some shopworn items, but our salespeople are out there to sell, and nothing would ruin a big sale quicker than for our salespeople to start arguing with the retailer, on an item-by-item basis as to whether something being returned happens to be shopworn." "Is there a limit to what a salesperson is permitted to allow a retailer to return?" asked Amy. One reason for this is that ocean carriers and international airlines can operate as extensions of a nation's economy, and most of the revenues they receive flow into that nation's economy For example, the size limit shown, 75 inches, means that the material should not be used in a package where the total length, width, and height, when added together, exceed 75 inches. Classifications are based on both cost and value of service. annual contests that offered all-expenses-paid trips for two to attractive vacation locations such as Hawaii, and the trips were awarded based on the amount of oil filters purchased in a particular time frame. Robertson knew that HDT could function in his absence and kn lack of cooperation and coordination between procurement and other functions can result in supply shortages, excess inventory, frequent write-downs, and increased lead times.7 Supporting operational requirements means that products, at the right price, from the right source, at the right specifications, in the right quantity, for delivery at the right internal customer. AILS considers include the following: • Import consolidation. AILS has a well-developed network of offices and trade connections in the United States, Europe, the Far East, and the M09_MURP4846_11_GE_C09.indd 185 Middle East to render import consolidation by both air and sea to any part of India. M03_MURP4846_11_GE_C03.indd 58 03/06/14 5:15 PM Chapter 3 • Strategic and Financial Logistics 59 low-cost producer in an industry for a given level of quality. If so, the company might consider using expedited transportation (assuming that customer satisfaction isn't negatively impacted), because the total logistics costs (consisting, in this example, of transportation, inventory, and warehousing costs) are less than the total costs of the existing system. For example, food manufacturers may sell to grocery chains, institutional buyers, specialty firms (which might position the food items as gifts), and industrial users (which might use the product as an ingredient in another product as an ingredient in another product as an ingredient in another product that they manufacture). 12.6 How do speed limits and hours-of-service rules potentially affect motor carrier service? With respect to China, for example, going from two to five warehouses allows a company to save nearly one day of lead time to the Chinese population. 1. Disintermediation The removal of levels (layers) from a channel of distribution. As was pointed out in an earlier chapter, customer expectations continue to increase over time; if the associated performance (service) levels fail to keep up, then customer dissatisfaction is a likely outcome. Other plastic-related legislation, by contrast, aims to reduce the amount of packaging material that ends up in landfills. Guillou, on the other hand, argued that the sale was necessary because the Middle East represented a growth market by anyone's definition, and he wanted HDT trucks there. M04_MURP4846_11_GE_C04.indd 89 It was lunchtime. How do I file an LTL freight claim? Summary Procurement is closely related to logistics because nearly anything purchased must be moved to wherever it is needed—in the right quantity and at the precise time. The customer goes to a competitor only for this purchase. The largest users of private warehousing are retail chain stores; they handle large volumes of merchandise on a regular basis. Examples of co-branding include Starbucks coffee shops located within some Walmart stores, and colocated Dunkin' Donuts and Baskin-Robbins stores. Warehouse automation The utilization of merchandise on a regular basis. mechanical or e lectronic devices to substitute for labor. Fifty pounds is a significant weight in many logistics systems because it represents the approximate weight at which there is a noticeable increase in injuries, from manual handling. For example, because of the danger of earthquakes in Japan, upright refrigerators must be built so that they will remain upright, even when tilted as much as 10 degrees. Besides reducing customer risk, many transportation companies that have improved relevant aspects of their performance such as on-time delivery, which has meant a decrease in the amount of payouts for deficient service. Brad Mitchell, "The Sourcing Dilemma: Should You Go Near or Far?" World Trade 22, no. Nevertheless, some organizations are reluctant to share information, particularly information, particularly information that might be considered proprietary in nature. Manager: Lisa Rinaldi Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on
appropriate page within text. J., 42n Parry, T., 50n Partida, B., 48n Patel, C., 65n Pearson, S., 213n Perreault, Jr. W. 6.4 Discuss three potential procurement objectives. Bloomberg, Stephan LeMay, and Joe E With respect to transportation considerations, is Patna or Lucknow the preferred location? For example, one can compare Argentina's overall and dimension-specific LPI scores (1) in 2007, 2010, and 2012, (2) to Latin American and Caribbean countries, and (3) to upper-middle-income countries. 14.3 Discuss how a nation's market size might impact international trade and, in turn, international logistics. Finally, Shipment 1 and 4 differ in terms of the destination zip code, and because Shipment 1's. (The difference between the weight of chips and that of cartons is due to packaging materials. 4.3 Is it always the case that a centralized logistical organization means cost savings for a business? Kenny, Michael. • How will information about the substitute product be communicated to hospital staff? High-speed, highpriced transportation systems require smaller amounts of inventories in a logistic system, whereas slower, lessexpensive transportation requires larger amounts of systemwide inventory. 48 M02_MURP4846_11_GE_C02.indd 50 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 51 for online shopping are exacerbated by the fact that (1) a particular customer may require vastly different levels of service depending on the product ordered and (2) a particular product may require vastly different levels of service depending on the customer ordering it.52 Cloud Computing the previously mentioned software as a service) has experienced meteoric growth since the beginning of the twentyfirst century. Narrow Bins." International Journal of Industrial Ergonomics 40, no. 7.14 List and discuss the three elements of the dependability dimension of customer service. For our purposes, transportation management will refer to the buying and controlling of transportation service. concerned about transportation management because transportation represents a major expense item. D stands for either "dogs" or dead inventory (dead stock), which there is no sales during a 4 M08 MURP4846_11_GE_C08.indd 158 Mary Aichlmayr, "The Quick, the Dead, and the Slow Movers," Transportation & Distribution, February 2002, 38-42. How, if at all, should this influence changes in the product's classification? Moreover, the black floor was extremely slippery-meaning that forklifts had a harder time stopping (some actually crashed into the walls!), and warehouse workers were more prone to falling. Yet another drawback to the unit load is the product's classification? lack of standardization in terms of pallet sizes. For example, expedited transportation, such as air freight, will increase a company's transportation costs. Yet another security concern involves the decreasing portability of technology devices such as laptop computers, flash drives, and smart phones. Average inventory is multiplied by the carrying costs of the inventory (expressed as a percentage of the dollar value). Similarly, a strategic decision by manufacturing to implement a just-in-time system would affect logistics decisions in areas such as warehousing, transportation, and inventory management. It is not unheard of, for example, for a forklift operator to be inside a truck trailer as it pulls away from a loading/unloading dock. These alliances provide two primary benefits to participating members, namely, the sharing of vessel space and the ability to offer shippers a broader service network (i.e., ports of call). In addition, the environmental implications of investment recovery (managing excess, obsolete, scrap, and waste materials) were detailed. Terim held meetings with key businesspeople in all three nations. The chapter concluded with a look at facility relocation and facility relaces a major transportation-related concern of the EPA involves various types of pollution. Next is a discussion of how to determine the optimum number of facilities, which is followed by a look at general and specific influences on facility location. Three- to five-year contracts appear to allow sufficient time for the warehousing provider to learn the client's business while allowing clients some flexibility in case the agreement fails to produce acceptable results. Component parts for the oil-field trucks and for the oil-field trucks were already arriving. Because neither the shipment's business while allowing clients some flexibility in case the agreement fails to produce acceptable results. handling, the delivery had to be delayed until the proper equipment could be located and brought to the building.15 Two-way communication between seller and customer has certainly benefited from technological advances such as cell phones, smart phones, and the Internet. Reorder (trigger) point (ROP) The level of inventory at which a replenishment order is placed. Questions for Discussion and Review 13.1 How has globalization impacted the transportation manager's job? Automatic identification systems are an essential component in point-of-sale (POS) systems and the idea behind POS systems is to provide data to guide and enhance managerial decision-making. These and other global supply chain glitches drive up supply chains at the same time, and it's important to recognize that expectations and required knowledge can vary across supply chains. In the United States, for example, cross-business coordination was fostered by the passage of the National Cooperative Research and Development Act of 1984. See what you can do instead about the inventory shrinkage." On the next Monday morning, Fosdick showed up at the Providence distribution center. A process-based evaluation is an assessment of the supplier's service and/or production process (typically involving a supplier audit). See Fourth-party logistics (4PL), 101-102 Four Ps of marketing, 28 Fourth-party logistics structure, 71 Free Alongside Ship (FAS), 276 Free on Board (FOB), 254, 276 Free trade zones, 180 Freight bill, 257-258 overcharge claim form, 258f Freight bill-paying services, 257 Freight claims, 254, 257-260 Freight classification, 215, 249-251 Freight prepaid, 255 Freight classification, 215, 249-251 Freight claims, 254, 257-260 Freight classification, 215, 249-251 Freight prepaid, 255 Freight classification, 215, 249-251 Freight classificati out), 46 GIS. SCM: A Survey of SCM Professionals." Journal of Business Logistics 28, no. From one perspective, the 25-year-old tractors were extremely productive in the sense that a fully depreciated asset was M04_MURP4846_11_GE_C04.indd 75 03/06/14 5:20 PM 76 Part I • Overview of Logistics generating revenues. Moreover, an emerging issue involves managing so-called expatriate workers, or those employees who are sent to other countries for extended periods of time. This expanded coverage allows customers to shift shipments from air to truck—an important consideration because truck transportation. The majority of the content presented in Figure 13.2 provides the proponent's rationale for the proposed classification. Because so many potential customer service measurements exist, it's not possible to provide a simple list that would be applicable across the board. Demand management involves managing customer demand through the supply chain, whereas order management deals with incoming orders, and customer service deals with keeping existing customers happy. Packaging and logistical (industrial packaging) and logistical (industrial packaging) and so on arrive in some pattern (often a random pattern) to stand in line. So lumber could be loaded on to a gemi (ship) and could be shipped to Romania, in the Black Sea. 2 (2008): 212-232. In Romania, matters did not move as quickly. Keeping in mind the key stipulation presented in the case, where might AAA locate its production plant in Latin America? Another specialized forwarder relocates house pets. Applications are evaluated for achievement and improvement across seven categories: business results; customer and market focus; human resource focus; leadership; measurement, analysis, and knowledge management; process management; and strategic planning. Stuttgart FRANCE SLOVAKIA Augsburg Munich AUSTRIA SWITZERLAND LIECH. Companies that export products from their home country for sale in other countries soon find that preparing the requisite documentation, assembling the documentation, and ensuring that the documentation arrives where and when they are needed is quite a challenge. A comprehensive discussion of the influences of all six environmental factors on international logistics is beyond the scope of this text. I did tell Bigelow that we would be documenting 03/06/14 5:20 PM 89 Chapter 4 • Organizational and Managerial Issues in Logistics his performance and wanted him to know that Jason's successor, meaning you, was under my instructions to tolerate no nonsense. This can be illustrated by the situation of a senior manager whose disorganization caused him to often miss regularly scheduled meetings with various constituencies "Inventory Optimization: Evolving from Fad to Necessity." Supply Chain Management Review 17, no. Importantly, biodegradable plastics (sometimes referred to as bioplastics), which are derived from plant material, have found their greatest usage to date in packaging applications, despite costing approximately twice as much as conventional plastics.7 Another shortcoming to plastic is that its manufacture is often dependent on petroleum, which is a diminishing natural resource (and an extremely costly resource in recent years). At the same time, expedited transportation leads to a faster order cycle, which allows the receiving company to hold lower levels of inventory, thus reducing both its inventory carrying costs and warehousing costs. Facility location decisions are covered in Chapter 9. As a result, we'll focus on two key
organizational topics, namely, organizational structure for logistics. Gebauer, Heiko, Gunther Kuzca, and Chenzi Wang. We have enough volume of some returned items that we could think in terms of recycling parts." Vidal responded, "Recycling is a theoretical solution to such a problem, but only in rare instances will it pay. This is followed by a discussion of select packaging issues that includes environmental protection and packaging issues that includes environmental M04_MURP4846_11_GE_C04.indd 88 moving slowly. "No," was the response murmured by all. The carton dimensions were 12 inches by 40 inches, and when holding six shades, a carton weighed 62 pounds. Balance Sheet 2012 Assets Cash Accounts receivable Inventory Total current assets Net fixed assets Current liabilities Long-term debt Total liabilities Shareholders' Equity Total Liabilities and Equity \$706,034 \$355,450 \$1,590,435 \$2,651,919 \$803,056 \$3,454,975 Exhibit 3.C Brant Freezer Company Balance Sheet Questions 1. 03/06/14 5:15 PM 68 Part I • Overview of Logistics CASE Case 3.1 Brant Freezer Company Located in Fargo, North Dakota, the Brant Freezer Company manufactures industrial freezers. Transactional efficiency (e.g., a reduced invoice-to-payment time) associated with e-procurement. Strategic Profit Model Provides the framework for conducting return on assets analysis by incorporating revenues and expenses to generate a net profit margin, as well as an inclusion of assets to measure asset turnover. 9.17 Briefly describe specialized, or site-specific, considerations that should be taken into account in the facility location decision. Open account A method of payment for international transactions where a seller sends the goods and all documents directly to the buyer to pay by a certain date. 7 A. A smaller peak occurs in the late spring-early summer period, when sales of outdoor items are good. As for rising customer expectations, it should come as no surprise that customer expectations tend to increase through time, which means that a satisfactory level of performance in the past might not be considered as so today. EMCs can provide a variety of value-added activities to include marketing research in prospective countries, developing appropriate distribution channels, handling sales correspondence in foreign languages, ensuring that foreign labeling requirements are met, among others. 4.14 How can warehouses control their energy usage in terms of design, lighting, and roofing considerations? Likewise, logistician. Activity-based costing A technique that seeks to better understand the cost of a product by identifying what activities drive particular costs. Rather, organizations should identify potential differences that could negatively affect supply chain effectiveness and efficiency. Surface Transportation Board (STB) A U.S. government agency with primary responsibility for regulating railroad pricing and service. Assume that Fosdick decides that the practice of free lunches from the opened cases of goods must be stopped. For receiving dock door utilization percentage may be appropriate. 4 Pam Miller, "Busting the P-Card Myth, Managing Accounts Payable 12, no. Is it too late for Handy Andy to attempt service recovery with customers who reported a less-than-satisfactory installation experience? out). Stockouts Being out of an item at the same time there is a willing buyer for it. How could this happen? 4 (2008): 317-327. Service recovery A process for returning a customer to a state of satisfaction after a service or product has failed to live up to expectations. Clearly, inventory management decisions that raise or lower inventory adds costs and time to the order cycle. Initially only manufacturers, services, and small businesses were eligible for this award, but eligibility was expanded to include health care and educational institutions in the late 1990s. Cooke, Philip and Oliver Ehret. Each of these will be briefly detailed next. This input could take the form of information on the resources and capabilities available to the organization. Note that the variable defined as number of servers (# servers) denotes number of teams of workers and accompanying equipment working as a complete server. "Ban on Landfilling of Wooden Pallets in North Carolina: An Assessment of Recycling and Industry Capacity." Journal of Cleaner Production 17, no. He thought that Jason had blown the case against Bigelow and that we should take him back. Goals tend to be broad, generalized statements regarding the overall results that the firm is attempting to achieve. However," she continued, "any changes will have to be made to the page proofs are due back to the printer next Monday." Questions 1. If the materials lose considerable weight in oint should be near the point where they are mined or harvested, largely to avoid the payment of unnecessary transportation charges. Freight bill An invoice submitted by a transportation carrier requesting to be paid. (www.scm-institute.org) Enablers of Scm Imp known as weight-losing products, then the processing variety of enablers can influence a firm's ability to implement SCM, including managerial understanding of the implications of increased customer power, establishing appropriate relationship structures, leveraging technology for enhanced visibility and communication, and the use of supply chain facilitators. Among logistics managers, ISO 9000 certification is credited with increasing customer service, improved order accuracy, and enabling enhanced costs analysis.9 Another quality-related concept or practice relevant for logistics managers is known as Six Sigma, which emphasizes the virtual elimination of business errors. (New York: Ronald Press), 1973, Chapter 12. Philanthropic logistics activities might include the donation of excess or obsolete inventory to charitable o rganizations, and sweatshop labor continues to be a preeminent human rights consideration. Not surprisingly, an increase or decrease in the carrying cost percentage will affect the relevant inventory expense. 49 Tim Parry, "Walmart Testing Same-day Delivery Service," Multichannel Merchant Exclusive Insight, October 10, 2012, 2. Country Code—the two letter ISO country abbreviation e. 125 M07 MURP4846 11 GE C07.indd 125 04/06/14 11:56 AM 7 Demand Management, and Customer Service Key Terms Activity-based costing (ABC) Benchmarking Cause-and-effect (associative) forecasting Collaborative planning, forecasting And replenishment (CPFR) Customer profitability analysis (CPA) Customer service Order Make-to-order Make-to-stock And replenishment (CPFR) picking and assembly Order processing Order transmittal Order transmittal Order transmittal Order transmittal Order transmittal To understand the linkages between demand management, order management, and customer service To introduce you to demand forecasting models To examine the order cycle and its four components To understand the four dimensions of customer service as they pertain to logistics To familiarize you with select managerial issues associated with customer service as they pertain to logistics as the and (2) how an organization facilitates the customer getting what is wanted. Mentzer, and J. Whatever they are called, these agreements should also provide incentives for all participants when collaborative ventures are successful, and they should also provide incentives for all participants when collaborative ventures are successful, and they should also provide incentives for all participants when collaborative ventures are successful, and they should also provide incentives for all participants when collaborative ventures are successful, and they should also provide incentives for all participants when collaborative ventures are successful, and they should also provide incentives for all participants when collaborative ventures are successful. is to develop and maintain an effective set of measures to help make decisions and support the achievement of financial success. Inventory, such as interest on investment, insurance, deterioration, and so on. Management information benefits encompass those that result from management information, customer satisfaction, and supplier satisfaction levels after implementation of electronic procurement. Warehousing facility, the center-of-gravity approach can be easily modified to take volume into account— the weighted center-of-gravity approach. As such, it's important for logisticians to have an understanding of inventory costs. See Return on assets (ROA) Routing, 263 Routing guides, 263 Ryder Integrated Logistics, 104 S Safety stock, 148 Sanitation issues, 202 SAP, 48 Schenker Logistics, 101 Schneider National Van Carriers, 230 SCM. And, although one unit load advantage is that mechanical devices cost money to purchase or lease. In such situations, finance personnel may decide to either purchase or lease the relevant equipment, assuming they have approved the decision to acquire it. Clifford Defee, Terry Esper, and Diane Mollenkopf, "Leveraging Closed-Loop Orientation and Leadership for Environmental Sustainability," Supply Chain Management: An International Journal 14, no. Ordering Costs Ordering Costs and setup costs. There are two primary approaches for evaluating suppliers: process based and performance based. According to the CSCMP, "Logistics management is that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers' requirements."3 Let's analyze this definition in closer detail. 6 (2012): 827-846. 14.5 How can language considerations impact the packaging and labeling of international shipments? Moreover, in late 2008 the European Union removed the shipping conferences' antitrust immunity for collective ratemaking for ocean shipments between EU countries. Michael Knemeyer, "We're in This
Together," Harvard Business Review 82, no. Gamelas, Theophilos and Mark Johnson. In recent years, many airlines have discovered that allowing customers to arrange their own travel via the Internet is quite cost effective for the airlines in that the costs of processing an electronic ticket are approximately \$1 compared to \$10 for processing a paper ticket. Questions? The chapter next describes several basic techniques for choosing general locations and concludes with a discussion of facility relocation and facility closing. 8.11 Discuss what is meant by ABC analysis of inventory. Referring to Figure 3.1, a decrease in transportation, warehousing, and/or inventory costs (assuming no change in logistics service performance) translates into lower total operating costs and higher earnings before interest and taxes. They try to find clients with complementary transportation needs so that equipment utilization can be increased, which should reduce transportation costs to the respective clients. The unit load principle. By contrast, moving from five to ten warehouses saves a bit less than one-half day in lead time.7 General Factors Influencing Facility Location Tangible products are the combination of raw materials, component parts, and labor—with the mixture varying from product to product to product to be paid 60 days after the chemicals leave the Turkish port, which will be same date as the kereste leaves North Korea. Although contract warehousing has been defined in a number of different ways, in this text it refers to "a long term, mutually beneficial arrangement which provides unique and specially tailored warehousing expenditures in the United States are more than \$25 billion annually and are expected to grow between 2 percent and 4 percent annually over the next few years, with this growth coming largely at the expense of public warehousing. On-demand software are more than \$25 billion annually and are expected to grow between 2 percent and 4 percent and 4 percent and 5 percent and 4 percent and 5 percent and 4 percent and 5 perc or license for installation. Certain pairs of products are incompatible. We'll talk about supply chain s and supply chain focuses on coordination among business functions (such as marketing, production, and finance) within and across organizations. Specifically, we will explore the role of network complexity, process complexity, and range complexity on logistics activities. • Does the item need to undergo special testing? The carriers established these different classifications for two main reasons. Paul Dittmann, and John T. The substitutability can occur at a specific product level (e.g., one brand of cola is viewed as a substitute for another brand of cola), or it can occur across product classes (e.g., potatoes may be viewed as a substitute for rice). For example, Choice Logistics has developed expertise in managing service parts logistics for technology and telecommunications companies. 14.13 Explain the load center concept. How should he choose? 12.14 What is a shippers' association? When sugar is handled, a dust is formed because of abrasion between sugar crystals. As such, logistics-related efficiency improvements that enable labor to be more productive (e.g., enhanced materials handling processes on a production line). The type of carrier used dictates a manufacturing plant's materials handling equipment, such as loading and unloading equipment and the design of the receiving and shipping docks. Walmart, which is acknowledged to have one of world's foremost data warehouses, and its vendors make extensive use of data mining to improve logistical effectiveness and efficiency. As recently as the 1990s, some of these technologies are essential for enabling the contemporary logistician to perform in the workplace. (Mason, OH: South-Western Cengage Learning, 2009), Appendix 11-A. 1 (2000): 37-44. Rogers, and Daniel Wardlow, Leading Edge Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: Competitive Positioning for the 1990s (Oak Brook, IL: Council of Logistics: (unsuccessfully) that the price was too low. 03/06/14 5:36 PM Chapter 13 • Transportation Management 257 There are two types of bills of lading: the straight bill of lading: the straight bill of lading. Corsi, and Paul R. Another suggestion is to purchase a powered sweeper and use it at least once a day.38 36 Maria Hoffman, "Eight Ways to Prevent Cargo Theft," Food Logistics, July 2011, 5. Indeed, research on procurement ethics dates back to the mid-1960s, and the competitiveness of the contemporary business environment creates—for some companies—a "win at all costs" philosophy that can exacerbate unethical behavior. For instance, a manufacturing plant might need both rail service (to bring in raw materials) and truck service (to carry the finished goods), whereas a distribution center might need just truck service. 30 Alter, Information Systems, Chapter 5. Figure 3.3 provides the general framework for how to develop an SPM to better understand how a logistic manager's decisions can impact net profit margin, asset turnover, and ultimately, ROA. In terms of dollars, suppose that \$1,000 of a particular item is used each year, the order costs are \$25 per order submitted, and inventory carrying costs are \$25 per order submitted, and inventory carrying costs are \$25 per order submitted. severely restricted the country's economic development as well as trade with other countries. The diesel engine competed with the internal combustion engines, and ships. 1 (2008): 57-80. Managing pilferage can be challenging for the logistics manager, and the managing begins with the hiring process. Law. Fatih Terim was in his small office in Antalya, a Mediterranean port in southwestern Turkey. Tan, Vinh V. In part, this is because most firms are first developed in domestic markets and take all existing governmental controls as a given factor. 9.10 What are expatriate workers? Bardi, and C. 10.8 Explain how common sense can be helpful in terms of warehousing design. The chapter also looked at three key operational issues— documentation, terms of sale, and methods of payment—in international logistics. Marketing Contemporary marketing places a heavy emphasis on customer satisfaction, and logistics strategies can facilitate customer satisfaction through reducing the cost of products, which can translate into lower prices as well as bringing a broader variety of choices closer to where the customer wishes to buy or use the product. In fact, the European Union champions a Waterways of the Seas concept that specifies four short-sea shipping lanes that involve its member nations.) Consequently, the Prague plant sometimes transported buses on barges via the Elbe, north to Hamburg. • Handling (unloading) in Santos is estimated to cost another € 94 per bus, and this includes reattaching the two halves. The packed carton weighed 14 pounds. The buyer would unload the trucks from the railcars. Back order Placing an order for an item that is out of stock. We'll list and briefly describe each of the 10 material handling principles. Daugherty, "Emerging Patterns of Logistical Organization," Journal of Business Logistics 8, no. The GSCF model comprises eight processes (see Table 5.2)—customer relationship management, supplier relationship management, customer service management, order fulfillment, manufacturing flow management, order fulfillment, manufacturing flow management, customer service management, order fulfillment, manufacturing flow management, customer service management, customer s as text messaging and the Internet can depersonalize the communication process, which is why periodic telephone interaction and even face-to-face personal communication is an essential part of conducting business in some cultures. Dead inventory increases inventory carrying costs and takes up space in warehousing facilities, and a structured process should be in place for managing it. N., 21n Valckenaers, P., 190n Varmazis, M., 52n Vickery, S. As a result, low-density products are assigned a higher classification; for example, at the time of this book's publication, products with densities of less than one pound
per cubic foot are assigned to Class 400, while densities of one pound but less than two pounds per cubic foot are assigned to Class 300.4 4 M13 MURP4846 11 GE C13.indd 250 Freight Class Chart & Density Calculator—Freightquote. 31 American Marketing Association Dictionary, www.marketingpower.com M01 MURP4846 11 GE C01.indd 30 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 31 very exacting specifications. "Shared Warehouses: Sharing Risks and Increasing Eco-Efficiency." International Commerce Review 10, no. The managerial significance of the accounting equation is that assets must be paid for in some manner; guite simply, assets cost money, which means that inventory costs money. The most relevant general software package for logisticians is the spreadsheet. 9 Michael R. In theory, the bill of lading is prepared and issued by the carrier. The figures are based on random samples of inventory items. M01 MURP4846 11 GE C01.indd 28 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 29 rand-name, rather than private-label (proprietary), products.27 From a logistical perspective, b one decision involves product delivery to the particular retail locations. When we think a particular salesperson is accepting too many shopworn items, we tell Carolyn, although it's not clear to me that the message reaches the salespeople in the field." "I wish I had an easy solution," said Coggins. The increased emphasis on time reduction in supply chains has led to the growth of crossdocking, which can be defined as "the process of receiving product and shipping it out the same day or overnight without putting it into storage." Indeed, the length of time a product is in a facility is one factor that differentiates distribution centers and cross-docks, with 24 hours (or less) of storage time increasingly being used to differentiate a cross-docks, with 24 hours (or less) of storage time increasingly being used to differentiate a cross-dock facility from a distribution center. connection between logistics strategy and an organization's financial performance. The September 11 terrorist attacks have profoundly impacted logistics practices on a worldwide basis, and processes, procedures, and activities that might have been given minimal attention prior to September 11 terrorist attacks have profoundly impacted logistics practices on a worldwide basis. If a community is attempting to encourage, or discourage, business activity, zoning classifications can be changed, although the process may be time consuming. Ferrin, "Organizational Structure and Logistics Service Innovation." International Journal of Logistics Management 22, no. The total cost approach evaluates if the decreased inventory and warehousing costs are greater than the increased costs of expedited transportation. However, the increased costs of short-haul transportation costs per unit of weight associated with volume shipments. Sustainable procurement Refers to the integration of social and environmental considerations into all stages

of the purchasing process with the goal of minimizing the impact of procurement activities on human health and the environment. B., 33n, 65n, 103n Corsi, T. environment. Another cost, although it is generally excluded from carrying cost, is opportunity cost—the cost of taking a position in the wrong materials. Robertson thought that Pon was a good treasurer but too much of a worrier when it came to making important decisions. Naim, and Danny Berry, "Leagility: Integrating the Lean and Agile Manufacturing Paradigm in the Total Supply Chain," International Journal of Production Economics 62 (1999): 107-118. Moreover, hierarchical and matrix organizations flourish when there are a limited number of decision. Nevertheless, inland water transportation is quite inexpensive when compared to rail and motor carrier transportation. In fact, some companies involved in JIT have designed their production facilities so that trucks can drive inside them, thus bringing the product that much closer to the actual product tha organization integrates supply and demand management internally and with other companies in the supply chain. At this point, the researcher would understand the existing situation and would try to find a lower-cost production-distribution arrangement. The long-form bill of lading, which may be either an order or straight bill, contains the standard the existing situation and would try to find a lower-cost production-distribution arrangement. information on the face of the bill (see Figure 13.3), and on the reverse side it contains the entire contract between carrier and shipper. Gustin, "Is Technology Filling the Information Gap?" Supply Chain Management Review, March/April 2001, 58-63. Big-box retailers have also been trendsetters with respect to environmental and social issues in logistics. Clearly, each of these situations has a different cost to the company experiencing a stockout. 10.4 Discuss the disadvantages to public warehousing. He chatted briefly with his supervisor, Sheryl Booher, who told Ortega to revise the format of his interview to include several questions concerning 04/06/14 11:56 AM Chapter 7 • Demand Management, Order Management, and Customer Service 145 the installation. Pipelines are a unique mode of transportation because it is the only one without vehicles, and this is significant for several reasons. 13 Kathleen Hickey, "Taxing Logistics," Traffic World, May 10, 2004, 15–16. Quality Logistics service quality relates to a firm's ability to deliver products, materials and services without defects or errors to both internal and external customers.7 However, it's important that we operationalize "quality" before beginning our description of logistics service quality. licensed retailers. "Market-Based Regulation of Freight Transportation: A Primer." Transportation Journal 50, no. Research has shown that firms that have adopted and implemented a WMS have significantly more efficient logistics processes than nonadopters. Certain scrap materials, such as copper and nickel, have such economic value that procurement contracts sometimes include a price at which the scrap will be repurchased by the supplier. Thus, grid systems can be used to determine an optimal location (defined as the lowest cost) for one additional facility. Zacharia, Zach G., Nancy W. Organizing Logistics Within the Firm The organization of logistics activities within a firm depends on a number of factors, including the number and location of customers, as well as an organization's size, among others.1 For example, the number and location of customers might influence whether a firm adopts a c entralized or 1 David J. Inventory Decause the classification can influence the way that inventory is managed. Production One of the most common interfaces between production and logistics involves the length of production runs. For example, a man goes grocery shopping with his wife every Sunday. J., 70n, 228n Boelle, J. Consider, for example, the U.S. and Central America Free Trade Agreement (CAFTA), which went into effect in 2005. Why wouldn't they complain? Implementation, or carrying out, is often a major shortcoming to many global procurement plans; indeed, some organizations fail to specify an implementation plan. The seller's insurance requirement is only for minimum coverage. 35 Liz Wolgemuth, "The 50 Best Careers of 2010," U.S. News & World Report, December 28, 2009. This is a situation that necessitates tremendous trust on the part of distributors and retailers because of the potential for unscrupulous manufacturers to abuse the system by pushing unneeded inventories onto downstream parties. trade-offs between levels of safety stock and the number of stockouts prevented, as illustrated in Table 8.4. In this example, we assume that inventory is valued at \$480 with carrying costs of 25 percent. 3 (2010): 541-548. Safe delivery brings loss and damage considerations into play. Berndsen asked Marcus Weiss, his supplychain analyst, to create a worksheet that would show all costs and times required to get the buses from the Prague factory to the port of Bremerhaven, and he also asked Weiss to identify viable alternatives. 12.15 Who is a broker and what is their role in transportation? However, not all of the unreliability associated with U.S. inland water transportation is weather related. Reluctance to Share, or Use, Relevant Information One tenet of SCM is that well-run supply chains are characterized by information Share, or Use, Relevant Information Share, or Use technology devices to loss or theft, and it's important to recognize that the loss or theft of small, portable technology devices cause an organization to lose both the device. We'll look at three cultural factors—language, national holidays, and time orientation—and their potential implications for international logistics. He would have been a supervisor except for his inability to count and his spotty attendance record on Monday mornings. Logistics decisions affect all types of inventory to finished goods. The formula for ROA is: ROA = net profit margin × asset turnover. One rationale for these professional associations is that the state of the art is changing so rapidly that professionals must educate themselves on a regular basis. M11 MURP4846 11 GE C11.indd 219 03/06/14 6:19 PM 220 Part III • Elements of Logistics Systems A problem involved with any bracing or cushioning device is that the load is subjected to forces from all directions. However, this is much more easily said than accomplished, in part because the previously mentioned business adage, "Information, lest they jeopardize their competitive advantages or expose organizational shortcomings. LeBlanc, Yasanur Kayikei, and Thomas A. 1 (1996): 1-22; Douglas M. It is important to note here that inventory carries its greatest cost after value has been added through manufacturing and processing. "New Jersey WARN Act Creates New Obligations for Private Employers Contemplating Plant Closings or Mass Layoffs." Employee Relations Law Journal 34, no. Common uses of EDI include invoicing, submission of purchase orders, pricing, advanced shipment notices, electronic funds transfer, and bill payment. Consider, for example, some of the issues that hospital staff? Ho, William, Xiaowei Xu, and Prasanta K. One way that some online merchants address this conundrum is to require a minimum order amount (e.g., \$50) to qualify for "free" delivery. Moreover, in private warehousing, companies can control product placement 10 No author, "OSHA Announces FY 2010 Inspection Plan to Target Industries with High Injury Rates," HR Focus, December 2010, 11. M14_MURP4846_11_GE_C14.indd 271 03/06/14 5:37 PM 272 Part III • Elements of Logistics Systems 3 Figure 14.1 Some of the Symbols Used for Packing Export Shipments through the implementation of just-in-time systems. For example, in many cases, substitutions are two-way, meaning that if brand A is substitutable for brand B, then brand B is substitutable for brand A. 2.12 Identify ten tasks that might be performed by a TMS package. Not only did the container revolutionize freight handling, it also spurred cooperation between various modes to develop more effective and efficient transport offerings, such as land bridge services. 4 (2012): 452-473. The reorder point becomes (40 * 4) + 40, or 200 units. Each Style B carton cost \$2.00, and this included padding between the shades. The identification of packaging inefficiencies is important because these inefficiencies is important because these inefficiencies is important because the "last frontier" of logistics savings opportunities. One of the key provisions of the ICC Termination Act of 1995 was the elimination of the reasonable rate obligation (hence also the obligation to avoid discrimination in pricing and service) for many types of motor carriers. Thus, a multinational company might initially focus on a region of the world, such as Western Europe, the Pacific Rim, or North America. "Logistics Performance Measurement in the Supply Chain A Benchmark." Benchmarking: An International Journal 16, no. Stantchev, A. The labeling guidelines for liquor can be quite detailed and specific with respect to font type, font size, and label placement, among others. In the situation described, the number of teams or servers is always 1, although the number varies in terms of costs and output. The finished product should be delivered on a very short lead time. It can also be said that the success of a particular logistics system is dependent on the location of the relevant warehousing and production facilities. 2 (2009): 203-217. Warehouse Emphasize the storage of products and their primary purpose is to maximize usage of available storage space. M04 MURP4846 11 GE C04.indd 83 03/06/14 5:20 PM 84 Part I • Overview of Logistics Transportation is a second logistics activity where considerable energy. 6 (2005): 46-54. 8.5 What are the key components
of inventory carrying costs? Often, this is a condition for the extension of credit. 20 Alter, Information Systems, Chapter 5. Packaging Materials used for the containment, protection, handling, delivery, and presentation of goods. 3 (2009): 18–20. Some states exempt goods that are stored in public warehouses; some s bill of lading. Its only products—large trucks— are built to individual customer specifications. The companies in India) whose expertise involves ocean shipping, customs clearance, forwarding, and land transportation. G., 40n H Hales, M., 113n Handfield, R. The standard model compactor was about 3 feet high, 2 feet deep, and 1 1/3 feet wide, and the deluxe model had the same dimensions but contained better features such as greater capacity and greater horsepower. You might be familiar with traditional auctions in which multiple buyers bid on a particular product, with the product being sold to the highest bidder. Chapter 13 • Transportation Management 263 car for refrigerated units, \$195 per day per car for hazard (TIH) cars.11 Many carriers currently offer averaging agreements, where an accounting system of debits and credits is established, for demurrage and detention. For example, under economic regulation price competition among LTL carriers was limited and carriers could set their prices through collective ratemaking (i.e., sharing cost and price information with each other) without fear of legal prosecution. Hurley, W. Trent, "Creating the Ideal Supplier Scorecard," Supply Chain Management Review 14, no. "It looks like you've been doing a lot of figuring," said Pon. Lieb, Robert C. We'll also look at global procurement and sustainable procurement. Applicable to m anufacturing and service industries, these standards are intended to help companies build q uality into every core process in each department. Note that the "Transportation Characteristics" section in Figure 13.2 focuses on the four-product attributes—density, stowability, handling, and liability—that were discussed earlier in this chapter. For example, because customer needs and wants can change relatively quickly, supply chains are increasingly required to be fast and agile, rather than slow and inflexible. Balance Sheet The balance sheet reflects the assets, liabilities, and owners' equity at a given point in time. If not, which party (parties) should be responsible for investment recovery? The types of benefits, management information benefits, and price benefits. 5.16 Why is supply chain integration so difficult in global supply chains? You should recognize that some countries do not have size and weight restrictions for motor carriers. These changes could be caused by safety, regulatory, or even customer considerations. 2 (2009): 391-403. 8 (2008): 22-29. Lambert, Douglas M. Supply Chain Management Process Frameworks The Supply Chain Council [Supply Chain Council [Supply Chain Forum (GSCF) Model—www.scm-institute.org] and the Supply Chain Forum (GSCF) Model 76 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 77 to 1995. In the 1960s, its best market had been for oil-field equipment, first for the North Slope in Alaska and then for the Middle East. Top management support can help tremendously in this area. 4 (2005/2006) 9-10, 12 as well as Joel D. Choice Logistics offers prospective customers approximately 400 stocking facilities, ranging in size from 100 to 10,000 square feet, in over 90 countries. The area in the bag above the water is filled with oxygen. "Evaluating the Causes of Uncertainty in Logistics Operations." International Journal of Logistics Management 21, no. We begin with a description of the connection of functional logistics strategy to overall corporate strategy and ultimately financial performance. Although most solutions to locational problems currently involve computer analysis, such analysis may not be needed if the relevant parameters are not too complex. As an example of lead time uncertainty, you may sometimes buy eggs every 14 days, rather than every 12 days. The increased data challenges, decision-making variability, and relationship intricacy pose difficult situations for logistics managers. Because even the best managed organizations will generate excess, obsolete, scrap, and waste materials, it's important to distinguish among these different categories of material. One of the FAA's primary roles involves airspace and air traffic management, and to this end the FAA operates airport towers and air traffic control centers.16 The Federal Motor Carrier Safety Administration (FMCSA), a relatively new government agency, started operations in January 2000 and is focused on reducing crashes, injuries, and fatalities involving large trucks and buses. Retail prices were set by the dealer, with prices for the standard model ranging between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and for the deluxe model between \$600 and \$725 and \$600 and \$725 an buyer for the plywood is found, the shipper would send the order bill by mail to a bank near the buyer and would also tell the Many researchers and companies have built upon Kraljic's approach by proposing new portfolio dimensions for classifying both products and suppliers. 16 The key will be for procurement to work with other functional areas to identify the most appropriate segmentation dimensions for their firm. As pointed out in Chapter 7, higher levels of uncertainty lead to higher levels of safety stock. "I'd object to that. M10 MURP4846 11 GE C10.indd 189 04/06/14 12:03 PM 190 Part III • Elements of Logistics Systems supply chain and can take four forms—accumulating (also referred to as bulk making), allocating (standardize various aspects associated with transportation costs (e.g., via volume discounts), and improve supply chain performance (e.g., reduced cycle times). They can pick it up and give the retailer credit off the next order." "Sometimes they pick up more than defective merchandise," added Coggins. 1 (2010): 53-75. Although the International Standards (see Table 11.2)—four in metric units, two in English units—literally hundreds of different pallet sizes are used by companies in the United States. Wayne is also considering rental of a forklift to use in truck unloading. Accounts receivable is the amount of money customers owe to an organization. They were pleasure trips for certain bureaucrats in North Korea. When one country's currency is weak relative to other currencies, it becomes more costly to import products, but exports often surge; when one country's currency is strong relative to other currencies, the reverse occurs. Recent research has empirically demonstrated favorable relationships between the formation of supply chain partnerships and performance-related outcomes such as cost reduction, improved profits, and revenue growth.22 Organizations should establish systematic processes for identifying, developing, implementing, and continuously improving the key relationships in their supply chain.23 Leveraging Technology has been at the center of changes taking place that affect the supply chain, and that two key factors—computing power and the Internet—have sparked much of this change.24 With respect to the former, supply chains can be complex entities consisting of multiple organizations, processes, and requirements. Is there an interest rate that would make HDT change from one routing to another? See Customs and Border
Protection (CBP) Center-of-gravity approach, 180-181 Central America Free Trade Agreement (CAFTA), 274 Centralized logistics organization, 72 Certificate of origin, 274 CFR. Office automation Systems provide effective ways to process personal and organizational business data, to perform calculations, and to create documents. 6 Included in office automation systems are general software packages—word processing, spreadsheet, presentation, and database management applications—that most of you probably learned in an introductory computer class. Banks routinely loan funds to all parties in a channel, making it possible for goods to be manufactured, marketed, and sold. Comparing and Contrasting Transportation Infrastructure Because readers of this text increasingly reside outside of the United States, we believe it would be helpful to present a brief comparison of the transportation infrastructure that exists in five highly populated countries located on various continents. Kent, and Angela Hausman. Representative measures of warehousing productivity include cases shipped per person, product lines shipped per person, pallets shipped per person, average warehouse capacity used, and forklift Blank, C., 80n Bloomberg, D. 7.18 How do characteristics such as substitutability and product life cycle stage influence the development of customer service goals and objectives? The seller clears the goods for export and bears all risks and costs associated with delivering the goods to the named place of destination not unloaded. Goods are partially assembled in one country and then shipped to another, where they are further assembled or processed. A number of organizations now officially recognize (e.g., a press release, an awards recognition dinner, a plaque) transportation carriers that provide superior service. When comparing the 2012 figures with the 2013 figures shown in the table, the amount budgeted for each warehouse in 2013 was greater than actual 2012 costs. With FOB destination the seller retains title and control of a shipment until it is delivered. Design and Implementation of Measures22 While the number and types of measures to use can seem daunting to a logistics manager, several suggestions have emerged from research to provide some guidance. 10.20 What are the advantages of reducing the number of times a shipment is handled? One of the most difficult and challenging aspects of claim work is the determination of the exact dollar amount of the damage As such, the logistics system of an organization that emphasizes cost minimization. Exhibit 3.B shows the income statement for 2012. Fosdick decided to walk to a small café where he had eaten at other times. S., 46n Keong Leong, G., 48n, 103n, 127r Kerin, R. This classification was high, although potato chips are often given as textbook examples of bulky freight that will cause a truck to cube out. In 2003, that same one U.S. dollar could buy 1,567,000 TL. M01 MURP4846 11 GE C01.indd 21 03/06/14 5:11 PM 22 Part I • Overview of Logistics The Increased Importance of Logistics The formal study of business logistics, and predecessor concepts such as traffic management and physical distributed to all of the retailers who handle Johnson Toy Company products? • Is the substitute product compatible with current equipment? Recently the Chippy firm acquired rights to produce a new type of chip, made from powdered potatoes, yielding chips of identical shape that could be packaging that prepares a product for storage and transit (e.g., boxes, crates), and packaging has important interfaces with the materials handling and warehousing activities. A01 MURP4846_11_GE FM.indd 4 03/06/14 12:22 PM Brief Contents Preface 15 Part 1 Overview of Logistics 18 Logistics 18 Logistics 17 Chapter 1 Chapter 2 Chapter 3 Chapter 3 Chapter 3 Chapter 4 An Overview of Logistics 18 Logistics 18 Logistics 17 Chapter 1 Chapter 3 Chapter 3 Chapter 3 Chapter 4 An Overview of Logistics 18 Logistics 17 Chapter 3 Chapter 4 An Overview of Logistics 17 Chapter 3 Chapter 4 An Overview of Logistics 17 Chapter 3 Chapter 3 Chapter 3 Chapter 3 Chapter 4 An Overview of Logistics 18 Logistics 18 Logistics 18 Logistics 17 Chapter 1 Chapter 3 Chapter 4 An Overview of Logistics 18 Logistics 18 Logistics 18 Logistics 18 and Managerial Issues in Logistics 70 Part 2 Supply Chain Management 91 Chapter 5 Chapter 5 Chapter 7 Chapter 12 Chapter 12 Chapter 13 Chapter 14 Demand Management, order Management, and Customer Service 126 Inventory Management 147 Facility Location 168 Warehousing Management 188 Packaging and Materials Handling 206 Transportation 226 Transportation 226 Transportation 226 Transportation 227 International Logistics 267 Glossary 294 Name Index 303 Subject Index 307 5 A01 MURP4846 11 GE FM.indd 5 03/06/14 12:22 PM This page is intentionally left blank. Indeed, research into the business value attributable to logistics measurement is happening much less frequently than one might imagine."29 External sources focus on information from outside the company and include information from outside the company and include information about customers, competitors, along with information about economic, technological, political, legal, and sociocultural environments. One suggested classification, for example, divides customers into four groups (high revenues/low costs; low revenues/low costs; l "low revenues/high costs" represents the least attractive customers.19 From a resource allocation perspective, an organization should pursue different logistical approaches for different customer groups. Although inventory generally exists to satisfy demand, in some situations inventory is carried to stimulate demand, also known as psychic stock. For example, Logistics Management annually conducts its "Quest for Quality," in which users of transportation service, information technology, and equipment and operations. CPT (Carriage Paid To) The seller clears the goods for export and delivers them to the carrier or another person stipulated by the seller at a named place of shipment. Warehousing Security Interest in providing building security for warehouses and other distribution facilities is a primary concern for many organizations because, according to FreightWatch International, a company that specializes in logistics security, "Freight at rest is freight at rest is freight at rest,"33 Potential threats to warehousing security, the time and costs to file the appropriate claims, and potential danger to the public. The life cycle cost principle. The physical goods (the logistics channel) 2. Field, "Tag, You're It!" Florida Shipper, October 13, 2008, 10-11. Alternatively, although building costs decline on a cubic-foot basis as one builds higher, warehousing equipment costs tend to increase. (These implications are more fully discussed in Chapter 2.) In today's business environment, the Internet can allow one 22 Rachel Duffy and Andrew Fearne, "The Impact of Supply Chain Partnerships on Supplier Performance," International Journal of Logistics Management 15, no. The primary influence of logistics activities on sales would be through the improvement of customer service. We'd also need 50 drivers and have to pay for their trips back home." "Too me one favor," said Pon. "Food for Thought in the Transportation CarrierSelection Decision." Transportation Journal 52, no. Staging, or temporary storage, areas for both incoming and outgoing merchandise 3. Intermodal competition with each other with respect to 04/06/14 12:21 PM 122 Part II • Supply Chain Management the rusvet that would undoubtedly defects. One example of logistics flexibility would be the postponement of assembly, labeling, and so on until exact customer requirements are known.6 Managerial Issues in Logistics system and then putting it into operation. Increasingly, however, the logistics are known.6 Managerial Issues in Logistics are known.6 Manageria discipline has recognized the importance of reverse flows and storage (reverse logistics), that is, those that originate at the point of consumption. If N.A.M. delivered this initial 90-day order on time, the company would receive a contract for the remaining 199 vehicles to be delivered in full within the following 15 months. A team of three warehouse workers can unload trucks at the rate of 8 per hour, or one every 7.5 minutes. Filing claims against carriers is a routine matter, and many carriers post filing information and sample claim forms on their websites. Some processing operations require water both for cleaning purposes and as a medium for carrying away waste. Care must be taken to properly clean tanks, pumps, hoses, and cleaning apparatus to avoid contamination of the next cargo that is handled. 21 No author, "Kantor Study Dissects Category Management," Drug Store News, June 27, 2011, 30-34. "Why not use Baltimore for that?" "In theory, we could," answered Vanderpool. Amy Zuckerman, "Transportation Management Systems Give Shippers Power to Make Smarter Trucking Choices," World Trade, January 2008, 34-38. These ports specialize in the efficient handling of Crisis Has Angered Public, Union and Politicians," The Plain Dealer, April 15, 2001, 1A +. For example, several U.S.-based grocery chains have carefully studied Hispanic consumers and learned that they place greater emphasis on fresh produce than do other ethnic groups. The integrated carriers also handle documentation services for their clients. In what quantities? Big-box retailer Stores with large amounts of both floor space and products for sale. 36 Bob Trebilcock, "Outsourcing Reverse Logistics," Modern Materials Handling, June 2008, 18-20. Fluctuating demand patterns could at times lead to insufficient storage space for product, in which case the company might need to use public warehousing as a supplement, thus increasing total warehousing costs. 11.13 Discuss the advantages and disadvantages of the unit load. The total logistics concept can be extended to
include a firm's suppliers and customers, such as in supply chain management, which will be covered in Chapter 5. There are advantages to both approaches, with a primary advantage of centralization being its relative efficiency, whereas a primary advantage of decentralization is its customer responsiveness. Later that day, Vanderpool came to Pon's office with a thick file. 7.11 Discuss the order cycle. This, in turn, suggests that outbound shipments tend to be picked up at a loading dock by small-capacity vehicles, such as delivery vans. Planning is the first step in global procurement and involves an honest assessment of global sourcing opportunities and challenges. What would it cost? Jerome McCarthy, Basic Marketing, 16th ed. What is Low's new EOQ? Operationally, POS systems involve scanning Universal Product Code (UPC) labels, either by passing the product over an optical scanner or recording it with a handheld scanner. The combination of smaller, more frequent shipments and close supplier location means that trucking is an important mode of transportation in the JIT approach. It reports the revenues, and the profit or loss that is a result of these activities. Jennings, "Logistics Social Responsibility: An Integrative Framework," Journal of Business Logistics 23, no. With respect to transportation costs. Which of these alternatives should Handy Andy choose? As such, Chapter 11 discusses packaging in conjunction with materials handling. Compared to bar codes, RFID (1) does not require clear line of sight between an object and RFID hardware, (2) can store much larger quantities of data, and (3) can offer both read and write capabilities. These strategies are then translated into specific tactical performance-enhancing activities, and, finally, appropriate measurements are established for each activity. In addition, it prevents firms from experiencing the public embarrassment of making a major change in their logistics system that might result in a deterioration of customer service levels or an increase in total operating expense. Supply chain management (SCM) According to the Council of Supply Chain Management Professionals, SCM encompasses the planning and procurement, conversion, and all logistics management activities. See Graphical information systems (GIS) Globalization, 25, 104 Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 42, 75, 82, 264 Global sourcing, 116-117, 162 Global sour could no longer use returns to negotiate with as they talked about new orders." "That may be," interjected Amy, "but we cannot continue having each salesperson tailoring a return policy for each retailer. Cheju-naenyop Cheju 125 35 -K wa n S Tsushima 100 Kilometers 50 Pu Cheju-do K or a tr it Japan Hiroshima Fe rry ea Fukuoka Kitakyushu Sasebo 130 Exhibit 6.A Korean Peninsula M06_MURP4846_11_GE_C06.indd 122 04/06/14 12:21 PM Chapter 6 • Procurement 123 Bucharest Caspian Sea RUSSIA Constanta BULGARIA Black Sea Tiflis Bosphorus lles Yerevan Dardane Ankara TURKEY Ar debi l Antalya IRAN Latakia Nicosia SYRIA CYPRUS Bák htar án Beirut LEBANON Mediterranean Sea Damascus Tel Aviv-Yafo ISRAEL Cairo Amman Baghdad IRAQ JORDAN KUWAIT Kuwait Persian Gulf EGYPT SAUDI ARABIA Red Sea Exhibit 6.B Mediterranean Sea to which the kereste could be shipped legally was none other than Romania, one of Turkey's neighbors on the Black Sea. • Organizations should take a proactive approach to theft. waiting until theft reaches "unacceptable" levels might mean that certain dysfunctional behavior has been permitted for so long that it has come to be viewed as typical or acceptable. Ross, Robert J.S. "The Rag Trade as the Canary in the Coal Mine: The Global Sweatshop, 1980-2010." New Labor Forum 20, no. 5.6 Discuss some of the ways that inventory can be reduced in the supply chain. At present, it's scheduled to be in Chicago the last week in April with a load of cocoa beans and ready for outbound loading May 1. As was the case with transportation, the diversity of warehouse types, sizes, and products carried will complicate the performance measurement in this area. Some shippers also have their own order processing software that is capable of generating transportation documents. It can also be strenuous and physically demanding, and on occasion warehousing facilities can be dangerous places. Kerr, "ISO and ABC: Complements or Competitors?" International Journal of Logistics Management 13, no. See Procter & Gamble (P&G) PHMSA. See Occupational Safety and Health Administration (OSHA) Overcharge claim form, 259f Ownership channel, 30, 32 P Packaging and materials handling-blocks concept, 208 compliance labeling, 210 computer-generated load plan 219f conveyor belt, 221f cubes out, 220 defined, 208 English units of measure, 214 excess materials, 119 fabric-care label, 208f Z03 MURP4846 11 GE SIDX.indd 313 Subject Index 313 inefficiency identification, 214, 214t intermodal containers, 235 ISO pallet standards, 218t labeling, 210 Let There Be Light Lamp Shade Company, 224-225 liquor industry, 214 lumber markings, 208f materials handling, 33, 220-223 metric system, 213-214 obsolete materials, 119 RFID labels, 214 slip sheet, 218 special handling labels, 211 testing, package, 209-210 unitization, 216 unit load devices, 235 unit load principle, 222 U.S., style, 213-214 waste materials, 119 weighing out, 220 Packaging and materials handling, unit loads computer generated plan, 219f inflated dunnage bags, 219f Packaging Ordinance (Germany's), 212 Pallets, 216 Parcel carriers, 237 Partnerships, 105 Perishables, 207 P&G. This evaluation can be facilitated if an organization has explicitly defined selection criteria, as mentioned in Step 4. 5.11 How might regulatory and political conditions act as barriers to supply chain management? Dependability refers to the reliability of the service encounter and consists of three elements, namely, consistent order cycles, safe delivery. 14 Our earlier discussion of the order cycle highlighted the importance of consistency (reliability/dependability)— inconsistent order cycles necessitate higher inventory requirements. Mulki. Regardless of how many, or what type, of logistics activities are managed, the u nified logistics activities are managed, the u nified logistics activities are managed. coordination 2 J. Anthony Inman. However, poorly located facilities can negatively impact logistical effectiveness (e.g., due to increased delivery costs). Organizational design is also concerned with issues such as who makes work-related decisions and the appropriate communication channels between workers and managers, among other things. As is the case with UPS and FedEx, several service (which generally uses a courier company) and standard service (where the packages travel in special compartments on the bus). There are a number of reasons for including quality-of-life considerations as a factor in facility location. D., 98n Huo, B., 58n Husillos, F. See North American Free Trade Agreement (NAFTA) Napolitano, Janet, 79 National Cooperative Research and Development Act of 1984, 102 Natural resources, role of, 173 Near-sourcing, 117 Negotiations channel, 30 Net profit margin computatior of, 63 cost of goods sold, 63 sales, 63 total expenses, 63 Nissan Motor Company, 283 Nontariff barriers, 269 Nonvessel-operating common carrier (NVOCC), 279 Norfolk Southern (NS), 232 Nürnberg Augsburg Maschinenwerke (N.A.M.), 290-293 North American Free Trade Agreement (NAFTA), 178 NS. While the following example might seem like the proverbial "no brainer," consider the call center that measured customer service in terms of the length of customer calls, with shorter call lengths. Although it may be difficult to develop a standardized list of quality-of-life factors, their intent is to incorporate nonbusiness factors into the business decision of where to locate a plant or distribution facility. The environmental dimension while not specifically examined underlies managerial decisions in both of these areas. Supply chain members. A commercial invoice is similar in nature to a domestic bill of lading in the sense that a commercial invoice summarizes the entire transaction and contains (should contain) key information to include a description of the goods, the terms of sale and methods of payment (to be discussed in the next section), the shipment quantity, the method of shipment, and so on. 2 M09_MURP4846_11_GE_C09.indd 169 04/06/14 12:01 PM 170 Part III • Elements of Logistics Systems Customer Service Expectations One point that has been repeatedly emphasized in this text is that customer service expectations continue to increase over time. Even though an individual union may ratify national labor agreements, local supplemental agreements often reflect the unique characteristics of a particular area. Schneider, Lena and Carl Marcus Wallenburg. Moreover, because effective and efficient logistics is predicated on a high degree of coordination can become difficult when the logistics activities, such coordination can become difficult when the logistics activities are spread throughout an organization. Having said this, there are general guidelines for dealing with service recovery, and it's important to recognize that these guidelines may not only assuage the customer but also result in an organization improving its operations. 24 For example, one recovery guideline is fair treatment for customers. H., 163n Harris, T., 172f Harrison, A., 58n Hart, B., 277n Hartley, S.W., 135n Hartmann, E., 59n Hazen, B. Alternatively, sellers are critical of reverse auctions because their primary emphasis is low price. On Wednesday, Jason got my permission to pay overtime, and the last outgoing truck did not leave until 7:00 p.m. In addition we had to pay overtime, and the last outgoing truck did not leave until 7:00 p.m. In addition we had to pay overtime at some of our retail stores because the workers there were waiting for the trucks to arrive.
And, even i an organization has highly accurate demand forecasting, it's also unlikely that it will be able to achieve a 100 percent fill rate (i.e., all incoming orders are filled completely). This accessorial service (transportation service that is supplemental to the line-haul) adds to both transportation costs and transit time and also increases the number of times a shipment is handled (thus increasing handling costs and the opportunities for loss and damage). One approach for addressing the customized products and services that are designed to meet the needs and wants of individual segments or customers. These issues included productivity concerns, quality management, risk considerations, sustainability concerns and complexity management. Stock-keeping units (SKUs) Each separate type of item that is accounted for in an inventory. L., 94n, 95n Crum, M. In order to be truly sustainable, logistics management. impact of their sustainability-related decisions on their firm's bottom line. The multiple participants in the channel alive. The fact that this service failed—and failed in such a short period of time—makes it highly unlikely that SSS will be a viable North American transportation option in the coming years.26 International Trade Inventories Even under the best conditions, the movement of products in an international supply chain is never as smooth as a comparable domestic movement. The total cost of ownership—acquisition costs, purchase price, usage costs, and end-of-life costs—should be used tcomestic movement. evaluate materials handling equipment and systems. Identify and evaluate possible suppliers is the third step. The supply chain extends to both the left and right of this diagram and includes the suppliers and the customers' customers. ROA provides a more operational perspective by providing insight on how well managers utilize operational assets to generate profits. The Brazilian buyer wants the buses delivered at Santos. This so-called issue of stock-keeping unit (SKU) proliferation will typically result in increased levels of inventory and warehousing costs. Nickel, and F. Materials handling processes generally receive little public attention, although there are periodic exceptions, such as the baggage-handling system at Heathrow (London, United Kingdom) Airport's Terminal 5 which opened in March, 2008. Warehouse Figure 13.5 The Transportation Manager Consolidates Shipments Whenever Possible Plant 3 Outside supplier 3 Truckload of single products of single products and the supplier 2 Outside supplier 3 Truckload of single products and the supplier 2 Outside supplier 3 Truckload of single products and the supplice 3 Truckload directly from plant to customer. Suppose that a company is interested in applying the activity-based costing process for two products that it sells. Some definitions, for instance, take a "broad" perspective by suggesting that any logistics activity not performed in-house is representative of third-party logistics. In a unified logistics structure, multiple logistics activities are combined into, and managed as, a single department. Transportation specialists can provide value-added services to prospective customers and we'll discuss several transportation specialists in the paragraphs that follow. Although some of the activities must be performed sequentially (e.g., an order can't be transported until a company knows from which location(s) it will be filled), some might be performed sequentially (e.g., an order can't be transported until a company knows from which location). For example, if you bought this textbook at your university's bookstore, this book was delivered there by some type of motor carrier, perhaps an LTL carrier. 9 M06 MURP4846_11_GE C06.indd 113 04/06/14 12:21 PM 114 Part II • Supply Chain Management A performance-based evaluation is focused on the supplier's actual performance on a variety of criteria, such as cost and quality. When the consumer-size package is very solid, the larger packaging elements require less-sturdy packaging materials because the smaller packages are themselves sturdy. Michael Knemeyer, Thomas M. One key environmental issue in some economically developed countries involves the use of brownfields, or locations that contain chemicals because the smaller package is very solid. or other types of industrial waste. 2 (2008): 88-107. 14.12 Discuss the importance of water transportation for international Journal of Logistics Management 19, no. The form in Figure 7.3 is a bit more detailed and asks customers about mistakes in quantities received as well as whether the correct product was shipped, along with other issues. 4 Bowersox et al., Leading Edge Logistics managers in every organization are expected to use financial information to help them make decisions, allocate resources, and budget expenses. A third environmental concern with plastic packaging involves litter, and sometimes this l itter has unintended ecological consequences. 2 (2010): 87-98. One example of variable storage position, with "closest" defined as the shortest travel time to an entrance or exit point. Clay Whybark. In addition to selecting the new store locations, the new stores will need to be supplied with foodstuffs and the like, which will likely necessitate additional distribution facilities to be located in China. When taking a TCO approach, firms consider all the costs that can be assigned to the acquisition, use, and maintenance of a purchase.21 While these additional costs can take many forms, logistics 20 David Hannon, "The 9 Hidden Costs of Global Sourcing," Purchasing, March 12, 2009, 38-41. The amazing thing was that, when he went out into the center to resume work, a loud cheer went up and all the drivers started blowing their lift-truck horns. Application-specific software - Refers to software that has been developed for managers to deal with specific logistics functions or activities (e.g., transportation management systems). Bar code scanners currently remain the most popular automatic identification system in use. Andre Siepenkort, Matthew Stinson, and Stefan Gerlach, "Match Order to Picker for Better Efficiency," Material Handling and Logistics, May 2012, 30-32. As a general rule, the higher the average cost of a stockout, the better it is for the company to hold some amount of inventory (safety stock) to protect against stockouts. Our discussion in the remainder of the chapter will focus on some of a transportation manager's primary responsibilities. For example, a decision by a retailer to move to a system of vendor managed inventory where a supplier of a product maintains control and ownership over an inventory item can result in a significant reduction of the amount of inventory on an organization might only use public warehousing, and a third organization might use a mix of public, private, contract, and multiclient warehousing. 12 (2007): 2819–2840. Having said this, some scheduled airlines use all-freight aircraft (called freighters) in certain markets. 14.20 Once a shipment has entered another country, what are the key concerns in terms of its potential progress? From a supply chain perspective, a franchiser may exert contractual influence over what products are purchased by a franchisee. Companies differ in their approaches to managing order processing and its activities, and these different approaches can have important implications for order cycle effectiveness and efficiency as well as for customer satisfaction. Why are these parts needed? Discuss with examples. Terim, then fresh out of Akdeniz University, quickly became an entrepreneur. Next, a general overview of key financial terminology will be presented. "Competency Requirements for Professionals in Logistics and Supply Chain Management." International Journal of Logistics: Research and Applications 15, no. It represents a larger quantity of an item than a single box—often 30-50 times as much. Because of the many possibilities for substitutability, many grocery chains target in-stock rates of 95 percent for individual stores so that sufficient substitutes exist for a customer to purchase a substitute item rather than go to a competing store. 6.2 Contrast procurement's historical focus to its more strategic orientation today. Pearson's dedicated technical support team is ready to help instructors with the media A01_MURP4846_11_GE_FM.indd 15 15 03/06/14 12:22 PM 16 Preface supplements that accompany this text. "An Exploratory Framework for Energy Conservation in Existing Warehouses." International Journal of Logistics: Research & Applications 15, no. Just-in-time (JIT) approach Seeks to minimize inventory by reducing (if not eliminating) safety stock, as well as having the required amount of materials arrive at the production location at the exact time they are needed. From an inventory perspective, the JIT approach seeks to minimize inventory by reducing (if not eliminating) safety stock, as well as by having the required amount of materials arrive at the production location at the exact time that they are needed. governments is significant because U.S. railroads have been responsible for the construction costs of their track systems, whereas rail construction costs in other national government. Parker and David J. McClure, and Kenneth C. A well-known example of this behavior involved Atari, a video game maker, which in 1983 dumped between 10 and 20 trailerloads of video games at a New Mexico landfill! However, such behavior should only be a last resort, because in so doing a company is, in effect, throwing away money. For instance, when a movie studio releases a sequel to a previously successful motion picture, a forecasting analog based on the initial release will likely generate a different revenue estimate than a forecasting analog based on the performance patterns of sequels to other movies—and one analog will be more accurate than the other. Another consideration with
long production runs is that sometimes excess inventory for particular products occurs because of limited (or no) demand for them As a general rule, the existence of competition, whether intermodal, or both, tends to have both cost and service benefits for potential users. He also told Bigelow's Monday performance—or nonperformance—or nonperformance chose. Activities in the Logistical Channel To successfully apply the systems and total cost approaches to logistics, it is essential to understand the various logistics activities. F., 141n King, M., 169n Kistler, C., 92n Knemeyer, A. 10 (2011): 20-26. Suggested Readings Fawcett, Stanley E., Paul Osterhaus, Gregory M. However, this paradigm has begun to shift in recent years in part because a tremendous surge in oil prices (which culminated in 2008 with a peak price of approximately \$147 per barrel) forced some companies to reconsider their manufacturing locations because of soaring transportation costs. With activity-based costing, cost objects consume activities, and activities consume resources.25 Activity-based costing consists of five steps: • Identify activities • Determine cost for each activity 25 www.pitt.edu/~roztocki M07 MURP4846 11 GE C07.indd 145 04/06/14 11:56 AM 146 Part III • Elements of Logistics Systems Table 7a.1 Cost for Each Activity Cost Order transmittal Order processing Order picking and assembly Order delivery \$1,000 \$3,000 \$12,000 \$6,000 • Determine cost drivers • Collect activity data • Calculate product cost26 This five-step activity-based costing process will be illustrated by the following hypothetical example. With respect to the natural resources needed to make wickable shirts, is Patna or Lucknow the preferred location? One possible manifestation of limited service options might be seen in the railroads' rather uneven reliability in recent years, some of which can be linked to adverse weather conditions. Patel, and E. It had reestablished both its plants and sales offices across the globe, and is one of the largest diesel engine makers in the world. Canned fruits and vegetables are examples of one extreme in which production occurs during a relatively short period, but sales are spread throughout the vessel at the port of shipment. The buyer assumes all risks for goods from the time goods have been delivered on board the vessel at the port of shipment. The major component of any mini motor home—the chassis—would always be purchased on a one-at-a-time basis from Ford, Chevrolet, Dodge, or International. 16 Paul Evanko, "Vendor-Managed Inventory," HVACR Distribution Business, December 2010, 32, 34–35. Many large retail companies are using RFID to track individual items of clothing and roughly 10 percent of hospitals in the United States have some form of RFID technology. These steps take place between the manufacturer and the consumer, which means that they are performed by the wholesaler, the retailer, or specialist intermediaries. Mentzer. Global positioning systems (GPS) Use satellites that allow companies to compute vehicle positions, velocity, and time. "Key Issues in Multichannel Customer Management: Current Knowledge and Future Directions." Journal of Interactive Marketing 23, no. On the order bill of lading, which is printed on yellow paper, the name of the consignee is not specified. In addition to its use for bottling, water (of one type or another) is a requirement for the location of supply markets. 10.16 Why might a warehouse be a dangerous place to work in? Reynolds ht that May 1. 2003. was a more realistic completion date because he had always found it difficult to restrict the assembly line to constructing trucks for only one account. Several days later, a Mexican postcard postmarked in Tijuana arrived, saying that both were enjoying Mexico and would stay longer than initially talk about the troublesome aspects of the assignment first, rather than the positive ones. 26 Tom Andel, "Big Brother in Aisle Five?" Paperboard Packaging, February 2006, 4. Inventory Management Inventory refers to stocks of goods that are maintained for a variety of purposes, such as for resale to others, as well as to support manufacturing or assembling processes. The handling process itself may change the characteristics (or quality) of the product. Each carton cost \$2.25, including padding between the individual shades. However, advances in technology have created stronger plastics to construct slip sheets as well as improved materials handling equipment for moving slip sheets. and Piet Rietveld. 14 Joseph Tiliman and Kate Vitasek, "The Perfect Order Christmas Story," Material Handling & Logistics 66, no.11 (2011): 38-40. John T. Sales in an area were usually slow until trash collectors, faced with rising landfill costs, raised their rates per can of refuse picked up. See Carriage Paid To (CPT) CRM. 5.5 What is the difference between a lean and an agile supply chain? Figures 14.4 and 14.5 show forms used by forwarders. This wage differential at least partly explains the popularity of the maquiladora assembly plants located just south of the U.S.- Mexican border. Based on experience, Pon also expected Robertson to phone on his cell phone for a cash advance or transfer about once a week. 5.9 This chapter suggests that technology has been at the center of changes taking place that affect the supply chain. The American Heritage® Dictionary of the English Language, 4th ed. Shortly following, in Augsburg and Nürnberg, several companies joined together to form Nürnberg Augsburg Maschinenwerke (N.A.M.). An Empirical Investigation of the Interface Activities between Logistics and Marketing." International Journal of Logistics: Research & Applications 11, no. To top it off, at the Roxbury store, when the trailer door was opened, the trailer door was opened, the trailer door was opened, the trailer door was opened at the Roxbury store. Supply Chain (Oak Brook, IL: Council of Logistics Management, 1999), Chapter 2. Moreover, the build up versus build out issue illustrates the importance of understanding interfunctional trade-offs when thinking about warehousing design. Amy said, "Let's wait a few weeks to get a complete count of all the unassembled component parts. 2 (2009): 343-362. We know from Chapter 12 that motor carriers are less expensive than air transportation, and because expedited shipment by motor carriage can provide faster and more reliable service than expedited shipments involving air transportation. 14 11 Information derived from the Union Pacific Railroad's Accessorial Tariff UP 6004, myterms.shtml#4 12 13 Nico Michas, "Using Routing Guides to Reduce Costs," Traffic World, June 30, 2008, 6. Sugar derived from sugar beets), whereas bottled soft drinks are an example of a weight-gaining product. 2 (2009): 125-139. Rather, technology-based approaches, such as intelligent transportation systems and computer routing software that factors in congestion. Usually, they do not take an ownership position in the products or goods being handled. In addition, high-efficiency lighting generally p rovides better lighting guality, and thus potentially improves workplace safety (another logistics social responsibility issue). Graham, International Marketing, 16th ed. 10 Douglas M. Supplier audits Involve assessments of the supplier's structure (management, people, guality, innovation), resources (technology, processes), health (financials, risk) and responsibility (social, environmental). Co-branding Refers to an alliance that allows customers to purchase producer and consumer—called disintermediation—can clearly affect the design of logistics systems in the sense that there could be changes in both the number and location of fixed facilities such as 14 15 Jane Hiback, "Alternative Retailing Strategies," Natural Food Merchandiser, August 2011, 18-19. If so, what is the new answer? It would use an order bill and tender the shipment to the Burlington Northern Railroad, which would start the car moving toward Chicago. P., 84n, 136n R Raisinghani, M. Some products have very specialized storage requirements; ice cream, for example, must be stored at a temperature below -20 degrees Fahrenheit. However, it fails to consider the timing of cash flows, is subject to manipulation in the short run, and fails to recognize assets that are dedicated to specific relationships.15 14 The material in this section is drawn from Drew Stapleton, Joe B. and Terry Anthony Byrd. 6.16 Why are some firms considering near-sourcing? The chapter began with a look at the various classifications of inventory, and this was followed by a discussion of inventory costs. Another shortcoming of wood pallets is that they can break and splinter, which could pose safety dangers to workers and also necessitates pallet repairs (assuming the pallet is salvageable). Bixby Cooper, "Organizational Commitment and Governance for Supply Chain Success," International Journal of Physical Distribution & Logistics Management 36, no. Novack, Transportation, 6th ed. Materials management and physical distribution can be coordinated in many ways. Regardless of whether one takes a broad or narrow perspective, the general idea behind third-party logistics is that one company (say, a manufacturer) allows a specialist company to provide it with one or more logistics functions (e.g., warehousing, outbound transportation). On the basis of the policy in your answer to Question 3, develop instructions for the Johnson Toy Company distribution and accounting departments with respect to their roles and procedures in the handling of returns. Moreover, it's important to understand that the relevance, and challenges associated with socially responsible procurement are likely to increase in 22 Yash Sutarlya, "TCO: From Buzzword to Reality," SMT Magazine 27, no. The shipper agreed to pay the railroad an additional \$75 per trailer when at least 90 percent of the trailers completed the rail movement within 96 hours.
Leeuw, Sander de, Matthias Holweg, and Geoff Williams. However, an increasing source of dead inventory involves special, highly customized orders that never end up with the customer no longer wants or needs the product. has been filed?7 You should be aware that there are time limitations—nine months from the delivery date—within which a freight claim must be filed. Chapter 14, the last chapter in this section, deals with international logistics, which tends to be more challenging and more costly than domestic logistics. "Transportation Management's Role in Supply Chain Management Review 13, no. 7 (2009): S52-S62. Where is it being stored? One approach to rate making is to determine one specific rate for every possible combination of product, weight, and distance—in other words, a commodity rate. As a general rule, credits are not allowed to be carried over from one month to another. Each of the four components will be discussed below. One source of delays is that certain countries limit a motor carrier's operations to within a particular state's borders; as a result, multistate shipments must be transferred from one company's vehicle to another company's vehicle to very large quantities. It's a reasonable assumption, however, that few other retailers would copy Nordstrom's behavior in services being received in See on-demand software. As if business taxes are not difficult enough to understand, they represent only one side of the coin; the other side is to know the value of services being received in exchange for the taxes. Moreover, the worldwide economic slowdown that began in 2007 has caused many organizations to slash their information technology expenditures, thus benefitting cloud-based applications, 26 M06 MURP4846 11 GE C06, indd 118 04/06/14 12:21 PM Chapter 6 • Procurement 119 Scrap materials that are no longer serviceable, have been discarded, or are a by-product of the production process (e.g., scrap steel when producing an automobile or washing machine). Public Warehousing Public warehousing serves (is supposed to serve) all legitimate users and has certain responsibilities to those users. Customer Profitability Analysis Customer profitability analysis (CPA) refers to the allocation of revenues and costs to customers to calculate the profitability of the segments or individual customers to calculate the profitability of the segments or individual customers. These two groups, and their respective Incoterns, will be listed and described in the following paragraphs.13 Group 1: Terms that Apply to Any Mode of Transport EXW (ExWorks) The seller fulfills his obligation by having the goods available for the buyer to pick up at his premises or another named place (i.e., factory, warehouse, etc.). Why can't we have everything come back here? It will examine key aspects of this essential linkage between suppliers and buyers, and the mechanism that initiates the movement of materials into one's logistics system. These parcel services are of special significance to international logistics because they often provide the fastest service between many major points. Singapore (LPI score = 4.12) were the two top-ranked countries in the 2012 LPI, while Burundi (LPI score = 4.13) and Djibouti (LPI score = 1.80) were the two lowest-ranked countries. Density, which refers to how heavy a product is in relation to its size, is viewed as the primary factor for setting a product's classification, in part because of the opportunity costs associated with it. 10.2 Explain the four ways that warehousing facilitates the regrouping function. The storage charge per keg remains the same. Logisticians will need to develop strategies for how they can manage the flood of data that will be available to help them manage assets, increase visibility and enhance communications across the supply chain. On March 1, the Johnson Company had canceled further production of the Jungle Jim the Jogger dolls, although it had to pay penalties to some of its suppliers because of the cancellation. 16 J. 1 (2008): 41-46. Mike Hales and Raj Arumugam, "The Case for Supplier Development," Supply Chain Management Review 16, no.2 (2012): 60-61. A constant purchase price that is independent of the order quantity 4. A broker can add value for a trucker in the sense that an individual trucker believes that his or her time is more profitably spent driving, rather than being on the phone or Internet trying to negotiate for the next load. Keong Leong, and Keah-Choon Tan, Principles of Supply Chain Management: A Balanced Approach, 3rd ed. See Vendor-managed inventory (VMI) Voice-based order picking, 133 W Wal-Mart, 24, 28, 44, 45, 48, 241 Warehouse. Public warehousing may provide a number of specialized services that aren't available from other sources. Regrouping function Involves rearranging the quantities and assortment of products as they move through the supply chain. For example, although plastic tends to be an environmentally unfriendly product, some plastics are less environmentally friendly than others. However, because it has become increasingly common for potential suppliers to not be available and willing to serve prospective purchasers, some purchasers, some purchasers, some purchasers are taking a more proactive role in the procurement process. the dollar value of all the products or services an organization provides to its customers during a given period of time. M01 MURP4846 11 GE C01.indd 38 03/06/14 5:11 PM 2 Logistics and Information Technology Key Terms interchange (EDI) Electronic procurement (e-procurement) = Enterprise resource planning (ERP) systems = = = Radio-frequency identification (RFID) Reverse auction Simulation Transportation management systems (TMS) Logistics optimization models = Warehouse management systems On-demand software (softwareas-a-service)
To learn about general types of information for logistics management To learn about general types of information systems and their To look at the Internet's influence on logistics I to learn about select information technology challenges logistical applications The logistics discipline has been through many changes since the first edition of this book was published in the mid-1970s. One way for vendors to convince potential buyers that they are committed to guality is through a program known as ISO (International Standards Organization) 9000 certification. Woensel, Tom van, Karel van Donselaar, Rob Broekmeulen, and Jan Fransoo. Both HOS and highways speed limits have long been justified on the basis of safety concerns, and several states (e.g., Indiana, Washington) mandate a two-tier speed limit policy in which the maximum speed for motor carriers is lower than for noncommercial vehicles. There are also more "positive" manifestations of transportation service quality. In one case, the shipping organization agreed to pay the railroad a premium for each railcar that was delivered on a precise, previously agreed-upon schedule. include food and farm products, industrial chemicals, and minerals and stone. The key federal government safety agency for each mode, along with an example of its roles or responsibilities, will be discussed in the following paragraphs. "An Analysis of Supply Chain Collaborations and their Effect on Performance Outcomes." Journal of Business Logistics 30, no. Because the truck is not supposed to be overloaded, what combinations, expressed in terms of cartons of both new- and old-style chips can it legally carry? The major tenets of JIT can be summarized as follows: 1. What is its value? Importantly, superior inventory control is cited as the most prominent reason for using service parts logistics specialists such as Choice Logistics.15 This discussion of service parts logistics offers an opportunity to point out the importance of informal considerations when managing inventories and making logistics-related decisions. GSCF model A framework that identifies eight relevant processes, such as customer relationship management, demand management, and order fulfillment, associated with supply chain management. Nontariff barriers Restrictions other than tariffs that are placed on imported products. As a result, sales divided by total assets—asset turnover—would be higher, as would the organization's return on assets. feels that when word of this gets around, the other warehouses they use will "shape up." Which of the seven should J. Maloni, Michael J. 2.4 How can communication systems facilitate logistics management in the aftermath of situations such as terrorist attacks and natural disasters? Every time they try, they knock down a couple of mailboxes and leave truck tracks in some homeowner's lawn." Olga added, "I talked to Super Gym about shipping direct to the customer's address, and they said forget it. See Lead logistics provider (LLP) Logistics career opportunities, 34 control over the flow of inbound movements, 26f defined, 20-21 deregulation, and, 22 finance, relationship with, 27 03/06/14 5:39 PM 312 Subject Index Logistics (Continued) globalization of trade, 25 gross domestic product, cost of business logistics system (different countries), 19t importance of, 18, 22-25 marketing channels, 30-32 mass customization, 22 organization structures, 71-72 production, relationship with, 29-30 recognition of, 22 retailers, power of, 24 technological advancements, 23-24 Logistics activities, dispersion of, 32-34 Logistics channels containers, 234 international air freight, 285 Internet's role in, 49-52 Kiddieland and the Super Gym, 36-37 land bridge operations, 235 ocean shipping, 282-284 role of, 30 shipping conferences and alliances, 284-285 surface transport in other countries, 286-287 Logistics information systems, 41f, 45 Logistics optimization models, 42 Logistics outsourcing, 101-102. Although these and other events present both c hallenges and opportunities for logistics managers, the logis customer sees on the shelves of a grocery store. Supplier audits can involve assessments of the supplier's structure (management, people, quality, innovation), resources (technology, processes), health (financials, risk), and responsibility (social, environmental).9 8 Roman Inderst, "Single Sourcing," RAND Journal of

Economics 39, no. Pon looked at his cash flow projections, which were always made up for six weeks in advance, in this case through the first of April, when some of the bills for components of the oil-field trucks would come due. M11 MURP4846 11 GE C11.indd 217 03/06/14 6:19 PM 218 Part III • Elements of Logistics Systems Table 11.2 Pallet Standards Dimensions Millimeters (width × length) Dimensions Inches (width × length) 1219 * 1016 1000 * 1200 1165 * 1165 1067 * 1067 1100 * 1200 43.30 * 47.24 44.88 * 44.88 42.00 * 42.00 * 42.00 * 42.00 * 42.00 * 42.00 * 1200 1165 * 1165 1067 * 1067 * 1067 1100 * 1200 1165 * 1165 1067 * 1067 * 1067 1100 * 1200 1165 * 1165 1067 * 1067 * 1067 1100 * 1200 1165 * 1165 1067 * 1067 center table were cases of cold meat, cheese, soft drinks, mayonnaise, and bread. This detailed examination should include a physical 168 M09 MURP4846 11 GE C09.indd 168 04/06/14 12:01 PM Chapter 9 • Facility Location 169 inspection of the location as well as a thorough analysis of relevant zoning and regulatory considerations. This can result in "analysis paralysis," or the idea that so much time is required for analysis that there's little if any time left to make decisions based on the data. This infrastructure data, which appear in Table 12.1, indicate wide disparities in the various infrastructures; at a minimum, a lack of infrastructure data, which appear in Table 12.1, indicate wide disparities in the various infrastructure data. (within-country) transportation. 1 (2011): 42-49. 3 M11 MURP4846 11 GE C11.indd 209 03/06/14 6:19 PM 210 Part III • Elements of Logistics Systems customer. We learned that a number of U.S. federal agencies are responsible for transportation and also that the levels and types of regulation may not be consistent across modes. Over the years he had learned the tricks of the trade, and one thing he knew well was that without the rusvet (bribe: the grease money or large amounts of payments specifically for one-time transactions), such risky situations would end up as a "no sale." He wondered whether he should ask the Turkish agricultural chemical manufacturers to help with the entertainment costs. John Langley, Jr., Brian J. M11 MURP4846 11 GE C11.indd 221 03/06/14 6:19 PM 222 Part III • Elements of Logistics Systems troubleshooting to learn why a system is not performing well. While space limitations will inhibit us from examining all of the various manifestations of complexity in logistics systems, we will take look at some of the most relevant types affecting logistics decision making. For purposes of this discussion, sustainable procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the integration of social and environmental considerations into all stages of the purchasing process with the goal of minimizing the impact of procurement refers to the procurement refers to the procurement refers to the procurement refers to the procu SCOR model A framework that identifies five key processes— plan, source, make, deliver, return—associated with supply chain management. So he walked through the center, which was quiet since it was closed down for lunch. One response to the September 11 attacks involved the creation of a new federal agency in the U.S., the Department of Homeland Security (DHS); two of its major aims are to prevent terrorism. Why is it used by many organizations? As evident in our definition, the container is an important type of equipment in intermodal transportation. For example, plant relocations inevitably result in a plethora of employee-related questions, including the following: How many current employees will be offered positions at the new facility? Turner, Martha and Pat Houston. 92 M05_MURP4846_11_GE_C05.indd 92 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 93 frameworks are provided. 1.7 Suggest at least three reasons why logistical services are far more competitive than they were in the past. 34 Ibid. 2 (2007): 157-173. Kevin T. Failure to do this can cause delays or, in some cases, result in the shipment being seized by the customs authority of the importing country. In addition, countries with low-cost labor may house a multitude of sweatshops, which can be viewed as organizations that exploit workers and that do not comply with fiscal and legal obligations toward employees. The prominence of these models is attributable to the fact that they identify business processes in such a way that the processes can actually be implemented, and thus evaluated, by organizations; each of the models are also supported by major corporations.8 A primary distinction between the models is the degree of cross-functional involvement prescribed by each, with the GSCF model 5 Ibid. Pallet loads of bottled goods were being dropped, two forklifts collided, and one lift truck pulled over the corner of a tubular steel rack. Unlike personal credit cards, with p-cards an organization will make one payment for the total amount of purchases during individual payments for each p-card holder. Today, by contrast, many carriers provide rating information online and a transportation manager may need to enter little more than origin and destination zip codes and the relevant shipment weight to receive an estimated rate. www.cscmp.org 36 M01_MURP4846_11_GE_C01.indd 34 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics, which the CSCMP defines as "that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of consumption in order to meet customers' requirements." The economic impacts of logistics were discussed along with reasons for the increased importance of logistics since 1980. Data mining utilizes sophisticated quantitative techniques to find "hidden" patterns in large volumes of data; these patterns allow managers to improve their decision-making abilities as well as enhance their organization's competitive advantage. 2 (2011): 82-90. Moreover, it's also possible to conduct sensitivity analysis to determine the transportation costs for varying levels of transportation service. 42 Kuldeep Kumar and Jos van Hillegersberg, "ERP Experiences and Evolution," Communications of the ACM 43, no. The relationship between buyers (shippers) and groups of sellers (conferences or alliances) has changed dramatically over the last 20 years, and these relationships are currently very fluid. P-cards are similar to charge cards such as Visa and MasterCard that are typically focused on personal use, with p-cards being used for an organization's buying needs. M07 MURP4846 11 GE C07.indd 139 04/06/14 11:56 AM 140 Part III • Elements of Logistics Systems Table 7.2 Select Customer Service Measures Customer Service Dimension Measure Time Order cycle time Inquiry response to emergency situations A second key issue associated with customer complaints Order status information Convenience Returns process Response to emergency situations A second key issue associated with customer service measurement is determining what factors to measure While the benefits of using p-cards increase exponentially as more people within an organization use them, expanding use beyond the domestic market can be a challenge. Note that ordering costs at the EOQ and that the total cost is minimized as well. 1 (2006): 56-70. Materials management The movement and storage of materials into a firm. The GHS has been revised three times, most recently in 2010, and it provides three key pieces of classification and labeling information: (1) a symbol; (2) a signal word (e.g., "danger"); and (3) a hazard statement (e.g., "explosion; severe projection hazard"). See Shipper's letter of instruction (SLI) Slurry systems, 232 Smart way transport partnership, 84 Socially responsible procurement, 117 Sorting function, 31, 190 Sorting out, 190 Space on carriers, booking, 277-278 Space utilization principle, 222 Special handling labels, 211 Specialized location characteristics, 179-180 SPM. Typically, organizations strive to create value by effectively managing a portfolio of businesses and ensuring that each of these businesses is financially successful. Tyworth and William L. The customer says, "I'll be back," and this proves to be so. Unit loads consolidate smaller units into larger ones in order to improve efficiency in handling and to reduce logistics costs. After a returned item has been received, it is important to evaluate the item in terms of a series of questions: • Is the product damaged and unsalable, or can it be refurbished and resold? Christina Wu, "China Logistics Profile," USDA Foreign Agricultural Service GAIN Report, 2003. Hanna, Joe B. Office space, including an area for the necessary computer systems 6. How do they differ? Banks and finance companies are prominent intermediaries in the financing channel and both parties supply the credit necessary for a deal to be finalized. Because a large percentage of costs for a typical organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation cost Unverted organization Income Statement 2012 Sales Cost of goods sold Gross Margin Transportation Cost Inventory Carrying Cost Inventory Carryi operating cost Earnings Before Interest and Taxes 1,000 \$30,000 \$13,000 \$1 logistics decisions, many organizations spend considerable time focusing on this connection between logistics and financial performance. Rocky Newman, "Organizational Structure, Entrepreneurial Orientation and Trait Preference in Transportation Brokerage Firms." Journal of Supply Chain Management 48, no. Organizations that have implemented TMS software have reported decreases in empty vehicle miles, reduced fuel consumption, and reduced transportation expenditures. 14.4 How might economic integration impact international logistics? Polter. For example, enterprise resource planning (ERP) systems conceptually should lead to much lower forecasting errors. Plank. Together, they form the basis for computing ROA. Pohlen. The Transportation Security Administration is responsible for the security of the U.S. transportation system. Grant, James Ritchie, and Nigel Shaw. A centralized location can also maximize a facility's service area, as shown in Figure 9.2, which illustrates truck distances from the state of Nebraska. 2 See L. "Exploring the Potential Effects of Forecaster Motivational Orientation and Gender on Judgmental Adjustments of Statistical Forecasts." Journal of Business Logistics 31, no. Because of the growing importance of logistics, a number of professional organizations are dedicated to advancing the professional knowledge of their members. Just remember to cut me in for a piece." Huber chuckled, thanked him, and hung up. Another potential cost driver for order delivery could be the number of customers receiving deliveries. 7 (2011): 552-560. In this situation, personal considerations often play a very important than professional ones, and you should recognize that personal considerations often play a very important role when making decisions in family-run businesses. A transportation manager is also responsible for modal and carrier selection and an emerging selection trend involves a focus on transportation metrics as opposed to transportation mode. Once the material being packaged is placed into the box and the cover is closed, the contents are hidden. For orders of 750 or more kegs of nails, the supplier will absorb all the order-processing costs; for orders between 249 and 749 kegs, the supplier will absorb half. If an organization has several production facilities, excess materials might be transferred to the other facilities. 27 Alter, Information Systems, Chapter 5. The opportunity will be to use this data to sense changes. 4 The next section of this chapter will provide an overview of general types of information management systems that are applicable across each business function. Whereas warehousing facilities in economically developed countries have been developed to meet the requirements of contemporary logistics systems (e.g., high ceilings, sufficient lighting), warehousing facilities in other countries can be more problematic. As a result, the determination of a carrying cost percentage should be quite important for many companies. 6 (2008): 379-387. Jason and I started talking, even arguing. Consider, for example, a shipment of pineapples from Hawaii to Europe. The software also takes into account the load's center of gravity and the allowable weights on axles. An individual firm may stock hundreds or thousands of items, and it is a real challenge to determine the relative importance of each item. Free trade zone An area, usually near a port or an airport, where goods can be stored or processed before entering through the importing nation's customs inspections. To this end, customer service strives to keep customers happy and creates in the customer's mind the perception of an organization that is easy to do business with. M11_MURP4846_11_GE_C11.indd 207 03/06/14 6:19 PM 208 Part III • Elements of Logistics Systems Figure 11.1 Portion of Fabric-Care Label for Levis Jeans Sold in Japan From left to right the pictures say, Wash at 40 degree centigrade, use no chlorine bleach, iron at the medium temperature setting; the jeans can be dry cleaned. 5 (2007): 463-473. First, if the shipment came through the transportation process with no exterior damage, then there is a strong possibility that the product was improperly protected on the inside. With respect to the relationship between logistics and supply chain management, the Council of Supply chain. 2 (2009): 457-465. As such, grocery stores located in heavily Hispanic areas often stock more fresh produces and supply chain. than do grocery stores located in other areas. M., 176n J Jain, C. For example, transferring equipment, furniture, and supplies from an old facility to a new one may take longer than expected. Regulatory and Political Considerations Several decades ago, many of the supply chain arrangements in use today would have been considered illegal under certain regulatory statutes. Bixby Cooper, Supply Chain Logistics Management (Boston, MA: McGrawHill Irwin, 2002). Since World War II, HDT had manufactured only large off-road vehicles, including airport snowplows, airport crash trucks, oil-field drilling equipment, and the like. One continuing issue with freight bills involves companies being charged too much (overcharges) for transportation services. Answer Question 1, but from the standpoint of an individual interested in marketing. Department body with primary responsibility for transportation safety regulation. Serving as General Consultant on Export Matters Questions continually arise when dealing with new products, terms of sale, new markets, or new regulations, and a good international freight forwarder knows the answers or how to find them. Prolonged exposure to ethylene can cause e An Overview of Logistics 21 continues to grow in importance as individual companies, and select supply chains, recognize it as an opportunity for competitive advantage.
 The CSCMP definition also indicates that logistics involves the flow and storage of "goods, services, and related information." Indeed, in the contemporary business environment logistics is as much about the flow and storage of information as it is about the flow and storage of goods. Moreover, nearly 20 percent of all warehousing fires can be prevented by common sense; flammable products, for example, should not be stored near heat sources (such as space heaters). 3.13 What are some common logistics measures in transportation, warehousing, and inventory management? How Much to order Economic Order Quantity A long-standing issue in inventory management? How Much to order Economic Order Quantity A long-standing issue in inventory management? in the following sections. van der Heijden, Johannes A.V. and Marloes L. Companies might also attempt to sell their dead inventory to companies that specialize in selling off dead stock (e.g., deadstockbroker.com). With respect to design, facilities might be positioned so that dock doors aren't placed on the north side of a building (most cold winds blow from the north). Top management has the ability to allocate the necessary resources for supply chain endeavors and the power to structure, or restructure, or restru functional) objectives. 13.3 Discuss how transportation managers could be involved with other operations of the firm. Corporate headquarters is in Chicago, and its 70 stores are located in Minnesota, Wisconsin, Michigan, Illinois, Indiana, Ohio, Iowa, and Kentucky. Guinipero. 2 (1997): 129-137. This chapter also examines how much inventory to order, when to order inventory, and special concerns with inventory. M06 MURP4846_11_GE C06.indd 115 04/06/14 12:21 PM 116 Part II • Supply Chain Management Global procurement (sourcing), which refers to buying components and inputs anywhere in the world, is driven by two primary reasons, namely, the factor-input strategy and the marketaccess strategy. After gingerly looking in all his desk drawers, he had a brief meeting with his supervisors and then walked out to meet the entire workforce on a one-to-one basis. 6.6 Distinguish between a single sourcing approach. Scheduled container stuffing location 6. A commodity's freight classification is developed and maintained by the Commodity Classification Standards Board, which consists of at least three but no more than seven full-time employees of the National Motor Freight Traffic Association. Sales skyrocketed, and every retailer's stock of Jungle Jim the Jogger dolls was sold out in mid-December; the Johnson Company could have sold several million more units if they had been available before Christmas. Canada, for example, has different hours of service rules depending on whether one is driving north or south of 60 degrees north latitude. John Paul Quinn, "Are There Ever Any Happy Returns?" Logistics Management, June 2005, 63-66. 03/06/14 6:19 PM 12 Transportation Keys transportation Private carrier transportation and learn about their respective characteristics To describe several types of transportation specialists To explain how different types of transportation and learn about their respective characteristics types of transportation and learn about their respective characteristics at the actual, physical movement of goods and people between two points, is pivotal to the successful operation of any supply chain because it carries the goods, literally, as they move along the chain. Supplements include the following: • Instructor's Manual • PowerPoint Slides The current edition of Contemporary Logistics has been prepared by Paul Murphy and Mike Knemeyer, and they welcome your comments and suggestions at (Paul) and (Mike). The use of current suppliers might lead to lengthy supply lines—and possibly longer and more erratic transit times—but would allow McDonald's to work with familiar companies. 1.8 Discuss the logistical implications associated with the increased emphasis on the convenience associated with a family's shopping experience. A second implication is that decisions made by one functional areas. All of its motor carrier shipments were on an LTL basis. Although sweatshops have often been associated with the toy. textiles, and apparel industries, the electronics industry is a prominent sweatshop industry in the twenty-first century. D. For example, although better packaging may reduce damage, loss, or theft costs, better packaging likely translates into increased packaging likely translates into increased packaging may reduce damage, loss, or theft costs, better packaging likely translates into increased packaging likely translates into increased packaging may reduce damage, loss, or theft costs, better packaging likely translates into increased packaging likely translates into increase Potential logistical implications of economic integration include reduced documentation requirements, reduced tariffs, and the redesign of distribution that occurred in the United States spurred economic deregulation (sometimes called "liberalization") in many other countries, and this movement has been particularly noticeable with respect to air transportation. Detention A payment from a shipper or consignee to a truck carrier's equipment too long. I'd rather see them destroyed in the field." Sullivan spoke up. Economic order quantity (EOQ) An order size that minimizes the sum of carrying and ordering costs. The chapter also discussed two of the most prominent SCM process frameworks. Reverse logistics Goods that flow from the consumer to the manufacturer (e.g., product recycling). 2.2 List the six general types of information management systems, and give one logistics application for each one that you've named. Vendor-managed inventory (VMI) A system in which the size and timing of replenishment orders into a retailer's system are the manufacturer's responsibility. Toth, general M01 MURP4846 11 GE C01.indd 36 manager for KiddieLand's eight Chicago stores; and Sharon Rabiega, Don's assistant for distribution services. Closed-loop systems Refers to systems that consider the return flow of products, their reuse, and the marketing and distribution of some of the more prominent elements of logistics systems. These disparate functions mean that packaging design decisions involve a number of separate departments within an organization, such as engineering, manufacturing, marketing, quality control, transportation, and warehousing. Another option for parcel shippers is United Parcel Service (UPS), which financially dwarfs any other transportation, such as engineering, manufacturing, marketing, quality control, transportation, and warehousing. approximately \$54 billion). (Boston: McGraw-Hill/Irwin, 2006), Chapter 11. While it's not possible to present a comprehensive discussion of the Internet's influences—online retailing, cloud computing, electronic procurement—of the Internet on the logistics discipline. 14 Roger Morton, "Working Without a Wire," Logistics Today, February 2005, 29-33. We learned in Chapter 12 that the transportation infrastructures in Brazil, China, Germany, Nigeria, and the United States are quite differences have important implications for cross-border commerce. That's the only reason we accept returns. It is based on the belief that management should evaluate their business from four distinct perspectives: customers, internal business processes, learning and growth, and financial results. Its first order on January 3, a second order on January 6 (three-day interval), with a third order on January 11 (five-day interval). One of the more popular uses of contracts is franchising, which attempts to combine the benefits of tight integration of some functions. Because of SCM's interorganizational focus, top management commitment is absolutely essential if supply chain efforts are to have any chance of success. M14_MURP4846_11_GE_C14.indd 284 03/06/14 5:37 PM Chapter 14 • International Logistics 285 the New World Alliance [consisting of American President Lines (APL), Hyundai Merchant Marine, and Yang Ming). • Seals (small wirelike devices that once closed cannot be reopened without breaking) are used more, with dispatchers, drivers, and receiving personnel all responsible for recording the seal number and inspecting, storing, repacking, and distributing food from its 90,000 square-foot warehouse.10 Furthermore, humanitarian logistics represents an emerging application of logistics to not-for-profit situations. From a managerial perspective, performance benchmarking identifies gaps in a desired result while process benchmarking provides information as to why the gaps exist. "Supply Chain Replenishment: Before-and-After EDI Implementation." Supply Chain Management: An International Journal 11, no. At 4:00 p.m. quitting time, there were still three trucks to be loaded; usually they would have departed by 3:30. R., 193n Johnson, P. The retailers made a poor choice. and Mathieu Balez. • Was it returned as part of an overstock arrangement with a retailer? In addition, because cloud computing involves operational as opposed to capital expenditures, it becomes a viable option for many companies that could not afford to purchase, install, and maintain application-specific software such as transportation management systems and warehousing management systems Understanding the Implications of Increased Customer Power You are probably familiar with the adage that "information.11 This access, largely enabled by the Internet, allows the consumer to become highly knowledgeable about an individual organization and its products. Is there a level of carrying costs at which both Ballenger's present system and a JIT system have similar costs? And although an exact definition is elusive, for our purposes 4PL/LLP will refer to a company whose primary purpose is to ensure that various 3PLs are working toward the relevant supply chain goals and objectives.
Although there may not be "right" or "wrong" answers with respect to warehousing design, an understanding of the various trade-offs might help managers make more efficient, as opposed to less efficient, decisions Department of Homeland Security (DHS) Differentiation strategy, 59 Dimensional (dim) weight, 229 Disintermediation, 23 Distribution center, 190 Documentation channel, 274 DOT. The firm relies on several basic designs of toys— which have low profit margins but are steady sellers— and on new designs of unconventional toys whose introduction is always risky but promises high profits if the item becomes popular. Moreover, hardware and software cost reductions have shortened the relevant investment payback period and GPS implementations can pay for themselves within one year. 19 Transaction Processing Systems (TPS) A transaction processing system, or TPS, collects and stores information about transactions. 1.11 Explain disintermediation and give an example. This is possible because the freight forwarder consolidates enough small shipments to reach a volume of at least 20,000 pounds and thus qualifies for the \$2 per 100 pound TL rate. Two-Dock versus Single-Dock Layout A two-dock layout generally has receiving docks on one side of a facility and shipping docks on the other side, with goods moving between them. A team of four warehouse workers can unload trucks at the rate of 10 per hour, or one every 6 minutes. 3 (2012): 1-11. To the extent that only a few of a particular type of component were on hand, the interruption in the production schedule would be that much greater. Ocean carrier alliances and operations. Procurement has become more strategic in nature of operations. Procurement has become more strategic in nature of operations. its primary objective is no longer to only achieve the lowest possible cost of supply. The chapter begins by looking at organizational design for logistics. 33 James A. The convenience dimension in multichannel marketing systems is increasingly manifested through customer orders in one channel (e.g., online) and customer delivery in another channel (e.g., in store).17 Managing Customer Service In addition to understanding, April 2009, 32. and Robert O. Moreover, utilization of procurement cards (also referred to as p-cards) has also grown dramatically with the evolution of electronic commerce. Although this manual loading is inefficient because of increasing loading or unloading times, the nations in which this practice occurs are often very poor, and manual cargo handling can be accurded to a p-cards. means for providing jobs (and thus income) to many people. A second commonsense piece of design advice is that it's important for an organization to know the purpose to be served by a particular facility because the relative emphasis placed on the storage and distribution functions affects space layout. same function as surface and airfreight forwarders, except that they do not operate as profit-making organizations. The location decision process involves several layers of screening or focus, with each step becoming a more detailed analysis of a smaller number of areas or sites. moving averages and weighted moving averages. Because Handy Andy would have no records of repair work performed after the oneyear period had expired, Ortega was randomly contacting buyers via their mobile phones to learn about their experience to date. Demand management The creation across the supply chain and its markets of a coordinated flow of demand. The buyer and buyer's bank must be notified before the order can be processed further. When the product arrives, it is damaged, and the retailer's customer states that he or she will wait no longer and cancels the order. Third-party logistics (logistics outsourcing; contract logistics) The general idea behind these concepts is that one company (e.g., a manufacturer) allows a specialist company to provide it with one or more logistics functions. A., 103n Olson, D., 178n Oum, T. All charges per bus included detaching the two halves. For example, because there are over 30,000 "important" shipping and receiving points in the United States, in the commodity rate system there would need to be separate rates for all possible combinations of shipping and receiving points—a number that is in the transportation rate structure dates to the time of economic regulation in the late 1800s—a time when "office automation" might have meant a manual typewriter—it becomes clear that the transportation community needed a way to simplify rate determination. M08_MURP4846_11_GE_C08.indd 156 03/06/14 5:23 PM Chapter 8 • Inventory Management 157 Figure 8.2 Inventory Flow Diagram day 2, and 120 units are available at the beginning of day 3. Other hidden or frequently overlooked costs of ERP implementation include employee training, data conversion (converting existing data into a usable and consistent format), integrating and testing a new system, maintenance costs, and consultant fees. See also Facilities transportation forces, 181f Point-of-sale (POS) systems, 41f, 44 Political factors, macroenvironmental influences federal government involvement, cross-border trade, 269-270 Political restrictions on trade, 268-270 POS. The material in this section emphasized that commonsense, low-cost approaches can facilitate effective and efficient management of warehousing operations. Green Jr., Dwayne Whitten, and R. In the 1990s, for example, Walmart and Warner-Lambert were the first two companies to explore collaborative planning, forecasting data to better match up supply and demand. However, the vagaries of international trade, such as delayed transportation and the economic and political riskiness of particular countries, impact the likelihood of successfully achieving these goals. Tyworth, Joseph L. Procurement refers to the raw materials, component parts, and supplies bought from outside organizations to support a company's operations.34 Procurement's direct link to outside 34 Donald J. As such, order management is a logistics activity with a high degree of visibility to customers; order management is discussed in Chapter 7. This can be important in the sense that a large number of bidders will likely lead to a great deal of price competition.61 Information Technology Challenges Thus far, this chapter has presented various challenges associated with specific types of information technology. In a single stroke, it could move him ahead of his regional sales targets for several quarters to come. Deals with all activities necessary to obtain, implement and manage manufacturing flexibility as well as product movement into, through and out of plants. "Development of Air Transport Industry in the Asia-Pacific Region." Pacific Economic Review 16, no. Fosdick recalled that during work breaks on the loading dock, Bigelow and some of the other workers would toss around melons as though they were footballs. 2 (2011): 91–116. Alternatively, retrieval and dissemination can be slowed by hardware and software glitches, including incompatible hardware or software, power outages, system crashes, and computer viruses. Humanitarian logistics The process and systems involved in mobilizing people, resources, skills, and knowledge to help people who have been affected by either a natural or human-made disaster. One reason for this is that the customer expectations associated with service parts logistics continue to increase, particularly in the automotive industry where the maximum customer wait time for repair or replacement parts logistics 12 Mehmet Ferhat Candas and Erhat Kutanoglu, "Benefits of Considering Inventory in Service Parts Logistics Network Design Problems with Time-Based Service Constraints," IIE Transactions 39, no. 14 Birsen Karpak, Rammohan R. Warehouse safety considerations fall into three primary categories—employee, property, and motor vehicles25—and we'll discuss each of these in the paragraphs that follow. 1, (1993): 163-184. C., 77n Cullen, D., 242n Cusick C., 160n Czinkota, M. When introducing a new product, companies want to make sure that there is sufficient supply of it to meet potential customer demand, and so companies might use expedited transportations. 4.2 What term is used to describe logistics managed by several different departments in the same organization? The standardization principle. 15 M09_MURP4846_11_GE_C09.indd 176 04/06/14 12:01 PM Chapter 9 • Facility Location 177 Figure 9.2 Truck Distances from Nebraska Source: Reprinted with permission from Inbound Logistics magazine (September 2011). In consolidation across place, the transportation manager looks to build volume with shipments going to a similar destination or similar destinations, and this often involves looking outside one's firm. In addition to transportation considerations in international logistics include an understanding of both a country's infrastructure and its modal operating characteristics. Indication for use as dunnage (may be abbreviated or spelled out fully) Figure 11.2 Lumber Standard Committee, Inc. Facility location a country's infrastructure and its modal operating characteristics. logistical effectiveness and efficiency. Consider, for example, the Chinese New Year that, unlike the New Year that many of you are familiar with, does not take place on January 1. Although these lists are limited in the sense that they only look at one component in location (how long it takes to get from a particular city—or cities—to the majority of the country's population), the network is valuable in showing how altering the number of facilities affects transit time to the particular population. Another low-cost suggestion for improving the effectiveness and efficiency of the picker to the particular population. emphasis on the characteristics of wood, plastic, and metal pallets. Although inland water carriers tend to focus on lower-value bulk commodities that can be handled by mechanical means such as
pumps, scoops, and conveyors, many different kinds of products can be carried. In fact, the last half-hour was spent straightening up many of the bins that had been deliberately disarranged during the slowdown. A relatively common political restriction on trade involves tariffs, or taxes that governments place on the importation of certain items. 12.10 How do weather conditions influence the reliability of inland water carriers? More and more products are being packaged and sold in metric units, with the nonmetric equivalents printed in smaller type. Similar to assets, liabilities come in two temporal forms: current liabilities, which need to be paid in less than a year, and long-term liabilities, which are due over an extended period of time. And he put me in touch with Eddie Quan, a New York ship broker who is on top of the charter market. The bill of lading, packing list, letter of credit, and other documents pertaining to a shipment must contain similar markings. One vessel could carry up to 125 buses as deck cargo, but they would have to be disassembled at their accordion junctions and then reassembled at their accordion junctions at the second secon to reach the Middle East. Although order picking and assembly is sometimes overlooked because neither activity is very glamorous, order picking and assembly can account for up to two-thirds of a facility's operating cost and time. A common situation is that on the average a facility may have excess capacity, but often it is more than full, with a backlog of work to be done. With rare exceptions, it would always be available on demand. Z01_MURP4846_11_GE_GLOS.indd 297 Load centers A major port where thousands of containers arrive and depart per week. Alternatively, companies might structure the order receipt function to reflect historical trends on order completeness and accuracy. In addition, load centers might affect supplemental transportation providers, such as truck and rail infrastructure is insufficient to accommodate the higher volumes that will be associated with the megaports. M05 MURP4846 11 GE C05.indd 103 03/06/14 5:17 PM 104 Part II • Supply Chain Management Incompatible Corporate Cultures Because SCM can involve a long-term orientation and partnerships between various members, it is important that the parties be comfortable with the companies they will be working with. Another concern is that electronic procurement can be impersonal in the sense that human interactions. As markets had expanded, so too had sources of supply for the company, with major suppliers located in Southern California, the Pacific Northwest, and Michigan. Kraljic's Portfolio Matrix (see Figure 6.2) is used by many managers to classify corporate purchases in terms of their importance, low complexity with a goal of minimizing supply vulnerability and getting the most out of the firm's purchasing power.15 The matrix delineates four categories: noncritical (low importance, low complexity), leverage (high importance, low complexity), strategic (high importance, high complexity), and bottleneck (low importance, high complexity). Other definitions, in contrast, emphasize that 3PL arrangements involve a long-term perspective. Kristin Gunderson Hunt, "Urban Squeeze Builds Fresh Interest in Developing Contaminated Land," Business Insurance, December 3, 2007, 23–24. For example, the Martin-Brower Company handles distribution for some McDonald's franchisees in the United States (e.g., food, beverage, and store supplies). Zacharia, and Charles W. International freight forwarders An international trade specialist that can handle either vessel shipments or air shipments and that offers a number of different functions such as booking space on carriers, obtaining consular documents, and arranging for insurance, among others. For example, an order consisting of fragile items might be assigned to a picker who exhibits a low percentage of damaged picks.9 Order picking and assembly has been greatly affected by advances in technology such as handheld scanners, radio-frequency identification (RFID), and voice-based order picking. Operationally, RFID consists of three components, a scanning antenna, an RFID tag (chip) that conveys the relevant data, and a transceiver that interprets the data. Global supply chains translate into both longer and more unpredictable lead times (time from when an order is placed until it is received) for shipments, which increases the chance that customer demand might not be fulfilled, due to a potential out-of-stock situation. A hybrid approach used in practice, sometimes referred to as leagility, combines aspects of both lean and agile as a way to focus part of one's supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on leveling out the planning requirements to smooth product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on leveling out the planning requirements to smooth product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely response to fluctuating customer orders and/or product variety and another part of the supply chain on a timely customer order variety and another part of the supply chain of the supply ch directly influence the ability to achieve the goals of any of these approaches. For example, the United States, Canada, and Mexico are part of the deliveries occurred within the two-hour delivery windows that buyers were promised. In more cases than not, they pay more in shipping charges than the products are worth to us. Because transportation costs tend to be lower per unit of weight for larger ones. 2 (2012): 118-127. In addition, in times of inflation, identical items added to inventory at different times means the products are worth to us. Because transportation costs tend to be lower per unit of weight for larger ones. 2 (2012): 118-127. that each unit has a different cost, and even though inventory's total value. 10.15 How is it that according to some estimates, only 10 percent of a warehouse is set aside for storage? Facilities such as manufacturing plants and warehousing represent fixed points where goods are produced, processed, assembled, or stored. The annual volume of nails was 2,000 kegs, and they were sold to retail customers in an even flow. and Jay P. Actual Costs Through May 31 17,431 4,080 156,830 35,890 18,000 4,035 178,000 40,228 Boston 6,920 3,061 63,417 27,915 7,200 3,119 73,000 29,416 Chicago 28,104 14,621 246,315 131,618 30,000 15,230 285,000 141,222 Denver 3,021 1,005a 28,019 8,600a 3,100 1,421 31,000 14,900 Fargo 2,016 980 16,411 8,883 2,000 804 17,000 9,605 16,491 11,431 151,975 109,690 17,000 9,444 176,000 93,280 Portland 8,333 4,028 73,015 36,021 9,000 4,600 85,000 42,616 St. Louis 5,921 2,331 51,819 23,232 8,000 2,116 56,000 19,191 Los Angeles Exhibit 3.A Brant Freezer Warehouse Performance a Denver warehouse closed by strike March 4-19, 2012. Why is this the case? 22 23 19 M01 MURP4846 11 GE C01.indd 24 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 25 Globalization of Trade Although countrieses? have traded with each other for thousands of years, globalization's impact is greater today than ever before. Terim's mind then shifted to a third option. How should he be treated? In the United States, government regulations also require organizations to create a safety data sheet (SDS) for each hazardous product to be stored in a facility. 7 Josh Sanburn, "As Barges Sit Idle Along the Mississippi, the Economic Costs Grow," business.time.com, August 22, 2012. Table 10.1 highlights some possible shortcomings in warehousing security. Finally, they can help purchasing by advising about methods to control the costs and quality of inbound deliveries and by tracking and expediting lost or delayed shipments of important inputs. Multiclient Warehousing Another warehousing, has become popular in the first part of the twenty-first century. Finally, monitoring and improving means that performance measures must be established for global procurement systems and that these measures should be reviewed on a regular basis. See United Parcel Service (UPS) UPS Supply Chain Solutions, 101 USCG. You might recall from Chapter 1 that sustainability refers to products that meet present needs without compromising the ability of future generations to meet their needs. Fosdick was familiar with the operations of both the Providence and Newburgh centers. One of the things learned after the 2001 terrorist attacks was that a relatively small percentage of consumer-grade mobile devices in an industrial setting, such as a warehouse or port, may require the
device to become "ruggedized" in order to withstand the conditions that exist in these locations.16 For example, Markley Enterprises, a manufacturer of marketing support products, uses iPads along with third-party apps to enhance the productivity of their warehouse workers, improve pick accuracy, and eliminate paperwork.17 Similarly, Cleveland-based Arhaus Furniture placed iPads in their delivery trucks, which has led to savings in paperwork costs, increased truck utilization, and one implication is that one implication is that set to save a software have resulted in dramatic cost reductions for wireless communication, and one implication is that set to save a software have resulted in dramatic cost reductions for wireless communication. the technology is no longer limited to those companies with the deepest financial resources. For example, an organization might divide inventory management into three categories—raw materials, work-in-process, and finished goods; raw materials and work-in-process inventories might be managed by the manufacturing d epartment, whereas finished goods inventory might be the purview of the marketing department. Both with his own, Jim operated with his product when it first came off the assembly line. Other examples of lean inventory include efficient consumer response (ECR), which is associated with the apparel industry. Advocates of decentralization question the ability of a centralized logistics unit to provide the required levels of customer responsiveness. TEU Twenty-foot equivalent unit; a measure of the number of 20-foot containers that are used or handled. Javier Husillos, and Managers' Posture, "Journal of Business Research 60, no. The country 125 130 Siping Huadian ita Hu China Russia Ji ao an g d Er He Vladivostok Tumen Khasan Musan Badaojiang Nakhodka Najin en uo H e oH e Tum Tonghua Ch'ongjin H Lia Shenyang Hyesan Ji'an Anshan Manp'o g -Jian Yalu Yalu Kanggye Kimch'aek Sup'ung-ho Dandong North Sinuiju Kusong Yongbyon Hamhung Korea Sojosonman P'YONGYANG jin- gan Changyon P'yonggang Ch'unch'on South SEOUL Inch'on Suwon nHa Kangnung Ullung-do Wonju ng ga China Mansan Kaesong Kyonggi-man Demarcation Line Ch'orwon Haeju Ongjin Sunwi-do Sea of Japan Im Sariwon Paengnyong-do Tongjoson-man Wonson g Namp'o Korea Bay 40 Ta e ga don ng g- 40 - To Suez Canal Ch'ongju Taejon K um Korea Kunsan P'ohang g Yellow Sea Andong Nakton -g an g Ch'onan Chonju gang Taegu Kwangju Ulsan Masan Pusan 35 Mokp'o Koje-do Yosu Chin-do 0 0 50 100 Miles Lambert Conformal Conic Projection SP 23N/45N Boundary representation is not necessarily authoritative. Swan, Peter F. Radio-frequency identification (RFID) technology is another automatic identification technology that has received considerable attention in the first part of the twenty-first century. The toy business is very seasonal, with the majority of sales occurring before Christmas. Assets Are what a company owns and include current assets. Balance sheet Reflects an organization's assets, liabilities, and owners' equity attention in the first part of the twenty-first century. a given point in time. As a general rule, the inventory tax is based on the value of inventory that is held on the assessment date(s). It would even pay to modify some machines for disassembling the Jungle Jim doll." "As I listen to this discussion," said Lori, "one fact becomes obvious: We will never have very good M05 MURP4846 11 GE C05.indd 109 knowledge about volume or patterns of returns until it's too late. The second guarantee, however, was more worrisome: The Brazilian authorities were feeling political heat because they were badly behind schedule in implementing their transportation plan and needed proof to show the public that their new programs were under way. Their locations were feeling political heat because they were badly behind schedule in implementing their transportation plan and needed proof to show the public that their new programs were under way. are in turn influenced by the locations of plants whose products they handle and the markets they serve. Only once did they drop a melon. How would you follow up on his query? As another example, transportation and warehousing might be interested in packaging designs that minimize the amount of a package container's excess space—so that purchasing additional transportation or warehouse space might be minimized. Tremendous technological advances during the course of your lifetime—from desktop computers to tablets, from second-generation mobile phones to fourth-generation mobile phones. The chapter also described sustainable procurement, with an emphasis on socially responsible procurement. 10.14 What are some potential nonstorage space needs that might impact warehousing design? Ergonomics The science that seeks to adapt work or working conditions to suit the abilities of the worker. We will analyze these issues in terms of demand management (how an organization determines what the customer wants) along with order management and customer service (how an organization facilitates the customer service (how an organization facilitates the customer service). As for efficiency, organizations must look beyond just the initial automated-related investment costs and factor in other expenditures, such as operating, repair, and maintenance costs as well as relevant personnel and management costs.19 Other Space Needs Although many would assume that the primary role of warehousing involves the storage of product.20 Because that only approximately 10 percent of a facility's cubic capacity is actually occupied by product.20 Because that the primary role of warehousing involves the storage of product. every warehousing facility sets aside areas for nonstorage activities, it's important to know about them. The three relationships just mentioned are of continual importance to the transportation manager because if they are altered, the total transportation charges will be altered. "Supply Chain Collaboration Performance Metrics: A Conceptual Framework." Benchmarking: An International Journal 18, no. I tell you, Tom Bigelow does set the work pace in that warehouse!" "So what do you suggest I do at the center?" asked Fosdick. With respect to labor characteristics, is Patna or Lucknow the preferred location? M06 MURP4846 11 GE C06.indd 112 04/06/14 12:21 PM Chapter 6 • Procurement 113 Identify Need for Supply Situation Analysis Internal factors (e.g., legal issues) Identify and Evaluate Potential information Establish selection criteria Assign weights to selection criteria Select Supplier(s) Consideration of company policies (e.g., usage of minority suppliers) Evaluate Decision Compare actual and expected performances Figure 6.1 Supplied part, each offers distinct advantages. Consider several metrics associated with unhappy customers; a frequently cited metric is that it costs approximately five times as much to develop a new customer as it does to retain an existing one. P. Customers Truckload shipments of a single product directly from supplier to customer, bypassing warehouse. Although pipelines tend to have limited capabilities with respect to the product shat can be transported, pipelines are capable of transporting. very large product volumes. However, it could take some time to accumulate 10 units, and the increased time could result in poorer service to the final customer. See Free Alongside Ship FCA. Thus, ROA becomes a key managerial tool for logistics profitability analysis. 04/06/14 12:03 PM Chapter 10 • Warehousing Management 205 5. Develop and uments he should give in a meeting with the union shop steward. Johnson, P. 17 Terrorism. Simulation A technique that models a real-world system, typically using mathematical equations to represent the relationships among components of the real-world system. Beginning with a discussion of the connection between corporate strategy and logistics strategy, the chapter provided an overview of key financial concepts as they relate to forming a better understanding of how logistics organization, in contrast, means that logistics-related decisions are made separately at the divisional or product group level and often in different geographic regions. A process philosophy, by contrast, focuses on combining tasks into value-creating products and activities. As pointed out in Chapter 4, M10 MURP4846 11 GE C10.indd 191 04/06/14 12:03 PM 192 Part III • Elements of Logistics Systems warehousing is one of two major sources of labor in logistics (the other is transportation), and warehousing employees are often unionized, thus adding to the managerial challenges. The various properties of goods must also be made known to consumers to help them make the correct buying decision and care for the product properly. The Material Handling Institute suggests that these principles can facilitate an organization's productivity, customer service, and profitability. Ellram and Sue Perrott Siferd, "Purchasing: The Cornerstone of the Total Cost of Ownership Concept," Journal of Business Logistics 14, no. We've talked at some length about customer service, but we've yet to offer a formal definition of it. Some shipment consolidation activities are shown in Figure 13.5. Smaller shipments are problematic for several reasons. The goals of international buyers and sellers — buyers want to receive the product that was paid for, and sellers — buyers and sellers — buyers and sellers. is erroneous, misrepresented, or unclear will likely result in poor decisions by logisticians. Supplier development (reverse marketing) A degree of aggressive procurement involvement not normally encountered in supplier selection. Be certain to list circumstances under which exceptions would be allowed. Accessorial service Transportation service that is supplemental to line-haul transportation. 7.12 How can customer service act as a competitive weapon? Although a comprehensive discussion of the authors worked for an LTL company while it
was e conomically regulated, and his experiences offer insight into the challenges presented by economic regulation. Thus, if an order picker is forklift were to malfunction, the order picker might be prohibited from remedying the situation because forklift repairs are the responsibility of another group of workers. Reorder points M08 MURP4846 11 GE C08.indd 153 03/06/14 5:23 PM 154 Part III • Elements of Logistics Systems (ROPs) are relatively easy to calculate, particularly under conditions of certainty; a reorder point is equal to the average daily demand (DD) in units times the length of the replenishment cycle (RC): ROP = DD * RC Suppose, for example, that average daily demand is 40 units and the replenishment cycle is 4 days. Customers that receive inaccurate invoices will tend to hold payment until these issues are worked out. "Are You the Weakest Link in Your Company's Supply Chain?" Harvard Business Review 85, no. Routing The process of determining how a shipment will be moved between consignor and consignee or between place of acceptance by the carrier and place of delivery to the consignee. Furthermore, advances in computer hardware and software now permit significant amounts of information to be processed and analyzed relatively guickly. S., 184n Closs, D. "The Future of Logistics Education." Transportation Journal 50, no. Make-to-order situations generally involve some combination of standard and custom components, and forecasting could be quite helpful in projecting the standard components needed. Although the production facilities added much-needed manufacturing capacity, the warehousing facilities such as cost and accuracy. Under this scenario, order transmission methods that consistently exhibit superior completeness and accuracy would bypass the order check activity. Commodity rate A specific rate for every possible combination of product, weight, and distance. 1 (2000): 1-17; Edward A. Why is this advisable? In early 2002, U.S. President George W. 4. Olga was new on her job and was unusually stressed because both of her assistant buyers had just resigned to seek employment on the West Coast. In terms of people, one area of focus should be the hiring process for warehousing workers; a starting point might be determining whether an individual facility even has a formal 30 Maureen Brady, "Safe, Segregated and Secure: Are Your Hazardous Chemicals Properly Constrained?" Industrial Safety & Hygiene News, June 2012, 46. The year 2013 is nearly half over. See Global Supply Chain Forum (GSCF) H Handling costs, 28, 75, 150, 229, 234 Handy Andy, Inc., 143-145 Harry Potter and the Deathly Hallows, 30 Hazardous materials, 200-201, 210-212, 263 HDT Truck Company, 243-246 Humanitarian logistics, 21 I IATA. (n.d.). Jain, Chaman L. Council of Supply Chain Management, the CSCMP's mission aims to be at the forefront of supply chain knowledge and research For example, a company might use piggyback transportation, that is, either truck trailer-on-flatcar, to take advantage of rail's low transportation costs on the line-haul along with truck's ability to provide door-to-door service. Price Decisions A key price-related decision for marketers involves how a product's transportation costs should be reflected in its selling price, and this has proved to be a particularly vexing issue for some online merchants. There are a variety of metrics that could be used for each of these activities. Although contemporary ERP systems encompass a firmwide perspective, their origins can be traced back to logistics and manufacturing in the form of inventory control and materials requirement planning programs, today's ERP systems (conceptually, at least) provide an opportunity for all functional areas within a firm to access and analyze a common database—which might not have been previously possible because (1) certain data were proprietary to a particular functional area and (2) of insufficient or slow computing capabilities. The Provider CEO Perspective." Transportation Journal 51, no. Recall from earlier in the chapter that the reorder point can be calculated as (daily demand * replenishment cycle) + (safety stock), or (30 * 2) + (60) = 120 units. The purchase and install option was (is) quite expensive in the sense that the software costs can approach \$500,000 while implementation costs can run into the several millions of dollars. This chapter also discussed public, private, contract, and multiclient warehousing. Cost of picking per order line, pick accuracy percentage, and order lines picked per hour are examples 17 A. 17 Paul Brooks, "The Multichannel Challenge," Logistics Manager, October 2008, 50. 19 M09 MURP4846 11 GE C09.indd 178 04/06/14 12:01 PM Chapter 9 • Facility Location 179 important factor that executives consider when asked to relocate outside their home country. 20 Besides guality-of-life considerations, many other factors are to be considered if a firm is looking for a plant, office, or distribution site outside its home country. 13 (2010): 6-7. In terms of revenue enhancements, the system is a key part of a \$250 million product line based on returned cosmetics. As a result, the incremental carrying costs of moving from 0 units of safety stock to 10 units of safety stock are (10 * \$480) * .25, or \$1,200. Fields Cookies and Sun Dish Detergent whose products are sold in Mexican retailers such as Benavides, Calimax, and Walmart de Mexico.17 17 M14 MURP4846 11 GE C14.indd 281 03/06/14 5:37 PM 282 Part III • Elements of Logistics Systems Export Packers Export Packers Export Packers (17 17 M14 MURP4846 11 GE C14.indd 281 03/06/14 5:37 PM 282 Part III) expertise to do so itself. It is not possible to present a comprehensive list of all possible rate and service items that might by negotiated by shippers and carriers. Alternatively, there may be an inverse relationship between unemployment and wages (i.e., higher unemployment rates may be associated with lower relative wage rates). Cantor, David E. "C-level" position Refers to corporate officers such as a chief executive officer (CEO), chief operating officer (COO), or chief financial officer (COO), or chief financial officer (CFO). In international transactions, for example, translators may be an important intermediary. I don't think there is much abuse, although there is some." "How do the goods get back to us under these circumstances?" asked Amy. Packaging has important environmental consequences and several environmentally friendly packaging strategies were identified and discussed. In a similar fashion, a broker adds value for a shipper/receiver because of the broker's knowledge of potential transportation options. If so, how will returned products be segregated from other products in an effort to reduce loss of returned product, to prevent mixing returned and nonreturned goods, and to prevent mixing returned and nonreturned goods, and to prevent mixing returned and nonreturned goods. inventory) being adjusted. 1 Paul D. A second type of DSS is what can be broadly labeled as application-specific software, which has been developed to help managers deal with specific logistics processes or activities. As pointed out in Table 14.2, Shanghai, the world's busiest container port, handled over 32 million TEUs in 2012; moreover, 9 of the 10 busiest container ports are located in Asia, with 7 of the ports located in China. P-cards may require control processes that measure usage and identify procurement trends, limit spending during the appropriate procurement trends. However, the incidence of fraud has been found to be low primarily due to investments that the card issuers have made in programs to seek out and eliminate it.4 P-cards can benefit organizations in several ways, one of which is a reduction in the number of Supply Chain Management: A Balanced Approach, 3rd ed. One commonly used rule of thumb, the 80/20 rule, is that 80 percent of a company's sales come from 20 percent of a company's sales come from 80 percent the procurement process. 3 (2008): 389-407. Hellstrom, Daniel and Fredrik Nilsson. (This is a continuation of Ouestion 6.) Assume, instead, that you are the union shop steward. There is also a key link between order management and customer service because many organizations analyze customer service in terms of order cycle performance. And although the pharmaceuticals stolen from the Connecticut warehouse were eventually recovered, they became evidence in a criminal case and will be destroyed at the conclusion of all relevant legal proceedings—which means no revenues from their sale for the manufacturer.35 Warehousing security focuses on two primary issues, namely, protecting products and preventing their theft, and warehousing security can be enhanced by focusing on people, facilities, and processes. Nonvessel-operating common carrier (NVOCC) In international trade, a firm that provides carrier services to shippers but owns no vessels itself. In turn, the goals and objectives of individual supply chain participants should be compatible with the goals and objectives of other participants in the supply chain. B., 46n, 198n Markussen, D., 62n Martinson, B., 111n Matchette, J., 98n, 99f Mattson-Teig, B., 176n McCarthy, E. It's simply not enough to have a set of clearly articulated work rules—to be effective, the work rules must be enforced. Namely, the remainder of this section will focus on two risks that can impact logistics activities in a firm, namely, terrorism and theft/pilferage. 2.7 Discuss the benefits and drawbacks of EDI. We have to get our return policy established, made more uniform, and enforced. R., 189n Stratman, S., 159n Sum, C.-C., 58n Sutarlya, Y., 117n T Tan, K.-C., 48n, 103n, 127n Tarnef, B., 80n Terriri, A., 218n Thaver, I., 114n Tiliman, J., 97n Tirtiroglu, E., 65n Tompkins, J. Pipeline, or in-transit, stock is inventory that is en route between various fixed facilities in a logistics system such as a plant, warehouse, or store.
Fugate, John T. Will the company use years of service, employee productivity, or other factors to decide who gets offered positions at the new facility? 13.11 D efine what is meant by an amodal shipper, and discuss the factors that have contributed to its growth. Indeed, one aftereffect of the 2007-2009 economic recession is that some large companies are taking longer to pay their bills. Logistics information system (LIS) People, equipment, and procedures to gather, sort, analyze, evaluate, and distribute needed, timely, and accurate information to logistics decision makers. "The North American Third-Party Logistics Industry in 2011. Accumulating (bulk making) Bringing together inventory from different sources. For maximum results, organizations should engage in performance benchmarking, which compares quantitative performance (e.g., fill rate performance), as well as process benchmarking, which is qualitative in nature and compares specific processes (e.g., how organizations achieve their fill rates). Truck drivers can fall behind schedule or be delayed for a variety of reasons such as traffic conditions, a bottleneck at a loading dock, or p erhaps too much time socializing with fellow drivers at a particular truck stop. E., 77n Johnson, J., 62n Johnson, J., 62n Johnson, J., 62n Johnson, J., 62n Johnson, J. Huber lunged for the phone and, scarcely glancing at the number pad, his fingers automatically dialed 4823. M01 MURP4846 11 GE C01.indd 22 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 23 second-day delivery by noon, among others. J., 20n Hyatt, J., 110n I Imlay, M., 82n Inderst, R., 113n Inman, R. Rate considerations are one prominent responsibility, particularly in terms of rate determination. Dey, "Multi-criteria Decision Making Approaches for Supplier Evaluation and Selection: A Literature Review." European Journal of Operational Research 202, no. Routing Routing can be defined as the "process of determining how a shipment will be moved between origin and destination."12 One example of routing is a routing guide, which is a document that can provide a variety of shipment-related information such as shipment preparation, freight invoicing, a list of preferred carriers, and a list of which carrier or carriers to use for shipments moving between two points. A fast supply chain emphasizes a speed and time component, whereas an agile supply chain 11 Glen. List and discuss the advantages and disadvantages of charging customers for home delivery if they are unable to carry home the Super Gym. Forklift operations and equipment have received particular attention from OSHA in part because of the number of deaths and injuries associated with them. As vessel sizes increase, it becomes more costly to stop (call) at multiple ports in a geographic area. Many companies addressed this challenge by adding so-called "best of breed" (i.e., the best product of its type) logistical applications to their ERP programs, but the process associated with adding the respective software could be costly and time consuming. Indeed, it was he who set the pace of work in the warehouse. Moreover, unused space is excess capacity, and we know that excess capacity costs money. 13 M05 MURP4846 11 GE C05.indd 97 03/06/14 5:17 PM 98 Part II • Supply Chain Supply Chai disadvantages of having local trucking companies deliver the Super Gym from the retail stores to the customers. The negotiations channel is the one in which buy and sell agreements are reached. In addition, this alternative may also result in an occasional mix-up in that received product is sometimes reloaded into the vehicle that delivered it. What challenges do they face? 12.11 Discuss the positive attributes of inland water transportation. Xavier, Wescley Silva and Ricardo S. Information A body of facts in a format suitable for decision making. How might load centers affect the dynamics of international transportation? Demand is also 60 on day 7, leaving us with no inventory (point G) at the end of day 7. Figure 5.3 shows a handheld computer with a radio-frequency connection used to communicate some real-time inventory information regarding a truck and its contents. DAT (Delivered at Terminal) The seller clears the goods for export and bears all risks and costs associated with delivering the goods and unloading them at the terminal

at the named port or place of destination. Organizations can also examine their facility layouts; long horizontal runs and frequent backtracking could be symptoms of layout problems. Potential logistics social responsibility dimensions include the environment, e thics, diversity, safety, philanthropy, and human rights, among others, and myriad activities or practices can be used to assess each of these dimensions. and David L. 8 Joseph B. Although ordering by mail might be more convenient than in-person ordering, mail is considered to be a relatively slow form of order transmittal, and there are occasions when the order never reaches the intended destination (lost in the mail). The reverse side is printed in extremely small print. The Interstate Commerce Commission was legislated out of existence in 1995 and its remaining economic regulatory functions were transferred to a new agency, the Surface Transportation Board (STB), which is affiliated with the Department of Transportation. complexity could emerge due to an increased amount of time required to pick an order resulting from changes in the number of steps or changes Systems Figure 13.3 A Long-Form Bill of Lading carrier's overchange claim form; note that the overchange claim requires documentation in terms of a freight bill and the relevant bills of lading. With respect to logistics organizational forms, Professors Bowersox and Daugherty identified three orientations that can be used in isolation or in combination when developing a logistics strategy. Sorting function Bridges the discrepancy between the assortment of goods and services generated by the customer. A broken bottle of household ammonia, for example, results in three hazards: noxious fumes, broken glass, and a slippery floor. Responsibility for damage in transit is one issue subject to carrier specifies the level of packaging protection; if the carrier remains liable, the carrier remains liable, the carrier specifies the level of packaging protection to be used. "Spare Parts Logistics for the Chinese Market." passengers) is shifted between vehicles or modes. Day 14's demand of 30 units will be satisfied from safety stock (point M), and the EOQ arrives shortly thereafter. "Technology Outlook: Getting by Without the Big Buys." Supply Chain Management Review 13, no. Some forwarders specialize in certain cargoes. 2 (2009): 44-49. 11.20 What are the key considerations for an organization considering to use either labor, mechanization, or automation? Theft (stealing) Taking and removing personal property with the initial 90-day deadline for the 25-bus shipment? The payment service treats the freight bills as checks drawn on the shipper's freight account and then pays the carriers. I., 101n Van Wassenhove, L. The TSA also plays a number of roles with the SCOR model, logistics plays an important role in the processes associated with the GSCF model.9 For example, logistics considerations such as on-time pickup and delivery could arise within the order fulfillment process as well as being monitored by the customer service management process as well as being monitored by the customer service management process. and no U.S. ports, rank among the 10 busiest container ports. As an aid to making his decision on whether to try a JIT orientation at his plant, Jim's executive assistant, Kathy Williams, drew up a table that summarized the anticipated impacts of a JIT system (see Exhibit 2.A). See Customer profitability analysis (CPA) CPFR. Pearson Education Limited Edinburgh Gate Harlow Essex CM20 2JE England and Associated Companies throughout the world Visit us on the World Wide Web at: www.pearsonglobaleditions.com © Pearson Education Limited 2015 The rights of Paul R. Timely also can refer to how quickly managers receive the information requested; this is affected by each company's retrieval and dissemination procedures. Forecast accuracy can have important logistical implications, as illustrated at Lighthouse Foods, where improved forecasting resulted in substantial reductions in the amount of finished goods inventory. Logistics managers are increasingly faced with the challenge of managing this complexity both within their firms and across the network of relationships that exist in their supply chain. 9.18 What is a free trade zone? 24 Ibid. "Don't Tweak your Supply Chain-Rethink It End to End." Harvard Business Review 88, no. As part of this assignment, he also converted the entire system to one of unit loads, which meant everything loaded on or unloaded from a Red Spot truck was on a pallet. As a generalist, the logistician must understand the relationship between logistics and other corporate functions, both within and outside the firm. For instance, an organization with a mixture of consumer and business-to-business product lines might benefit from decentralization because of differing logistical requirements of consumer and business-to-business segments. AAA has asked AILS to determine the best location for a manufacturing plant that will produce wickable athletic shirts for export to North American and Western Europe. "Measuring Logistics Performance Using the Strategic Profit Model." International Journal of Logistics Management 13, no. Twenty and the strategic Profit Model." four 8-ounce bags were packed in cartons that were 12 inches by 36 inches. Should, for example, each co-branding parties co-load vehicles to minimize the number of deliveries that arrive at a particular location? In the case is the statement, "The factory distributors in these few cities indicated that they, not Handy Andy, Inc., stood behind the one-year warranty." Is this a problem for Handy Andy? Service performance is another important modal operational characteristic associated with surface transportation in other countries. One week later, Vanderpool said he had done as much as he could and would turn the figures over to Pon. 2.6 What is TPS and how is it connected to EDI in relation to logistics? In the interim, N.A.M. had distinguished itself through the work of Rudolf Diesel, who invented his famous engine and then brought it to N.A.M. had distinguished itself through the work of Rudolf Diesel. to clearly specify why a plant is being closed. In the United States, the liquor (alcoholic beverage) industry is heavily regulated and states have liquor control boards that are responsible for regulating liquor-related activities, including labeling, within state borders. The specific price of each product and its description are also flashed on a monitor screen positioned near the counter. M10 MURP4846 11 GE C10.indd 203 Bowen, John T. Dunnage Material that is used to block and brace products inside carrier equipment to prevent the shipment from shifting in transit and becoming damaged. On the one hand, air's tremendous speed relative to the other modes offers the potential to "make up lost time" that isn't possible 2 Data derived from www.boeing.com, About Our Products. India's red tape, bureaucracy, and corruption preclude anyone lacking either clout or established relationship channels from conducting business in India. In addition to large volumes, private warehousing also tends to be feasible when demand patterns are relatively stable. All buses were to be delivered to the Port of Santos. See Decision support system (DSS) Dunnage, 200, 219, 219f Dwight D. 9 (2007): 704-718. The buyer contacts HDT and, although acknowledging its commitment to buy FAS Doha, asks how much HDT would subtract from the \$172,000 per truck price if the selling terms were changed to FOB HDT's Crown Point plant. Harmonized tariff schedule at minimum six-digit level Carriers: 1. M10 MURP4846 11 GE C10.indd 193 04/06/14 12:03 PM 194 Part III • Elements of Logistics Systems depends in part on the length of the contract; as the contract; as the contract; as the contract length increases, the flexibility to respond to change decreases. A., 176n Gosso, M., 51n Graham, J. Because of the assumption of even outward flow of goods, inventory carrying costs are applied to one-half of the order size, a figure that represents the average inventory. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a license permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6-10 Kirby Street, London EC1N 8TS. The outcome from situation 2 is more problematic in that the company doesn't know whether the customer will, in fact, return. External measurement data can be collected from actual customers, as illustrated in Figure 7.2 and 7.3. Figure 7.2 and 7.3. Figure 7.2 and 7.3. and fax it (toll-free) to the shipper. Source: SFT Group. At one time inland water transportation was considered to be the least expensive form of transportation, but fuel taxes that were imposed on inland water transportation in the 1980s permitted pipelines to become the least expensive mode. At a basic level, productivity can be defined as the amount of output divided by the amount of input. A broker can be used by either a buyer or seller (trucker). See also specific transactions acceptance of letters of credit, advising on, 277 airfreight, 285 air waybill, preparing, 278 bill of lading, preparing, 278 booking space on carriers, 277 bulk carrier, 283f busiest container ports (2012), 283t consular documents, obtaining, 279 documentation, 273-274 embargoes, 269 export declaration, preparing, 278 export declaration, preparing, 279 documentation, preparing, 278 export declaration, preparing, 278 export declaration, preparing, 279 documentation, 279 invoice form, 281f import quotas, 269 insurance, arranging for, 279 international freight forwarders, 277 letter of credit, 277, 278f logistics channels) Logistics channels, 30-32 marketing, role of, 28
methods of payment, 276-277 nontariff barriers, 269 nonvessel-operating common carrier, 279 North American Free Trade Agreement, role of, 267-268 shipper's associations, 236 shipping notice and documents, preparing, 279 short-sea shipping (SSS), 286 tariffs, 269 terms of sale, 254-255, 274-275 trade inventories, 287-288 trade specialists, 277 transactions, 43-45 transportation considerations, 282-287 International logistics, macroenvironmental influences cultural factors, 271-272 economic factors, 270-271 political factors, 270-271 political factors, 287-288 trade specialists, 287-288 International trade, specialists, 277-282 Internet, role and future of, 49-52. Importantly, commonsense approaches to system security are often no cost, in nature.26 The discussion to this point has been primarily focused on domestic theft and pilferage. Vanderpool reluctantly agreed, and Pon heard nothing until Vanderpool passed him in the hall a few days later and said the assignment was much more time consuming than he had imagined. Each category requires distinct procurement strategies for managing supply. With respect to challenges, the geographic distances between buyers and sellers are often greater (which may translate into longer transit times), and monitoring logistics processes is sometimes complicated by differences in business practices, culture, and language. Ronkainen, International Marketing, 10th ed. (Mason, OH: Cengage Learning, 2012), Chapter 4. • Is it a product that is being recalled? "Role of Logistics in Enhancing Competitive Advantage: A Value Chain Framework for Global Supply Chains.' International Journal of Physical Distribution & Logistics Management 39, no. 14.16 What issues are likely to be addressed under the terms of a bilateral agreement? Similarly, organizations that prefer a fixed slot location for merchandise may have to build larger facilities to have a sufficient number of storage slots. 03/06/14 5:37 PM Glossary ABC analysis of inventory Concept that recognizes that because inventories are not of equal value to a firm, they should not be managed in the same way. Supplier (vendor) selection and evaluation. Huber had four days before the next managing director's meeting, at which time he would present the project and, with the vice president for production, propose a plan to accomplish it. See Carriage and Insurance Paid To (CIP) Civil Aeronautics Board (CAB), 239 Class rate system, 249, 251, 251t "C-level" position, 72 Closed-loop systems, 213 Cloud computing, 46 Coast Guard, U.S. (USCG), 238-239 Co-etail and the vice president for production propose a plan to accomplish it. See Carriage and Insurance Paid To (CIP) Civil Aeronautics Board (CAB), 239 Class rate system, 249, 251, 251t "C-level" position, 72 Closed-loop systems, 213 Cloud computing, 46 Coast Guard, U.S. (USCG), 238-239 Co-etail and the vice president for production propose a plan to accomplish it. branding, 28 Collaborative planning, forecasting, and replenishment (CPFR), 24, 129 Common carrier, 240, 259-260, 279 Common logistics measures, 64-66 design and implementation, 66 inventory, 66 system, 65 307 Z03 MURP4846 11 GE SIDX.indd 307 03/06/14 5:39 PM 308 Subject Index Common logistics measures (Continued) transportation, 65 warehousing, 65 Communication, effective, 135 Communication system, 41f, 42-43 Complementary products, 160-161 Computer-generated load plan, 219f Concealed loss or damage, 260 Consignees, 229, 261, 282 Consolidation of shipments, 47t, 227, 248, 255, 261 Consular documents, obtaining, 279 Containers, 25, 235f, 236 Container Security Initiative (CSI), 79 Contract carrier, 240 Contract logistics, 101, 105. I knew that our suppliers would start complaining because we had established scheduled unloading times. Because safety stock is not to be used under normal circumstances, reordering at 120 units means that 60 units (safety stock) will be on hand two days later when the EOQ arrives. Unfortunately, in the aftermath of a Valentine's Day party in Hollywood, the television actor who portrayed Jungle Jim the Jogger became involved in a widely publicized sexual misadventure, the details of which shocked and disgusted many readers and TV and the state of the state o viewers, and we would be embarrassed to describe them. For example, British Airways (formerly British Airways Corporation, or BOAC) was privatized by the British government in the late 1990s. For example, chartered aircraft can be used in the transport of livestock and pedigreed animals and one particular shipment involved carrying 7,000 cattle from Texas to southern Chile. Table 13.1 Example of the Class Rate System Shipment Commodity Classification Weight (cwt)a 1 2 3 4 Class 100 Class 200 Class 100 Class 100 500 500 1,500 500 44023 to 32169 44023 to processing activities include checking an order for completeness and accuracy, checking the buyer's ability to purchase, entering the order into 7 M07_MURP4846_11_GE_C07.indd 130. "Consumer Responses to Shelf Out-of-Stocks of Perishable Products." International Journal of Physical Distribution & Logistics Management 37, no. Although wireless communication has many logistical applications, we'll take a look at one of the more popular types, namely, global positioning systems. For our purposes, supply chain-formal or informal-between companies and their suppliers or customers, established to enhance the overall business performance of all parties.20 In addition, some writers believe that supply chain collaboration as ranging from transactional to strategic in nature (a "narrower" view), whereas others view collaboration as ranging from transactional to strategic behaviors (a "broader" view). approximately 6 percent of U.S. gross domestic product. These agreements are known by several names, to include partnerships, strategic alliances, third-party arrangements, and contract logistics. Making and receiving shipments, which refers to tactical planning and control of shipments, and we'll discuss some of them in the paragraphs that follow. Over the past quarter century, however, discussion of natural resources and facility location has increasingly factored in environmental and sustainability considerations. In a broad sense, corporate culture refers to "how we do things around here" and reflects an organization's vision, values, and strategic plans. "Demand Categorisation in a European Spare Parts Logistics Network." 29, no. In 1955, the company opened a truck unit in Munich, which would later become the new company headquarters. The different supplemental agreements provide companies with differing levels of managerial flexibility). Will employees who decide not to relocate be offered severance benefits? Pearcy, Dawn H. Export packaging involves packaging for two distinct purposes, in addition to the sales function of some packaging. In addition, each employee reports to one, and only one, supervisor. In addition, leading-edge companies tend to manage more types of logistics activities than do other companies, including less-traditional logistics activities such as demand forecasting and procurement.3 An important issue in terms of organizational structure is whether the logistics department should be centralized or decentralized. Lean supply chain Focuses on eliminating all waste, including time, and ensuring a level schedule. service parts, deciding upon inventory ordering policies, stocking the required parts, and transporting parts from stocking facilities to customers.12 Long viewed as an afterthought or-even worse-as a nuisance, service parts from stocking facilities to customers.12 Long viewed as an after thought or-even worse-as a nuisance form stocking facilities to customers.12 Long viewed as an after thought or-even worse of transportation, and the line-haul cost of airfreight service is regarded as its primary disadvantage; many companies simply cannot afford to have their shipments travel by air. Occupational activities in a feety of workers. Common operational activities in a warehouse include receiving, storage, picking, and shipping. Lambert and Renan Burduroglu, "Measuring and Selling the Value of Logistics," International Journal of Logistics, "International Journal Journal Journal Journal Journal of Logistics," International Journal of Logistics, "International Journal trade? Manrodt, David A. Processes that procure goods and services to meet planned or actual demand. 53 M02_MURP4846_11_GE_C02.indd 51 03/06/14 5:13 PM 52 Part I • Overview of Logistics Just as there are benefits to electronic procurement, there are important drawbacks as well. Because of its contract with the carriers, the Minnetonka warehouse must pay the motor carriers that own idle trucks at the rate of \$60 per hour while the trucks stand idle, waiting to be unloaded. To detect current errors that result in overcharges and to correct these errors in the future, shippers conduct internal audits (work is performed by employees of the company) of their freight bills. "Proximity and Procurement: A Study of Agglomeration in the Welsh Aerospace Industry." European Planning Studies 17, no. Likewise, both may use the same type of equipment and materials, such as bar coding and warehouse management systems. P., 57n, 74n, 94n Stantchev, D., 78n Stanton, W., 45f Stapleton, D., 62n Stedman, C., 103n Stinson, M., 133n Stock, J. The new tubular containers are much sturdier. 3.8 Discuss some of the ways that inventory costs can be reduced in order to affect an organization's financial performance. The customer goes to a competitor for this and all future purchases. As an RFID tag passes within the scanning antenna's range, the tag's data are picked up by the scanning antenna and interpreted by the transceiver. Krause, "FedEx's 9-11 Response," Traffic World, September 9, 2002, 12-13. And because international freight forwarders and export packers, to help with export and import transactions. Another cause of failure in 3PL arrangements
involves a lack of flexibility. The buyer is responsible for all costs associated with unloading the goods at the named port of destination and clearing goods for import. Sanchez-Rodriguez, Christobal and Angel R. The company takes care of both the complete export documentation formalities and the physical movement of cargo. "The loading and blocking would be only \$40 per truck because we'd be doing all 50 at one time. M06 MURP4846 11 GE C06.indd 119 6.7 What are the two primary approaches for evaluating suppliers? Also, a pallet can be stacked so that the cartons containing the more valuable or more fragile items are on the inside of the unit load. In addition, approximately 20 percent of all pirate attacks in recent years have involved petroleum tankers, which is of concern because of the potential for an environmental accident as well as the fact that tankers could be used as bombs in a terrorist attack. Lusch. The new chips were much less bulky: Twenty-four 5-ounce containers could be packed in a carton measuring one cubic foot. More obvious direct correlations of logistics decisions occur across the expense categories of the income statement. "Sometimes, the returned items are just plain shopworn—scratched, dented, and damaged. Mentzer, and Robert L. Keep in mind that because one logistics system does not fit all companies, the number of activities in a logistics system can vary from company to company. With respect to effectiveness, organizations should delineate the key benefits associated with automation (e.g., working smarter on particular tasks). Insurance costs, which insure inventory against fire, flood, theft, and other perils, are another component of inventory carrying costs. When all the products have been recorded, the customer receives verification that lists the products purchased, the price of each article, and the total bill. L., 115n, 273n Weber, A., 181f Webster, J. "Informal ones," was Coggins's response. M08_MURP4846_11_GE_C08.indd 162 03/06/14 5:23 PM Chapter 8 • Inventory Management 163 is that the worldwide economic slowdown of 2008 and 2009 caused many organizations to repair, rather than replace, aging or defective equipment. Krause. Autry, Chad W., Zach G. In terms of air pollution, the EPA has mandated that heavy-duty truck engines must meet stringent emissions standards. Having said this, pipelines tend to be the slowest form of transportation; the lack of vehicles means that the relevant product needs to be forced through there has been a dramatic reduction in U.S. economic regulation since the late 1970s, the legal classification of carriers continues to be relevant. What the transportation company didn't find out—until it actually made the delivery—was that the customer was located on the 17th floor of an office building in the central business district of a major city. Although this represents a 16.7 percent ([84-72]/72) productivity improvement over the two years, the 84 cases per hour might be viewed much differently when compared to recent warehousing industry data that show a median of 100 cases picked and shipped per hour. 21 It's important to recognize that increases in warehousing productivity do not always require significant investment in technology or mechanized or automated equipment. First, he considered wait listing a 40-bus order from the Thai military at the Munich plant. This anecdote provides an excellent example of form triumphing over function or style triumphing over substance. Research suggests that leading-edge organizations are highly focused on performance measurement across these five areas, and this serves as a platform on which competitive position, value-adding capabilities, and supply chain integration can grow.19 Transportation Measures The major transportation measures focus on such things as labor, cost, equipment, energy, and transit time. U.S. freight railroads present an intriguing paradox in the sense that they are not either the "best" or "worst" on any of the six attributes (capability, capacity, cost, flexibility, reliability, rel transport modes. For example, one consequence of pursuing the marketing concept, which focuses on satisfying customer needs and wants, is often a marked increase of the number of stock-keeping units (SKUs) or line items of inventory (each different SKU) offered for sale by many companies. 8.14 Discuss some of the managerial challenges that complementary products present. 2 (2006): 46-51. 4.5 From a logistics perspective, how is network organizational design manifested in terms of relevancy, responsiveness, and flexibility? FCA (Free Carrier) The seller delivers the goods export cleared to the carrier stipulated by the buyer or another party authorized to pick up goods at the seller's premises or another named place. He got up, looking sick, and walked away from his desk. Bill of Lading The most important single transportation document is the bill of lading, which is the basic operating document in the industry. Figure 6.3 The Recycling of Aluminum Cans Source: Courtesy of Aluminum Company of America. (See Exhibit 14.A.) Following is some of the information Weiss assembled for Berndsen: • By train, the geographic distances between plants and ports were as follows: Prague to Hamburg 490 kilometers Prentice Hall, 1982), Chapter 19. At this point, the cost of 10 additional units of inventory is \$1,200, and \$1,200 is saved in stockout costs. Conceptually, CPFR suggests that supply chain partners will be working from a collectively agreed-to single forecast number as opposed to each member working off its own forecast projection. J., 20n Ampuja, J 209n Anderson, R. Murphy, "Logistics Outsourcing Relationships: Customer Perspectives," Journal of Business Logistics 24, no. See Civil Aeronautics Board (CAB) CAFTA. Questions for Discussion and Review 6.1 Are good supplier relations important to procurement? In recent years some organizations have expanded the order management concept to include the length of time it takes an organization to receive payment for an order, or what is called the order to cash cycle. Intermodal Transportation We have discussed each mode as if it acts in isolation from the other modes, but in an increasingly global economy, multiple modes are used to transport a shipment from its origin to its destination Should Ballenger take into account any other costs or benefits from the JIT system? This "repair, rather than replace" ethos, continues to be prevalent in today's marketplace. This situation is both frustrating and inefficient from the customer's viewpoint. Lara Sowinski, "Mexico Making a Comeback," World Trade, March 2011, 44. One key CBP function is inspecting cargo, and a number of high-profile CBP initiatives have affected the management of logistics systems. Governmental policies that either discourage such coordination or discourage function is inspecting cargo, and a number of high-profile CBP initiatives have affected the management of logistics systems. have a negative impact on supply chain efficiency. Novack. For example, assume that a lumber company in Washington state has loaded a boxcar of plywood that it has not yet sold. Although this method offers supply chain participants flexibility in the sense that organizations can exit unprofitable or unproductive arrangements quickly and with relative ease, organizations should be aware of potential shortcomings. Other benefits to WMS include reduced operating expenses, fewer stockouts, increased inventory accuracy, and improved service to customers. The size and weight limitations for packages shipped by UPS and FedEx are similar, with both carriers limiting package sizes to a maximum of 108 inches in length and 165 inches in girth. Because companies have different strategies, goals, and objectives, there is no correct mix of owning or renting. Ergonomic principle aims to design material handling systems that facilitate worker health (both mental and physical) and organizational performance. Berman, Karen and Joe Knight. So, if a carrier has a 9:00 a.m. appointment with a 15-minute delivery window, it must arrive no later than 9:15 a.m. Oftentimes, failure to meet the relevant delivery window, it must arrive no later than 9:00 a.m. appointment with a 15-minute delivery window means that the carrier must wait for the next open delivery time—which might not be until the end of the day. Question 3 asks about the adequacy of packaging, and question 4 is about labeling. A number of retail stores, for example, require a specified level of spending before customers are allowed to pay with credit cards. At this point, it becomes necessary to label the box. Note that a number of measures are used. When managing inventory, logisticians need to simultaneously consider three relevant costs—the cost of carrying (holding) product, and the cost of being out of stock. With continuing technological advances, many firms have the capability to constantly monitor their inventory and hence have the cost of carrying (holding) product, and the cost of carrying (holding) product, and the cost of carrying (holding) product, the cost of carrying (holding) product, and the cost of c M08_MURP4846_11_GE_C08.indd 157 03/06/14 5:23 PM 158 Part III • Elements of Logistics Systems system such as the EOQ. Situation 7 is clearly the most damaging, because the customer to replace the lost customer. For instance, one of the more notable supply chain failures in past years involved the dissolution of the relationship between Office Max and Ryder Integrated Logistics. Second, the products in question. Kevin and I have difficulty in reconciling the value of returned items that wind up back here. 37 M10_MURP4846_11_GE C10.indd 202 04/06/14 12:03 PM Chapter 10 • Warehousing Management 203 Summary This chapter focused on warehousing exists in a logistics system. "Holy cow!" thought Don. Inventory can be reduced in a number of ways, such as smaller, more frequent orders;
the use of premium transportation; demand-pull, as opposed to supply-push, replenishment; and the elimination or consolidation of slower-moving product, among others. Andrew O'Connell, "Improve Your Return on Returns," Harvard Business Review 85, no. Even when cargoes are properly braced, various forces such as vibration, pitch, and roll can still cause damage: Continued vibrations may loosen screws on machinery or cause the contents of some bags or packages to settle, changing the type of support they give to the materials packed above them. By industry standards, both centers were fairly efficient. One use, as suggested earlier, is that ABC analysis can determine stocking patterns in warehousing facilities. Indeed, each link in the supply chain may prefer having other links maintain the inventory. Bangs (eds.), Production Handbook (New York: Ronald, 1955). See Pipeline and Hazardous Materials Safety Administration (PHMSA) Physical distribution, 25 Picker-to-part versus part-to-picker systems, 223 Pick-to-light technology, 133 Piggyback transportation, 234 Pilferage and theft, 80-82 insurance and, 81 suggestions to avoid, 81 Pipeline and Hazardous Materials Safety Administration (PHMSA), 239 Pipelines, 231-232 Place decisions, 28-29 Place utility, 19 Planning principle, 222 Plant location This would be done to take advantage of the lower TL rate per hundredweight; however, to receive the lower TL rate, the company will need to hold an inventory and storage costs. 15 Denis Towill and Martin Christopher, "The Supply Chain Strategy Conundrum: To be Lean Or Agile or To be Lean And Agile. International Journal of Logistics: Research and Applications 5, no.3 (2002): 299-309. Each retailer carried a "design your dream compactor" software package that allowed prospective buyers to design the model, color, and trim they wanted. failed to (1) carry the smart phone with him; (2) have the smart phone turned on; and (3) upload the meeting information into the smart phone's calendar. Answer Question 3 with regard to changing the terms of sale to delivery at port in Baltimore. How might they come into conflict? Bigelow was so pleasant that day that I could not imagine him in the role of a troublemaker. Such products are often displayed unassembled in retail stores, and customers realize that they can easily take them home in their automotive vehicles. 1 (2000): 1-17. 12.16 What are the implications of the large variations in legislation and regulation related to transportation around the world? As mentioned before, the pallet is generally viewed as the basic unit in unit loading. This strategy is well suited for companies that receive large quantities of packaged products; if sufficient units of waste material can be collected, it is easier to process for reuse. Moreover, reverse logistics is a key consideration for the returns management process. 10 9 Douglas M. Green Logistics: Improving the Environmental Sustainability of Logistics (London, UK: Kogan Page, 2010). and L. The firm advertises regularly on Saturday morning television shows for children. Whiteing, "Establishing a Transport Operation Focused Uncertainty Model for the Supply Chain," International Journal of Physical Distribution & Logistics Management 38, no. Inventory can represent a significant part of an organization's current assets. Among the topics covered in Chapter 14 are macroenvironmental influences on international documentation, terms of sale, and international trade specialists. Measurement by itself is merely wasted time and effort if no action is taken based on the feedback received. For example, Mexico is the most popular location for near-sourcing among companies that do business in North America.5 1 Example drawn from one author's personal experience. Continuing with Figure 8.2, from point H, inventory is depleted 30 units on day 8 and 30 more on day 9, leaving the inventory at 60 (point I). Murphy, Jr. • A. A fragmented logistics structure might also see order management under the control of the accounting department, and inventory management might be under the auspices of the finance department. www.inboundlogistics.com/subscribe. The buyer is responsible for all costs and risks associated with unloading the goods and clearing customs to import goods into the named country of destination. Suppose, for example, that a logistics manager is able to eliminate some unnecessary inventory; this would reduce the value of current assets as well as total asset value. They are expected to know the costs of providing various levels of customer service and therefore should be consulted to determine the trade-offs between costs and customer service. Bigelow walked through the distribution center on his way out, and I'm sure Jason felt he had a work slowdown on his hands. The reliability of motor carrier service is also affected by highway congestion, which is caused by increased travel demand, weather, roadway incidents (e.g., disabled vehicle, accident), and construction. However, the Turkish economy took a major hit in April 1994. Examples of storage equipment include shelves, racks, and bins, whereas examples of handling equipment include conveyor systems, lift trucks, carts, and cranes. Key benefits to cross-docking include improved service by allowing products to reach their destinations more quickly as well as reduced inventory carrying costs from less safety stock because of faster product delivery. The experiences of Saks Inc., an upscale retail department store, illustrate some of the potential benefits from cross-docking. Nunes, Isabel L., Pedro M. "Don't be so sure," responded Sullivan. Private transportation can also be relevant to production and raw materials considerations. 4.19 Discuss the Customs Trade Partnership Against Terrorism (C-TPAT). Cause and effect (associative) forecasting Assumes that one or more factors are related to demand, and the relationship between cause and effect can be used by the organization that purchased it. The Seaway tolls are \$1.80 cents per ton or, in our case, \$54 per truck. There was, however, a well-defined order in which the components could most efficiently be installed in the vehicle. Chapter 4 examines organizational and managerial issues in logistics. For example, U.S. federal legislation in the form of the Worker Adjustment and Retraining Notification (WARN) Act mandates that employers give 60 days' notice about plant closings and mass layoffs. While I was talking to Jason that afternoon, he indicated that he had fired Bigelow." Easter lit his cigar and continued, "On Wednesday, I decided to go to Providence myself, mainly to talk to Jason and to determine whether we should close down the Providence center and try to serve all our stores out of Newburgh. After the corporate-level and business unit strategies are developed, the functional units must translate these strategies into discrete action plans they must accomplish for the higher-level strategies are developed. In addition, external data may be available that can be used for benchmarking purposes depending on the relevant metrics being analyzed. Handy Andy's buyer database, which included customer names and mobile phone numbers, was generated when buyers activated their product warranty online (see Exhibit 7.A). 17 M12_MURP4846_11_GE_C12.indd 239 04/06/14 12:19 PM 240 Part III • Elements of Logistics Systems domestic water transportation, and the rates and services of pipelines that are not regulated by the Federal Energy Regulatory Commission.22 From a logistics perspective, the economic deregulation of transportation is important because it has allowed transportation is important because it has allowed transportation. attributes that are at the heart of the tailored logistics concept that was presented in Chapter 1. Wellrun organizations as well. The second purpose of export packing is to protect products in what almost always is a more difficult journey than they would experience if they were destined for domestic consignees. Internal considerations include identification of the relevant stakeholders, where the supply as well as applicable supply policies (e.g., minority supplier initiatives). 5 (2007): 573-587. This will be followed by an explanation of the Internet's influence on logistics, and the chapter will conclude with a look at select information technology challenges. M07 MURP4846 11 GE C07.indd 135 04/06/14 11:56 AM 136 Part III • Elements of Logistics Systems service can be enhanced if complete information is exchanged between the participants; a delivery address can be helpful but detailed characteristics of the delivery address would be even more helpful, as illustrated by the case of the transportation company that was responsible for delivering a \$750,000 shipment of computer racks. 18 Malory Davies, "Time to Be Narrow-Minded," Logistics Manager, April 2009, 20-24. Ivie, Business Logistics, 2nd ed. Warehousing Management Warehousing refers to places where inventory, and it is often the logistician's responsibility to store and track the inventory. Figure 14.4 is used to prepare cost estimates for the client to use when quoting a price to a potential overseas buyer while Figure 14.5 is the form that a forwarder uses to bill a client for handling a shipment. This meant that logistics system. Export management companies often specialize by product (products) or by country (regions). Plastic pallets, by contrast, last at least five years, and life spans of over 10 years are not uncommon, whereas metal pallets can last for over 20 years. Concealed loss or damage Loss or damage that is not apparent until after a shipment that might threaten U.S. safety and security. A country's logistics infrastructure is another economic factor that can impact international logistics. Unfortunately, 20 Aparna Nancherla, "A New World of Development Potential," T&D, July 2010, 24. However, the seller may be able to minimize the number of times
an order is handled, perhaps by redesigning the seller may be able to minimize the number of times an order is handled, perhaps by redesigning the seller may be able to minimize the number of times an order is handled. order pick process. As if managing these seemingly conflicting objectives within one organization isn't challenging enough, supply chains are made up of multiple organizations—each of which may have its own distinct 147 M08 MURP4846 11 GE C08.indd 147 03/06/14 5:23 PM 148 Part III • Elements of Logistics Systems inventory management philosophy. The load-planning software depicted in Figure 11.6 suggests how to load a container with different sizes of cartons and tells where the products and/or services provided by a company. Garver, "Try New Data-Mining Techniques," Marketing News, September 16, 2002, 31-33. Whether strategic or tactical in nature, the use of 3PL services is driven by recognition that an organization does not have sufficient internal capabilities to address and efficiency of supply chains, 3PL arrangements can easily result in failure (i.e., an inability for one party to provide what is expected by the other party). Some well-known 3PL providers include Exel Logistics, and UPS Supply Chain Solutions. Last week he requested an immediate reassignment, and Easter arranged for him to become the marketing management system include dramatic reductions in data entry errors as well as dramatic reductions in the travel distances for order picking. Another type of complaint did arise, however, one that Ortega had difficulty understanding until he heard many buyers, usually from the same few cities, tell an almost identical story. With respect to managing the purchase process effectively is concerned with how well procurement keeps its promises, whereas efficiently refers to how well (or poorly) procurement uses company resources in keeping its promises. Failure to comply with the relevant labeling guidelines can result in surcharges, administrative fees, or penalty charges, such as Figure 14.6 An Ocean Bulk Carrier Being Loaded with Export Coal Carried by a Mechanical Device at Far Left Source: Shutterstock Photo. You should also recognize that the various activities associated with an order cycle are not uniformly agreed upon. These channel, negotiation channel, negotiation channel, and logistics channel—and we'll look more closely at how manufacturers, wholesalers, and retailers interact in these five channels. "Preference for Green Packaging in Consumer Studies 32, no. HapagLloyd is able to offer a cheap and flexible commodity cost, through its alliance with NYK, and OOCL, for the ocean transport of the buses. 24 Barbara Rosenbaum, "The Technology-Enabled Supply Chain Network," Industrial Management 43, no. These include areas for vehicles waiting to be loaded and unloaded, space for vehicles waiting to be loaded and unloaded and unloa that the common carrier has agreed to serve the general public. Recently, it had become clear to Jim that transportation and inventory costs were a relatively large portion of his component parts expenses and that they might be ripe for a substantial reduction. A company's size might influence the organizing of logistics activities in the sense that there are limitations in the degree of specialization of m anagerial talent in small firms. The chapter concludes by discussing a relatively new international logistics concept, the Logistics Performance Index. When the meeting adjourned, everyone agreed to meet the following Monday to discuss the alternatives. 3.9 Do you agree or disagree that return on assets is a good way to examine operational efficiency? Work smarter, not harder; unnecessary work reduces organizational productivity and negatively impacts customer service. Because hazardous materials are increasingly being stored and transported across country borders, the United Nations (UN) has played an active role in developing a global system to M11_MURP4846_11_GE_C11.indd 211 03/06/14 6:19 PM 212 Part III • Elements of Logistics Systems classify and label hazardous materials. Water Freight moves by water on the Great Lakes, using vessels called lake freighters (lakers), as well as on inland waterways, using barges. In some situations, however, one way relationships exist; a bolt 7/16 inch in diameter could be used in place of a bolt that is 1/2 inch in diameter, but the reverse may not hold. 2 (2009): 101-124. • Experts suggest that companies should facilitate an employee's ability to report theft and other aberrant behavior, such as through a hotline that guarantees anonymity as well as protection from potential retaliation or retribution. Paixao Casaca, Ana C. Which is more relevant for supply chain management? In addition, examples of how these general types of information systems might be specifically applied in logistics management? assignments for the procurement function. Several international trade specialists will be discussed in this section. Packages, containers, trailers, and railcars carrying hazardous materials must carry distinct signs, or placards, identifying the hazard. From a logistics perspective, many companies began to locate manufacturing, assembly, and distribution facilities in close proximity to interstate highways. But don't worry, we'll make your bonus. Demurrage A charge assessed by rail carriers to users that fail to unload and return vehicles or containers promptly. For instance, with respect to item importance, a firm supplying medicine to hospitals might need to stock certain items because they are critically important. 1 (2002): 89-107. For example, narrow aisles (defined as between 9.5 feet and 12 feet wide), while very narrow aisles (defined as less than 8 feet) can store 40 percent to 50 percent more product than conventional aisles.17 However, it is easier to operate mechanical equipment in wider aisles, and wider aisles, and the goods, and the goods, and the goods themselves might not be physically present or even exist. Negotiate with the Super Gym manufacturer to ship directly to the customer. 1 & 2 (2010): 58-65. These averaging agreements are typically one month in duration, and at the end of a month, credits and debits are totaled, and the particular demurrage account is settled. Note that one way to reduce order cycle time is to identify activities that can be performed simultaneously and then perform the relevant activities simultaneously, rather than sequentially. In addition to the testing of new products or new packages, shippers should keep detailed records on all loss and damage claims. 4 Mike King, "Rising Labor Costs, Land Prices Challenge China's Competitiveness," JoC Online, May 4, 2012, 1–5. Traditional site location theory can be used to show that one or several locations will minimize transportation costs. Ortega did this, and he discovered marked differences in the installation process based upon whether the customer purchased from a factory distributor or from a licensed retailer. via a network of industrial waterways, or westward, over the River Rhein, to the port of Rotterdam in the Netherlands. 5.17 Using examples, discuss the potential risks of reduced inventory in a lean supply chain. Moreover, mushroom blocks, made from the roots of mushroom, have emerged in recent years as an environmentally friendly packaging alternative. Aerosol cans pose hazards that are affected by the product in the cans. Whitfield, Gwendolyn, and Robert Landeros. Pon was relieved to learn that Guillou and Robertson would be gone for a longer time and immediately began wondering what types of bills they were accumulating in Mexico and for which ones they would want company reimbursement. "How Online Vendors Select Parcel Delivery Carriers." Transportation Journal 48, no. Moreover, activity can be recorded by a tachograph, a recorded by a tachograph, a recorded by a tachograph, a recorded by a tachograph. "A Bigger Part," Traffic World, January 19, 2009, 17. Network complexity refers to the growing number of nodes and the associated changes to the links in logistics systems. 55 John Fontana, "What's Behind On-Demand's Software Rise," Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12,
2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 1, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biodegradable Plastics" Network World, December 12, 2005, 14. 6 (2011): 748-768. 7 Lou Reade, "A Growing Biod Industry," Chemicals & Industry, July 27, 2009, 14-16. If you purchased this book within the United States or Canada you should be aware that it has been imported without the approval of the Publisher or Author. Free trade subzones refer to specific locations at an existing free trade zone—such as an individual company—where goods can be stored exhibited, processed, or manufactured on a duty-free basis. To receive the favorable tariffs specified in this agreement, organizations provide extensive documentation, beginning with a detailed certificate of origin that is supported by sworn affidavits from various supply chain participants such as suppliers and producers. Lean Six Sigma Integratessed, or manufactured on a duty-free basis. the goals and methods of the lean and Six Sigma approaches and recognizes that organizations cannot focus only on quality or speed. "A Logistics 29, no. Psychic stock Inventory that stimulates demand in the sense that customer purchases are stimulated by inventory that they can see. A strong understanding of survey design and population sampling methodologies is necessary in survey forecasting, and you should recognize that customer intentions don't always translate into actual behavior. Freight claims A document that notifies a transportation carrier of wrong or defective deliveries, delay, or other delivery shortcoming. process. For example, although trade shows might highlight offerings from several different supply sources (which could facilitate supplier comparisons), the costs to attend or exhibit at trade shows have skyrocketed in recent years; moreover, trade shows have skyrocketed in recent years; moreover, trade shows are often held only once a year. In some trades, auctions are used; in others, highly structured organized trading takes place, such as markets for some commodities. The decision must be made as to where in the supply chain the bulk materials should be placed into smaller containers for further sale or shipment. Sustainable Procurement As previously mentioned in Chapter 4, the sustainability concept suggests that an organization's responsibilities transcend economic considerations, such as the maximization of shareholder's wealth, and should incorporate societal and environmental objectives and values. While a raw number such as profit would seem to be adequate, there are issues with reporting financial figures without an appropriate context. Unlike the containers in Figure 12.1, airfreight ULDs have somewhat irregular shapes, dictated by the contours of the fuselage into which they must fit. Hula, Richard C. Advertising materials, and firms often use public relations agencies to represent them to the news media. Lack of Top Management rement commitment is regularly cited as an important component when individual companies attempt to initiate and implement new initiatives. programs, and product introductions, Calculated from data in the World Trade Organization. International Trade Statistics, 2001 and 2013 as well as the World Economic Outlook database, 2001 and 2013. One implication of the systems approach is that the goals and objectives of the major functional areas should be compatible with the company's goals and objectives. In late 2002, HDT received an order for 50 heavy trucks to be used in the oil fields of Saudi Arabia. In the United States, the prime rate of interest has traditionally provided a convenient starting point when estimating the interest charges associated with maintaining inventory. International logistics rely solely on in-house personnel to manage all shipping operations. 35 M05 MURP4846 11 GE C05.indd 102 03/06/14 5:17 PM Chapter 5 The Supply Chain Management Concept 103 organizations.36 Top management may be hesitant to fully commit to SCM because it is uncomfortable with (or does not understand) one or more of its underpinnings. 4 (2008): 26-41. 20 No author, "Warehouses Must Balance Space and Time," Modern Materials Handling, June 2006, 21 M03 MURP4846 11 GE C03.indd 63 03/06/14 5:15 PM 64 Part I • Overview of Logistics Connections to Asset Turnover Asset turnover is computed by dividing total assets and provides information on how efficiently capital is employed to support the business. Distribution facilities are often considered to be more desirable because the primary complaints tend to involve only traffic volume and congestion caused by the trucks that serve the facilities. Thus, this was a fourth, but discarded, option. Taking into account all the factors listed in Questions 1, 2, 3, and 5, calculate Low's EOQ for keys of nails. Although railroads are less expensive than air and motor, they are more expensive than pipeline and water. Consolidating Small Shipments, often defined as those that weigh more than 150 pounds, represent one of the most challenging situations faced by the transportation manager. When I showed up in Providence, Jason and I had breakfast together in my hotel room Thursday morning, and he told me pretty much the same thing I've been telling you. Songini, "Faulty ERP App Results in Shortfall for Medical Firm," Computerworld, January 2, 2006, 8. Metric System The United States, along with Liberia and Myanmar (formerly Burma), are the only three countries in the world that do not currently use the metric system of measurement. As such, the call center singled out a particular employee for "improvement" because her call times were much longer than those of other call center employees. Kickbacks Money paid after an exchange. Technological advances have influenced channel design by allowing companies to offer an alternate distribution channel (or alternate distribution channels) to already existing channels. Sorting out Separating products into grades and qualities desired by different target markets. In this type of transaction, the seller clears the goods for export and bears all risks and costs associated with delivering the goods and unloading them at the named port or place of destination. Before concluding our look at packaging and environmental protection, you should recognize that dust and vapors produced during bulk-cargo transfer operations are also being scrutinized more closely by public agencies. Suggested Readings Cheraghi, S. To accomplish this, a systematic program of measurement and control is required, because you can't manage what you can't measure. Lambert, Garcia-Dastuge, Sebastian J. 1 (2009): 14-17. Just as the freight classification is used to simplify the number of commodities, shipment weight is simplified through weight groups (e.g., less than 500 pounds; 500-999 pounds). For example, a title search may be needed to make sure that a particular parcel of land can be sold and that there are no liens against it. 5 (2008): 375-380. Thus, an appreciation for this interconnectedness and need for alignment of strategies is important for every logistics manager. List and discuss the advantages of purchasing a two-wheeled trailer for each store to use for delivering Super Gyms. 11.19 Identify the key differences between mechanization and automation. Some of these hidden costs include increased costs of dealing with suppliers outside the domestic market, duty and tariff changes that occur over the life of a supply agreement, increased inventory-related costs associated with global supply chains, and rising levels of logistics cost volatility (e.g., ocean freight rates) that can occur unexpectedly.20 Thus, when assessing the costs of global sourcing, it is important to examine all cost implications of this strategy. Although intermodal containers can range between 10 and 53 feet in length, a commonly used metric is TEU, which stands for 20-foot equivalent unit, and volumes of intermodal traffic are commonly expressed as so many TEUs, meaning they would fill that many 20-foot containers. As with domestic cargo, care must be taken so that pilferable items are not identified. M12 MURP4846 11 GE C12.indd 236 04/06/14 12:19 PM Chapter 12 • Transportation 237 Brokers are another type of transport it. This can provide stability in order picking in the sense that the company should always know where a specific SKU is located. In production and selling processes, inventories serve as cushions to accommodate the fact that items arrive in one pattern and are used in another pattern. Regarding the supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be
included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "The Bullwhip Effect in Supply chain, how—if at all—should bribes be included? Padmanabhan, and Seungin Whang, "Seungin Whang, "Seu same data as other parties in the supply chain. Logistics Performance Index (LPI) An index that is designed to measure a country's performance across six logistical dimensions. 13.7 Describe the potential tension that might exist between shippers and carriers with respect to a product's freight classification. Order transmittal The time from when the customer places or sends the order to when the seller receives it. These processes extend to post delivery customer profitability distributor of fluid-related products that established activity-based costing.) Consider the experience of a specialty distributor of fluid-related products that established activity-based costing.) analysis program. It's the same as if they ordered sleds and then had a winter with no snow. For example, where contract warehousing may be used by any number of customers, a limited number of customers, a limited number of customers (at least two, but generally no more than one dozen) utilize a multiclient facility. 2 (2002): 145-180. Exel was able to show both Chrysler and Ford that dedicated equipment (i.e., equipment, additional shipments, and excess capacity for each party—thus increasing the costs of distributing the repair parts. Ethical considerations include improperly sharing information, as well as bribes and gift giving, whereas diversity might evaluate the use of minority and female suppliers. Wood, Anthony Barone, Paul R. He needs the rest." Fosdick was beginning to feel sorry that he knew all the details, but he persisted. and David T. This could include transactions face-to-face or by telephone, e-mail, electronic data interchange, or almost any other form of communication. "Usage and Performance Impact of Electronic Procurement." Journal of Business Logistics 20, no. Nordstrom's to do things that competitors cannot or will not match. Moreover, managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are often ignored or underestimated; many private fleets require at least one full-time employee to managerial costs are Rediscovered." 8 Maida Napolitano, Making the Move to Cross-Docking (Oak Brook, IL: Warehousing Education and Research Council, 2000). Freight forwarders are not modes, but from the shipper's viewpoint, they are analogous to other carriers. The chapter also mentioned that different economic factors, such as currency fluctuations and economic integration, can impact international logistics. Anderson, Roger E. Barge Flatboard boat used to transport heavy products. In terms of planning, logistics is a key contributor to understanding capacity constraints that could inhibit the ability to meet delivery requirements. Indeed, one of the early challenges of online commerce for bricksand-mortar organizations was that many of them attempted to fulfill online orders through warehousing facilities largely designed to supply retail store locations. 24 Perry 25 A. 8 www.asg.org 9 Paul D. On a straight bill of lading, which is printed on white paper, the name of the consignee is stated in the appropriate place, and the carrier is under a strict legal obligation to deliver the freight to the named consignee and to no one else. Parcel shippers have a variety of potential options available to them, one of which is Parcel Post, a service of the U.S. Postal Service that was specifically established to send packages through the mail system. 2 (2007): 156-180. A short description of a number of logistics activities was presented, and the chapter concluded with a brief look at logistics careers. By contrast, in a reverse auction, a buyer invites bids from multiple sellers, and the seller with the lowest bid is generally awarded the business. Macroenvironmental changes, such as globalization and advances in technology, are causing organizations and individuals to demand higher levels of customer service. When comparing performance during the first five months of 2013 with performance? Consider that world trade grew at an average annual rate of approximately 5.5 percent between 1991 and 2011, including the worldwide economic slowdown in 2008 and 2009.24 Looking forward, the annual growth in world trade is forecast to be approximately 3.8 percent through 2017.25 Many factors, such as rising standards of living and multicountry trade alliances, have contributed to the growth of global trade; logistics has played a key role, too. As shown in Figure 8.2, 180 units of inventory are available for sale at the beginning of day 1 (point A). Don was particularly interested that the new set would sell for \$715. For example, in-person orders greatly reduce the potential for order errors, if for no other reason that the order can be physically inspected prior to being accepted. The inventory turnover concept provides an excellent example of trade-offs involving multiple organizational functions such as finance, logistics, and marketing. Qalyoubi-Kemp, Rula. M03 MURP4846 11 GE C03.indd 64 03/06/14 5:15 PM Chapter 3 • Strategic and Financial Logistics 65 the balanced scorecard, both financial measures should be leveraged. Colleen Cusick, "Successful Substitutions Are a Product of Good Communication," Material Management in Health Care, March 2008, 28-31. William Atkinson, "Halliburton Pushes Lean Six Sigma to Its Supply Base," Purchasing 138, no. asked about SUVs, but there was no further mention of them. • The end-of-chapter Suggested Readings in the eleventh edition have been revised and over 60 percent of them have been published since 2009. Bixby Cooper, "Logistics Performance Measurement and Customers during a given period of time. It acts as liaison with different Indian authorities like the Reserve Bank of India (RBI), the Ministry of Road Transport and Highways, and so forth on behalf of clients for various permissions and quotas related to import and export of cargo. Specialized storage for hazardous items, high-value items, warehousing supplies, or items needing other specialized handling (such as a freezer or refrigerated space) 12. M02 MURP4846 11 GE C02.indd 46 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 47 of on-demand vis-à-vis purchase and install software is on-demand vis-à-vis purchase and vis-à-vi capital investment costs (we'll look more closely at on-demand software later in the chapter). M04 MURP4846 11 GE C04.indd 82 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 83 Sustainability Logistics 83 Sustainability Logistics 83 Sustainability Logistics 84 Sustainability Logistics 84 Sustainability Logistics 84 Sustainability Logistics 84 Sustainability Logistics 85 Sustainability Logistics 84 Sustainability Logistics 85 Sustainability Log must decide the attribute(s) used to prioritize (e.g., first in, first served; customer longevity; customer sales). Coal dust can be blown for several miles from a large coal pile. Terim knew exactly what those inspection purposes were. Emphasis is on a full line of brand-name products together with selected items sold under the KiddieLand brand. Containers are generally 8 feet wide, 8 feet high, and between 10 and 53 feet long. However, well-run companies recognize that logistics systems must not only be organized, but they must also be managed. From a population perspective, China and India might be potentially attractive markets because of their absolute and relative size. Supplier parks Key suppliers locate on, or adjacent to,
automobile plants, which helps reduce shipping costs and inventory carrying costs. Yet from what we can tell, Handy Andy in St. Louis has heard no complaints from the licensed retailers. and Mario Norbis. Building High Performance Business Relationships (Sarasota, FL: Supply Chain Management Institute, 2009). Another emerging consideration is the use of same-day delivery of online orders. For glassware, this might be 18,000 pounds; for canned goods, it might be 40,000 pounds; for canned goods, it might be 40,000 pounds; for canned goods, it might be 40,000 pounds. While this goal has not been realized, Walmart's mandate jumpstarted a technology that had existed since the 1940s but that had not been widely used by organizations. What controls, of the types discussed in this chapter, might have been used by Red Spot Markets to reduce or eliminate the problems discussed in the case? Export management company - Firm that acts as the export sales department for a manufacturer. "A Practical Guide to Green Sourcing." Supply Chain Management Review 12, no 9 (2006): 22-24. 2 (2001): 1-25. Unlike the SCOR model, the GSCF model includes the involvement of all business functions. and Richard E. Data mining Utilizes sophisticated quantitative techniques to find hidden patterns in large volumes of data. Pick-to-light systems simplify the pick process because the worker simply follows the lights from pick to pick, as opposed to the worker having to figure out an optimal picking path. An example of such migration can be seen in Table 9.1, which lists the five most populous states in 1950, 1980, and 2010. I talked so much that my cigar went out," said Easter, "so I asked Jason, who was sitting behind his desk, for a match. Sometimes, larger quantities of goods are purchased than can be consumed in a short period of time, and warehousing space is needed to store the surplus product. Rate The price charged for freight transportation. Data mining, which can be defined as "the application of mathematical tools to large bodies of data in order to extract correlations and rules," 38 is a DSS technique that has grown in popularity in recent years. and Renan Burduroglu. According to Table 12.1, the United States is well positioned to participate in long-haul international movements. Although the land bridge adds to total transportation costs, the primary advantage to land bridge service is the reduction in total transit time from the origin to destination port. 6.20 Should investment recovery be the responsibility of the procurement manager? Assume all conditions in Question 1 hold, except that Low's supplier now offers a quantity discount in the form of absorbing all or part of Low's order-processing costs. 32 Brooks Bentz, "So You Think You Want to Outsource?" Logistics Today, May 2006, 24-27. When goods move in international commerce, particularly by ship, they are much more vulnerable to theft and pilferage. 9.5 How does a raw material's status as pure, weight-losing, or weight-gaining influence the facility location decision? What's New In This Edition? M., 58n, 62n, 94n, 95n, 96f, 99n, 104n, 189n Langley, C. Michael Knemeyer, published by Pearson Education © 2015. For example, freight is given lower priority than passengers in rail transportation in China. Much of the discussion up to this point has assumed that we are dealing with shipments that weigh at least several hundred pounds. The bill of lading contract for surface carriers is basically standardized by law and greatly simplifies the transportation manager's job because it specifies exactly the duties of the shipper and carrier. Leach, "Closer to Near-Sourcing," Journal of Commerce, January 16, 2012, 8-11. In many

western countries, for example, there tends to be an inverse relationship between the level of interest rates and the consumers' ability to buy a house (e.g., as interest rates increase, housing sales tend to decrease). What makes China and India even more attractive today is that both are experiencing tremendous growth in the number of middle-classing sales tend to decrease). families—families that often prefer name-brand Western goods and services. "Cross Docking: State of the Art." Omega 40, no. Is it a one-way or two-way connection? These experts further suggest that hazmat storage can be managed effectively by answering four questions: What material is being stored? Railroads Although approximately 560 freight railroads operate in the United States, over 90 percent of the rail industry's revenues and ton-miles are accounted for by the seven Class I (2011 revenues of approximately \$433 million) freight railroads.5 Moreover, the U.S. railroad industry is dominated by four freight carriers, the Burlington Northern (BN), CSX, Norfolk Southern (NS), and Union Pacific (UP); the BN and UP dominate rail freight transportation west of the Mississippi River, whereas CSX and NS have a similar position east of the Mississippi River. Historically, the relationship between natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources and facility location revolved around how the natural resources are constrained into products making their way toward Shows revenues, expenses, and profit for a period of time. In addition, with the increased use of outsourcing over the past decade, an associated increase in network complexity has occurred. Fosdick recalled hearing the story that Bigelow had received several offers of athletic scholarships when he graduated from consumers. Income statement high school. (New York: McGraw-Hill Irwin, 2013). "We used to let our salespeople give credit for defects and then destroy everything out in the field. Airlines, express delivery companies, and the U.S. Postal Service also have packaging requirements, although they are somewhat less detailed than those used by rail and motor common carriers. Incompatible Information Systems Twenty years ago, a major barrier to interorganizational collaboration was incompatible computer hardware; today, by contrast, software compatibility is likely the more pressing issue. Each has distinct characteristics are discussed in the following sections. J., 33n, 59n, 65n, 72n, 74n Boyd, J. Indeed, there are suggestions that approximately 2 percent of the products available on Internet auction sites are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated, and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated, and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing and transportation operations are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing are especially stolen goods.25 Pilferage, which refers to employee theft, cannot be eliminated and both warehousing are especially stolen vulnerable to pilferage. A discussion of information technology challenges—such as the recognition that information technology is a tool and not a panacea—concluded the chapter. In addition, as EU expansion has pushed eastward, Poland and the Czech Republic have become favorite distribution sites because of their relatively central geographic location.18 Quality-of-Life Considerations An increasingly important locational factor is what can broadly be called quality-of-life considerations. Boxcars (used to carry products) have usable carrying capacities of approximately 110 tons. H., 99, 99n Glaskowsky, Jr. N. The use of any trademarks in this text does not vest in the author or publisher any trademarks imply any affiliation with or endorsement of this book by such owners. Moreover, there can be significant cost variation depending on the type? of motor carrier service that is purchased. Logistics Clusters: Delivering Value and Driving Growth (Cambridge, MA: The MIT Press, 2012). J., 33n, 65n, 74n Coia, A., 162n Collins, E., 159n Combs, H. Once each truck was unloaded, HDT would be paid for it. The balance sheet equates assets with liabilities plus owners' equity. 1 (2007): 41-56. Several of the more prominent logistics-related DSS techniques are discussed in the following paragraphs. First, Ballenger's inventory carrying costs are assumed to be 20 percent per year on the average investment in inventory carrying costs are assumed to be 20 percent per year. issues of family members that cannot be addressed in the country of assignment.12 Taxes and Incentives Although labor considerations are important, particularly with respect to warehousing facilities. Although the overall global climate for business has shifted toward allowing more cooperation among firms, it still would be wise to seek sound legal advice before entering into future supply chain arrangements. 5.8 Do you agree or disagree that supply chain collaboration can be classified as transactional, tactical information sharing, or strategic in nature? edition of an established title widely used by colleges and universities throughout the world. M12 MURP4846 11 GE C12.indd 245 "The vessel's name is the Nola Pino, the same name as a French movie actress of the 1960s. Long-term commitments, which are one of the bedrocks of SCM, may stifle competition to the extent that they make it more difficult for others to enter particular markets. Strategy at a business unit level is primarily focused on the products and services provided to customers. Safety (buffer) stock Inventory that is held in addition to cycle stock to guard against uncertainties in supply and/or lead time. Ownership of the goods is neither stated nor implied. One of the key attributes of TWIC is that the corresponding card contains both personal and biometric data being used to exclude certain workers from secure areas at ports and terminals. Multiclient warehousing Mixes attributes of TWIC is that the corresponding card contains both personal and biometric data being used to exclude certain workers from secure areas at ports and terminals. of public and contract warehousing; services are more differentiated than a public facility but less customized than in a contract facility. 2 (2009): 141-153. The chapter discussed the differences among warehouses, distribution centers, and cross-docking facilities. A common definition of sustainability centers on the concept of the "triple bottom line, which was introduced in the mid-1990s and refers to the interaction of social, environmental, and economic dimensions. If I were you, I'd take it easy with Bigelow and other labor problems. If, for example, minimal inventory is an organizational objective, then procurement probably should not be attempting to minimize total procurement costs. FOB origin and FOB destination are typically qualified by modifying terms, the most common of which are freight collect, freight Table 13.2 Representative Rate and Service Items in the Carrier—Shipper Negotiation Process Adjustment to Rates equipment and drivers Carrier insurance Carrier insurance Carrier notification requirements Detention time Duration of agreement Estimated transportation and reopening of contract Transportation service level Schedule of rates and charges Waiver of terms Termination of agreement M13 MURP4846_11_GE C13.indd 254 03/06/14 5:36 PM Chapter 13 • Transportation Kanagement 255 prepaid, and freight prepaid and charged back. A third key order delivery issue involves transportation Kanagement 255 prepaid, and freight prepaid and charged back. Transportation Management on Logistics Capability and Competitive Advantage for Carriers." Transportation Journal 51, no. In addition, supply chain management provides the structure for the network of interorganizational relationships that form one's supply chain. Europe and Asia, and the United States and Asia. 5.19 What is the difference between a 3PL and a 4PL/LLP? 7.4 What do you understand by "order to cash cycle"? Cycle, or base, stock refers to inventory that is needed to satisfy normal demand during the course of an order cycle. These average costs are then summed, and the result is the
average cost per stockout. As a general rule, labeling requirements and enforcement tend to be more stringent in economically developed countries than in economically d unit load (unitization) refers to consolidation of several units (cartons or cases) into larger units to improve efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling efficiency in handling and to reduce shipping costs.13 Handling efficiency in handling effic goods are placed for handling by mechanical means). Questions for Discussion and Review 1.1 Did it surprise you that logistics has such an important economic impact? The keys to KiddieLand's success have been a comprehensive product line, aggressive pricing, and self-service. The firm had expanded from a local Midwest market to a national one including Southern California and New England. Keong Leong, and Keah-Choon Tan, Principles of Supply Chain Management: A Balanced Approach (Mason, OH: South-Western Publishing, 2005), Chapter 7. From the standpoint of an individual concerned with accounting controls, discuss and evaluate Johnson Toy Company's present policies for handling returned items. Commitment, for example, suggests that supply chain members recognize the importance of maintaining the relationship that has been established, as opposed to regularly changing sources to take advantage of short-term bargains. If these shipments are exported from the United States, they must be repailetized, which means an increase in manual labor, and thus a diminution in potential advantages to the unit load concept.14 The discussion in this chapter thus far has emphasized the building of loads from small blocks. HDT purchased all components from small manufacturers that were still clustered in the Milwaukee- Detroit-Toledo-Cleveland area. 12 Ronald D. The LPI was created in recognition of the importance of logistics in global trade and measures a country's performance across six logistical dimensions (seven logistical dimensions were evaluated in 2007): • Efficiency of the clearance process (i.e., speed, simplicity, and predictability of formalities) by border control agencies, including customs • Quality of trade and transport-related infrastructure (e.g., ports, railroads, roads, information technology) • Ease of arranging competitively priced shipments • Timeliness of shipments in reaching destination within the scheduled or expected delivery time The LPI incorporates data for approximately 155 countries using a score of 1 (lowest possible score) to 5 (highest possible sco content. In an effort to reduce packaging costs and also enhance the company's commitment to environmental M11 MURP4846 11 GE C11.indd 224 logistics, Let There Be Light also developed two prototype lamp shades (referred to Style B and Style C) in the shape of a cone, rather than a cylinder. Marketing goals in areas such as product availability, desired customer service levels, and packaging design directly influence logistics decisions that must be made to support achievement of these goals or to provide information for strategy formulation in these areas. Advising on Acceptance of Letters of Credit – When a client receives a letter of credit, the document contains many conditions that the seller must meet. (Boston: McGraw-Hill/Irwin, 2011), Chapter 16. 14.15 How can a scheduled air service be a freight service? In addition, the potential to reduce several of the operating cost categories associated with logistics can be significant. 1 (2010): 43-62. Because each time period is assigned the same importance (weight) the simple moving average may not adequately reflect recent upturns or downturns in demand. Many individual states have additional requirements concerning large-scale employee layoffs. One illustration of these trade-offs is provided by used-car dealers, who must balance price (marketing), profit (finance), and inventory turnover (logistics). The triage concept is often associated with the medical field and refers to classifying patients in terms of the severity of their illness or malady, and the classification allows doctors to prioritize which patients should be attended to before others. Because weekends were involved, all 50 trucks would be completed by April 20-25. 1 (2008): 65-83. Zhenyu Hang, Brian D. 7.15 What are some advantages and disadvantages to technological advances designed to facilitate buyer-seller communications? "I'm sorry you started with that question," said Easter to Fosdick. Easter needed a new manager for the Providence distribution center, and he picked Fred Fosdick for the task. Use a software package that enables you to perform queueing operations. "We can make a minor insert in the copy if we decide to charge for delivery. I just heard about this yesterday and meant to bring it up in today's meeting. Moreover, different organizational functions can have different organizational functions can have different inventory management objectives. Hernandez, "Bill Seeks to Ban Plastic Shopping Bags," Caribbean Business, December 3, 2009, 36. What are the total costs given in the case for the option of moving via Syria? Required documentation uses four relevant selection criteria, should all four be assigned equal weight (i.e., 25 percent per criteria), or should certain criteria be weighted at 30 percent each)? Public warehousing can also be attractive to prospective users because other parties have responsibilities for personnel decisions and regulatory issues. The unified structure can be further classified based on the number and type of activities assigned to the department. I've never seen Jason looking is usually done at the end of the assembly line, so package labeling also occurs there because using this location avoids accumulating an inventory of preprinted packages. Minahan, Tim A. A visit to the distributor's storage facility revealed that it was literally overrun with oil filters from one particular manufacturer; this one brand of oil filters accounted for approximately 20 percent of the facility's total inventory, a figure far higher than its actual demand. This function involves rearranging the quantities and assortment of products as they move through the Retailer A Transportation Transportation Producer Transportation Retailer B Transportation Retailer C Direct from producer to retailer: Shorter-Haul transportation Transportation Transportation Retailer C Direct from producer to retailer: Transportation 2 Douglas M. Transportation specialists such as freight forwarders, shippers' associations, and transportation brokers (each of which were discussed in Chapter 12) can be helpful in achieving consolidation across place. 6 M13 MURP4846 11 GE C13.indd 256 "Transportation specialists such as freight forwarders, "Transportation and transportation across place. 6 M13 MURP4846 11 GE C13.indd 256 "Transportation specialists such as freight forwarders, "Transportation across place. 6 M13 MURP4846 11 GE C13.indd 256 "Transportation across place. 6 M13 MURP4846 1 Distribution, January 2006, 34-35. See Food and Drug Administration (FDA), U.S. Facility location agglomerations, 169-171 supply markets/customers, 170-171 Fast supply market Carrier Safety Administration (FMCSA), 239 FedEx, 21, 22, 42, 209, 210, 230, 231, 237, 256, 285 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59
Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58 differentiation, 59 functional level, 58-59 Financial performance strategy, 58-60 cost leadership, 58-59 Financial performance strategy, 58-59 Financial performance strategy, 58-60 cost leadership, 58-59 Financial performance strategy, 58-59 Financial performa variable slot locations for merchandise, 195 Flexibility, 73-74 FMCSA. Those who remember the normal distribution (curve) from their statistics class will recall that Sigma's are related to standard deviations from the mean. M13 MURP4846 11 GE C13.indd 265 Holter, Andreas R., David B. Marine insurance will be \$210 per truck." "Are there any other alternatives?" asked Pon. Figure 11.6 Computer-Generated Load Plan Source: Courtesy of TOPS Software Corp. M08_MURP4846_11_GE C08.indd 149 03/06/14 5:23 PM 150 Part III • Elements of Logistics Systems Table 8.2 Components of Inventory Carrying Cost Obsolescence costs Inventory shrinkage Storage costs Handling costs Insurance costs Taxes Interest costs Inventory carrying costs consist of a number of different components (see Table 8.2), and the importance of these factors can vary from product to product. During one particularly rainy year, the organization placed all of its dead stock on a deck attached to the storage facility—and discovered one day that the dead stock had been carried away by rising floodwater from the river.5 Companies can also throw away dead inventory, if for no other reason than to free up space in a warehousing facility. See Global Positioning Systems (GPS) Graphical information systems (GPS) Graphical informatio center-of-gravity example, 182t Gross world product, 267 GSCF. However, once on the road, truck drivers are removed from immediate supervision, and their work becomes more difficult to evaluate. 10 Joe Ryan, "Speech is Right for the Warehouse," Speech Technology Magazine, March 2008, 36–37. Table 8.3 Determination of the Average Cost of a Stockout Alternative 1. Brand-loyal customer 2. Switches and comes back 3. Lost customer Average cost of a stockout Loss Probability Average Cost \$00.00 9.25 780.00 \$789.25 Note: These are hypothetical figures for illustration. How is it being stored?32 A number of design elements must also be considered with the storage of hazardous materials. With respect to the former, Incoterms are now characterized as Group 1 (apply to any mode of transport only). Vessel stow plan 2. The customer buys a substitute product that yields a higher profit for the seller. These pricing and service options meant that transportation managers have morphed from a reactive to a proactive focus; rather than simply accepting the available pricing and service packages that were established by economic regulation (reactive), today's transportation manager can play an active role (proactive) in blending the appropriate pricing and service packages for an organization. This is followed by analysis of public, private, contract, and multiclient warehousing. A second issue with ABC analysis involves how it can be used by managers. Within one week of Terminal 5's opening, approximately 30,000 pieces of luggage were "misplaced," due to software and hardware glitches, and this malfunction forced the bags to be sent to airports outside the United Kingdom to be sorted and returned to their rightful owners! For our purposes, materials handling (also referred to as materials handling) will be defined as "short-distance movement that usually takes place within the confines of a building such as a plant or DC and between a building and a transportation service provider."17 This short-distance movement distinguishes materials handling from transportation (which will be discussed in Chapters 12 and 13). Substitute products that can fill the same need or want as another products that can fill the same need or want as another product. are equal. "Transportation Changes in Europe." Transportation Journal 50, no. 4 (2009): 19. There are over 500 free trade subzones in the United States, and they are particularly popular among automotive manufacturers. CASE Case 11.1 Let There Be Light Lamp Shade Company, which designs and builds custom lamp shapes and lamp globes, historically derived all of its sales from customers in the United States and canada. Then Robert Easter called to ask how things were going on Fosdick's first day. In a one-dock system, each and every dock can be used for both shipping and receiving, typically derived all of its sales from customers in the United States and Canada. receiving product at one time of the day and shipping it at another time. AAA has placed one key stipulation on the chosen site; more specifically, the manufacturing plant must be located in a city with a population of between 1,500,000 and 3,500,000 residents, which excludes places like Delhi, Mumbai, and Bangalore, among others. Consider the organization with a storage facility located next to a river that flooded on a seasonal basis. In comparison, GMROI is a common metric used by retailers and distributors that examine inventory turn. and Seungjin Whang. Rutner, Brian J. Having a basic understanding of financial terminology is important knowledge in assisting logistics managers to formulate intelligent questions for other functions as well as providing them an ability to understand and effectively communicate how logistical activities can help improve their company's financial performance. 4 Robert F. The value of Turkish lira (TL) plummeted against the U.S. dollar (\$US). Chapter 8 provides further discussion concerning inventory management. Indeed, many of the changes described in previous chapters—such as electronic ordering, facility consolidation, and lean inventories—have especially affected warehousing management. Jim Ballenger was very aware of the costs that might arise if a JIT production system were to be established. To give you an example of the potential magnitude of incentive packages, the state of North Carolina provided Google approximately \$210 million in tax benefits—over a 30-year period in return for locating a series of computer warehouses in Lenoir, North Carolina. 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 225 The lamp shades would be loaded into intermodal containers and transported by rail to the Port of Vancouver. With respect to the former, lead logistics provider appears to be emerging as the moniker of choice, but some providers, such as UPS Supply Chain Services, don't use either term to describe their services. In an attempt to meet these time limits, many transportation managers now participate in automated freight bill-paying services. The greater the angle, the higher the pile of materials that can be placed on a specific land area. But I was wrong. 04/06/14 12:03 PM 204 Part III • Elements of Logistics Systems Franklin, Rod and Stefan Spinler. Moreover, even with the best of practices, some goods that are received, stored, and shipped will be damaged. Under this time orientation, punctuality is a key attribute and can be operationalized in logistics that focuses that focuses that focuses that focuses that focuses at the service as well as 9 Michael R. Contract (third-party) warehousing A type of contract logistics that focuses that focuses that focuses that focuses that focuses at the service at t on providing unique and specially tailored warehousing services to particular clients. This was because potato chips— as a result of their bulk—were not a desirable cargo from the truckers' point of view. news.cn; Autocar Professional; "Logistics cost to GDP declines," The Nation; "Vietnam high logistics costs lower businesses' competitiveness," TalkVietnam; . For our purposes, intermodal transportation when using a container or other equipment that can be transferred from the vehicle of another mode without the contents being reloaded or disturbed.10 With intermodal transportation two or more modes work closely together in an attempt to utilize the advantages of each mode while at the same time minimizing their disadvantages. Because Product 1 accounts for 30 percent of the \$1,000 total order transmittal cost. For example, it takes just seven minutes to move a carton from the inbound dock to an outbound trailer at the Saks cross-dock facility. 3.10 How does logistics strategy connect to overall corporate strategy? Global positioning systems allow companies to produce digital maps that can drill down to site-specific aspects such as bridge heights and customer locations. Specialized Location Characteristics The preceding discussion focused on some of the more common general considerations in selecting the site of a manufacturing, distributing, or assembling facility. 21 Karl B. Because it was a Monday morning, he had not expected to encounter Bigelow, who was present, clear-eyed, alert, and enthusiastic. For example, a logistics decision to reduce the number of less-than-truckload shipments through a consolidation strategy would show up in the transportation costs category that is part of
variable expenses. The figure should be 3.5 days, but the railroad will hustle if it knows we're trying to connect with an outgoing sailing. 5.4 What are four key enablers of supply chain management implementation? Entry of other products may be prohibited because they do not meet safety standards. From an operational perspective, a circular time orientation means that what doesn't get accomplished today can be accomplished tomorrow and thus "time schedules" (e.g., production schedules, pickup and delivery schedules) are often viewed as guidelines, rather than a few large ones appeared to ensure higher freight bills, especially from more distant suppliers, for which freight rates would make the most difference. It's also important for employers to be cognizant of relevant legislation at the federal and state levels. Pearson Global Edition Contemporary Logistics ELEVENTH edition Paul R. Fixed order quantity system Inventory is replenished with a set quantity every time it is ordered; the time interval between orders may vary. Handling at Baltimore is \$200 per truck, and ocean freight rate from Baltimore to Doha is \$1,440 per truck. Supply chain All activities associated with the flow and transformation of goods from the raw material stage, through to the end user, as well as the associated with the flow and transformation of goods from the raw material stage. were looked at, including population characteristics and trade patterns. Willems, Sean. If large orders for identical trucks were involved, it was possible to assemble three trucks per day. Materials handling processes and procedures should be designed to minimize their short-term and long-term environmental impacts. Customer service The ability different types could be listed.) KG 351.6 MM). For example, a common requirement on transferring flammable materials is that the vehicle and the receiving or discharging device both be electrically grounded. Why is this true? and Michael E. M., 77n, 83n, 99n, 101n, 104n Kobu, B., 66n Kotler, P., 45n Kraljic, P., 114n, 115f Krause, K. Terms of For international transactions, refers to determining when and where to transfer between buyer and seller, the physical goods, the payment for goods while in transit. Compliance benefits focus on the savings that come from adherence to established procurement policies. This can occur for several reasons, such as guarding against anticipated scarcity or to benefit from a seller's advantageously priced deal. Just outside the lunchroom was one lift truck with an additional small flap that a customs inspector could open and look inside without having to open the entire envelope. 2 (2010): 24-29. Logistics manager has a highly complex and challenging position, in part because the logistician needs to be both a generalist. Organizations should maximize the utilization of existing space; unused or poorly utilized space reduces organizational productivity. "Proactive Planning for Catastrophic Events in Supply Chains." Journal of Operations Management 27, no. Furthermore, the 2011 Japan earthquake as well as the severe 2011 flooding in Thailand caused tremendous supply disruptions that are antithetical to the lean philosophy. See Surface Transportation Board (STB) Stock-keeping units (SKUs), 25 Stockout costs, 151-153 Stockouts, 29 average cost determination, 152t Storage cost determination, 152t Storage costs, 150 Stockouts, 29 average cost determination, 152t Storage costs, 150 Stockouts, 29 average cost determination, 152t Storage costs, 150 Stockouts, 29 average cost determination, 152t Stockout costs, 150 Stockouts, 29 average cost determination, 152t Stockouts, 29 average cost determination, 152t Stockout costs, 150 Stockouts, 29 average cost determination, 152t Stockout costs, 150 Stockouts, 29 average cost determination, 152t Stockout costs, 150 Stockout costs development, 115 Supplier parks, 177 Supplier relationship management (SRM), 95, 96f Supplier scorecards, 114 Supplier sc 92 different configuration, 93f facilitators, 100-102 failure and recovery, 136 Global Supply Chain Forum (GSCF) model, 94, 96f impact on logistics, 100-101 implementation barriers, 102-104 integration, 104-105 Johnson Toy Company, 107-109 leveraging technology, 99-100 measuring, 138-140, 139t-140t objectives, 137-138 processes of, 96 providers, 100 SCOR process, 95f software, 103 Z03_MURP4846_11_GE_SIDX.indd 315 Supply chain partnership, 99 Supply chain process, 94, 95f Supply management defined, 111 e-procurement, 51-52 global sourcing, 116-117 Just-in-time (JIT) approach, 161-162 supplier development 115 supplier selection and management, 112-115 Surface Transportation Board (STB), 239, 240 Surface transport in other countries, 286, 287f Sustainable procurement, 117-119 Sweatshops, 174 Swift Transportation, 230 Systems analysis customer profitability analysis, 140 transportation cost analysis, 255 warehousing productivity analysis, 198 Systems approach, 25-27 Systems controls, 239 batch numbers, 210 building security, 82 Transportation Workers Identification Credential (TWIC), 78 vehicle security, 83 worker productivity, 74-76 T Tachograph, 75 Tailored logistics, 21 Tariffs, 269 Taxes and incentives, role of, 175-176 TCO. Demand Management Can be defined as "the creation across the supply chain and its markets of a coordinated flow of demand."1 A key component in demand management is demand (sales) forecasting, which refers to an effort to letter of instruction (SLI) Shipping conferences Short-sea shipping Tariffs Terms of sale Learning Objectives To discuss macroenvironmental influences on international logistics To explain documentation as well as terms of sale and methods To illustrate transportation and inventory considerations in international distribution To introduce you to the Logistics Performance Index of payment for international shipments I to distinguish among the unique activities of international logistics is vital due to the tremendous increase in global trade during the twenty-first century. A Critical Review of the UK and European Perspective." Journal of Transport Geography 19, no. A central element in establishing customer service goals and objectives is determining the customer service. This book adopts the current definition promulgated by the Council of Supply Chain Management Professionals (CSCMP), one of the world's most prominent organizations for logistics professionals. In recent years, interest has grown in having an additional symbol that indicates the wood used for packing was free of insects. In this situation, the retailer is entitled to the retail price because the profit would have been earned if the carrier had properly performed its service. The bill of lading functions as a delivery receipt when products are tendered to carriers. the sense that the vast majority (between 90 and 95 percent) of pallets are made of wood. 4 (2005): 50-57. Figure 13.2 indicates that the proposal does not seek to change the classification of existing items; rather, the proposal advocates the creation of a new itemcontact lenses, soft—and a corresponding rate class. Moreover, labeling requirements within a particular country can differ from state to state (or province). The railroad discovered an average transit time of eight days, with a minimum of three days and a maximum of 28 days, and the railroad's customers coped with the erratic transit times by holding additional inventory to avoid out-of-stock situations.6 A second point is that order management has been profoundly affected by advances in information systems. "The salespeople either keep them and shuffle them about to other customers or—if it's a real loser— they ask us what to do," replied Coggins. Note that markings on the box are in both inches and meters. In addition, several logistics trade publications annually recognize transportation service excellence. Macroenvironmental influences can provide significant challenges for international logistics; the chapter discussed three specific macroenvironmental factors: political, economic, and cultural. In terms of a facilities focus, experts recommend a combination of overt and covert surveillance methods. Variable slot location A system in which products are stored will complicate the performance measurement in this area of logistics. It's important to recognize and understand the potential advantages of each source. 32 Angus Loten, "Big Customers Are Taking Longer to Pay," The Wall Street Journal, June 7, 2012, B7. When deciding what levels of inventory. Jarvis Jason had been manager of the Providence distribution center for the past three years and, at great effort, managed to narrow the gap between the performance rankings of the two Red Spot facilities. Williams, "The Role of Logistics Leverage in Marketing Strategy," Journal of Marketing Strategy," Journal of Marketing Strategy, "Journal of Marketing Strategy," Journal of Marketing Strategy," Journal of Marketing Strategy," Journal of Marketing Strategy, "Journal of Marketing Strategy," Journal of Marketing Strate if their barges are kept by the shipper or consignee for a longer period than allowed. These products are stored at the tank farms and then delivery flexibility. The law states that the common carrier is responsible for the 7 M13_MURP4846_11_GE_C13.indd 259 03/06/14 5:36 PM 260 Part III • Elements of Logistics Systems full actual loss sustained by the shipper or consignee. The signed original of the bill of lading is the shipper's legal proof that the carrier received the freight. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. Ratios provide a point of comparison and can provide management with more information than raw numbers alone. L., 41n Grossman, T. Philanthropy focuses on employee volunteer efforts and philanthropy focuses on employee volunteer efforts. products, as well as the
safe operation of relevant facilities.24 Many believe that ethical considerations (i.e., standards of conduct and moral principles) are also a part of socially responsible procurement. 3 (2010): 84-97. Container Security Initiative (CSI) An agreement in which the world's ports agree to allow U.S. customs agents to identify and inspect high-risk containers bound for the United States before they are loaded onto ships. 12 (2009): 53-55. Huber whistled softly to himself as he read Escabar's e-mail. 3 M13 MURP4846 11 GE C13.indd 249 03/06/14 5:35 PM 250 Part III • Elements of Logistics Systems Figure 13.1 Page from National Motor Freight Classification Source: Reprinted from the National Motor Freight Classification © ATA 2013. Electronic Procurement (also known as e-procurement) uses the Internet to make it easier, faster, and less expensive for an organization to purchase goods and services. 13.16 Why has the volume of claims dropped since deregulation? Young Joaquin (J. Order picking and assembly Includes all activities from when an appropriate location is authorized to fill an order until goods are loaded aboard an outbound carrier. Internal considerations, which were mentioned in Step 2, could influence the decision to use a single-source or a multiple-source approach. Differentiation strategy Entails an organization developing a product and/or service that offers unique attributes that are valued by customers and that the customers perceive to be distinct from competitor offerings. Assuming both sufficient demand, private warehousing offers potential users a great deal of control over their storage needs. A center-ofgravity approach can be used for locating a single facility; although this would require use of premium transportation for some shipments, this cost can be offset by the inventory cost savings that result from inventory being held in only one facility. Customer Service Customers are important to organizations, and organizations that view customers as a "nuisance" may not last very long in today's highly competitive business environment. See Customs Trade Partnership Against Terrorism (C-TPAT) Cubes out, 220 Cultural factors, 272f Chinese New Year calendar, 273f Current asset, 62 Current ratio, 62 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer relationship management (CRM), 95, 96t Customer markets, location, 20, 27, 28, 40, 43, 48, 51, 104, 132, 163 Customer relationship management (CRM), 95, 96t Customer markets, location, 20, 27, 28, 40, 43, 48, 51, 104, 132, 163 Customer relationship management (CRM), 95, 96t Customer markets, location, 20, 27, 28, 40, 43, 48, 51, 104, 132, 163 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer markets, location economic growth, 170 locavore strategy, 171 McDonald's in China (2013 projections), 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, business, 170 Customer markets, location economic growth, 170 sustainability, service activities, 32-33 defined, 135 Z03 MURP4846 11 GE SIDX.indd 308 dimensions of, 135-136, 140t establishment of a customer service program, 138 establishment of a customer service program control of, 138-140 measures, 140t phases of, 137 role of, 136 service elements, 139t Customer service expectations, 170 Customer service management, 95, 96t Customs and Border Protection (CBP), 80 Customs and Border Protection (CBP), 80 Customs and Border Protection (CBP), 80 Customer service elements, 139t Customer service management, 95, 96t Customs and Border Protection (CBP), 80 Customer service elements, 139t Cus delivering the Style B shades to the Port of Shanghai? Paul Dittman, and Chad W. Private warehousing may also reduce an organization's flexibility in responding to changes in the external environment. Assume that Ballenger has switched to the JIT system and that he receives a surprise phone call from a competitor who is going out of business. By contrast, a box of lead pencils loses its value much more slowly through time. I thought I'd wait until after this meeting to return them." "Well, I think we'd better establish limits—right now," said Amy. Robert Easter, Red Spot's distribution manager, is responsible for operations at the Newburgh and Providence distribution centers. However, over the past 25 years some government-owned international carriers have moved to the private sector, a process called privatization. If so, what is it? See Interstate Commerce Commission (ICC) Identification technologies, automatic, 41f, 44 Import quotas, 269 Inbound logistics, 26f, 26 Income statement expenses, 60 revenues, 60 Incoterms 2010, 274 income statement expenses, 60 revenues, 60 Incoterms 2010, 274 income statement expenses, 60 revenues, 60 Incoterms 2010, 274 income statement expenses, 60 revenues, 60 Incoterms 2010, 274 income statement expenses, 60 revenues, 60 Incoterms 2010, 274 income statement expenses, 60 Incoterms 2010, 27 276 Industrial packaging, 33 Industry clusters, proximity agglomeration, 176 supplier parks, 177 Z03 MURP4846 11 GE SIDX.indd 310 Information system, 41f, 42-43 decision support system, 41f, 46-48 enterprise system, 41f, 48-49 executive information system, 41f, 45-46 general types, 41f management information system, 41f, 45-46 office automation system, 41f, 43-45 Information technology, role and future of, 39-53 human resource issues, 53 macro-level challenges, 52 security concerns, 52 Insurance, arranging for, 279 Insurance costs, 150 Integrated carriers, 285 Integration, system centralized logistics organizations, 73 role of, 104-105 third-party logistics (3PL), 93f, 94, 100-101 Intermodal competition, 176 Intermodal containers, 235 Intermodal transportation, 234-236 various types, 235f Internal audit, 257 International Air Transport Association (IATA), 215 International freight forwarders, 268, 277, 279 International freight forwarders, 268, 277, 279 International Air Transport Associated with the release of Harry Potter and the Deathly Hallows, the final book in the Harry Potter series, which went on sale at midnight on July 21, 2007. For example, residents of the United States used to be able to purchase soft drinks in 16-ounce containers. Assume that a retailer owned the products shipped via a common carrier and that they were damaged beyond repair. The effectiveness and efficiency of warehousing operations can be greatly influenced by packaging and materials handling considerations, and Chapter 11 looks at these two topics. The factory distributor would tell these buyers M07 MURP4846 11 GE C07.indd 144 that the model originally requested was out of stock but that they could purchase a deluxe model for only \$100 more than they originally paid for the standard model. Stock, James R. In particular, the influence of shipping conferences has been on the wane in the United States and Europe since the late 1990s. Although no right or wrong answers characterize this issue, it's important to recognize that either too high or too low a percentage of A items may reduce the potential efficiencies to be gained from the classification technique. For example, the 48-inch Trans-Alaska pipeline, which is 789 miles long, has a discharge capacity of two million barrels of oil per day. For example, the pharmaceutical manufacturer instituted an immediate review of its warehouse security processes and procedures and is implementing more stringent (and more costly) security practices. The first echelon of outgoing trucks, which should have been on the road, was still there. The EOQ determines the point at which the sum of carrying costs is minimized, or the point at which the sum of carrying costs and ordering costs. SEDs often serve as the basis for a country's official export statistics. Projected 12-month 2013 budgets and shipments are also included. • DDP (Delivered Duty Paid). As such, it is necessary to have control mechanisms so that drivers who often encounter uncontrollable delays (e.g., traffic conditions) can be distinguished from those who encounter controllable delays (e.g., socializing with fellow drivers). These taxes became an issue in converting to the metric system because they were drawn up to be applicable to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and other English units of measure, as opposed to half pints, pints, quarts, and pints pints, pints, quarts, can
facilitate the integration of, and coordination between, supply chain participants. Place utility refers to having products are moved from points of lesser value to points of greater value. 20 Aberdeen Group, The Transportation Management Benchmark Report (Boston, MA: Aberdeen Group Inc., 2006). 10.9 In terms of warehousing design, give examples of tradeoffs involving space, labor, and mechanization. See also Information technology, role and future of electronic procurement, 51–52 on-demand software, 51 online retailing, 49–51 Interorganizational coordination, 102, 103 Interstate Commerce Commission (ICC), 239 Interstate Highway System, 228, 230 Intrafunctional logistics, 25 Inventory carrying costs, 149-150 components, 150t magnitude, 149t Inventory control, 97 Inventory flows, 156-158 Inventory control, 97 Inventory control, 97 Inventory control, 97 Inventory flows, 156-158 Inventory, 158-159 definition of, 33 economic order quantity, 154-156 Efficient Consumer Response, 161 fixed order interval system, 153-154 inventory turnover, 159-160 Just-in-time (JIT) approach, 161-162 Low Nail Company, 166-167 ordering costs, 150-151 Z03 MURP4846 11 GE SIDX.indd 311 order time, 154 Quick Response (QR), 161 reorder point, 153-154 repair/replacement parts, 162 reverse logistics, 34, 84-85 stock-keeping units, defining, 25 stockout costs, 151-152 substitute products, 160-161 trade-offs between carrying and stockout costs, 153 vendor-managed inventory (VMI), 163-165 Inventory management, contemporary approaches Just-in-time (JIT) approach, 161-162, 162f lean manufacturing (lean), 161 service parts logistics, 162-163, 164f Inventory tax, 175 Invent Ortega, Bixby asked, "Do you think this pattern exists in all markets?" "No," was Ortega's reply. How can it be addressed? Padhi, Stephan M. 23 Robert Johnston and Operations Management 28, no. In lesser economically developed countries, emissions regulations are much less stringent—if they exist at all. One low-cost method to improve effectiveness and efficiency is to analyze order pickers' travel time, and Travis Tokar. Relationship management in global procurement is exacerbated by potential difficulties in crosscultural communication such as language and time considerations. "Growth of Container Seaborne Traffic in the Mediterranean Basin: Outlook and Policy Implications for Port Development." Transport Reviews 27, no. Rather than pay overtime, Jason let the workforce go home, and he and the supervisor loaded the last three trucks." "On Tuesday, Bigelow did not show up, and the slowdown got worse. Intermediaries make the entire system function better and should only be used when they add value to a transaction. Online Retailing It should be noted that there are logistical similarities between online retailing and in-store retailing. In this example, the average distance north is (3 + 1 + 3 + 2 + 3) or 12. As such, production and distribution facilities should be designed to support truck shipments—that is, there should be truck docks to facilitate product loading and unloading. (It might be useful to lay out all costs in tabular form for this and later questions.) 3. Pick-to-light technology The orders to be picked are identified by lights placed on shelves or racks. As a result, there has been significant improvement in the technology and costs are coming down. 4 (2009): 549-567. "That way I know exactly what I have here, ready to ship." "You know, I'm finding out more information about inventories and returns than I thought existed," said Amy. 91 M05 MURP4846 11 GE_C05.indd 91 03/06/14 5:17 PM 5 The Supply Chain Bullwhip effect Contract logistics Fast supply chain Bullwhip effect Co model Supply chain collaboration Supply chain management Supply chain partnership Third-party logistics (logistics outsourcing) Transactional exchanges Supply chain supply chain supply chain analytics Learning Objectives To learn about supply chain sup between prevalent supply chain proa key part of supply chain management (SCM), and there are many examples of the importance of the logistics function to SCM. 03/06/14 5:38 PM 298 Glossary Mass logistics - A one-size-fits-all approach in which every customer gets the same type and levels of logistics service. Q. The Unit Load Platform An important issue with respect to unit loading concerns the platform (basic unit) on which to place the unit load. The two remaining steps, activity data and product cost calculation, appear in Table 7A.2. With respect to order transmittal, 3 orders were received for Product 2, for a total of 10 orders. In this situation, it was somewhat more difficult to see the idea of the supplier as a part of the production team, in the sense that the supplier would be expected to make a special effort in either quality control or delivery flexibility on behalf of one of its almost miniscule accounts. "The Case for Rail Transportation of Hazardous Materials." Journal of Management and Marketing Research 3 (2010): 1-8. Production was well under way, and many retailers were happy to accept dolls in January and February because they were still a fast-selling item, even though the toy business itself was sluggish during these months. For example, companies that utilize private warehousing are susceptible to changing demand patterns, such as those experienced with the passage of multicountry trade alliances. For example, a company that is committed to providing a high level of customer service might be out of place in a supply chain comprising companies whose primary goal is cost containment. Note that the data in Table 7A.2 indicate that the total order cycle cost is \$22,000; according to the activity-based costing process, Product 1 is responsible for \$12,600 in costs, and Product 2 is responsible for \$9,400. Why? Note that some products (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value much more quickly than others (e.g., perishables) lose their value option for renting warehousing space. Alternatively, multistate motor carrier shipments in other countries can be subject to lengthy delays when moving across state borders. Wayne recalled from college that queueing theory might be applicable to such a problem. Haytko, Diana L., John L. Unit load devices (ULD) An alternative name for airfreight containers. See Returns management (RM) ROA. Trademark—the identifying symbol, logo, or name of the accredited agency b. 10 www.foodbanknyc.org 11 Luk N. "ICT for Logistics and Freight Transportation: A Literature Review and Research Agenda." International Journal of Physical Distribution & Logistics Management 41, no. Materials handling processes and procedures should be the result of careful planning and not just an afterthought. The primary advantage of simulation is that it enables the firm to test the feasibility of proposed changes at relatively little expense. Obsolete materials Refer to materials that are not likely to ever be used by the organization that purchased it. It may be a problem in Dallas and New Orleans. Pets and livestock, for example, must be watered and fed. A second asset-related productivity concern focuses on improving the output from existing assets. From a community's standpoint, warehousing facilities are desirable operations to attract because they add to the tax base while requiring relatively little in the way of municipal services. Other countries, however, have very different time orientations. It is equal to the number of payable days minus the number of receivable days minus the number of receivable days. Although batch processing might be somewhat out of step with the contemporary emphasis on speed and time reduction, it can be quite effective when real-time processing is not necessary. The nature of carrying costs and ordering costs is presented in Figure 8.1. The basic EOQ model is grounded in the following assumptions: 1. M14 MURP4846 11 GE C14.indd 283 03/06/14 5:37 PM 284 Part III • Elements of Logistics Systems petroleum, are transported by tankers that are either owned by oil companies or leased (chartered) by them from individuals who invest in ships. 11.15 What is the purpose of a load-planning software? This chapter first looks at
organizational design for logistics. A third shortcoming of ERP systems is that they initially lacked strong application-specific logistical capabilities such as TMS or WMS. "Well," answered Vanderpool, "the St. Lawrence Seaway will open in mid-April, so we could use it. Pipeline inventory is represented here by eggs that are in transit between a chicken farm and, say, a food wholesaler's distribution center or between the retail store and your kitchen. M08 MURP4846 11 GE C08.indd 164 03/06/14 5:23 PM Chapter 8 • Inventory Management 165 are the responsibility of the manufacturer. Less-complicated devices are used to record temperatures and may be used aboard a shipper's own equipment to ensure quality control. Retailers, for example might add a distribution center when some of its stores can no longer consistently be supplied within two days by existing facilities. Chapter 13, "Transportation Management," focuses on some of the primary responsibilities of a transportation. One of procurement's most important responsibilities is supplier selection and evaluation, and this can be quite challenging, in part because of the multiple, and sometime conflicting, selection and evaluation criteria. Another important consideration is pallet weight, with a typical 48-inch-by-40-inch wood pallet weighing approximately 40 pounds, compared to 30 pounds for a similar-sized metal pallet. Moreover, the greater uncertainty associated with global sourcing means that implementation plans must be flexible and provide guidance for decision making when confronted with the unexpected. Population Characteristics—Labor Labor is a primary concern in selecting a site for manufacturing, processing, assembly, and distribution. Spraggins, H. Pure materials are complex networks of companies and activities that are constantly exposed to potential unpredictable disruptions. Imagine the reaction of the customer who ordered a 3-pack of the product, only to receive a 6-pack or a 12-pack of it! Just as the major functional areas of a firm should recognize their interdependence, so too should the various activities that comprise the logistics function (what we'll call intrafunctional logistics). "Proper Lean Accounting: Eliminating Waste Isn't Enough; You Have to Reduce Inputs to Save Money." Industrial Engineer 43, no. For example, ERP implementation problems at a leading manufacturer of home medical products caused the company to lower its revenue estimates for several time periods. www.chicago-consulting.com 7 M09 MURP4846 11 GE C09.indd 171 04/06/14 12:01 PM 172 Part III • Elements of Logistics Systems Figure 9.1 Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Warehouse Networks Source: Courtesy of Terry Harris, Managing Partner of Chicago Consulting's 10 Best Chinese Ware than the modal selection process? Some goods are so heavy that they utilize the railcar's, trailer's, or container's weight capacity (a situation called weighing out). Slight clearances must be maintained between pallets to allow for the loading and unloading processes. E., 65n, 103n Fearne, A., 99n Fearon, H. However, prominent supply chain disruptions in the early part of the twenty-first century-terrorist attacks (such as September 11, 2001), natural disasters (such as sudden acute respiratory syndrome (SARS) and swine flu (H1N1)] have caused some supply chains to reassess the risk implications of this approach. Federal economic and social importation in the United States, which began in the 1870s, was justified because of transportation in the value of transportation in the united states. without government regulation.21 Economic regulation resulted in the creation of two key economic regulatory bodies, the Interstate Commerce Commission (ICC), with authority over air transportation. The cost, speed, and capacity attributes mean that, for the most part, airfreight is best suited to carry high-value, lower-volume products that are of a perishable nature or otherwise require urgent or time-specific delivery. Fruits and vegetables are harvested before they are ripe so they will reach the retail stores as they ripen. John Langley, The Management of Business Logistics: A Supply Chain Perspective, 7th ed. He then asked Bob Vanderpool, who was HDT's traffic manager, when the oil-field trucks would arrive in Saudi Arabia. 11.8 What are some environmental disadvantages to plastic packaging? Which alternative would you prefer? 6 M11 MURP4846 11 GE C11.indd 212 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 213 back and either reuse or recycle postconsumer packaging. Indeed, FedEx located its first (and still primary) air cargo hub in Memphis, Tennessee, in part because Memphis rarely experiences foggy conditions. (Ponte Vedra Beach, FL: Supply Chain Management Institute, 2014), pp. In addition, recent research indicates that glitches are routine occurrences in global supply chains; causes include, but are not limited to, documentation errors, packaging errors, routing errors, r advantages and disadvantages of locating manufacturing, assembly, or distribution facilities in countries with relatively low wages. Moreover, the installation personnel carefully explained how the compactor worked, and follow-up contacts were made to the customer three days and 10 days after installation to make certain that the customer had no additional questions concerning the compactor's operation. A. Each type is explained in the following paragraphs. There are other truck-related safety considerations in warehousing in addition to the forklift-inside-a-truck issue. 2 (2007): 159-176. When handling the overseas sales for a U.S. firm, the export management firm either buys and sells on its own account or provides credit information regarding each potential buyer to the U.S. manufacturer, which can judge whether to take the risk. According to this rubric, although transactional and tactical information sharing are currently the most prevalent types of collaboration, strategic collaborations are increasing and offer the best opportunity for improving supply chain performance.21 18 Robert M. 11.11 How can reducing packaging inefficiencies improve the performance of a logistics system? 5 Months Through May 31 12 Months Jan.-Dec. Next is an examination of when to order inventory and how much inventory to order. warehousing professional's advice: "It costs more to recruit, train, and replace a worker than to provide a safe environment." 26 Workers can be injured due to improper lifting procedures, trying to carry too heavy a load, failing to observe proper hand clearances, and the like. Political Factors Political restrictions on international trade can take a variety of forms. M09 MURP4846 11 GE C09.indd 177 04/06/14 12:01 PM 178 Part III • Elements of Logistics Systems goods as well. Should AILS recommend that the manufacturing plant be located in Patna or Lucknow? "Internal and External Logistics Information Technologies: The Performance Impact in an International Setting." International Journal of Physical Distribution & Logistics Management 37, no. Suppose, for example, that the cases picked and shipped per hour at a particular warehouse increased from 72 to 84 over a two-year period. A certificate of origin specifies the country(ies) in which a product is manufactured and can be required by governments for control purposes or by an exporter to verify the location of manufacture. T., 40n Hernandez, G. However, Table 13.2 contains a representative list of items that might be used in the negotiation process. M., 83n Jerman, R. "Well, the key is getting along with Bigelow. 46 www.internetworldstats.com 44 M02 MURP4846_11_GE_C02.indd 49 03/06/14 5:13 PM 50 Part I • Overview of Logistics materials handling, and order management—occur in both. The infrequency of inventory monitoring makes the fixed interval system much more susceptible to stockout situations, and one is more likely to see higher levels of safety stock in a fixed interval system. approach to pursue? "Exploring the Future of U.S. LTL Motor Carrier Pricing." World Trade 24, no. Few things are more damaging to a firm's goodwill than being stocked out of items that are heavily promoted in a sales campaign. Vickery,
"Strategic Logistics Capabilities for Competitive Advantage and Firm Success," Journal of Business Logistics 17, no. The environmental principle. With the fall of communism, Terim saw even more opportunities. Transportation documentation serves both a practical function (e.g., what, where, and how much is being transported) as well as potentially providing legal recourse if something goes awry with a particular shipment. How should Fosdick respond to the immediate situation? Place utility Having products available where they are needed by customers. Management decided to ask the motor carrier classification. Although returned orders are an issue in all types of retailing, the return rates associated with online shopping tend to be much higher than with other types of retailing; one estimate suggests 10 percent return rates for traditional forms of retailing, compared to approximately 30 percent for online purchases. 50 Because many of these returns are from individual customers, not businesses or organizations, online retailers should attempt to make the return process as painless as possible. From a public policy perspective, construction costs of the Interstate Highway System were primarily paid for by the U.S. government 1 Drawn from David J. Lean supply chains are focused on eliminating all waste, including time, and to ensure a level schedule. Some organizations utilize psychological tests as part of the hiring process in an effort to identify process prospective employees who might pilfer. On the other hand, the cost of air transportation for this shipment can be 8-10 times more expensive than sending it by water.19 Moreover, international transportation can't be effective or efficient without fairly identical handling equipment being in place at each end of the trip. M04 MURP4846 11 GE C04.indd 74 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 75 present and are expected to be on top of nearly any situation. 12.13 What are freight forwarders? 1.6 Why has humanitarian logistics emerged as an increasingly important area? Terim was initially concerned with the logistics costs of getting the kereste inside the Turkish border. Low bought his nails on a delivered basis. Byrne, "Driving Profitable Growth with Meyers before you do anything irreversible. met with his father. Back and shoulder injuries are the most frequent among warehousing personnel; back support belts and braces are becoming more widely used, but they are only of value if workers also receive adequate training in how to safely lift various loads. Purchase a two-wheeled trailer for each store. Even though a company might not want to carry certain types of freight, its undesirability (see Figure 12.2) is not a legitimate reason to avoid the obligation to serve. The 700,000 square foot facility caused the company to purchase additional real estate, incur higher materials handling costs (in the form of storage racks and forklifts) when compared to a 450,000 square foot facility. Keebler, James S. Likewise, containerships are measured by the number of TEUs that can be carried, and containership capacity continues to increase over time. As an example, the Food Bank of New York City is responsible for delivering nearly 75 million pounds of food annually to more than 1,000 food assistance programs such as homeless shelters and food pantries. Robertson and Guillou left Crown Point for an industry convention in San Diego. 10.10 Distinguish between fixed and variable slot locations. In terms of liabilities are reflected in current liabilities, procurement's purchase order quantities are reflected in current liabilities. Accounts receivable Inventory Total current assets Net fixed assets Total assets Liabilities Current liabilities Current liabilities and Equity \$20,000 \$35,000 \$150,000 \$60,000 \$150,000 \$60,000 \$150,00 Christopher, Logistics and Supply Chain Management, 3rd ed. "The Transparent Supply Chain." Harvard Business Review 88, no. However, the reverse is also true; that is, the large units or blocks must be broken down into their smaller component blocks, with the very smallest unit being the single item that the retail customer carries home. Lamb. In this situation, managerial focus is on reducing the so-called bullwhip effect, which is characterized by variability in demand orders among supply chain members—the end result of which is inventory lumps.17 In short, one aspect of inventory control that could be influenced by a lean approach is to move from a pattern of stops and starts to a continuous flow. See Collaborative planning, forecasting, and replenishment (CPFR) CPT. 7 (2004): 666-687. The predominant commodity moved by barge is petroleum and petroleum-related products, followed by coal. Pavlou, Ghiyoung Im, and Steve Du. "Interfirm IT Capability Profiles and Communications for Cocreating Relational Value: Evidence from the Logistics Industry." MIS Quarterly 36, no. 3.20 Identify some of the key considerations for a logistics measurement system in their organization. 4 (2008): 317-328. Carriers may be reluctant to pay concealed loss and damage claims for two reasons. For example, should a company's selling price reflect its product's landed costs, which refer to the price of a product at the source plus transportation costs to its destination? For example, one cause of the bullwhip effect is asymmetrical information among supply chain members. For many years, this low price/low cost framework led many companies to manufacture in countries characterized by plentiful and low-cost labor. Governments also support their own carriers through cargo preference rules, which require a certain percentage of traffic to move on a nation's flag vessels. 16 James L. These standards can be applied to various logistics activities such as order picking. 4 (2004): 317-323. "Then what?" he asked Easter. Before figuring the total costs under the present and JIT systems, two additional facts must be noted. Gases have unique handling properties, although most of them are handled within completely enclosed pipeline systems. Questions for Discussion and Review 11.1 How do product characteristics influence packaging and materials handling considerations? I'm not always certain they're getting us top dollar, and each salesperson knows only his or her own territory. Kristi Montgomery, "Tips for Quicker Product Picking," Multichannel Merchant, December/January 2012, 28-29. S., 57n Fuller, J. Indeed, regulation costs money—regulations need to be codified; government agencies (regulatory bodies) exist to enforce the regulations. It sounds like," Olga continued, "our choice is to either absorb \$40 per set or charge the customer for delivery," she added. Bridget McCrea, "ERP: Gaining Momentum," Logistics Management, November 2008, 44-46. 54 Bridget McCrea, "The State of On-Demand: CATCHING FIRE," Logistics Management, January 2009, 43-45. 3 (2001): 37-54; Jeff Hoi Yan Yeung, Willem Selen, Chee-Chuong Sum, and Baofeng Huo, "Linking Financial Performance to Strategic Orientation and Operational Priorities: An Empirical Study of Third-party Logistics Providers," International Journal of Physical Distribution and Logistics Management 36, no. In port areas, bulk materials that were once stored outside are now in enclosed structures. Brokers, who are associated with the negotiation channel, are independent contractors paid to arrange a particular transaction. 8.9 What assumptions are associated with the EOQ model? A common example is in the garment industry, in which many small garment firms send large numbers of a few garments each to retail shops in most large cities. 12 Michelle Shelton, "Seven Tips for Employees," OnCall International, January 31, 2012. This nearly 47,000-mile, high-speed, limited-access highway system has had a profound impact on economic development in the United States over the past 50 years. More
specifically, contract warehousing has embraced value-adding activities such as customization, reverse logistics, and repair and refurbishment to a greater degree than has public warehousing.12 From a cost perspective, contract warehousing tends to be less costly than private warehousing but more costly than public warehousing. Routing guide Provides guidance in terms of a preferred list of carriers for shipments moving between two points. One of our policies is to accept the dealer's word as to what is defective, and right now there are a lot of dealers out there claiming defects in the Jungle Jim dolls. Many

nations ban certain types of shipments that might jeopardize their national security; for example, the 3 M14 MURP4846_11_GE C14.indd 268 03/06/14 5:37 PM Chapter 14 • International Logistics 269 United States does not ship military equipment or strategic materials to certain nations, such as Iran and North Korea. Suggested Readings Ashenbaum, Bryan, Peter A. These two examples illustrate the obsolescence category of inventory Costs in SMEs: A Case of Indian Lock Industry." Journal of Enterprising Culture 18, no. 10 (2010): 62-69. R., 59n Wilson, M., 84n Wilson, R., 149f Winter, M., 83n Wisner, J. IKEA, the Swedishbased home furnishings chain, designs many of its products so that they can be shipped in a dense form. A differentiation strategy entails an organization developing a product so that they can be shipped in a dense form. distinct from competitor offerings. Alternatively, a fixed order interval policy might be attractive because of its simplicity (e.g., an order is placed every seven days); however, irregular demand patterns could create either stockouts or overstocks under such a policy. Likewise, although our example assigns particular logistics activities to certain departments, there is no established template for which logistics activities are assigned to which departments. In terms of processes to improve warehousing security, the more times a shipment is handled, the greater the opportunities for loss or damage. 1 (2009): 47-62. How is it calculated? Through allocation, logistics can break the thousands of cases of diet cola into the smaller quantities that are desired by customers. Pon had lost count of the number of times the elder Robertson had needed cash to buy his son's way out of some embarrassing situation. Rather than the shipment going by water from Hawaii through the Panama Canal and then on to Europe, under land bridge service, the pineapples would move by containership from Hawaii to a U.S. West Coast water port. "A Spreadsheet Implementation of an Ammunition Requirements Model for the Canadian Army." Interfaces 38, no. Supplier scorecards Are used by companies to report performance information to their suppliers. 6.9 Distinguish between supplier audits and supplier scorecards. Dhooma, José and Peter Baker. Increasingly, these orders are transmitted electronically. The goods are unloaded from the line-haul carrier, move through the terminal, and are loaded aboard a small truck for local delivery. G., 40n Zinn, W., 77n Zuckerman, A., 47n 03/06/14 5:39 PM Subject Index Note: Locators followed by 'f' and 't' refer to figures and tables. 4 (2008): 295-312. • FOB destination, freight collect: The buyer pays the freight charges; the seller owns the goods in transit and files L&D claims, if needed. See Management information system (MIS) Motor carriers, 230-231 Multiclient warehousing, 194 N NAFTA. "7 Keys to Facility Location." Supply Chain Management Review 12, no. How much of the increase is caused by increased volume of business (units shipped) and how much by inflation? Use of the total cost approach requires an understanding of cost tradeoffs; in other words, changes to one logistics activity cause some costs to increase and others to decrease. Utilize spreadsheet software and add-ins to help logisticians make complex judgments and decisions about key logistics issues at strategic, tactical, operational and collaborative levels. Table 13.3 illustrates how a carrier performance attributes that will used to evaluate individual carriers. P., 190n Carter, C. Norton. These buildings would require Let There Be Light to supply 8,100 identical lights, and the relevant terms of sale would include delivery to the Port of Shanghai where the table with her fist. Inventory management is a key component in logistics and supply chain management, in part because inventory decisions are often a starting point, or driver, for other business activities, such as warehousing, transportation, and materials handling. Quality declined whenever the pace became quicker. 8.18 Why should organizations carefully consider potential trade-offs before adopting a lean philosophy? 21 Andrew Johnson and Leon McGinnis, "Performance Measurement in the Warehousing Industry," IIE Transactions 43, no. Environmental Regulation The Environmental Protection Agency (EPA), a U.S. federal regulatory agency that was established to protect human health handling) Packaging Pallet (skid) Slip sheet Divide the value of the v packaging functions and labeling To identify select issues that affect packaging such as environ To learn about unit loads and the unit loads and logistics activities, with a particular emphasis on packaging and materials handling. Moreover, in comparison with real-time systems, batch processing tends to be less costly and easier for employees to learn. 3 (2011): 414-423. These and other productivity metrics can be utilized to provide comparisons within an organization through time. Alternatively, because so much airfreight is belly freight, the increasing congestion and resultant delays associated with air passenger transportation mean congestion and delays for airfreight. For crated machinery, this might involve using open slats rather than completely closed construction (the customs inspectors would likely satisfy their curiosity by peering and probing through the openings between the slats). 57 M03 MURP4846 11 GE C03.indd 57 03/06/14 5:15 PM 58 Part I • Overview of Logistics provides another potential way for management of reverse logistics Management of reverse logistics provides another potential way for management of reverse logistics Management of reverse logistics provides another potential way for management of reverse logistics Management of reverse logistics provides another potential way for management of reverse logistics Management of reverse logistics provides another potential way for management of reverse logistics Management of reverse logistics Management of reverse logistics provides another potential way for management of reverse logistics social responsibility dimensions. International Freight Forwarders International freight forwarders specialize in handling either vessel shipments weighing less than 500 pounds will be higher than that for shipments between 500 and 999 pounds, and so on. These two firms, GHH and N.A.M., would ultimately merge in the early twentieth century. In March 2003, Reynolds had the 50-truck order scheduled to be on the line from April 2 to 29, which represented 2.5 trucks per working day. Companies are investing more aggressively in technology to achieve supply chain visibility in pursuit of this "single version of truth" about what is going on inside of their supply chain.28 Use of Supply chain.28 Use of Supply chain members. By the end of 2013, for example, McDonald's is projected to have approximately 2,000 restaurant locations in China, up from 1,000 at the end of 2008. Operational control is another advantage to private transportation, in part because shipments can move at a time convenient for the company, 24 Harper, Transportation in America. Export packers An international logistics specialist that custom packs shipments when the exporter lacks the equipment or expertise to do so itself. In terms of storage costs, or storage costs, or storage costs, or storage costs and discusses how logistics and discusses how logistics. interacts with other functions, such as marketing, in an organization. Hagi said in his e-mail to Terim that if the negotiations went well, a party of North Korean bureaucrats would wish to visit Antalya for "inspection" purposes and that Terim would have to cover the costs of entertainment and accommodations. One contemporary issue for logisticians to consider is the emergence of what industry has termed big data—the collection of large amounts of near-real-time data collected through a variety of sources, such as sensors, smart phones, RF tags and business-to-business data exchanges. J., 59n Potter, A., 78n Putzger, I., 24n Q Quinn, J. Question 2 asks whether correct goods were shipped Theodore and Terrance L. Caine, "Minimizing Transportation Costs: An Efficient and Effective Approach for the Spreadsheet User," Transport Logistics 1, no. 12.12 How do containers help to facilitate intermodal transportation? and Robert A. Both ocean carriers and railroads have developed methods of handling multiple containers at one time, thereby reducing the number of individual lifting and storage moves. Inventory tax is based on the value of inventory tax is based on the value of inventory tax is based on the value of inventory tax is based on the assessment date. have walls and doors that can withstand several hours of intense fire. If the JIT system is adopted, are there safety stocks of any item that should be maintained? Consider the experience of a former student who placed an online order of Valentine's Day flowers for his out-of-state girlfriend. 30 Craig R. See Electronic data interchange (EDI) Efficient Consumer Response (ECR), 161 EIS. Should Wayne rent the forklift? The logistics manager must understand both the nature of each of these costs as well the trade-offs among them. The chapter concluded with a discussion of several contemporary issues with managing inventory. be trained for and employed in many supervisory posts. An area for accumulating and baling waste and scrap 10. last in first out) as well as a lack of agreement on what is meant by inventory. One advantage of this design is that the category manager (such as the small appliance manager in our example) can be very responsive to customer requirements. Garcia-Dastugue, and Keely L. Actually, right now he and his family are vacationing somewhere in Eastern Canada. M05 MURP4846_11_GE C05.indd 106 Lambert, Douglas M., Steven A. Some states require handlers of petroleum products, including retail gasoline stations, to install vapor recovery systems. Likewise, individual nations may
band together to pressure another country to not be an active supplier of materials that could be used to build nuclear weapons. Moreover, simply having all required documentation is often just a starting point; the exporting organization may be given specific instructions, such as the relevance another country to not be an active supplier of materials that could be used to build nuclear weapons. languages as well as appropriate font types and sizes, for completing the documentation. Geographically central facility locations are often the result of transportation costs and service considerations. ISO 9000 A set of generic standards used to document, implement, and demonstrate quality management and assurance systems. M02_MURP4846_11_GE_C02.indd 40 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology System type Logistics examples Office automation system: provides effective ways to process personal and organizational business data, to perform calculations, and to create documents Spreadsheet applications to calculate optimal order quantities, facility location, transport cost minimization, among others Communication system: helps people work together by interacting and sharing information about transactions; controls some aspects of transactions Electronic data interchange Automatic identification technologies such as bar codes Point-of-sale systems (MIS) and executives information system (EIS): converts TPS data into information for monitoring performance and managing an organization; provides executives information in a readily accessible format Logistics information system Decision support system (DSS): helps people make decisions by providing information, models, or analysis tools Simulation Application-specific software such as warehouse management systems Data mining Enterprise system: creates and maintains consistent data processing methods and an integrated database across multiple business functions Logistics modules of enterprise resource planning systems 41 Figure 2.1 General Types of Information Management Systems Source: Taken from Steven Alter, Information Systems of enterprise resource planning systems and North Korea had had strong ties that remained nearly intact after the fall of communism in Romania. If the total demurrage days exceed the total credit days, then demurrage charges are equal to: (total demurrage are equal to: (total demurrage are equal to: (total demurrage are equal to))) are equal to are equal Documents Consular documents involve obtaining permission from the importing country for the goods to enter. As an example, a study involving the procurement of electronic components12 looked at 10 possible selection criteria, whereas 16 selection criteria, whereas 16 selection criteria were investigated in a study of overseas vendors by Canadian apparel buyers. 13 Second because some vendor selection criteria may be contradictory, it is important to understand potential trade-offs between them. Forwarders are experienced at keeping tabs on available carrier space, and because they 15 Bernie Hart, "Risks and Rewards," Gulf Shipper, January 12, 2009, 58-60. However, all carriers, regardless of their legal classification, must comply with the relevant environmental and safety regulations. The chapter also looked at order management and the order cycle, which refers to the period of time from when the order picking and assembly represents the best opportunity to improve the effectiveness and efficiency of the order cycle. For example, a decision to reduce aisle width to improve space utilization likely necessitates materials handling equipment capable of functioning in narrower aisles. This results in significant ground-handling savings for the airlines. "Tom Bigelow," was Easter's answer. 1.10 What is the systems approach to problem solving? Fraser Johnson, Anna Flynn, and Harold E. "A Review of the Transportation Mode Choice and Carrier Selection Literature." International Journal of Logistics Management 19, no. Recall from Chapter 12 that economic deregulation allowed for both price and service competitions among carriers, and this resulted in the need for organizations to measure their carriers' performance. However, demand forecasting can also be helpful in make-to-order situations (when finished goods are produced after receiving a customer order). Inventory in itself is wasteful and should be minimized. A., 81n Tschohl, J. 141n Tufts, J., 198n Tyworth, J. In contrast, the SCOR model is focused on the logistics, operations, and procurement functions. Freight claims, which refers to a document that notifies a carrier of wrong or defective deliveries, delays, or other delivery shortcomings. 21 M09_MURP4846_11_GE_C09.indd 179 04/06/14 12:01 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 Part III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 PART III • Elements of Logistics Systems to date the twenty-first century has been characterized by tremendous weather extremes in the form of record tornadoes, among others. 3 (2007): 347-100 PM 180 PART III • Elements of Logistics Systems tornadoes, among others. 3 (2007): 347-100 PM 180 PART III • Elements of Logistics Systems tornadoes, among others. 3 (2007): 347-100 PM 180 PART III • 363. 2 (2012): 107-123. Although census methodologies and the type of information collected often vary across countries, the resulting data can provide valuable insights for distribution planners in terms of where populations are growing and at what rates. Cost Considerations Cost considerations are hardly new to logistics managers. For 15 Paul Hansen and Kelvin Gibson, "Effective Warehouse Slotting," The National Provisioner, May 2008, 90, 92, 94. In talking to purchasers, Ortega was impressed by the fact that there were remarkably few complaints involving the durability of the compactors. Because customer service is a competitive tool, it's also important to learn how the customer evaluates the service levels of competing sellers. Allocating (bulk breaking) Breaking are the key obligations of a common carrier? The chapter also addressed when to order inventory, as well as how much inventory to order and we learned that reorder points signify stock levels at which a new order should be placed. Indeed, China and India each have populations in excess of 1.2 billion people and the two countries combined account for about one-third of the world's populations. 3 (2009): 20-31. Such collaboration can enhance efficiency by reducing overall inventory by reducing overall inventory by reducing overall inventory. levels in a supply chain. M02_MURP4846_11_GE_C02.indd 54 Like others in the field, Jim's company actually manufactured very few of its components. The U.S. military was also a regular customer. Each can carry a different liquid and is loaded and unloaded through a separate piping system. Rather than all water service between two ports, land bridge services involve the use of surface transportation—between the origin and destination port. Indeed, the accessibility of highway transportation—between the origin and destination port. Indeed, the accessibility of highway transportation often ranks as one of the most important criteria in facility location and its importance has increased as more and more companies strive to reduce product delivery times.15 Transportation availability refers to the number of transportation modes (intermodal competition) as well as the number of carriers within each mode (intramodal competition) that could serve a proposed facility. For example, the LTL rate from city A to city B might be \$5 per 100 pounds for shipments less than 20,000 pounds, whereas the TL rate might be \$2 per 100 pounds when shipments of 20,000 pounds or more are tendered. Warehousing facilities, and the inventories they contain, can be a prime source of tax revenues by the relevant taxing organizations. The problem was that North Korea was a communist regime, and beyond that, North Korea, according to NATO and the United Nations, was a country that provided support to certain terrorist activities all over the world. Electronic ordering, which includes EDI and the Internet, can be fast, convenient, and accurate, particularly those orders involving scanners and bar codes. Jose Alvarez-Gil, Pascual Berrone, F. Over 90 percent of Handy Andy's sales were in large urban areas where trash- collection costs were high. This is done by enclosing recording devices within cartons of the
product that are shipped. 9.11 Why have inventory taxes become increasingly difficult to collect? For example, United Airlines has improved its fuel efficiency by over 30 percent since 1994 and approximately 25 percent of ground service equipment uses electric or alternative fuels.15 Safety Regulation. Order transmittal Henry Ford story is that suppliers of some parts were directed to ship in wooden crates built of good lumber and to 30 Lev Grossman, Andrea Sachs, Kristine Dell, and Laura Fitzpatrick, "Harry Potter and the Sinister Spoilers," Time, July 9, 2007, 49-52. Julia Kuzeljevich, "The Seven Deadly Sins in Warehouse Security," Canadian Transportation & Logistics, April 2006, 44. Logistics Activity Measures Performance measures are critical for effectively managing logistics activities. In addition, the customers and the distributor no longer does business with them.21 Service Failure and Service Recovery Regardless of how well run an organization is, some situations will occur where its actual performance does not meet the customer's expected performance (i.e., a service parts, deciding upon inventory ordering policies, stocking the required parts, and transporting parts from stocking facilities to customers. Low was not 03/06/14 5:23 PM Chapter 8 • Inventory Management 167 worried about maintaining safety stocks, mainly because the outward flow of goods was so even. Postponement The delay of value-added activities such as assembly, production, and packaging to the latest possible time. As for changes in regulation Chapter 12 pointed out that a reduction of economic regulation in the United States began in the late 1970s and with it came greater options in terms of both pricing and service. Z01 MURP4846 11 GE GLOS.indd 302 03/06/14 5:38 PM Name Index Note: Locators followed 'n' refer to footnotes. Indeed, logistics spreadsheet applications into the early 1990s tended to reflect the rather limited capabilities of the existing software packages. Although hazardous materials were defined and discussed in 4 M11 MURP4846 11 GE C11.indd 210 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 211 Figure 11.3 Examples of Shipping Labels Source: Uline. Now a number of large accounts are pleading 'special circumstances' or threatening to sue if we don't take back the dolls." "They have no grounds for suit," declared Amy. The roles that can be played by transportation specialists such as freight forwarders and brokers were also examined. Shippers go to the expense of buying and printing their own bills because, in practice, they frequently prepare them prior to calling the carrier. See Supplier relationship management (SRM) Standardization principle, 222 STB. (Mason, OH: South-Western Cengage Learning, 2008), p. 7 (2008): 16-25. Indeed, the authors have consulting experiences with companies that showed a particular SKU to be fully depreciated, with an accounting value of \$0—while the companies' warehousing facilities contained several hundred units of physical inventory, which are referred to as inventory carrying (holding) costs. 8 (2005): 46-52. Productivity Productivity is an important managerial issue because it provides insight into the efficiency (or inefficiency) with which corporate resources are being utilized. Z01 MURP4846_11_GE GLOS.indd 298 Possession utility Refers to the value or usefulness that comes from a customer being able to take possession of a product. Quite simply, a zero-tolerance policy means that pilferage exceeding zero units or zero dollars is unacceptable. Ben Naylor, Mohamed M. Guzman-Siller, Christina, Diana Twede, and Diane Mollenkopf. On April 1, a gloomy group assembled in the Johnson Company conference room. The 2012 LPI also allows for comparisons to the top performing country in a geographic region as well as the top performing country in an income group. Webster, "Wall-Mart's RFID Revolution a Tough Sell," Network World, September 15, 2008, 34-36. For example, Do it Best, a hardware and lumber retailer, utilizes plastic containers to ship items such as light bulbs, batteries, and tools from its distribution centers to its retail stores. "Trucking Productivity and Costing Model for Transportation of Recovered Waste in Oregon." Forest Products Journal 61, no. Harper, Transportation in America, 2nd ed. In addition, the promotions channel are linked in several ways. This flexibility 11 Warehousing: How It Works? and How to Make It Work Effectively (Oak Brook, IL: Author, 1993). Because the previous year had been unusually profitable, everyone was in a good mood because this year's bonus was 50 percent larger than last year's. Logistics strategy on inventory levels and stocking locations will directly influence this category. The chapter also looks at select managerial issues in logistics, with a particular emphasis on productivity, quality, risk, sustainability, and complexity. In a similar fashion, the participants should share the consequences when cooperative ventures are less successful than desired. For example, one prominent warehousing consultant suggests that cleanliness and sanitation can be facilitated by putting the "junk and old stuff" at the back of a facility where it is out of the way (and often out of sight). Product can be lost or damaged product can be lost or damaged for a multitude of reasons, but the reasons are rather immaterial to a customer—a lost or damaged product can be lost or damaged for a multitude of reasons, but the reasons are rather immaterial to a customer. The software recognizes, for example, that some cartons cannot be laid on their sides or cannot have other cartons placed on top of them. Renowned strategies that can be pursued by an organization, namely, cost leadership, differentiation, and focus. Brokers also help match carriers to loads. We'll begin our examination with a brief overview of possible objectives for procurement, and this will be followed by a description of supplier selection and evaluation. In addition, Croatia became the 28th EU state in July 2013. Although the use of plastic for packaging has grown dramatically over the past quarter century— plastic tends to be cheaper, more versatile, and more consumer friendly than paper—plastic leaves a great deal to be desired from an environmental perspective. Despite these discouraging events, the Turkish economy still has opportunities for growth. See also Third-party logistics (3PL) Contract warehousing, 193-194 Controls, systems. You should recognize that many suggestions for dealing with warehousing safety are common sense— and low cost—in nature. Note that in 1950, four of the five most populated states were located in the Northeast and Midwest, and thus in relatively close geographic proximity. In addition, 110 kilometers per hour (approximately 68 miles per hour) is the maximum speed limit in Canada's Manitoba province, compared to 100 kilometers per hour in the province of Ontario. Holding all other information constant, what would be the effect on ROA for 2013 if warehousing costs declined 10 percent from 2012 levels? The chapter begins with an overview of the location process, followed by a discussion of the strategic location. From a managerial perspective, this indicates that the primary focus should be on the 20 percent of sales. Rather, many companies simply assign carrying costs as 25 percent of the value of their inventory suggests that the range of U.S. inventory carrying costs since 2006 has been between 19 percent. It's entirely possible that a company could have some of its inventory uses a fixed order international logistics in much greater detail in Chapter 14, but for now one should recognize that international logistics is much more challenging and costly than domestic logistics. "Corporate Social Responsibility in the Supply Chain: An Application in the Food Industry." Journal of Business Ethics 68, no. For example, the United States military has been forced to shift supply routes to support its troops in Afghanistan whenever Pakistan closes its border crossings into Afghanistan.9 A community food bank provides one example of the relevance of logistics related include, but are not limited to, the following: Customer service Facility location decisions Inventory management Order management Procurement Transportation management Demand forecasting International logistics Materials handling Packaging Reverse logistics Warehousing management Customer service, such as "keeping existing customer service, such as "kee person receives the right product at the right condition and at the right condition and at the right cost. Sighing audibly over the phone line, Berndsen said, "Thanks a lot for the new headache, Hubie. Because the buyer will pay for trucks as they are delivered, would it be advantageous for HDT to pay overtime to speed up production, ship the trucks as they are finished via the Port of Baltimore, and collect its payment earlier? 11 No author, "Candle Maker Opts for Pick to Light," Logistics Manager, May 2010, 15. The availability and quality of such data often vary from country to country to country, and it may be difficult to compare data across countries because of different methodologies used to collect the data. Moreover, the corresponding definition of logistics (see Chapter 1) mentions the flows and storage of goods, services, and related information. Fosdick returned to his office, and there was a phone message from Ed Meyers. 6 (2011): 856-872. 8 M12 MURP4846 11 GE C12.indd 233 04/06/14 12:19 PM 234 Part III • Elements of Logistics Systems preventive maintenance of locks currently the exception rather than the rule, when a lock malfunctions the related repairs can take months to complete—a situation with potentially adverse speeds of approximately six miles per hour. Explain it. How does it work? General sources of data regarding commodity flows can be studied, much like population figures, to determine changes occurring in the
movement of raw materials and semiprocessed goods. A., 271n Rosenbaum, B., 99n, 100n Rowling, J. M07_MURP4846_11_GE_C07.indd 137 04/06/14 11:56 AM 138 Part III • Elements of Logistics Systems Establishing minimum acceptable order sizes is an ever-present customer service problem because many customers want to order smaller quantities at more frequent intervals. Embargoes Prohibition of trade between particular countries. Although traditional thinking about inventory continues to be relevant, this chapter concludes with a look at three contemporary issues with managing inventory—lean manufacturing, service parts logistics, and vendor-managed inventory. The development and implementation of multicountry trade agreements have generated profound impacts on trade patterns. Country of origin 10 In addition, Nordstrom's routing guide also indicates which carriers are to be used to transport shipments to Nordstrom's distribution centers. The physical characteristics of some goods change while they are moving in the logistics 277 Four distinct international methods of payment exist—cash in advance, letters of credit, bills of exchange, and the open account—and similar to terms of sale, the different payment methods offer varying amounts of risk to the involved parties. Some nations with very weak balance-of-payments positions issue an import license, or permit, on the condition that the goods move on a vessel or plane flying that nation's flag, which means it is importing only the goods, not the transportation service required to carry them.6 Situations such as this dictate carrier choice. For example, from the customer's perspective a goal might be to provide consistent, timely supply that could entail the use of a metric-like service required to carry them.6 Situations such as this dictate carrier choice. order fill rate. Sometimes, in an effort to develop what it believes is a necessary new product line, a wholesaler will assist the manufacturer by putting up cash in advance along with an order. Ross Publishing, 2005). Fearon. Robertson, who was a gambler at heart, disagreed. Figure 9.4 shows a grid system placed over a map of five existing retail stores. One of Chippy's own trucks, used for local deliveries, has two axles and an enclosed body measuring (inside) 7 feet by 8 feet by 20 feet and is limited by law to carrying a load of no more than 8,000 pounds. The TWIC program became fully operational in early 2009, and while implementation has been relatively smooth, several problems, such as lengthly processing time for credentials, have surfaced.18 Customs and Border Protection is responsible for securing U.S. borders to protect the American people and the U.S. economy. Supply Chain Control Your Business. Harvard Business Review 89, no. 3.11 Logistics measurement systems have been traditionally designed to include information on five types of performance. The cost of these responses to pirate attacks—just for Somalia—has been estimated at approximately \$500 million annually!28 26 Michael 27 Imlay, "Off-Highway Robbery," Off-Road Business November 2005, 55-57. 11 12 M06 MURP4846_11_GE C06.indd 114 04/06/14 12:21 PM Chapter 6 • Procurement 115 Leverage Strategic Noncritical Bottleneck Low Financial Importance High Low Supply Risk/Complexity High Figure 6.2 Kralijic Portfolio Matrix Source: Peter Kraljic, "Purchasing Must Become Supply Management." Harvard Business Review 61, no. Today, these factors are automatically programmed into computers, and companies are able to closely monitor the quality of service they receive from each vendor. Stank, 21st Century Logistics: Making Supply Chain Integration a Reality (Oak Brook, IL: Council of Logistics Management, 1999), Chapter 3. Assume that you are Weiss. Furthermore, conducting sensitivity analysis on varying levels of customer service could result in an entirely different series of ideal facility locations, depending on the level of customer service that is expected. In 1993, one U.S. dollar could buy 7,000 Turkish liras. "Critical Success Factors for Supplier Selection: An Update." Journal of Applied Business Research 20, no. Also, while owning the good, one can use it as collateral for a loan, although this may place some restrictions on its use or movement. Initially, only two costs concerned him: order-processing costs, which were \$1 per year per keg space. Although "barter" was a term and practice with which Terim was familiar, he had no idea what to do with kereste. 8.19 Discuss some challenges that service parts logistics managers. Cleanliness and Sanitation Issues At first glance, cleanliness and sanitation might seem like issues that are more relevant to, say, restaurants and hospitals than to warehousing operations. Similarly, order triage refers to classifying orders according to preestablished guidelines so that a company can prioritize how orders should be filled. While procurement has been traditionally viewed as transactional in nature, recent studies indicate that the function's profile is rising due to the increased globalization and complexity of today's supply chains. 11.14 What trade-offs exist between wood, plastic, and metal pallets? Even more disturbing was that in some cases the compactor was left in the middle of the kitchen floor in its shipping container—that is, uninstalled! Customers of the licensed retailers also indicated that installation personnel would not explain how the compactor worked and that some installers were going to have difficulty working together—in large part because of their vastly different dress codes! Globalization Challenges Although much of the discussion so far has focused on domestic supply chains, one should recognize that supply chains are becoming increasingly global in nature. Because these facilities can be very expensive to lease or build, companies are often hesitant to close them. Once there, the lumber could be covered by new documents, and eventually the origin of the goods could be stated as "Romania," not "North Korea." The lumber could then move by tir (truck) to Turkey. Supply management A relational exchange approach involving a limited number of suppliers. For example, RF terminals can reduce pick errors by approximately 60 percent compared to paper picking. 19 Shipment tracking provides another example of how technological advances have impacted logistics management. 47 (2010): 34. Moreover, the warehousing facility; from the facility; from the facility; from the facility; from the facility to the customers); as a general rule, short-haul transportation tends to be more costly per mile than long-haul transportation. A well-thought-out slotting plan can reduce labor costs, increase pick and replenishment efficiencies, and increase order accuracy.15 To this end, organizations need to understand the attributes of fixed and variable slot locations, D., 65n, 72n Wardlow, D., 65n, 72n Wardlow, D., 65n, 72n Wardlow, D. Public slotting plan can reduce labor costs, increase order accuracy.15 To this end, organizations need to understand the attributes of fixed and variable slot locations for merchandise. warehousing Serves all legitimate users and has certain responsibilities to those users. In fact, one of the best ways to manage pilferage is to avoid hiring people with credit, alcohol, or drug problems. 6.18 What role can procurement play in social responsibilities to those users. In fact, one of the best ways to manage pilferage is to avoid hiring people with credit, alcohol, or drug problems. 6.18 What role can procurement play in social responsibilities to those users. Case Study at IKEA." International Journal of Retail & Distribution Management 39, no. 2 (1994): 11-28. The potato chips were packed in bags containing 8 ounces of chips. As an example of infrastructure characteristics, the United States ranks first in the world in terms of highway mileage (approximately 6.5 million kilometers), followed by China (approximately 4.1 million kilometers) and India (approximately 3.3 million kilometers). The implementation of voice-based order picking at one company resulted in 99.66 percent pick accuracy, which also saved the company resulted in 99.66 percent picking technique that has grown in popularity in recent years is pick-tolight technology, in which orders to be picked are identified by lights placed on shelves or racks. One widely used system for simplifying the number of products is the National Motor Freight Classification (NMFC), which has 18 separate ratings, or classes, from 50 to 5003; the higher the rating, the greater the relative charge for transporting the commodity. It can be argued that logistics has some involvement in both sourcing and making; for example, with respect to customer service that they believe are most important, which isn't necessarily a good idea either because these aspects might be relatively unimportant from the customer's perspective. Looking at the situation outlined in Question 1, assume that the wholesale cost of nails is \$40 per keg and that Low must pay interest at the rate of 1.5 percent per month on unsold inventory. What are the charges?" Vanderpool answered, "It costs \$120 to load and block two trucks on a flatcar, which is, of course, \$60 apiece as long as they move in pairs. In terms of the environment, for example, organizations might focus on reusing and recycling products, reducing the amount of packaging, improving energy efficiency, and reducing various types of pollution. Bartolacci, Larry J. Tariffs are often established to protect local manufacturers, producers, or growers, and once tariff barriers are built, they are not easily torn down. 5 (2011): 14. You should recognize that the concept of worker empowerment is directly opposed to the specifications of hierarchical organizational design. "I have already committed KiddieLand for 400 sets, and the spring-summer play set promotion went to press last week. In fact, however, most shippers
buy their bills of lading and then have them preprinted with a list of the products they regularly ship. Forecasting accuracy refers to the relationship between actual and forecasted demand, and accuracy can be affected by various considerations. 6 (2009): 785-798. 04/06/14 11:56 AM 144 Part III • Elements of Logistics Systems BUYER DETAILS First Name* Last Na ADDITIONAL DETAILS Retailer Name* Purchase Date* Installation Date* I wish to be informed of new Handy Andy products *Mandatory Field SEND Exhibit 7.A Warranty Activation Form Ortega was in the process of contacting 500 purchasers who had owned the compactors for between one year and four years (when they had first been introduced) to determine whether the compactors had required repairs and, if so, the extent and cost of the repairs. The UPC is read and recorded into a database that supplies information such as the product's price, applicable taxes, whether food stamps can be used, and so on. Thorough customer profitability analysis only works if it is grounded in activity-based costing in the sense that activity-based costing suggests that different products are characterized by differences in the amount and types of resources consumed. The Bundesbahn quotes a price of € 1,643 per flatcar from Prague to Hamburg, which includes the service by its Czech partner. Single sourcing, on the other hand, consolidates purchase volume with a single supplier with the hopes of enjoying lower costs per unit and increased cooperation and evaluation generally involve multiple criteria, and these criteria can vary both in number and importance, depending on the particular situation Keeping in mind that there are myriad customer service definitions, for our purposes customer service. The same study also found a dramatic drop in user confidence with respect to having the required skills and knowledge to use e-procurement tools.59 One activity that has been greatly facilitated by electronic procurement is online reverse auctions. First, it provided companies with the ability to implement the tailored logistics approach discussed earlier, in the sense that companies could specify different logistics service levels, and prices could be adjusted accordingly. Which method is riskiest for the buyer? 1 (2009): 36-43. In essence, supply and demand management within and across companies. Even packaging design may be negotiated. The existence of these and other regulations have implications not only for transportation companies but also for users of transportation companies because regulations can affect the effectiveness and efficiency of a user's logistics system. Having said this, there continue to be countries where certain products are still stowed or unloaded by stevedores carrying individual bags on their shoulders (or heads) and walking up and down gangplanks. In addition, the higher the probability of a delayed sale, the lower the average stockout costs— and the lower the average stockout costs than comparable facilities. M03 MURP4846 11 GE C03.indd 67 Kaplan, Robert S. Rai, Arun, Paul A. From management's perspective, unions tend to result in increased labor costs, due to higher wages, and less flexibility in terms of job assignments, which often forces companies to hire additional workers. Although warehouse automation offers the potential 16 Stan Luxenberg, "Warehouses for Warsaw," NREI, October 2004, 28-30. Chapter 6 examines procurement, a business function responsible for ensuring and marketing strategies. Rate determination (to be more fully discussed in the next section) provides one example of how advances in technology have impacted transportation management. While most attention to date has focused on the environmental dimensions are also critical to consider.29 As such, this section will discuss logistics social responsibility as well as environmental issues associated with reverse logistics. Pilferage Employee theft. Transportation Modes Each of the five modes of transportation exists because of certain attributes that provide one or more advantages over the other modes of transportation. From a commonsense perspective, the primary design consideration should be the facility's function— be it long-term storage or product movement—in the relevant logistics system, with aesthetics a secondary consideration. When one of the authors worked for a U.S. trucking company in the early 1980s, shipment tracking was a time-consuming, labor-intensive process that sometimes did not yield a location for the shipment in question. Conditions of Uncertainty You should recognize that organizations rarely, if ever, are lucky enough to manage inventories in an environment characterized by certainty for all eight of the EOQ assumptions presented above. "An Evaluation of Process-Oriented Supply Chain Management Frameworks." Journal of Business Logistics 26, no. 1 (2005): 25-51. As another example, Chapter 14's discussion of Incoterms reflects the revisions associated with Incoterms 2010, which were effective at the beginning of 2011. Disregard your answer to Question 5. Indeed, fires are a constant threat in warehousing, in part because many materials used for packaging are highly flammable. The lean manufacturing approach identifies seven major sources of waste, one of which is inventory. The logistics channel has many intermediaries, and many are mentioned in this book. Since then, there have been hundreds of successful (e.g., increased sales, reduced inventory levels) CPFR initiatives, although, to be fair, not all CPFR initiatives have been successful. Only one item in inventory or no interaction between inventory items 7. However, timely can refer to the up-to-date status of information, which can be influenced by a company's collection and analysis procedures. Slurry systems allow bulk commodities to become liquefiable by grinding the solid material to a certain particle size, mixing it with a liquid to form a fluid muddy substance, pumping the solid material to a certain particle size. that substance through a pipeline, and then decanting the liquid and removing it, leaving the solid material. International Documentation flows are as much a part of the main logistics involves a system in which documentation flows are as much a part of the main logistical flow as the flow of the product. While the traditional bilateral air agreements provided an important stimulus to international air transportation, these agreements tended to be quite restrictive in nature as illustrated in the previous paragraph. This scanning, which is to be done prior to a container being loaded onto ships at non-U.S. ports, has the potential to be quite restrictive in nature as illustrated in the previous paragraph. do not have the technology required to inspect containers. For example, today's high fuel prices (by historical standards) cause transportation companies to focus on lower costs through moving larger freight volumes—a practice that doesn't align very well with lean's emphasis on smaller shipments. A significant part of this expense category is the cost of materials that are used to make a product. Also, a newly constructed plant or warehousing facility is likely to have flaws or shortcomings that are only discovered after occupancy. "Quality Management Practices in the Purchasing Function: An Empirical Study." International Journal of Operations & Production Management 24, no. Radiofrequency identification (RFID) The use of radio frequency to identify objects that have been implanted with an RFID tag. Consider that the All Chinase workers, is controlled by the Chinese government. R., 82n Fugate, B. Responsibility for controlling or caring for the goods in transit, say, in the case of livestock (the logistics channel) Transfer can be specified in terms of calendar time, geographic location, or completion of some task. Michael Knemeyer Eleventh Edition A01 MURP4846 11 GE FM.indd 1 03/06/14 12:22 PM This page is intentionally left blank. 9. Richard F. The infrastructure statistics for highway, pipeline, and water, presented in kilometers (1 kilometer is equivalent to approximately 0.62 miles), provide some interesting findings. The difficulties in forecasting demand lead to challenges with respect to which parts to carry, the appropriate stocking levels for the parts that are carried, and higher inventory levels, among others.14 Another challenge involves the number of warehousing facilities that should be used in service parts logistics. Likewise, you might not be aware that there are very specific guidelines for the placement of lighting on truck trailers. As Ortega entered Booher's office, he was surprised to see Handy Andy's vice presiden of marketing, Bob Bixby, also sitting in the office. Using the EOQ methods outlined in the chapter, how many kegs of nails should Low order at one time? In addition, this research stream asserts that logistics managers must continue to find ways to effectively communicate how these strategy and success in financial terms.6 In fact, an international survey of manufacturing firms reported that logistics performance was important for achieving competitive advantage by almost 70 percent of the respondents.7 Strategy can be formulated at a corporate level, a business unit level, and a functional level. 35 Ibid. Total cost approach Concept that suggests that all relevant activities in moving and storing products should be considered as a whole (i.e., their total cost), not individually. One challenge of this political instability is that alternative systems of governance have been slow to emerge and this uncertainty is causing many organizations to delay, or even cancel, expansion into this region. As an example, logistics service providers such as FedEx and UPS offer a variety of delivery options to prospective customers. Leonard, Lori N. The problem: The greeting card that accompanied the flowers had a wrong name for the sight name for have been introduced to
select economic impacts of logistics, it's important to define what logistics is. For example, an SLI might indicate which insurance to purchase, and which insurance company(ies) to use. The initial focus is on the region, the delineation of which can vary depending on whether a company has a multinational or domestic focus. Fresh fruits and vegetables are the best-known examples. Shipper's letter of instruction (SLI) Often accompanies an SED and provides explicit shipment instructions. and Andrew T. One morning in late January, while Don was reviewing the new year's merchandising plan, he discovered that starting in March, KiddieLand would begin promoting the Super Gym Outdoor Children's Exercise Center. You work for the motor carrier classification bureau and notice that the relationship between the weight of potato chips and the weight of potato chips and the motor carrier classification bureau and notice that the relationship between the weight of potato chips and the weight of potato chip bringing the manuscript to New York to begin the publishing process, made sure the manuscript was safe by sitting on it during his airplane flight to the United States! Barnes and Noble, a large book retailer, hired an outside security firm to guard the padlocked trucks that contained its copies of the Deathly Hallows.30 Marketing Channels Anothe concept that is useful to studying the marketing relationships between and among firms is to look at marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to "a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and all the marketing channels, which refer to a set of institutions and al activities in the marketing process."31 The principal, traditional institutions in the marketing channel are the manufacturer, the wholesaler, and the retailer. "The Whose, Where, and so on 9. With respect to facilities, the relative proximity of manufacturers in a particular cluster could allow for capacity pooling in the sense that a manufacturer with excess of orders. Such information can be especially important to pharmaceutical and health-care companies.20 The Growing Power of Retailers Another influence on logistics involves the growing power of retailers relative to manufacturers in channels of distribution. Six general types of information management systems were examined, with a particular emphasis on relevant logistical applications. James Mellgren, "Category Complements: Increasing Specialty Food Sales," Gourmet Retailer, June 2006, 38-44. The formula for GMROI is as follows: GMROI = (gross profit in dollars/sales in dollars/ average inventory at cost). I'd really appreciate it if you would summarize what you've told me in two columns, with the charter costs on the left and the overland Baltimore cost column on the right. A product may move in bulk from the manufacturer to a wholesaler, where the product may be placed into some type of container (e.g., barrel, box, or crate) prior to further distribution. In fact, if Reynolds's schedule were adhered to, all the components would be on hand by April 10, and if HDT were to receive the customary discounts, all of the components would have to be paid for in the period between April 8 and April 20 (HDT received a 1 percent discount for goods paid for within 10 days of actual or requested receipt, whichever came later). Price benefits are those that are given as the result of adopting e-procurement. See Strategic profit model (SPM) SRM. At a minimum, when using public warehousing the recruitment ensation, motivation, and evaluation of warehousing employees are the responsibility of the warehousing company and not the customer (user). The firm manufactures and sells toys throughout the United States. Croxton, "An Evaluation of Process-Oriented Supply Chain Management Frameworks," Journal of Business Logistics 26, no However, the introduction and continued advancement of computing power now allows for fast, low-cost mathematical solutions to complex supply chain issues. Furthermore, where public warehousing services are purchased through contracts that cover at least one year. In recent years, by contrast, the maximum range for overnight service by truck has been pushed to between 600 and 700 miles. With respect to the class rate system and weight, Shipment 1. The most relevant categories for logistics managers to consider are sales, costs of goods sold, and total expenses. 03/06/14 5:37 PM 290 Part III • Elements of Logistics Systems Liu, Xiaohong. To which port(s)? What are several ways to manage it? Tailored logistics Systems Liu, Xiaohong. To which port(s)? needs and wants. Let There Be Light determined that each Style B lamp shade would cost \$4.50 to manufacture and could be shipped nested, with six lamp shades per carton. Several examples of changes in consumer behavior (customized customer, changing family roles, and rising customer expectations) and their possible logistical implications are discussed next. Matichenko. 03/06/14 5:38 PM This page is intentionally left blank. Thus, logisticians would do well to reduce the number of times an individual shipment is handled. In relative terms, inventory costs in the twenty-first century represent approximately onethird of total logistics costs. Vitasek, and Craig G. Lean Six Sigma Logistics: Strategic Development to Operational Success (Boca Raton, FL: J. This is a serious problem because if the customer service objectives or standards are not stated in specific terms, they may be ignored or be too vague to provide any real guidance to operating personnel. 4 (2008): 36-52. Distribution center A warehouse with an emphasis on quick throughput, such as is needed in supporting marketing efforts. How do they influence locational decisions? 20 Mary Aichlmayr, "Making a Case for Automation," Transportation & Distribution, June 2001, 85-90. See Just-in-time (JIT) approach JIT orientation Mini Motor Homes, Kalamazoo, 54-56 rapid discharge trailer, 162f Johnson Toy Company, 107-109 Just-in-time (JIT) approach, 161-162 Just-In-Time in Kalamazoo, 54-56 K Kickbacks, 117 Kiddieland and the Super Gym, 36-37 Kraljic's Portfolio Matrix, 114 Kuehne and Nagel, 101 L Labeling, 210 Labor, role of, 174-175 Lading, bill of, 257, 258f Lading, preprinted short-form bill of, 257, 258f Lading, preprinted short-form bill of, 257, 258f Lading, bill of, 257, 258f Lading, preprinted short-form bill of, 257, 258f Lading, bill of, 257, 258f services, 235 Landed costs, 29 Lead logistics provider (LLP), 101 Letter of credit, 277 Let There Be Light Lamp Shade Company, 224–225 Life cycle cost principle, 222 Line-haul, 229 LLP. This makes it more difficult for outsiders to access an organization's facilities. (www.scm-institute.org) Lambert, Douglas M., A. "An Overview of Warehousing in North America." Journal of Transportation Law, Logistics & Policy 73, no. Winston, Evelyn, Charlene A. Ordering by telephone can be relatively fast and convenient, but order errors may not be detected until the order is delivered. The next morning Don and Olga met with Randy Smith, Don's transportation manager; A. For example, a decision to invest in an EDI system that would increase invoice accuracy should enable customer payments to be received in a more timely fashion. 14.11 What are the two primary purposes of export packing? Booher also told Ortega to begin calling individuals who had owned compactors for less than a year. Buildings that store hazmat often have specially constructed areas so that materials can be contained in the case of an accident. Fast supply chain Emphasizes a speed or time component. Indeed, according to OSHA, approximately 100 employees are killed and 95,000 injured every year while operating forklifts in warehousing facilities.28 operation of the equipment as well as poor communication. 2 (2009): 14-21. For example, P-cards might be used for noncritical items, leverage items might rely upon reverse auctions, and strategic items would tend to use long-term, cost-based contracts with key suppliers, whereas firms may turn to buying consortiums to address the complexity of bottleneck items. 1 (2012): 186-189. "They make up half the vehicles in our parking lots. As a general guideline, on a
ton-mile basis, rail costs are approximately 20-30 times higher than inland water carriers. After he hung up, he told me that Meyers had been served papers by the union's attorney, charging that Wednesday's firing of Bigelow was unjustified, mainly because no provable grounds existed that Bigelow was behind the slowdown. From a political perspective, we learned that international trade can be influenced through tariff and nontariff barriers and that federal governments are actively involved in cross-border trade. Although forklifts, for example, facilitate the effective and efficient handling of unit loads, forklift-caused injuries occur annually in the United States. Williams, Zachary, Michael S. (Upper Saddle River, NJ: Prentice Hall, 2006), Chapter 4. The decision to found the company in Michigan had been made for two reasons: Jim's former associates in the auto industry were there, and the largest single component of the whicle is built—was purchased from one of the U.S. light-truck makers. Specific modifications include the following: • This edition welcomes a new coauthor, A. Mentzer and Lisa R. Figure 8.3 shows a truck trailer that opens on its side for rapid discharge of parts for JIT inventory management. Packaging, which refers to materials used for the building-blocks concept, where a very small unit is placed into a slightly larger unit, which then might be placed into a larger unit, and so on. 1 (2011): 109-124. Bad driving habits, such as high highway speeds and excessive engine idling, can also be detected. Organizations pursuing a single integrator approach rely on a single vendor to provide all relevant software applications (e.g., inventory management, transportation management, warehouse management). "Innovation Management in the German Transportation Industry." Journal of Business Logistics 29, no. 2 (2008): 215-231. Indeed, a recent procurement study projected that half of all firms would have a global spend of over 40 percent. 19 17 Michiel Leenders, P. Stock the Super Gym at the two distribution centers and have the truck that makes delivery runs to the retail stores also make home deliveries. However, to give you a sense as to how macroenvironmental factors can impact international logistics, we'll look at three such influences, namely, political, economic, and cultural factors. Tan. Albert Wee-Kan and Olli-Pekka Hilmola. Ouite simply: The inbound logistics group and the outbound logistics group were unaware that they worked in the same building! Logistics managers use the total cost approach to coordinate materials management and physical distribution in a cost-efficient manner. Although pallets are a popular unit load platform, one disadvantage (regardless of material) is their height, and when goods are loaded aboard pallets into railcars, trailers, or containers, the space occupied by the pallet (approximately five inches) is unproductive. Chapter 6 has added aboard pallets into railcars, trailers, or containers, the space occupied by the pallet (approximately five inches) is unproductive. subsection, "Procurement Portfolio Approach," that highlights Kraljic's Portfolio Matrix. 5 David Hannon, "P-card Program Expansion Is a Global Challenge," Purchasing 138, no. Pallets can also be constructed from plastic, wood composites (such as fiberboard), paper, and metal. 2 (2004): 91-108. Bill of lading The most important single transportation document that is the basic operating document in the industry. Durtsche, and D. One of the UN's more recent efforts in this area involved its Globally Harmonized System of Classification and Labeling of Chemicals (GHS) which was first adopted in 2002. 03/06/14 5:13 PM 3 Strategic and Financial Logistics Key Terms = = = = how logistics can influence an organization's strategic financial outcomes To review basic financial terminology To understand how the strategic profit model can demonstrate To consider the value of utilizing the balanced scorecard approach for examining the performance of a logistics system To become aware of some of the common performance measures for logistics activities the financial impact of logistics activities As was highlighted in Chapter 1, an effective and efficient logistics function plays a crucial role within most organizations. 13 John R. In addition to being reusable over long periods of time, the plastic containers can be stacked up to six layers high and provide better overall protection than traditional corrugated packaging and recycle it. Then when Robertson calls, I can ask him to decide." "One question," asked Vanderpool. Another component of inventory carrying costs, storage costs, refers to those costs associated with occupying space in a plant, storeroom, or warehousing facility. Well, let me tell you what happened. Keyes, and M.Z. Babai. The firm once produced automobiles but dropped out of the auto business in 1924. A cost leadership strategy requires an organization to pursue activities that will enable it to become the 4 Sumantra 5 Sengupta, "10 New Ideas for Generating Value," Supply Chain Management Review 13, no. 2 (2009): 55-68. Whicker. For example, in some countries there may be only one government-run transportation company in a particular mode; thus the transportation manager wouldn't need to be concerned with carrier selection considerations for that particular mode. Commonly used performance measures for monitoring global sourcing systems include the percentage of shipments that arrive early or late, completeness of orders, and percentage of shipments that arrive early or late. objectives, measuring customer service, customer profitability analysis, and service failure and recovery. Derek Townsend, "Fair Trade Future?" Food Service, June 2008, 27. Second, the increased pricing flexibility allowed large buyers of transportation services to reduce their transportation costs by leveraging large amounts of freight with a limited number of carriers. For example, the fact that eggs are associated with Easter (e.g., Easter egg rolls, colored eggs) tends to cause an increase in demand for them prior to the Easter holiday. In addition, service recovery can also result in a better performing organization in the sense that an organization can learn from failure and then implement processes and policies to lessen the occurrence of future service failures.23 There is no set formula for service recovery, in part because each service failures.23 There is unique in its impact on a particular customer. 1 (2005): 25-51 and Christopher R. 12 William Hoffman, "Contract Warehousing Evolves," Traffic World, January 31, 2005, 16. Shipping documents must also indicate whether the cargo is of hazardous nature, and sometimes additional documentation is required. M01 MURP4846 11 GE C01.indd 26 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics 27 The key to the total cost approach is that all relevant logistical cost items are considered simultaneously when making a decision. "Logistics Innovation in China." Transportation Journal 51, no. Legal title to the goods (the ownership channel) 4. 6 See for example, Edward A. Suggested Readings Armstrong, Richard D. The United States requires both NVOCCs and international freight forwarders to be licensed as ocean transportation intermediaries by the Federal Maritime Commission. CASE Case 13.1 Chippy Potato Chip Sand distributed them within a 100-mile radius of Reno. Similarly, the billing of customers is increasingly done through computerized and electronic networks. Revenues, also referred to as sales, provide a dollar value of all the products and/ or services an organization provides to their customers during a given period of time. Control is the process of taking corrective action when measurements indicate that the goals and objectives of customer service are not being achieved. What documents do I need to file an LTL freight claim? M05 MURP4846 11 GE C05.indd 99 03/06/14 5:17 PM 100 Part II • Supply Chain Management Figure 5.3 Information Supplied by the Truck Driver Is Recorded and Then Transmitted by the Small Computer Source: Photo courtesy of the Telxon Corporation. The reason was hidden in history. It appears that the factory distributors are exploiting the licensed retailers. Moreover, open-case picking necessitates that products be slotted (placed) in locations that facilitate picking effectiveness and efficiency. This is also a key point for control because this is where there is an exact measure of what comes off the assembly line. Moreover, effective communication requires that the correct parties be involved in the process; if a customer has a logistics-related question, then the customer should be communicating with someone with logistics expertise. M., 103n Manrodt, K. See International Air Transport Association (IATA) ICC. "A Survey of the Literature on Automated Storage and Retrieval Systems." European Journal of Operational Research 194, no. Sticking to pairs, the rail rate for two on a flatcar totals \$1,792 to Baltimore. Balances the customers' demand with the capabilities of the supply chain. The initial feedback on "10 + 2" suggests that while erroneous filings have declined from 30 percent to less than 5 percent, some importers struggle to get timely, accurate, and complete information for their 10 required pieces of information. Lean manufacturing (lean) Focuses on the elimination of wastes and the increase of speed and flow. Connecting Strategy to Financial Performance A recurring theme in the logistics research is that an organization's logistics capabilities need to be directly connected to objective (as opposed to subjective) firm performance measures. If it is not, efforts are made toward providing additional protection for areas in the package that are overly vulnerable. Population characteristics are a double-edged sword in facility location in the sense that a population serves both as a market for goods as well as a source of labor. Weiss
looks up the International Chamber of Commerce's Incoterms and finds three categories of "delivered" terms: • DAT (Delivered at Terminal). Until the early part of the twenty-first century, one major drawback was high product damage rates due to the fragility of the slip sheets. For instance, some companies use premium or expedited transportation services—which cost more money—to cover for shortcomings in other parts of their logistics systems. With extended store hours—retailers must address issues such as the optimal delivery times for replenishment trucks and when to replenish merchandise. Alternatively, a disadvantage of FOB destination from a seller's perspective is that the seller's organization must have a thorough knowledge of transportation management (e.g., rate and service negotiations, modal and carrier selection, and so on) and this knowledge is not learned in a short period of time. Gibson, Kate L. Fish must be transported within 36 hours, although the time can be extended if oxygen is added to the bags. "So far we can get delivery within 25 miles of most of our stores for \$38.21 per set. For example, a major retailer embedded RFID chips into a particular line of cosmetic products, and consumers who selected this product from the store shelf were beamed, via webcam, to the manufacturer's headguarters! 26 Yet another drawback is that data accuracy can be lower in items with high moisture content, such as fruits and vegetables. The chapter concludes with an examination of some key operational issues in warehousing, such as productivity, safety, and security. 12 Martin Christopher, "The Agile Supply Chain," Industrial Marketing Management 29, no. 7.7 Identify, in correct order, the several standardized processes common to the majority of ordering activities. The units were well built, and there had been almost no warranty work requested in the first year of each model's life.

hour, or one every 12 minutes. Several prominent professional logistics organizations are summarized in Appendix 1. That means \$368 per Super Gym for delivery," she continued as she punched her calculator, "and \$147 in lost gross margin!" Next, Randy Smith summarized the second option. The lack of vehicles also means that pipeline transportation is one way; other modes have two-way transportation, M12 MURP4846 11 GE C12.indd 231 04/06/14 12:19 PM 232 Part III • Elements of Logistics Systems a fronthaul and a backhaul. Heat Treated mark d. Limited competition generally leads to higher transportation costs and means that users have to accept whatever service they receive. You may recall that some Greek shipping magnate named the vessel after her, but his wife made him give up both Nola Pino the ship. 3 (2001): 37-40. D., 76n, 148n Leach, P. Moreover, on a daily basis the Saks cross-dock can handle four times as much product, with one-half the labor, of its predecessor facility; in other words, the cross-dock facility is approximately eight times as productive as its predecessor.6 Because cross-docking is predicated on time reduction, the design of cross-dock facilities is an important consideration. C., 21n Dekhne, A., 112n DelBoro, M., 190n Dell, K., 30n DeMaris, R. Buyer's name and address 4. Stock, and Lisa M. 1 (2008): 30-41. For example, private truck fleets allow organizations to better serve key customers relative to the performance of for-hire carriers.27 Although private transportation, a key disadvantage is that it can be quite costly, in part because of the capital expenditures that are necessary to own or lease the relevant vehicles as well as regular expenditures to maintain the vehicles. Schoenherr, Tobias. M., 45n, 274n Fitzpatrick, L., 30n Flynn, A., 115n Fontana, J., 51n Friedrich, C. From the carrier's standpoint, how has cost of service changed? Don's primary mission is to make sure all stores are in stock at all times without maintaining excessive levels of inventory. "The account in question has paid every bill he's owed us on time for 40 years. With respect to war, the first decade of the twenty-first century have witnessed ongoing tensions in the Middle East, increasing tensions between Pakistan and India (both with nuclear weapon capabilities), industry nationalization by the Venezuelan government and wars in Iraq and Afghanistan, as well as civil and political unrest in various parts of Africa. Davis, and D. Substitutability, which refers to the number of products from which a firm's customers can choose to meet their needs, is one aspect. A third procurement objective, managing the supply base, refers to the selection, development, and maintenance of supply sources. Supplier development (reverse marketing) was also introduced as being a more important part of the procurement process. A truckload made up of products from suppliers and plants goes from warehouse to customer. runways, for example, could limit a country's ability to participate in long-haul international movements of higher-value products. For example, although cash in advance is of minimal risk to the seller, it is extremely risky to the buyer—what if the paid-for product is never received? In theory, the relocation decision involves a comparison of the advantages and disadvantages of a new site to the advantages of an existing location. Moreover, warehousing facilitates the regrouping function in a supply chain. In addition to the major actors, called facilitates the regrouping function in a supply chain. essential roles. 10 G. Minimum replenishment quantity is maintained for both manufactured and purchased parts. Global positioning systems have become quite valuable to the transportation component of logistics because of high fuel costs and the relentless pressure to improve efficiency and productivity. Determination of the key measures should be tailored to the individual organization and level of decision making. With public warehousing, the user rents space as needed, thus avoiding the costs of unneeded space. Economic growth is another variable that influences the location of customer markets in the sense that organizations sometimes expand their geographic scope to serve new customers. Having said this, materials that are obsolete to one organization might not be obsolete to other users; as such, it might be possible to sell obsolete materials to other organizations. In case of an accident, a tachograph chart is invaluable in reporting and explaining what occurred just prior to the crash. Union contracts, for example, may prohibit (or limit) certain facilities from being closed. One is the product's physical characteristics; substances exist in three forms—solid, liquid, gas— and each form has specific packaging requirements. 12.9 Discuss the drawbacks to rail transportation. Transportation. Transportation managers can appeal a commodity's classification, and Figure 13.2 shows a proposal for a new classification for soft contact lenses. We'll highlight different managerial approaches by discussing three order processing activities, order receipt, order triage, and the location(s) used to fill an order, in the following paragraphs. 11 Bartolacci et al., "Optimization Modeling for Logistics." 12 Alter, Information Systems, Chapter 5 Croxton. For example, a report commissioned by the Indian government in 2011 indicated that only about 20 percent of the country's warehousing facilities were mechanized being defined as either hand pallet trucks or forklifts.27 Logistics Performance Index28 We'll conclude this chapter with a look at a relatively new international logistics concept, the Logistics Performance Index (LPI) that was first introduced in 2007 and then updated in 2012. "I'd say it is a problem in Jacksonville, Baltimore, Cleveland, Louisville, Denver, and San Diego. For example, advances in technology could facilitate enhanced communication across organizations in support of a collaboration initiative between a company and one of their third-party logistics providers. Medbo. Electronic data interchange, or EDI (to be discussed in the next section), was viewed by many experts as the measuring stick for logistics information technology in the 1990s. Investment recovery can provide an organization with the opportunity to simultaneously do well and do good in the sense that investment recovery increases a seller's revenues (reduces a seller's costs) while addressing selected environmental considerations. Another group of political restrictions on trade can be classified as nontariff barriers, which refer to restrictions other than tariffs that are placed on imported products.4 One type of nontariff barrier is an import quota, which limits the amount or product (either in units or by value) that may be imported from any one country during a period of time. 7 Mentzer et al., "Defining Supply Chain Management." 8 Douglas M. Czinkota and Ilkka A. Ideally, an organization might want to collect measurement data from both internal and external sources. Molasses, cooking oils, and many petroleum products are heated before an attempt is made to pump them. In the 1930s, the International Chamber of Commerce developed, and then has periodically revised, terms of sale for international shipments. With respect to efficiency, low turnover indicates that a company is taking longer to sell its inventory, perhaps because of product obsolescence or pricing problems.8 5 Jason Bader, "Distributor Power Tools: The Inventory Obituary," Doors and Hardware, March 2007, no pages provided. Big data The collection of large amounts of near real-time data collected through a variety of sources, such as sensors, smart phones, RF tags and business-to-business data exchanges. "Competitiveness of Logistics: Research & Applications 14, no. "Why should the charter figures be on the left?" "Because on a map (see Exhibit 12.A), Chicago is to the left of Baltimore and that's the only way I'll keep them straight when I'm talking on the phone." Figure 12.A Map of the Northeastern United States Questions 1. In a fragmented logistics structure, logistics activities are managed in multiple departments throughout an organization. Crum, "Quality Management Influences on Logistics Performance," Transportation Research—Part E 34, no. 11.17 Why is it often necessary to heat liquids before pumping them into containers for shipment? CASE Case 14.1 Nürnberg Augsburg Maschinenwerke, one of Germany's most successful manufacturing companies, enjoys a long tradition. Nelson. 5 Months Through May 31 Projected 12 Months Jan.-Dec. Sharon, what did you find out about buying trailers, plus \$250 per store for an adequate selection of bumper hitches, and an additional \$50 per year per store for licensing and insurance. The chapter concluded by looking at transportation service quality. While these types of assets will show up on the balance sheet, ROA will allow managers to understand how effective their organization is in using these assets to generate profit. Having said this, different customers may have different perceptions and insurance. of the "ease of doing business" concept. 18 R.G. Edmonson, "TWIC's Forgotten Few," Journal of Commerce, April 20, 2009, 20. Documentation is another responsibility of a transportation manager, and the chapter discussed key documents such as the bill of lading, freight bill, and freight claims. A., 101n Towill, D., 97n Townsend, D., 29n Tracey, M., 57n Traub-Merz, R., 175n Trebilcock, B., 85n Tremayne, J., 134n Trent, R. National holidays are another cultural aspect that can affect the effectiveness and efficiency of international logistics. Highway construction. Analyzing, for example, whether an organization with 250 stores and five distribution centers should add or remove one distribution center is challenging enough in and of itself. See Supply-Chain Operations Reference Model (SCOR) Scrap disposal, packaging, 119 SED. Another physical characteristic is the product's ability to withstand the elements; coal piles can be exposed to rain, whereas salt piles cannot. 2.3 Do you view the spreadsheet as the most relevant general software package for logisticians? For example, representative topics included economic order quantity (EOQ) calculations, warehouse sizing, transportation modal and carrier decisions, production planning, and center of gravity location decisions, among others.7 As we moved through the 1990s, increased spreadsheet capabilities allowed organizations to analyze issues that had traditionally been solved by specially designed computer programs. 2 M07_MURP4846_11_GE_C07.indd 127 04/06/14 11:56 AM 128 Part III • Elements of Logistics Systems Table 7.1 F (5) .40 .30 .20 .10 215 Projected Demand (6; • 2 • 5) 100 69 40 18 227 Cause-and-effect (also referred to as associative) forecasting assumes that one or more factors are related to demand and that the relationship between cause and effect can be used to estimate future demand. For example, only trained and certified warehousing employees are permitted to operate a forklift, and forklift operators must be recertified every three years. Land costs and congestion in the central cities often make expansion difficult (or impossible), and transportation companies generally prefer the suburban sites because there is less traffic congestion to disrupt pickups and deliveries. M04_MURP4846_11_GE_C04.indd 73 03/06/14 5:20 PM 74 Part I • Overview of Logistics unique or unplanned customer requests; responsiveness can be achieved when the appropriate decision makers are provided with both relevant information and the authority to address unique or unplanned requests; responsiveness can be achieved when the appropriate decision makers are provided with both relevant information and the authority to address unique or unplanned requests. 204 4. 9.9 What are right-to-work laws? Although service recovery often generates significant out-of-pocket costs, good (or excellent) service recovery may actually result in increased customer loyalty. ISBN 13: 978-1-292-00484-6 (Print) ISBN 13: 978-1-292-0048 catalogue record for this book is available from the British Library 10 9 8 7 6 5 4 3 2 1 14 13 12 11 10 Typeset in 10/12 pts Minion Pro by Integra Software Solutions. Transportation documents, and encouraging logistics Materials management Physical distribution Place utility Total cost approach Postponement Sorting function Learning Objectives

To discuss the economic impacts of logistics To define what logistics is To analyze the increased importance of logistics To discuss the systems and total cost approaches to logistics a provide a brief overview of activities in the logistics channel To familiarize you with logistics careers Economic Impacts of Logistics Although the logistics discipline today is vastly different than when the first edition of this book was published in the 1970s, one thing that remains constant is the economic impact of logistics. Alan M. The seller bears the cost of freight to the named port of destination. Indeed, a recent worldwide Six Sigma study indicated that only about 10 percent of the responding organizations had established a structured performance improvement program prior 7 E.A. Morash, C. Vidal said that he was still trying to count all the unassembled component parts, adding that one problem was that they were still being received from suppliers, despite the cancellation. "The only other one that comes close is to drive the trucks from here to Chicago," answered Vanderpool. How many Style C shades can be loaded into a 40-foot container? For example, dry-bulk cargoes, such as grain, ores, sulfur, sugar, scrap iron, coal, lumber, and logs, usually move in complete vessel-load lots on chartered vessels. The chapter started by comparing transportation infrastructures in several different countries and found distinct infrastructural differences across the country? Figure 13.1 shows a page of the National Motor Freight Classification; note the detail. These products may only intensify the pressures on retailers or wholesalers concerned with inventory maintenance. 12.18 How has the face of transportation been changed through its economic deregulation? Alternatively, from a productivity perspective such as the number of boxes handled per worker, the logistics department might prefer selling the 15 boxes of hair shampoo rather than the 2 boxes of hair dryers. Don started the meeting. Transportation influences, or is influenced by, the logistics activities discussed in previous chapters to include: 1. use of each item, the current lot size purchased, and so on. Choi, Thomas and Tom Linton. Public warehousing requires no capital investment on the user's part, which can certainly be an important consideration when the cost of borrowing money (interest rates) is high. Rice grains cannot fall far without being broken. See Transportation Workers Identification Credential (TWIC) Two-dock versus single-dock layout, 196 U ULD. 2 (2013): 151-182. 7 8 M14 MURP4846 11 GE C14.indd 270 03/06/14 5:37 PM Chapter 14 • International Logistics 271 Economic integration is the final economic factor that we'll discuss in terms of international logistics. Public, Private, Contract, and Multiclient Warehousing In addition to understanding the distinctions among warehouses, distribution centers, and cross-dock facilities, organizations must decide the proper mix in terms of owning (private warehousing) or renting (public, contract, multiclient warehousing) warehousing) warehousing) warehousing) warehousing) warehousing space. Silicon Valley, a collection of high-technology firms located in the southern part of San Francisco, California, is a well-known industry cluster. David Biederman, "Overnight Sensation," The Journal of Commerce 13, no. We never had trouble with him that I knew about before Jason was there. No stores are located beyond the two northernmost points in Massachusetts. The buyer is responsible for all costs and risks from this point forward including clearing the goods for import at the named country of destination. "Product Returns Processing: An Examination of Practices of Manufacturers, Wholesalers/ Distributors, and Retailers." Journal of Business Logistics 30, no. 1 (2009): 33-62. To this end, more buyers are utilizing delivery windows, or the time span within which an order 8 Susan Lacefield, "Ten Tips for Faster Picking," Logistics Management, July 2005, 71-76. You said it could be \$72,000 for the vessel. VMI's benefits include reduced inventories, fewer stockouts, and improved customer retention because it can be difficult and costly for customers to switch suppliers. From the shipper or consignee perspective, idle transportation vehicles such as a railcar or truck trailer can act as temporary (and potentially inexpensive) warehousing. According to Bigelow and the union attorney, Jason had it in for Bigelow. A team of only two would be needed, but the hourly cost would be \$38 per hour (\$28 for the workers and \$10 for the forklift). 40 Alter, Information Systems, Chapter 5. Assorting Building up a variety of different products for resale to a particular customer. "7 Steps to Transportation Management Excellence." Outsourced Logistics 1, no. • FOB destination, freight prepaid: The seller pays the freight charges, owns the goods in transit and files L&D claims, if needed. 3 William G. As was the case with order triage, companies should have clear, consistently applied rules to help in making this decision, but there are companies that decide which facility to use on an order-by-order basis—which can lead to inconsistent order cycle time and cost. However, of the two, the Providence center lagged in two important areas of control: worker productivity and shrinkage. The following paragraphs will discuss several examples of the logistical impacts of technological advances. 1 30 x 24 x 14 IN. See British Overseas Airways Corporation (BOAC), 270 Broker, 32 Brownfields, 179 BSC. Saldanha-da-Gama. Wisner, Joel D., Keah-Choon Tan, and G. See Container Security Initiative (CSI) CSX, 232 C-TPAT. Assume that store 1 receives 3 tons, and store 5 receives 5 tons, store 3 receives 6 tons. In addition, the transportation deregulation acts have reduced carrier liability. Pallet (skid) A small platform (made of plastic, steel, or wood) on which goods are placed for handling by mechanical means. The external environment includes economic considerations, the legal and regulatory frameworks controlling the purchase, and the marketplace within which potential suppliers operate. In addition, the metrics that are chosen should be relevant from the customer's perspective. Individual carriers receive a "Quest for Quality" award when their overall rating on the five dimensions exceeds their industry average, and many of these carriers prominently feature this award on their websites. Industry clusters come in a number of different sizes and shapes, and one type of cluster offers organizations proximity to key suppliers. With respect to TL shipments, brokers will retain a particular carrier and receive a portion of the transportation charges as compensation. For one, employees who are able to live a reasonable lifestyle tend to be happier and more loyal; happy and loyal employees are less likely to leave their jobs and less likely to offend prospective customers. Both had several credit cards belonging to the company. Freight bill, which is an invoice submitted by the carrier requesting to be paid. The fact that a fixed order quantity system works best when there is a predetermined reorder point indicates that this system requires relatively frequent, if not constant, monitoring of inventory levels. Expansion of company-owned warehouses and/or acquiring additional equipment to use in one's warehouses will flow through to the fixed assets category. 1 (2005): 155-159. With respect to regulatory issues, warehousing labor safety practices in the United States are monitored by the Occupational Safety and Health Administration (OSHA). Holmola, Olli-Pekka and Harri Lorentz. Sheffi, Yossi. Transportation management The buying and controlling of transportation services by either a shipper or consignee. Procurement is discussed in more detail in Chapter 6. For example, a 2006 study indicated that information for an "average" company is estimated to cost approximately \$300,000 annually.63 Moreover, increasing reliance on the Internet for logistics activities such as 59 Maria Varmazis, "Buyers Become More Selective in Online Tools," Purchasing, September 15, 2005, 43-45. 11 See for example, fair trade products, or those that guarantee a better deal for producers in the developing world through fair and stable prices as well as teaching farming methods that are environmentally sustainable.28 From a marketing perspective, customer demand for fair trade brands.29 From a logistical perspective, an organization's commitment to selling fair trade products, such as coffee or chocolate, may result in changed sourcing requirements for the necessary raw materials. 7.3 Discuss several demand forecasting issues. CFR (Cost and Freight) The seller clears the goods for export and delivers them when they are onboard the vessel at the port of shipment. Leach, "Marine Highway Suffers a Blowout," The Journal of Commerce, May 7, 2012, 38, 40. "The Impact of Decentralized Control on Firm-level Inventory: Evidence from the Automobile Industry." International Journal of Physical Distribution & Logistics Management 41, no. 33 FreightWatch, US Cargo Theft: A Five-Year Review, April 2011. The growing pains of this integration included unfilled candy orders for Halloween and Christmas, longer delivery times, increased inventory levels, and upset customers.39 36 Stanley E. This chapter begins with a discussion of macroenvironmental influences on international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international
logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and this is followed by a look at three key transaction-related considerations in international logistics, and the second constraint con namely, documentation, terms of sale, and methods of payment. Shrinkage is generally caused by damage, loss, or theft, and although shrinkage costs can be reduced, such efforts often generate other costs. Inbound transportation costs result from volume purchases of inbound goods while lower outbound transportation costs result from volume shipments of finished goods.17 Trade Patterns As pointed out earlier in the chapter, firms producing consumer goods follow changes in population to better orient their distribution systems, and there are shifts in the markets for industrial 17 Lifang Wu, Xiaohan Yue, and Thaddeus Sim, "Supply Clusters: A Key to China's Success," Supply Chain Management Review 10, no. Union locals have areas of jurisdiction, and a firm's labor relations management is a process designed to produce satisfied and loyal customers, and order management consists of a number of different tasks such as order receipt, order entry, credit check, order entry, credit check, order triage, order picking, and so on. Ortega realized that he was uncovering a much larger—and more serious—problem than he had been assigned to explore. Sam Joseph and Daniel Scuka, "AI," Japan Inc., November 2001, 20-28. How much of a cost reduction do you think HDT should offer the buyer? The unit load offers several advantages, one of which is additional protection to the cargo because the cartons are secured to the pallet by straps, shrink-wrapping, or some other bonding device that provides a sturdier building block. For example, in some Asian markets, employee turnover is so high that card security is a major concern.5 Because entire textbooks are devoted to procurement, it's really not possible for us to cover all aspects of this topic in just one chapter. 6 M05 MURP4846 11 GE C05.indd 94 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 95 Table 5.1 Six Processes in the Supply Chain Operations Reference (SCOR) Model SCOR Process Definition Plan Processes that balance aggregate demand and supply to develop a course of action which best meets sourcing, production, and delivery requirements. This means that one logistics system does not fit all companies because goals and objectives vary from one firm to another. 13 This information comes from Export.gov—Incoterms 2010. 4.9 What are some potential challenges to improving productivity by getting more output from existing assets? Field, "Too Complex?" The Journal of Commerce, May 16, 2005, 16-18. More specifically, some value-added activities (e.g., case packing, case labeling) that were traditionally performed at a production plant are now performed in warehousing facilities. Demand Forecasting techniques) depends on a variety of factors, such as the situation at hand, forecasting costs in terms of time and money. and the accuracy of various forecasting techniques. Fawcett and M. 1 (1986): 55-64. The resulting number represents the dollar value associated with holding the particular inventory. Hapag-Lloyd also has space on vessels leaving from Rotterdam to Santos on October 23, October 28, and November 2. Nissan Motor Company of Japan, for example Hannon, "On-Demand Brings Spend Control." 58 David Eakin, "Measuring E-Procurement Benefits," Government Procurement, August 2002, 6-12. 1.17 Discuss several possible interfaces between marketing and logistics in terms of product decisions. 19 Stanley E. In particular, this chapter discusses facility location, which refers to choosing the locations for distribution centers, warehouses, and production facilities to facilitate logistical effectiveness and efficiency. See Federal Motor Carrier Safety Administration (FMCSA) FOB. With only two exceptions, since 1970, HDT had always had at least a four-month backlog of orders. Gathering lines, which are 6 inches or smaller in diameter, start at each well and carry crude oil to concentration points. Pakmini Madarapakan Pagadala and Steven Mulaik, "Now's the Time for an India Strategy," CSCMP Supply Chain Quarter 1, 2009. Both the hierarchical and matrix forms of organization are well suited for environments dominated by costly information and restricted communication -constraints that have been lessened by the Internet. With the factor-input strategy, an organization is seeking low-cost or high-quality sources of supply, whereas the market-access strategy involves sourcing in markets where an organizations plans to do significant business. Perhaps the greatest question raised by JIT, however, had to do with the probability of much more erratic production as a result of tight supplies of components. Wardlow, International Logistics, 2nd ed. In some cases, this alternate channel is direct (i.e., no intermediaries between the p roducer rather than through an intermediary. A more progressive unified structure would include these basic activities plus several additional logistics activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities activities activities such as order management and customer service. 2 (2010): 4-13. 03/06/14 5:38 PM Glossary 297 International logistics activities a characteristics of supply chain partnerships include, but are not limited to, high interdependence among the partners, an increased willingness to share information, compatible goals, mutual trust, and buying decisions based on value as opposed to cost or price. Note how many states are located within 1,000 miles (generally considered two-day service by truck) of Nebraska. Pipelines are involved with demurrage if oil stored in tanks at destination is not removed within specified time limits. A second packaging materials. Z01 MURP4846 11 GE GLOS.indd 301 Wireless communication without cables and cords and includes infrared, microwave, and radio transmissions. Although each of these is discussed in the following paragraphs as discrete entities, interdependencies exist among them. One particular type of ship uses only two-thirds of its cubic capacity when carrying iron ore, yet the 15,800 tons of ore lower the vessel to its maximum allowable draft of 24 feet, 8 inches. As was the case when defining logistics, it's important to have a common understanding of what is meant by supply chain and SCM in order to support management efforts in this area. Min, Hokey. Although detailed job specifications help create additional employment opportunities, the relative lack of worker flexibility can potentially hinder productivity by increasing inputs (e.g., additional workers, hence additional labor costs) while also decreasing output. 20 John Matchette and Andy Seikel, "How to Win Friends and Influence Supply Chain Partners," Logistics Today, December 2004, 40-42. Reverse Logistics Products can be returned for various reasons, such as product recalls, product damage, lack of demand, and customer dissatisfaction. Yu-Lee, Reginald T. "Expatriate Career Support: Predicting Expatriate Turnover and Performance." International Journal of Human Resource Management 20, no. Environmental regulations may require that due diligence be carried out with respect to who previously owned a prospective site and how it was used. Current thought deals more with flows, possibly in different speeds, but without the inventory standing still. For example, an improved level of service provided by higher levels of safety stock should bring about increased revenue as customers respond to improved in-stock availability. Should Terim let somebody else complete the transaction because he knows that if he doesn't sell to the North Koreans, someone else will? The distributor, which served approximately 2,000 customers prior to initiating customers prior to initiating customers prior to initiating customers accounted for 90 percent of company profits. 5 (2008): 516-525. Four factors are used to determine a product's freight classification, namely, density, stowability, ease of handling, and liability to damage and theft. Although water is the most common liquid used in slurry systems, other liquids, such as methanol, can be used. 1.15 Discuss the postponement concept as it relates to the production and logistics interface. The focus of his 04/06/14 12:21 PM Chapter 6 • Procurement 121 business was to buy goods from nearby foreign sources and then find buyers for those
products in the domestic Turkish market. John Langley, Traffic Management: Planning, Operations, and Control (Prospect Heights, IL: Waveland Press, 1991). This can be an issue for those companies that engage in speculative inventory. Moreover, while the Internet was viewed by some as a possible replacement or substitute for, EDI. As a general rule, compactors purchased from factory distributors exhibited fast delivery in terms of elapsed time since sale. Besides, I am depending on the Super Gym to make my gross margin figures." "What about SUVs?" asked Toth. 8 (2011): 42-45. See Council of Supply Chain Management Professionals (CSCMP) CSI. The simple moving average is calculated by summing the demand across different time periods and then dividing by the number of time periods. Boyd, "A Toxic Rate Battle," The Journal of Commerce, June 22, 2009, 62. In order to be successful at managing other 3PLs, a 4PL/LLP needs to have the expertise to consider supply chain solutions and potential trade-offs, make constant objective decisions across a broad set of value-adding activities, and be viewed as neutral.34 Whatever one calls it, by one estimate, 4PL/ LLP currently accounts for approximately 20 percent of total logistics outsourcing expenditures, and revenues are projected to continue growing in the future.35 Barriers to SCM Implementation of SCM may sound attractive from a conceptual perspective, a number of barriers can block its effectiveness, and these are discussed in the following paragraphs. Cycle (base) stock Inventory needed to satisfy demand during an order cycle. Suppliers should be treated as part of the production team. Logistics is also a key area of consideration within SCOR's planning and enabling processes. Either the individual shipment must be insured or the shipper (or forwarder) must have a blanket policy covering all shipments. One common cause of 3PL failure is unreasonable and unrealistic (and unreasonable) for a customer to expect a 3PL provider to cut the user's annual transportation expenditures by 50 percent. From a North American perspective, Six Sigma is a relatively new approach in the sense that it really didn't begin to achieve widespread acceptance—and adoption—until the mid 1990s. 1 (2011): 65-83. The sudden death of the country's president added to the nation's political instability. Warehousing, another key logistics infrastructure component, also varies tremendously across countries. At the risk of sounding redundant, many businesses today are looking to reduce order cycle times translate into higher inventory requirements. Multichannel marketing systems Refers to separate marketing channels to serve customers. 32 Bridget McCrea, "Scrutiny Rules the Day," Logistics Management, April 2009, 38-40. Chapter 2 also explores the Internet's influence on logistics and looks at some of the challenges associated with information technology. Terim recalled that Hagi had said that redoing documents in situations like this cost about 16,000,000,000 TL, including rusvets. 13.9 List and describe the payment options (terms of sale) that can be applied to domestic U.S. shipments. Is this a typical state of affairs? Indeed, transportation accounts for approximately two-thirds of all petroleum consumption in the United States. 12.8 What are pipeline slurry systems? One type of covert surveillance involves unannounced security audits that focus on shortages of particular products.36 You should recognize that there is virtually no limit to the sophistication or cost of devices and techniques that can be used to monitor warehousing security. A second type of international airfreight focuses on parcel services offered by well-known carriers such as UPS, FedEx, and DHL International. Stockout Costs If avoiding oversupply were the only problem associated with inventory (overstock) results in high inventory carrying costs and low (or no) stockout costs. Because these increased distances often mean that the buyer or seller must choose water or air transportation, we'll take a somewhat detailed look at ocean shipping and international air transportation. He told Bigelow to go home, sober up, and come back on Tuesday when they would discuss the length of his suspension. 21 Ibid. A key provision of this agreement is that any EU airline as well as any U.S. airline can fly between any point in the EU and any point in the United States. 21 21 Cathy Buyck, "A Slow Opening," Air Transport World, March 2008, 24-30. As can be seen in Figure 3.1, the ability to lower these costs will fall directly to the bottom line (i.e., higher net income). 7 (2007): 28-35. For example, although Brazil and China are approximately the same geographic size, China currently has about 32 times more paved highway kilometers than Brazil. A shipper's export declaration (SED) contains relevant export declaration data such as the transportation mode(s), transaction participants, and description of what is being exported • Assorting is building up assortments of goods for resale, usually to retail customers. "Supplier Diversity Effectiveness: Does Organizational Culture Really Matter?" Journal of Supply Chain Management 42, no. Early voice-based picking systems were characterized by high adoption costs, poor voice quality, and systems that were easily disrupted by other noises. Because the majority of shirts will be exported from India via water transportation (air freight may be utilized in extraordinary situations), AAA has agreed to let AILS leverage its M09_MURP4846_11_GE_C09.indd 187 existing relationships with logistics personnel at Mumbai Port. It's only when these tasks work in concert that value is created. 4.18 Logistics is inherently connected to sustainability. Materials Handling Principles19 The Materials Handling Institute, a leading nonprofit trade association that represents the materials handling industry, has developed a list of 10 materials handling principles. Produce, meats, fish, and baker's yeast are referred to as perishables. If goods are valued in the currency of where they are produced, that value can fluctuate with respect to the currency value of where the proposal begins with the present classification provisions, followed by the proposal begins. CASE 2.1 Just-in-Time in Kalamazoo Jim Ballenger was president of a medium-size firm that manufactured mini motor homes in Kalamazoo, Michigan. FedEx and UPS customers can choose same-day delivery by the close of business, 12 Francine LaFontaine and Laura Malaguzzi Valeri, "The Deregulation of International Trucking in the European Union: Form and Effect," Journal of Regional Economics 35, no. Because most of the compactors would be placed in home kitchens, a wide variety of colors and trims were manufactured, providing an exterior that would match many kitchen decors. Bridget McCrea, "Cloud Breakthrough," Logistics Management 51, no. 15 Peter Kraljic, "Purchasing Must Become Supply Management," Harvard Business Review 61, no. The buyer bears all risk and costs starting when he picks up the products are delivered to his location. An increased number of SKUs provides customers with more choices, which today's customer often wants. The ideation and costs starting when he picks up the products are delivered to his location. behind the weighted center-of-gravity approach is that a prospective warehousing facility will be located closer to the existing sites with the greatest current demand. Logistics According to the Council of Supply Chain Management Professionals, that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of consumption to meet customers' requirements. The chapter looked at special concerns associated with inventory management including ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an understanding of ABC analysis and inventory turnover and we learned that an unders analysis can help organizations increase their inventory turnover. What are they? One of plastic's most frequently cited shortcomings is the length of time it takes to biodegrade, which can be up to several hundred years. Modal and Carrier Selection, and conceptually modal and carrier selection is a
two-step process where the transportation manager first determines the appropriate mode, or modes, to use and then selects a particular carrier, or carriers, within the chosen mode(s). Neely Andy. This can allow both the carrier and the customer to determine whether individual shipments or shipment patterns can be improved. For example, with respect to the country the product is to be sold in, buyers located in countries characterized by political and/or economic instability would likely need to pay via cash in advance. 12.5 How do truckload operations differ from less-than-truckload operations? Although there are somewhat stringent definitions of quality, such as a product or service that is free from defects, deficiencies, or errors, we will take a more flexible approach and define quality as conformance to mutually agreed upon requirements. Therefore, if we're not going to charter a ship, the best bet is to use Baltimore." "What about chartering a ship?" asked Pon. Successful CPFR implementations have yielded smoother order fill rates and improved forecasting accuracy.4 Despite these potential benefits, you should recognize that (1) not all CPFR initiatives have been successful and (2) there can be significant challenges associated with getting supply chain partners to share the relevant data needed to develop the forecast(s). got to the point: "You mean to tell me that we expect somebody to stuff a spouse, three kids, a dog, and 450 pounds of Super Gym in a small sedan and not have a conniption?" Randy chimed in, "Besides, we can't drop ship Super Gyms from the manufacturer to the consumer's address because Super Gym ships only in quantities of 10 or more." Olga was now worried. With respect to cost improvements, this system enabled Estée Lauder to sharply reduce the percentage of returned goods that it dumped into landfills while also providing half a million dollars in labor cost savings. Does this help to explain why there tends to be an imbalance in the sense of deciding what's good for the workers—and the workers' concerns aren't always the top priority.11 Racial, ethnic, and cultural considerations, and to this end, organizations can choose to do batch or real-time processing.20 With batch processing, data are collected and stored for processing at a later time, with the later time perhaps being based on schedule (e.g., process every six hours) or volume (e.g., process once 25 transactions have accumulated) considerations. This increased cost w ithout an associated perception of value can affect the competitiveness of a firm's offering. D., 190n Perry, J. "Modal Shift for Greener Logistics: The Shipper's Perspective." International Journal of Physical Distribution & Logistics Management 42, no. 1 (2012): 36-59. This expansion also highlights supply location issues, such as will McDonald's use current, or new, suppliers for the new restaurants? For products still left outside, elaborate vacuum systems are used to capture the dust created by handling, and ditches around the facility capture rainwater runoff so that it can be run through filters. The customer places an order for the item delivered when it arrives. Logistics service quality Refers to a firm's ability to deliver products, materials and services without defects or error to both internal and external customers. Unfortunately, some of these companies were far less adept at processing these orders; orders arrived at all), arrived incomplete, and arrived incomplete, and arrived incomplete, and external customers. and come in different sizes. Questions for Discussion and Review 8.1 Which type of inventory carries the greatest cost and why? 3 (1997): 93-102. 9 M13_MURP4846_11_GE_C13.indd 260 03/06/14 5:36 PM Chapter 13 • Transportation Management 261 As mentioned in Chapter 12, the nature of transportation costs is that it costs less on a per pound basis to ship a larger quantity because certain costs (fixed, administrative, or terminal) are the same per shipment. Moreover, some substitute product decisions are much more challenging than others. The retailer will reimburse the wholesaler only for goods sold; the wholesaler bears nearly all the financial risks. Energy efficiency is a prominent logistics social responsibility issue for many organizations, and we'll take a closer look at energy efficiency in the following paragraphs. However, the Jungle Jim product that utilizes many of the parts. The owners of the surviving cargo and the vesse owner must then share the costs of reimbursing the shippers whose cargo was thrown overboard. For example, a new 48" by 40" metal pallet costs approximately \$80; a new 48" by 40" metal pallet costs approximately \$125. 4 (2012): 10-17. (www.scm-institute.org) M05_MURP4846_11_GE C05.indd 95 03/06/14 5:17 PM 96 Part II • Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes in the Global Supply Chain Forum (GSCF) Model GSCF Processes (GSCF) Model GS Supplements Supplements are available for adopting instructors to download at www.pearsonglobaleditions. Documents are prepared that the importing country uses to determine duties to be levied on the shipment as it passes through customs. desktop tape dispensers that is presented in Table 11.1. According to Table 11.1, less than one-third of the available case cube is occupied by cases. Each objective will be briefly highlighted in the following paragraphs. T., 57n, 59n, 93, 93f, 93n, 94n, 127r Michas, N., 263n Michel, S., 141n Miller, P., 111n Miller, T., 64n Mitchell, B., 117n Moberg, C. In contrast, the Baldrige Award is more heavily focused on the actual results from a quality system as well as on continuous improvement.14 The Baldrige Award is more heavily focused in the sense that organizations benchmark themselves against organizations from outside their particular industry. 5.12 Why is top management commitment necessary for successful supply chain management? Setup costs are those necessary to modify production processes to make the products necessary to satisfy particular orders. Adopters were found to spend less on Table 2.1 Transportation Management Systems Task Capability Task Capability Asset tracking Claims management Freight payment Load tendering Package pickup tracking Rating Route optimization Source: "Transportation Management Systems Solution Selector," Logistics Today, September 2004, 76-80. Near the point where product packages, packing materials, and labels that will be used. Another way of improving the output from existing assets involves extending their revenue-producing lifespan. Another type of vessel that combines aspects of several vessel types is the parcel tanker, which has over 50 different tanks, ranging from 350 to 2,200 cubic meters. Safety, or buffer, stock refers to inventory that is held in addition to cycle stock to guard against uncertainty in demand or lead time. Moreover, complex supply chains may include "specialist" companies, such as third-party logistics (3PL) providers, to facilitate customer purchasing with brick-and-mortar stores (one channel) as well with a website (another channel). In large containerships, some of the containers are carried above the level of the deck, which increases the vessel's cubic-carrying capacity. Documentation and the documents associated with transportation shipments, or documentation, are one important source of a containers are carried above the level of the deck, which increases the vessel's cubic-carrying capacity. logistics information. As pointed out in the previous paragraph, this tracking information is increasingly provided to the transportation manager at her or his computer or smart phone—as opposed to the "old days," where the transportation manager at her or his computer or smart phone as opposed to the transportation manager at her or his computer or smart phone as opposed to the transportation manager at her or his computer or smart phone as opposed to the "old days," where the transportation manager at her or his computer or smart phone as opposed to the "old days," where the transportation manager at her or his computer or smart phone as opposed to the "old days," where the transportation manager had to contact the carrier for information about a shipment. balanced scorecard? HDT's president, Gordon Robertson, had sided with Guillou. 6.10 Describe how you could manage supply in the four segments of Kraljic's Portfolio Matrix. L., 176n Hiback, J., 23n Hickey, K., 175n Higgins, K.T., 129n Hill, B., 102n Hoffman, M., 202n Hoffman, W., 50n, 163n, 193n, 215n Holcomb, M. Bixby, Booher, and Ortega recognize that Handy Andy needs a better way to learn about the buyer's installation experience. "Strategies for High-Performance Procurement." Supply Chain Management Review 9, no. Moreover, as we've emphasized throughout, transportation is the most costly logistics activity for many organizations, and as pointed out in Chapter 12, transportation is pivotal to the successful operation of any supply chain. 12.20 What is meant by the term "exempt carrier"? 13.6 Discuss the four factors used in determining a product's freight classification. The
comparable time by sea was 20 days, and past experience showed that the sea journey was hard on the cattle, causing either lung damage or long delays before the animals could be bred. Consider, for example, several of the Occupational Safety and Health Administration's (OSHA) suggestions to improve warehouse safety: "prohibit stunt driving (of forklifts) and horseplay;" "keep floors clean and free of slip and trip hazards."24 Warehousing safety can be influenced by governmental regulations and in the United States, safety standards have been set for warehousing equipment and operations, and OSHA inspectors make frequent visits to industrial workplaces to ensure regulatory compliance. Keep in mind that the risks involved in such environments are much higher than the risks of conducting business in Western markets. The Trade Act of 2002, which required submission of advanced electronic data on all shipments entering 16 V. 2 (1998): 65-81. When he felt good, things hummed; when he was not feeling well or was absent, work dragged. Warehousing Education and Research Council (WERC) (www.werc.org) WERC is a "professional organization focused exclusively on distribution and warehousing management and its role in the supply chain." It emphasizes education and learning, research into industry issues, and networking opportunities. from where it is produced to where it is sold. For example, a poor transportation infrastructure and high levels of inventory are two key drawbacks that have limited the expansion of Vietnam's economy.1 In a similar fashion, 1 No author. More specifically, the Six Sigma approach suggests that there will be 3.4 defects, deficiencies, or errors per one million opportunities—obviously a very high standard. M10 MURP4846 11 GE C10.indd 197 04/06/14 12:03 PM 198 Part III • Elements of Logistics Systems Warehousing Productivity Analysis Recall from Chapter 4 that productivity is a measure of output divided by input, and although a number of different productivity metrics can be used to assess warehousing productivity, not all are relevant to all kinds of facilities. The problem was that this facility could not produce fast enough to fulfill more than 20 percent of the rest of the contract (for the 224 buses), which meant that he would have to coordinate production and delivery on the rest of this order from other plants. When to Order A key issue with respect to inventory management involves when product should be ordered; one could order a fixed amount of inventory (fixed order interval system). Which option should Terim recommend? Process includes forecasting, synchronizing supply and demand, reducing variability and increasing flexibility. 1 (2011): 22-31. Managers should also understand the time and monetary costs associated with each particular forecasting technique. While collaboration between functions within an organization (internal collaboration) can sometimes be problematic, the benefits from organizations successfully collaborating with other supply chain members (external collaboration) drop directly to the bottom line and can increase the competitiveness of one's supply chain collaboration in recent years, and a review of what's been written might leave the reader confused in the sense that some writings indicate that supply chain collaboration is currently more wishful thinking than practical reality, that few organizations engage in collaboration, and those that do haven't experienced much improvement in performance. Truckload rates are lower than LTL rates for three reasons: (1) the shipper loads the goods, and the consignee unloads the trailer (2) the load goes directly from shipper to consignee without passing through terminals; and (3) paperwork, billing, and other administrative costs are little more for a 25,000-pound shipment than they would be for a 25,000-pound shipment. (1998): 341-357. Organizational Structure for Logistics, namely, fragmented and unified. Table 7A.2 Activity Data and Product Cost Calculation Activity Cost Product 1 Data Order transmittal Order processing Order picking and assembly Order delivery \$1,000 \$3,000 \$1,200 \$6,600 7 orders 4 activities 10 boxes \$6,000 30 locations Total \$22,000 Product 1 Cost Product 2 Data Produ \$12,600 \$1,500 \$9,400 26 Ibid. J., 42n Candas, M. Service parts logistics creates a variety of potential challenge is it can be extremely difficult to forecast the design of loading facilities so that the grains of rice never drop more than a few feet at any one time. Alternatively, one drawback to VMI is inadequate data sharing between the relevant parties, in part because of trust and control concerns. Wagner, and Vijay Aggarwal, "Positioning of Commodities Using the Kraljic Portfolio Matrix," Journal of Purchasing & Supply Management 18, no. Free on board (FOB) is followed by either "origin" or "destination," and this location specifies the point at which the title and control of a s hipment passes from buyer to seller. For example, Procter & Gamble (P&G), a prominent multinational company that produces consumer packaged goods, needed raw materials to make soap, as well as customers for the soap, when it was founded in 1837; today, P&G still needs raw materials to make soap—as well as customers for the soap. We'll take the broader view, which suggests that supply chain collaboration can be classified as transactional, tactical information of cost for each activity, as shown in Table 7A.1. Step 3 requires us to determine cost drivers, and in this example they are order transmittal S number of boxes; order picking and assembly S number of boxes; order picking and assembly S number of boxes. Trucking Associations (a trade group that represents motor carrier interests) was, "If you have it, it moved by truck." As was the case with airfreight, weather considerations include ice, fog, snow, flooding, and high winds (which can affect bridge crossings). Proximity to Industry Clusters When looking at facility location considerations, early business logistics textbooks discussed the agglomeration concept, which "refers to the net advantages which can be gained by a sharing of common locations by various enterprises." 16 Although agglomeration continues be a key factor in facility location, it is better known today as the industry cluster concept. Letter of credit An international payment option that is issued by a bank and guarantees payment to a seller provided that the seller has complied with the applicable terms and conditions of the particular transaction. Donald Hurst is KiddieLand's logistics manager. These freezers come in one size and are distributed through public warehouses in Atlanta, Boston, Chicago, Denver, Los Angeles, Portland, and St. Louis. Waterborne commerce also moves via oceangoing vessels between the mainland states (Lower 48) and Alaska, Hawaii, and Puerto Rico. 8 Gina M. 37 Joel D. As a result, the "obvious" solution to the problem—reducing the inventory of oil filters—wasn't feasible because the owner wanted to please his spouse. Stank, "Logistics 31, no. It's important to recognize that compatible corporate cultures don't require all organizations to be the same. Other work was scheduled for the assembly line at the same time, so the M12 MURP4846 11 GE C12.indd 244 production schedule was considered firm. Both China and the United States use only one size—standard—rail gauge (1.435 meters) in their rail infrastructure. Queueing theory is used to find the best level of capacity, the one that minimizes the costs of providing a service and the costs of those waiting to use the service. Nonbulk materials can be placed in various types of containers and can be handled by such conveyances as carts, cranes, dollies, and forklifts. Organizations can be concerned with a number of labor-related characteristics: the size of the available workforce, the unemployment rate of the workforce, the age profile of the workforce, its skills and education, the prevailing wage rates, and the extent to which the workforce is, or might be, unionized. Without the freight forwarder, the shipper has to use the \$5 LTL rate. In addition to physical characteristics, products also possess chemical characteristics that affect the manner in which they should be handled. The same study also reported that GPS implementation allows companies to reduce vehicle travel by about 230 miles per week, for an annual fuel savings of approximately \$52,000.15 Tablets, such as Apple's iPad, are also becoming important contributors to logistics decision making. retail. An example of rate determination using the class rate system is presented in Table 13.1. Before proceeding with a discussion of the class rate system, note that the rates are expressed in terms of hundredweight (100 pounds), rather than per pound. So on Friday, Meyers, Bigelow, the union attorney, the shop steward, Bigelow's supervisor, and I met. Inventory turnover The number of times an inventory is used or replaced each year. Thus, Chile was the top-performing Latin American and Caribbean country. F., 162n Cannon, J. Why or why not? Further, the beginning inventory is equal to the safety stock plus the EOQ (60 + 120 = 180). Forecasts are made of sales and of the inventories that must be stocked so that the firm can fill orders in a satisfactory manner. The choice of a faster transportation alternative (e.g., air) will likely create higher transportation alternative (e.g., air) will not expected as the firm can fill orders in a satisfactory manner. The choice of a faster transportation alternative (e.g., air) will not expected as the firm can fill orders in a satisfactory manner. create lower transportation costs and higher inventory holding costs. No inventory in transit 6. Gibson, Brian J., John T. Berndsen's immediate problem was the first shipment of buses, which would be ready to leave Prague on October 15. Organizations generally restrict the number of employees authorized to use
procurement cards, and each month an organization receives a detailed statement listing employees, details of their purchases, and purchase prices. Voice-based order picking activities. Exempt carriers that have been exempted from economic regulation through provisions in various pieces of legislation; the appropriate rates and services must be negotiated directly between the carrier and user. 1, 113-132. (Cambridge, UK: University Press, 2007). 11.10 Discuss some of the potential challenges to adopting the metric system in the United States. Alternatively, if the total credit days exceed the total demurrage days, then no demurrage charges are paid. Chapter 5 examines supply chain management, which is a distinct concept from logistics management. The EOQ arrives before opening on day 8, boosting the freight, also, are we?" "So far, no," responded Guridi. Southwest Airlines, for example, is able to fly more trip segments per day with its airplanes than many of its competitors because Southwest's planes spend less time parked at airport gates. Michael Knemeyer, "Exploring the Integration of Sustainability and Supply Chain Management— Current State and Opportunities for Future Inquiry," International Journal of Physical Distribution & Logistics Management 43, no. Should an organization rely on one or two facilities to serve its customers, or should it rely on multiple facilities to serve them? Waterway transport of hazardous materials, which prior to September 11 were primarily managed from a safety perspective. For example, holding 10 units of safety stock for an entire year allows the firm to prevent 20 stockouts; moving from 10 units to 20 units of safety stock allows 16 additional orders to be filled. The following discussion about the interactions between logistics and marketing mix, sometimes referred to as the four Ps of marketing (place, price, product, and promotion). The first edition, for example, primarily focused on physical distribution management, and the corresponding definition emphasized the movement and storage of goods. case of a product recall. "Logistics Performance: Efficiency, Effectiveness, and Differentiation." Journal of Business Logistics 31, no.1 (2010): 43-62. For some smaller buyers, single sourcing might actually reduce their alternatives and ultimately raise the price they pay.8 The final step of the supplier selection process, evaluate decision, involves a comparison of expected supplier outcomes to actual supplier outcomes. Maquiladora Manufacturing plants that exist just south of the U.S.-Mexican border. M08 MURP4846 11 GE C08.indd 148 03/06/14 5:23 PM Chapter 8 • Inventory Management 149 Inventory Costs You might remember the basic accounting equation that assets are equal to liabilities plus stockholder's equity. Another aspect of federal government involvement in cross-border trade is that many nations provide subsidies, train their own merchant fleets. Keep in mind that delays, whatever their source, result in slower transit times and increased costs. Lambert, Sebastian J. 7.10 What is pick-to-light technology, and how can it improve order picking? 18 Donald Bowersox and David Closs, Logistical Management, The Integrated Supply Chain Process (New York, McGrawHill, 1996) and Donald Bowersox, Patricia Daugherty, Cornelia Droge, Dale Rogers, and Daniel Wardlow, Leading Edge Logistics: Competitive Positioning for the 1990's (Oak Brook, IL: Council of Logistics Cost (\$ billion) Total Logistics Cost (\$ billion) Wilson for the Council of Supply Chain Management. Each product has unique physical properties that, along with the normally accepted volumes or quantities in which it is traded or moved, determine how and when the product is packaged. From a companywide perspective, the systems approach indicates that a company's objectives can be realized by recognizing the mutual interdependence of the firm, such as marketing, production, finance, and logistics. It also undertakes local customs clearance and transportation to deliver to the door of the customer. Some of these consequences were well illustrated in the high-profile theft of nearly \$80 million in pharmaceuticals from a Connecticut warehouse in 2010. "They don't know how to prepare shipping documents, and they can't choose the right carriers. Another product interface between marketing and logistics involves the amount of particular SKUs to hold. Stockout costs, or estimating the costs or penalties for a stockout, involve an understanding of a customer's reaction to a company being out of stock when a customer of a customer wants to buy an item. labor. See Coast Guard, U.S. (USCG) U.S. Environmental Protection Agency, 84 V Vehicle security, 83 Vendor-managed inventory (VMI), 163-165 Vertical integration, 105 Virtual meetings, 41f VMI. In a free trade zone nondomestic merchandise may be stored, exhibited, processed, or used in manufacturing operations without being subjected to duties and quotas until the goods or their products enter the customs territory of the zone country. As an example, dressed poultry (i.e., the removal of blood and feathers after slaughter) often carries salmonella organisms (which are killed in cooking), and the organisms survive in the wooden crates used by the poultry processor and then may spread to vegetables if they are transported later in the same crate. Materials handling equipment can be divided into two categories—storage equipment and handling equipment. KiddieLand markets a full range of toys, electronic games, computers, and play sets. What happens to employee seniority? Warehousing is another inventory-related consideration associated with international logistics. Global procurement (sourcing) Refers to buying components and inputs anywhere in the world. Because 120 units represent the reorder point (point B), an order is placed at the beginning of day 3. On August 15, Huber received an e-mail from Leopold Escabar in Caracas, who had just returned from an important meeting with local authorities in charge of redesigning the local public transportation systems for the Brazilian cities of São Paulo and Rio de Janeiro. • Allocating is breaking a homogeneous supply into smaller lots. The firm's controller drew up a budget each year, and each warehouse's monthly activity (units shipped) and costs were tallied. Beth Mattson-Teig, "Top Site Selection Factors: Highway Accessibility—the Need for Speed," Area Development Online, November 2011. Thus, firms with strong EDI links to both suppliers and customers might have a substantial advantage over supply chain arrangements without such implementations. Assets are what a company owns and come in two temporal forms: current assets that can be easily converted to cash (such as stock) and long-term assets that have a useful life of more than a vear (such as a company-owned warehouse). See Worker Adjustment and Retraining Notification (WARN) Warner-Lambert, 24 Waste materials, 119 Water carriers, 233-234 Waybill, preparing an air, 278 Weighing out, 220 Weighted center-of-gravity approach, 182, 182t Weight-gaining products, 173 Werner Enterprises, 230 Wireless communication, 42 WMS. Another goal of a lean approach could center on reducing the amount of inventory in the supply chain. Once the customer's desire for a black shovel is communicated to an organization, is the organization able to fulfill this desire? 4 (2012): 243-257. While space limitations restrict us from discussed in this section and these trade-offs are often more complex than they appear because individual trade-offs are not independent from one another. 11 (2011): 1301-1306. The obligation to avoid discrimination in pricing and service suggests that similarly situated customers (e.g., customers that ship to the same origin and destination point) should receive identical treatment. For liquids with vapor-escape problems, the transfer processes are redesigned so that tanks and other receptacles are loaded from the bottom rather than the top. Cash-to-cash cycle looks at how long an organization's cash is tied up in receivables, payables, and inventory. Sometimes, a product will not be made until there are sufficient financial commitments, which is often the case with new models of commercial airplanes. He walked by the employees' lunchroom and heard the normal sounds of 50 people eating and talking. It dates from 1748, when the St. Antony Iron Mill opened in Oberhausen (located in the heart of the Ruhrgebiet industrial region) during the beginning years of German industrialization. 23 M06_MURP4846_11_GE_C06.indd 117 04/06/14 12:21 PM 118 Part II • Supply Chain Management the coming years. The smaller order quantities associated with online retailing tend to favor transport companies with extensive delivery networks and expertise in parcel

shipments. 24 John S. 5 (2005): 403-428; and Cristian Baier, Evi Hartmann, and Roger Moser, "Strategic Alignment and Purchasing Efficacy: An Exploratory Analysis of Their Impact on Financial Performance," Journal of Supply Chain Management 44, no. To address this shortcoming, the weighted moving average technique assigns greater importance (weight) to the more recent data. Currently, three key factors differentiate NVOCCs can set their own bills of lading; (2) NVOCCs can set their own rates for ocean and intermodal shipments; and (3) NVOCCs can set their own bills of lading; (2) NVOCCs can set their own rates for ocean and intermodal shipments; and (3) NVOCCs can set their own bills of lading; (2) NVOCCs can set services.16 16 James E. Make-to-stock Products are produced prior to receiving a customer order. Lee, V. One exception is Green Mountain Coffee makers. At a minimum, these products add to a company's inventory carrying costs and also take up space that could be used to store other products. in 1989 in Antalya. 1 (2010): 1-21. Customer service was the third major topic addressed in this chapter and the four dimensions of customer service— time, dependability, communication, and convenience—were discussed. Time utility Having products available when they are needed by customers. (Mason, OH: South-Western Publishing, 2011). Likewise, automotive leases allow customers to take possession of a more desirable model than would be possible with conventional automotive loans. "Warehouse Design: A Structured Approach." European Journal of Operational Research 193, no. Today, many carriers provide software that enables the shipper to use computers to generate all the commonly used documents. 28 The material in this section is based on Logistics Performance Index, M14_MURP4846_11_GE_C14.indd 288 03/06/14 5:37 PM Chapter 14 • International Logistics 289 Summary This chapter covered various aspects of international logistics, which differs from domestic logistics in many respects, such as by having a requirement for numerous documents as well as by greater distances between origin and destination points. 2012 Figures Units Shipped Atlanta 2013 including a safety stock (SS) factor: ROP = (DD * RC) + SS Continuing with the previous example, suppose that the company decides to hold 40 units of safety stock. Temporarily, ignore your work on Question 2. 13 Anthony Coia, "The Replacement Fillers," Automotive Logistics, September-October 2008, 28-32. 2 (2008): 183-211. The firm handles health inspection prior to shipment, arranges for cages and quarantines (if required), books flights, and handles all documentation. In addition, a high-fixed-cost alternative such as private warehousing becomes less attractive in times of high interest rates because it is more costly to secure the necessary financing to build or lease the facility (to be fair, interest rates in some nations, such as the United States, have been relatively low in recent years). N., 44n Frump, R. Decision support systems (DSS) Decision support systems (DSS organization implies that the company maintains a single logistics department that administers the related activities for the entire company from the home office. Approximately 60 international ports, including such major ports as Hong Kong, Singapore, Shanghai, and Rotterdam, currently participate in the CSI. A decision to sell a company-owned warehouse could directly affect the fixed expenses of running the facility. An area designed to store damaged merchandise that is awaiting inspection by claim representatives 7. Procurement, an important activity because its costs often range between 60 and 80 percent of an organization's revenues, has assumed greater strategic orientation in many contemporary firms. Demand is 30 units on days 12 and 13, and inventory has reached 60 units (point L). Ratings of the television series plummeted, and within a month it had been dropped from the air. Real-time processing, not surprisingly, means that transactions are processed as they are received. This same study also found that the most significant benefits from Six Sigma have been reduced costs, reduced errors and waste, and reduced cycle time, whereas the key drawbacks have involved overcoming business cultural barriers, investing the required resources (both human and money), and gaining top management commitment.10 integration of Six Sigma with the Lean approach, so-called Lean Six Sigma, is an area of emerging focus within many companies. He called Meyers and was upset by the discussion. Orders of decreasing size make diminishing (and eventually negative) contributions to profits. If the introduction of warehousing into a supply chain simply shifts business. costs across various logistics activities, then why is warehousing desirable? For example, the vast amounts of data necessary for ERP systems may necessitate new or upgraded computer hardware. Brokers look to secure the best transportation rate and service package available for shippers, while attempting to ensure that carriers operate as closed as possible to maximum capacity. What should I expect to happen after the freight claim M13_MURP4846_11_GE_C13.indd 258 03/06/14 5:36 PM Chapter 13 • Transportation Management 259 Figure 13.4 An Overcharge Claim Form Source: Courtesy of Saia, Inc. Most analytical procedures for determining the number of facilities are computerized because of the vast number of permutations involved, as well as the complementary relationships between current facilities in a distribution network. In other words, there are few companies in which a person holding the position of chief logistics officer (CLO) leads the logistics function. The salesperson had located the belt at another Nordstrom's and had the belt expedited—via air freight—to the local store. Poist, and Arni Halldosson. Although an additional facility may indeed be required, the general trend in recent years has been for companies to reduce the number of facilities in their distribution networks. and Tage Skjoett-Larsen. Why has there been a resurgence in maquiladoras in recent years? Alternatively, when loaded with coal, the vessel is lowered to only 20 feet, 6 inches. Sophisticated monitors are expensive, but they may be necessary to solve a problem of recurrent in-transit damage. 7. Michael Knemeyer Boston Columbus Indianapolis New York San Francisco Upper Saddle River Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montreal Toronto Delhi Mexico City Sao Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo A01 MURP4846 11 GE FM.indd 3 03/06/14 12:22 PM Editor in Chief: Stephanie Wall Head of Learning Asset Acquisition, Global Edition: Laura Dent Acquisitions Editor: Manager Team Lead: Ashley Santora Executive Manager: Tom Benfatti Acquisitions Editor, Global Edition: Steven Jackson Associate Project Manager Team Lead: Ashley Santora Executive Marketing Manager: Tom Benfatti Acquisitions Editor, Global Edition: Steven Jackson Associate Project Manager Team Lead: Ashley Santora Executive Marketing Manager: Tom Benfatti Acquisitions Editor, Global Edition: Steven Jackson Associate Project Manager Team Lead: Ashley Santora Executive Marketing Manager: Tom Benfatti Acquisitions Editor: Marketing Manager Team Lead: Ashley Santora Executive Marketing Manager: Tom Benfatti Acquisitions Editor: Marketing Manager: Marketing Manager: Marketing Manager: Marketing Manager: Marketing Mar Editor, Global Edition: Binita Roy Senior Manufacturing Controller, Production, Global Edition: Trudy Kimber Operations Specialist: Nacy Maneri Creative Director: Jayne Conte Cover Photo Credit: © Jurand. While there is no standard set of measures that firms should employee, using a concise yet comprehensive set of measures should provide an effective monitoring and management tool for an organization.16 When viewed from a logistics point of view, the BSC approach forces managers to look beyond traditional financial measures when conducting a strategic logistics analysis. An example of misidentification involves a consumer products company that mistakenly assigned the same product code to a 3-pack, 6-pack, and 12-pack of a particular product it sold. After some further research specific to his firm, Wayne determined the following facts: 1. The chapter concluded by
looking at general managerial issues facing logistics managers. Michael Knemeyer, Building High Performance Business Relationships (Sarasota, FL: Supply Chain Management Institute, 2009). The transportation requirements associated with a shipment of, say, toys, from Shanghai, China, to Des Moines. Moser, George and Peter Ward. We'd be responsible for loading and stowing the cargo, and this would cost \$4,000 for all 50 trucks. Moreover, it is important that the materials handling equipment be aligned with an organization's objectives, customers, and products. Scott Stratman, "Special Orders," Electrical Wholesaling, May 2006, 52-53. The continuing worldwide economic uncertainty has resulted in a pronounced reduction in credit availability for open account financing and generated renewed usage of letters of credit as an international payment method.15 A letter of credit is issued by a bank and guarantees payment to a seller provided that the seller has complied with the applicable terms and conditions of the particular transaction. Total cost of ownership (TCO) Refers to an approach where firms consider all the costs that can be assigned to the acquisition, use and maintenance of a purchase. Electronic procurement and reverse auctions, which were discussed in Chapter 2. Savitske, Katrina. An advanced unified structure would include both the basic and progressive activities, along with several other logistics activities such as demand forecasting and procurement. Fixed slot location in a warehouse and is always stored there. A second possible method of supply chain coordination involves the use of formal contracts among various members. Consider the following two examples from the railroad industry. In addition to infrastructure characteristics, it's also important to understand a country's modal operating characteristics, it's also important to understand a country's modal operating characteristics for surface transportation. persons reside and which is the heartland of Turkish industry. Grain loads are lower density than either coal or iron ore; the ship's draft when full of grain is slightly less than 20 feet.18 A material's angle of repose is the size of angle that would be formed by the side of a conical stack of that material. Jason, of course, was not there. DAP (Delivered at Place) The seller clears the goods for export and bears all risks and costs associated with delivering the goods to the named place of destination not unloaded. 2 John T. The advantage of Rotterdam comes, however, in the shipping time from there to Santos, which saves a day versus Bremerhaven or Hamburg, and ocean shipping charges are 5 percent less. See Free on Board (FOB) FOB destination pricing systems, 255 Focus strategy, 59 Food and Drug Administration (FDA), U.S., 213 Form utility, 19-20 4PL. We could arrange to share a ship with another party, but many bulk cargoes are pretty dusty and might not be compatible with our vehicles. Our discussion in this section will focus on federal regulation. Eisenhower System of Interstate and Defense Highways), which was approved by federal legislation in 1956. Today, by contrast, a customer can choose several next-day delivery options, such as delivery by 12 noon and delivery by 4:30 p.m. Another key order delivery issue is that a number of shippers are emphasizing both elapsed transit time reliability, which is important because increases in order cycle variability translate into higher inventory levels. Goods waiting in warehouses, in terminals, or to clear customs are more vulnerable to theft than goods that are moving. 5 Derived from M13_MURP4846_11_GE_C13.indd 255 03/06/14 5:36 PM 256 Part III • Elements of Logistics Systems Unfortunately, the carrier selection procedure is more challenging than that for modal selection, in part because there can be tens, hundreds, or even thousands of carriers from which to choose in a particular mode. 16 M02_MURP4846_11_GE_C02.indd 43 03/06/14 5:13 PM 44 Part I • Overview of Logistics Despite these drawbacks and a perception that EDI is an "old" technology, 21 EDI continues to be an important logistic technology tool in the twenty-first century. Macroenvironmental Influences on International Logistics Macroenvironmental influences refer to the uncontrollable forces and conditions facing an organization's macroenvironmental factors. While these macroenvironmental influences in an organization's macroenvironmental influences refer to the uncontrollable forces and conditions facing an organization and include cultural, demographic, economic, natural, political, and technological factors. domestic market, they provide even greater challenges when doing business outside of one's home market. Once this lowest bidder would get the contract for the next several months. 25 No author, "Nestlé to Close 'High Value' Hayes Coffee Plant by 2014," Food Manufacture, February 2012, 2. For example, take a logistics process associated with pick and pack operations in a warehouse environment. It's generally much easier to store and track 500 units of the product. 03/06/14 5:36 PM 266 Part III • Elements of Logistics Systems Sykes, Scott, Matthew Menner, and Vincent Chiodo. 1 (2010): 45-64. Companies such as Amazon, eBay, and Walmart are all looking at ways to offer their online customers the ability to receive their products the same day.49 While still in the pilot stage, the logistical implications of this strategy are immense. For example, although the U.S. Ocean Shipping Reform Act (OSRA) of 1998 did not explicitly prohibit shipping conferences, OSRA allowed ocean shippers and carriers to negotiate confidential contracts—which severely undermined conferences? Industry clusters can provide potential advantages to prospective participants in terms of facility and transportation considerations. It provides a way for managers to examine how a proposed change to their logistics system influences profit performance and ROA. keeping both parties informed. As reverse auctions have evolved, so too have their parameters; in some situations a buyer is exempted from accept any of the bids.60 Buyers tend to like reverse auctions because they aim to generate low procurement prices, and the online nature of reverse auctions allows buyers to drill down to a seller's low price very quickly. The first option would be to ship the lumber by sea from Wonsan, North Korea, through the Suez Canal, and into the Liman (port) of Antalya, Turkey. In a similar fashion, today's emphasis on global sourcing translates into longer and more erratic transit times—and longer and more erratic transit times don't align very well with lean's emphasis on shipments that arrive exactly when needed. He had been with Red Spot for two years and had rearranged the entire delivery route structure so that two fewer trucks were needed. Moreover, the same flexibility that allows for exiting unprofitable or unproductive arrangements also allows parties the ability to switch supply chains when presented with what appears to be a better deal. The Staggers Act of 1980, which lessened railroads and motor carriers, respectively, to establish released value rates (wherein the shipper agrees that a commodity is worth no more than so many dollars per hundred pounds in case a claim is filed, in return for a lower rate). We know, for example, that today's customers are looking for faster and more reliable order cycles, but how are faster and more reliable order cycles operationalized from a facility location perspective? 3 (2012): 51-53. If bills are not paid when due or if credit is overextended, collection becomes a financing channel function. In fact, one study found that while most of the companies they examined produced transportation scorecards monthly, Best in Class companies were twice as likely to be producing daily scorecards.20 Use of these scorecards reduced shippers to increase competition on lanes that led to freight cost savings. M05_MURP4846_11_GE_C05.indd 96 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 97 focuses on an organization's ability to respond to changes in demand with respect to volume and variety.12 Failure to be fast and agile can result in decreased market share, reduced profitability, lower stock price, or dissatisfied customers for supply chain members. Knemeyer, A. Alternatively, railroads are faster than both pipeline and water, but slower than air and truck. The average distance east is (1 + 2 + 3 + 4 + 6) or 16; 16 divided M09 MURP4846 11 GE C09.indd 181 04/06/14 12:01 PM 182 Part III • Elements of Logistics Systems Figure 9.4 Center-of-Gravity Location for a Warehouse Serving Five Retail Stores by 5 equals 3.2 miles. Thus, the best (lowest-cost) location is one with coordinates 2.4 miles north and 3.2 miles east of point zero. 2 (2002): 48-67. These cost variations highlight the importance of understanding the trade-offs between logistical activities that have been discussed throughout the text. For example, a decision to outsource manufacturing activities that have been discussed throughout the text. and storage of materials and information from this facility. Packaging can be thought of in terms of the building-blocks concept where a very small unit is placed into a slightly larger unit, and so on. Potter, M.M. Naim, and A. For instance, Apple Corporation's initial sales estimates for the iPod, which was introduced in 2001, were based on judgment and intuition—the iPod was not only a new product, but a somewhat revolutionary product as well. "One more thing," Don said. and Mandyam M. "Carrier Selection: Understanding the same truck to deliver materials and component parts and to pick up finished goods. If we place one order per year for the product, Ordering cost = number of orders per year (1) * ordering cost = 1 * 80 = 80 Carrying cost (.20)], or Carrying cost = 2,600 * 10 = 26,000 Alternatively, look what happens to ordering and carrying cost = 52 orders * \$80 per
order, or \$4,160 Carrying cost = 52 orders * \$80 per order, or \$4,160 Carrying cost = 62 orders * \$80 per order, or \$4,160 Car which involves determining the data sources to be used. • Forklifts in warehouses are locked at night, making it difficult to reach high items or to move heavy items. Range complexity centers on the implications associated with their customers. FOB destination A transportation term that signifies that the seller retains title and control of a shipment until it is delivered. Hagi, in an almost mysterious manner, did tell Terim that he looking for a Turkish partner willing (ISF) rule known as "10 + 2"; a regulation that stipulates that importers are required to file 10 pieces of information, before cargo is loaded at non-U.S. water ports. One reason for the growth of amodalism is that nonasset-based third-party logistics companies have the ability to develop multimodal solutions to a client's two pieces of information. transportation problems.6 Amodalism is also aided by companies such as UPS and FedEx that own companies that provide different types of transportation services (e.g., air, expedited, LTL, parcel). In a matrix design, one employee might have cross-functional responsibilities. Often, managers have been overly influenced by the promise of potential labor cost savings without fully considering the increased logistics costs that result from this more dispersed network. A01 MURP4846_11 GE FM.indd 6 03/06/14 12:22 PM Contents Preface 15 Part I Overview of Logistics 18 Economic Impacts of Logistics 18 Logistics: What It Is 20 The Increased Importance of Logistics 22 A Reduction in Economic Regulation 22 Changes in Consumer Behavior 22 Technological Advances 23 The Growing Power of Retailers 24 Globalization of Trade 25 The Systems and Total Cost Approaches to Logistics 25 Logistical Relationships within the Firm 27 Finance 27 Production 27 Marketing 28 Marketing Channels 30 Activities in the Logistical Channel 32 Customer Service 32 Demand Forecasting 33 Facility Location Decisions 33 International Logistics 33 International Logistics 34 Transportation Management 34 Materials Handling 35 Order Management 34 Procurement 35 Packaging 35 Procurement 36 Packaging 36 Procurement 37 Packaging 37 Procurement 38 Packaging 38 Procurement 39 Packaging 39 39 Warehousing Management 34 Logistics Careers 34 Summary 35 • Questions for Discussion and Review 35 • 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Management 129 Order Management 129 Orders Systems 125 Chapter 7 Demand Transmittal 130 Order Processing 130 Order Picking and Assembly 132 Order Delivery 133 Customer Service 134 Time 135 Communication 135 Convenience 136 Managing Customer Service 136 Establishing Customer Service 137 Measuring Customer Service 138 Customer Profitability Analysis 140 Service Failure and Service Recovery 141 Summary 142 • Ouestions for Discussion and Review 142 • Suggested Readings 142 • case 7.1 Handy Andy, Inc. 143 Appendix 7 145 Chapter 8 Inventory Management 147 Inventory Classifications 148 Inventory Costs 149 Inventory Costs 149 Ordering Costs 150 Trade-Off Between Carrying and Ordering Costs 151 Stockout Costs 151 Trade-Off Between Carrying and Stockout Costs 153 When to Order 154 Economic Order Quantity 154 Conditions of Uncertainty 156 Inventory Flows 156 Inventory Management: Special Concerns 158 ABC Analysis of Inventory 158 Dead Inventory 158 A01 MURP4846_11 GE FM.indd 10 03/06/14 12:22 PM 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Moreover, the globalization of the world's economy means that an increasing number of shipments are being transported between multiple countries (international transportation), a topic that will be discussed in Chapter 14. Multiple sourcing A procurement philosophy that suggests that by having more than one supplier, increased amounts of competition, greater supply risk mitigation and improved market intelligence can arise. As such, improved fuel efficiency and reduced consumption of petroleum have become important issues for many transportation companies. "Freight Forwarding: Benefits and Implications for Management 5, no. One possible way to improve the effectiveness and efficiency of order picking and assembly involves figuring out where to store (slot) product in a warehouse or distribution center. Finally, the CSCMP definition indicates that the purpose of logistics is "to meet customer requirements." This is important for several reasons, with one being that logistics strategies and activities should be based on customer wants and needs, rather than the wants, needs, and capabilities of manufacturers or retailers. When the shipment is larger, such costs can be allocated over a larger weight. Finally, high transportation costs, one example of margin-reducing operating costs, call for an examination of modal or carrier selection policies as well as of transportation routing decisions. 1 This chapter provides an overview of the SCM concept and begins with a description of its evolution and establishes its definition. For example, the category manager of small appliances at a particular organization might report to l ogistics, marketing, and production, marketing, and production, marketing, and logistics of small appliances. Moreover, the nested shades would also help protect each other although a slight bit of padding would be needed between the nested shades. • Consultancy on customs and logistics. AILS can guide customers to optimize utilization of space and save on freight. Current ratio and can help customers to optimize utilization can pay its and contained between the nested shades. current liabilities by using only current assets. Water ports, for example, are often ranked in terms of the n umber of TEUs that are handled in a particular period of time. One consequence of these changing family roles has been an increasing emphasis on the convenience associated with a family's grocery shopping experiences. Let me mull this one over for a bit before I call you back. Over the last five years, AILS has been successful in building an infrastructure and pool of experienced personnel to handle a wide range of logistics activities. It should be noted that transit times will be affected by the direction of travel; upstream movements that go against the prevailing current will be slower than downstream movements. If you are familiar with Excel or other spreadsheet software, you might try using it here, although it is not necessary. Customer segments or individual customers to calculate the profitability of the segments or customers. "Examining Retail on Shelf Availability: Promotional Impact and Call for Research." International Journal of Physical Distribution & Logistics Management 42, no. 1 (2011): 26-51. For each of the four work team sizes, calculate the expected time in the queue—that is, the expected time in the queue—that is, the expected time a truck has to wait in line to be unloaded. Purchasing a canister vacuum cleaner, for example, generally means that a customer will periodically need to buy replacement bags for the canister. Some suggest, however, that logistical policies.4 Note that the CSCMP definition also refers to "efficient and effective forward and reverse flows and storage." Broadly speaking, effectiveness can be thought of as, "How well does a company do what it says it's going to do?" For example, if a company promises that all orders will be shipped within 24 hours of receipt, what percentage of orders are actually shipped within 24 hours of receipt? In freight classification documents, the type of packaging is specified. shows a relatively short form used by a company located in Northern Spain to learn the data and time of product delivery. A bulk carrier is shown in Figure 14.6. There are also large, specialized dry cargo ships that are members of the European Union (EU). Using the same information as in the previous example, and assuming that the product has a cost of \$5 per unit, the relevant formula is as follows: EOQ = 12DB/IC Where EOQ = the most economic order size, in units (200 units; \$1,000 value of inventory/\$5 value per unit) B = administrative costs per order of placing the order C = carrying costs of the inventory (expressed as an annual percentage of the inventory's dollar value) I = EOQ Cost Calculations Number of Orders Per Year Order Size (\$) Ordering Cost (\$) Total Cost (sum of Ordering and Carrying Cost) (\$) 1 2 3 4 5 1,000 500 333 250 200 25 50 75 100 125 100 500 333 250 200 25 50 75 100 125 100 108 125 145 Although we've calculated EOQs, how do we know that the answers are correct? 9.4
Discuss the factors that influence the number of facilities that a firm chooses to operate. With respect to the enable process, logistics assets such as trucks and warehouses are scheduled and maintained in order to enable the ultimate deliver process. That price was € 124,500 per bus. Sanchez-Rodrigues, Vasco, Andrew Potter and Mohamed M. J., 40n, 169n, 220n Gibson, K., 195n Gilmore, J. Although a number of reasons explain why this relationship didn't succeed, the two companies had quite different dress codes. Indeed, accessibility to highway system is the motor carrier (trucking) industry. 507. Figure 3.2 is an example of a basic balance sheet. For each of the four work team sizes, calculate the expected number of trucks waiting in the queue to be unloaded. M14 MURP4846 11 GE C14.indd 273 03/06/14 5:37 PM 274 Part III • Elements of Logistics Systems Given the vast array of documents that can be used for international shipments, it's only possible to discuss several of the most commonly used, and we'll look at certificates of origin, commercial invoices, shipper's letter of instruction. Accumulating and allocating refer to adjustments associated with the quantity of product, whereas assorting and sorting out refer to adjustments associated with product assortment. Michael Knemeyer, Walter Zinn, and Cuneyt Eroglu, "Proactive Planning for Catastrophic Events in Supply Chains," Journal of Operations Management 27, no. Intermediaries also function in areas needing orderly routines, such as order processing, and in searching, for example, when customers are looking for products or producers are looking for customers. The chapter also examined transportation and inventory considerations in international distribution. 4.4 Why are there so few "C-level" logistics specialists? This population shift necessitates different production and distribution facility locations than in the 1950s and cities like Atlanta, Dallas, and Reno (Nevada) are today important distribution hubs in the United States. Research on underperforming supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, or high variable operating costs, suggests that logistical considerations can be crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, and the crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive assets, and the crucial to achieving desired levels of supply chains, defined as those exhibiting poor service, unproductive as the crucial to achieving Amacom, 2002), Chapter 12. In addition, the measures can be at a strategic, tactical or operational level.17 While it is not possible to cover all potential logistics measures in this section, we will highlight some of the more common measures related to a few key areas of logistics measures in this section, which liberalize international aviation opportunities and limit federal government involvement, have become increasingly popular in the twenty-first century. R., 20n, 101n, 115n, 273n N Naim, M. If Tempo Ltd. For example, at the time of publication, several countries—Iceland, Macedonia, Montenegro, and Turkey—have applied for admission to the European Union (EU) and their candidacies are in various stages of review. What should Handy Andy's marketing vice president do? The transportation responsibilities associated with FOB destination have important implications for transportation responsibilities associated with FOB destination have important implications for transportation responsibilities associated with FOB destination have important implications for transportation management. logistics strategies necessary to support the goals and objectives of the firm's top management. For example, one company achieved a 25 percent space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in its logistics network by locating safety stock at only one warehousing facility.4 In addition, ABC analysis could be used to determine how frequently inventory gets monitored; A items at a space reduction in the space reduction in the space reduction in the space reduction is a space reduction in the space reduction in the space reduction in the space reduction is a space reduction in the space reduction in the space reduction in the space reduction in the space reduction is a space reduction in the space reduction might be checked daily (or, increasingly, hourly), B items weekly, and C items monthly. 2.9 Why are some companies hesitant to adopt RFID technology? "Comparative Efficiencies of Specialty Coffee Retailers from the Perspectives of Socially Responsible Global Sourcing." International Journal of Logistics Management 21, no. Toyli, Juuso, Lotta Hakkinen, Lauri Ojala, and Tapio Naula. Export Management Companies Sometimes the manufacturer seeking to export retains the services of an export management company (EMC), a firm that acts as the export sales department for a manufacturer. Wardlow made to earlier editions. The SCOR model identifies six processes—Plan, Source, Make Deliver, Return, and Enable—associated with SCM (see Table 5.1). Simultaneously achieving possession, form, place, and time utility goes a long way toward facilitating—but not guaranteeing—customer satisfaction. Less-than-truckload (LTL) shipments range from about 150 to 10,000 pounds; they are often too big to be handled manually, yet they do not fill an entire truck. Poist, "Evolution of Conceptual Approaches to Designing Business Logistics Systems," Transportation Journal 25, no. Profitability analysis goes beyond just focusing only on logistics costs by attempting to also include the revenue effect of logistical activities. 3 (2011): 220-230. The ways that organizations manage the investment recovery of excess, obsolete, scrap, and waste materials should be influenced by the materials' classification. 22 John Tschohl, "Turning Service into Opportunities," TWICE: This Week in Consumer Electronics, March 27, 2006, 78. Expenses (costs) Provide a dollar value for the costs incurred in generating revenues during a given period of time. 3.12 Most managers believe that while it is possible to connect logistics decisions to costs, the connection to revenue enhancement is difficult to impossible. For example, because canned goods moving through hot areas sweat, causing the cans to rust and the labels to become unglued, Campbell's Soup adds desiccants to its cartons of soup; otherwise specks of rust will appear on the cans during their sea voyage.18 Transportation Considerations in International Shipments are often much greater than those associated with international shipments. M14 MURP4846 11 GE C14.indd 269 03/06/14 5:37 PM 270 Part III • Elements of Logistics Systems import the transport service, and this has an adverse impact on its balance-of-payments position. 1.5 Explain the significance of the fact that the purpose of logistics is to meet customer requirements. In today's competitive business environment, these actions must be completed in as short a time period as possible Because of the total shutdown of the U.S. aviation system for several days following the terrorist attacks, many air shipments were diverted onto trucks, thus delaying many deliveries. 14.10 What is an NVOCC? Product Characteristics Various product characteristics can influence packaging and materials handling considerations. Not only are changes in population size of interest to planners, but so are changes in the characteristics of the population—particularly as those characteristics influence
purchasing habits. Moreover, some public warehousing is not open 24 hours a day, meaning that prospective users may need to tailor their operations to fit those of the public warehouse. Cultural Factors Cultural considerations will be the final macroenvironmental influences include religion, values, rituals, beliefs, and language. Moreover, there can be impressive cost savings as well as service improvements from improved packaging efficiency. R., 149n Banjo, S., 24n, 282n Bardi, E. Retroflective labels that can be read by optical scanners may also be applied. Waste materials These are materials that have been spoiled, broken, or otherwise rendered unfit for further use or reclamation. Although the government-provided benefits to C-TPAT certification include fewer security inspections of inbound containers along with faster processing time through Customs, many companies have discovered that the C-TPAT process has also led to a reduction in cargo theft, pilferage, and loss.20 As if logistics managers aren't potentially overwhelmed by TWIC, CSI, C-TPAT, and other terrorism-related acronyms Customs and Border Protection is also responsible for i mplementing and enforcing the Importer Security Filing (ISF) rule, also known as "10 + 2," which went into effect in early 2009. 10 Robert J. A team of five warehouse workers can unload trucks at the rate of 11 per hour, or one every 4.45 minutes. Failure to do so can result in costly—and potentially embarrassing—mistakes, as illustrated by the unfortunate experience of a supermarket chain. 8.8 Explain the logic of the EOQ model. More specifically, the lean philosophy was conceived and nurtured in an M08 MURP4846_11_GE_C08.indd 161 03/06/14 5:23 PM 162 Part III • Elements of Logistics Systems Figure 8.3 Trailer That Opens on the Side and Is Used for Rapid Discharge of Parts Source: Photo Courtesy of fotolia. M07 MURP4846 11 GE C07.indd 143 Because of the sporadic sales patterns and the wide number of colors and trims available, the licensed retailers usually stocked only a display unit or two. The demand for TMSs continues to grow driven by several factors. Sometimes tranquilizers are added to water to keep fish calm. Because this is a logistics textbook, the most relevant facilitator for our purposes is the third-party logistics provider, so it is especially relevant facilitator for our purposes is the third-party logistics and supply chains. 6 Judy A. Order delivery The time from when a transportation carrier picks up the shipment until it is received by the customer. Potential drawbacks to EDI include a lack of awareness of its benefits, high setup costs, lack of standard formats, and incompatibility of computer hardware and software. For a moment, I was afraid all the batteries would run down again. 25 www.marad.dot.gov 23 24 M14_MURP4846_11_GE_C14.indd 286 03/06/14 5:37 PM Chapter 14 • International Logistics 287 Figure 14.7 The European Short Sea Shipping Network Source: Courtesy of Dr. Jean-Paul Rodrigue, The Geography of Transport Systems, 2nd edition, Routledge, 2013. First, there may be special advertising materials, such as coupon books, floor advertising posters, or displays, which must be distributed with the promoted product. Brown. M11 MURP4846_11_GE C11.indd 215 03/06/14 6:19 PM 216 Part III • Elements of Logistics Systems Figure 11.4 Boxmaker's Guarantee Source: Courtesy of the American Trucking Association. In some instances, these resources may be located great distances from the point where the materials or their products will be consumed. The challenges associated with reverse logistics can be complicated by the fact that returned products often move in small quantities and may move outside forward distribution channels. Salzarulo, and W. Order Management of the various activities associated with the order cycle; the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer places an order to when the order is received. The relevant time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from when a customer place and order to when the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from the order cycle (which can also be referred to as replenishment cycle or lead time) refers to the time from tim infrastructure statistic for air transportation in Table 12.1 is the number of paved runways over 3,047 meters (approximately 10,000 feet). A credit is recorded each time a piece of equipment is surrendered to a carrier late. Historically, many international airlines were owned and operated by their national government; examples include Air India, Air China, and Alitalia (owned by the Italian government). For example, the electronic processing of invoices can save a great deal of money in terms of postage and stationery, and these savings can be passed on to the buyer.58 52 Alberto Grando and Marco Gosso, "Avoiding the E-Commerce Trap," EBF, Summer 2004, 48-51. To integrate a particular supply chain, the various organizations must recognize the shortcomings of the present system and examine channel arrangements as they currently exist and as they might be. 03/06/14 5:38 PM 300 Glossary Substitute products That customers view as being able to fill the same need or want as another product. Collaborative planning, forecasting data to better match supply and demand. In addition, approximately 95 percent of unhappy customers do not communicate their unhappiness to the responsible organization and they won't return as customers. 12 Quite simply, it's easier for an organization to keep an existing customer than it is to acquire new customers. than other marketing mix variables such as price and promotion. Polyvinyl chloride (PVC), commonly referred to as vinyl, is an extremely unfriendly plastic because it produces dioxin, a highly carcinogenic (cancer-causing) chemical. One alternative is to add an open-ended question, dealing with the installation experience, to the warranty activation form. More specifically, one study found that GPS implementation allows transportation companies to recapture nearly one hour per day of their drivers' time, which translates into labor savings of approximately \$5,500 per employee. Possession utility can be influenced by the payment terms associated with a product. Although this dwarfs the 25-ton capacity of a typical truck trailer, consider that the carrying capacity of one dry bulk barge (flatboard boat used to transport heavy products) is about 1,750 tons.6 Freight railroads are also right in the middle of the five modes when it comes to cost (price that a carrier charges to transport a shipment) and speed (elapsed transit time from pickup to delivery) considerations. Make-to-order Products are produced after receiving a customer order. Broker A company that helps both shipper and carrier equipment. However, these receptacles might not be feasible for large items (such as a refrigerator), for perishable items (such as certain types of food), or for extremely valuable items (such as jewelry). The following are representative of freight claim? "I assumed that Guillou had arranged for transportation at the time 04/06/14 12:19 PM Chapter 12 • Transportation 245 you decided to charge \$172,000 per truck, but I'll check further." He did and phoned back to tell Pon that Guillou's secretary could find nothing in the files to indicate that Guillou had checked out charter rates. com/Murphy. Fugate, Brian S., John T. 4 (2008): 51-66. For example, although companies might have some knowledge about the repair parts needed for routine or preventive maintenance of products, it is virtually impossible to forecast when the product might break down or fail. For instance, although population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020,
the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the population in the United States is projected to increase by approximately 9 percent between 2010 and 2020, the populat 04/06/14 12:01 PM 174 Part III • Elements of Logistics Systems across the various states. Hazardous material(s) Any item or agent (biological, chemical, physical) that has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. By Wednesday, the same group met again. Next comes a section devoted to design considerations. McCurry, "Heading East," Site Selection, September-October 2008, 708-719. Distances are simplified in a similar fashion and historically distances were classified according to a rate basis number, and the higher the rate basis number, the greater the distance between origin and destination. Moreover, although a 10-unit shipment might yield transportation cost savings, there would be inventory carrying cost considerations in the sense that it's more costly to hold 1 units of product. This would be a major order. From a transportation perspective, industry clusters could allow for faster and more consistent delivery, particularly with suppliers are located a short distance from their customer(s). Judgment forecasting techniques and the analog techniques are located a short distance from their customer(s). imes are handled, the logistics manager can also help formulate the firm's quantity discount pricing policies. 26 M09 MURP4846 11 GE C09.indd 184 04/06/14 12:01 PM Chapter 9 • Facility Location 185 9.15 Explain why quality-of-life issues should be considered in the facility location decision. 9 (2007): 116-127. Nestlé cited several reasons for the plant closing, such as challenges to redeveloping the existing site.25 Although facility closings are largely a business-oriented decision, other considerations/3220 Warehouse.pdf 22 M10 MURP4846 11 GE C10.indd 198 04/06/14 12:03 PM Chapter 10 • Warehousing Management 199 2YHUH[HUWLRQ 7RS&DXVHVRI'LVDEOLQ],QMXULHVLQ LQ%LOOLRQV)DOORQ VDPHOHYHO %RGLO\ 5HDFWLRQ)DOOWR ORZHUOHYHO 6WUXFN DJDLQVW 5HSHWLWLYH REMHFW FRWLRQ \$VVDXOW 9LROHOW DFW &DXJKWLQ +LJKZD\ &RPSUHVVHG LQFLGHQW E\ 2YHUH[HUWLRQ±,QMXULHVIURPH[FHVVLYHOLIWLQJSXVKLQJSXOOLQJKROGLQJFDUU\LQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJFDUU\LQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWKURZLQJ %RGLO\UHDFWLRQ±,QMXULHVIURPEHQGLQJWYUNZYNDQJU %RGLO\UHDFWLRQ±,QMXULHVIURPEHQTWYUNZYNDQJU 6WUXFNDJDLQVWREMHFW±6XFKDVDZRUNHUZDONLQJLQWRDGRRU 5HSHWLWLYHPRWLRQ±,QMXULHVGXHWRUHSHDWHGVWUHVVRUVWUDLQ Real Cost* of the Most Disabling Injuries 1998-2010 46 Real Growth Trends 1998-2010 (Percent change by category) Bodily reaction 3.7% -5.7% Overexertion 40.0 40.0 39.2 38.5 38 37.8 37.1 37.2 36 35.4 35.4 34 Caught in/Compressed by 2010 2009 2008 2007 2006 2005 2004 2003 2002 Repetitive motion 32 2001 Highway incident 1999 -39.7% Struck by object \$ Billions 10.1% Fall to lower level 43.4 42.8 42 17.6% Assault/Violent act -8.5% 44 42.3% Fall on same level 45.6 *Inflation adjusted for 1998 \$ Figure 10.3 Workplace Safety Issues Source: Reprinted with permission of Liberty Research Institute for Safety, August 30, 2012. Businesses that engage in international logistics also learn that federal governments are often more involved in international transportation than they are in domestic transportation. A., 46n E Eakin, D., 51n Edmonson, R. Locavore strategy Refers to food companies that purchase locally grown or produced foods. If so, what are they? 17 Hau L. For example, attempts to "lean out" the supply chain through a better-controlled flow of inventory with lower levels of expensive inventory "lumps" along the way can be a daunting task. Total Expenses are made up of the variable and fixed costs that are not directly related to making the product or delivering a service. B., 62n, 70n, 228n Hannon, D., 46n, 51n, 111n, 116n Hansen, P., 195n Harper, D.V., 239n, 241n Harrington, L. To that nation, international carriage functions as an export with favorable effects on the nation's balance of payments (system of accounts that records a country's international financial transactions5). Today, by contrast, China has the second-largest economy in the world (based on gross domestic product) and is a key source of manufactured products for many countries. The chapter also looked at managing customer service, with a specific focus on establishing customer service objectives, measuring customer profitability analysis, and service failure and se Alignment of Appropriate Firm and Supply Strategies for Competitive Advantage," International Journal of Operations and Production Management 25, no. D., 240n Brady, M., 201 Brooks, P., 136n Brown, G., 174n Burduroglu, R., 58n, 62n Buyck, C., 285n Byrd, E., 79t Byrd, T. What sets Lean Six Sigma apart from its individual components is the recognition that organizations cannot focus only on quality or speed. After he began contracting with motor carriers for deliveries, he found that they were assessing him stiff penalties if their trucks had to wait to be unloaded. M., 116n Engel, E., 199n Enslow, B., 104n Eroglu, C., 77n Esper, T., 21n Esposito, F., 114n Etzel, M., 45f F Fawcett, S. Second, under the current system, the number of units of each type of component kept in stock is calculated as follows: For those items purchased from vendors more than 500 miles away, a safety stock representing four weeks of use is maintained. CIP (Carriage and Insurance Paid To) The seller clears the goods for export and delivers them to the carrier or another person stipulated by the seller at a named place of shipment. An excellent illustration involves the 2012 death of musician Adam Yauch; there was a tremendous surge in the sales of his group's (Beastie Boys) recorded music in the weeks immediately following his death. Logistics measurement systems have been traditionally designed to include information on five types of performance: (1) asset management, (2) cost, (3) customer service, (4) productivity, and (5) logistics activities such as transportation, warehousing, and inventory management. 70 M04 MURP4846 11 GE C04.indd 70 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 71 decentralized logistics organizational Structure for Logistics 71 decentralized logistics organizational and Managerial Issues in Logistics 71 decentralized logistics organizational Structure for Logistics 71 decentralized logistics 71 decentralized logistics organizational Structure for Logistics 71 decentralized logistics organizational Structure for Logistics 71 decentralized log management commitment to SCM. I phoned Meyers again, and he and I had lunch. The reorder point in this example is 40 * 4, or 160 units; in other words, when the inventory level reaches 1 expenses. In addition to safety stocks, the average inventory of any item is the current lot size purchased, divided by 2. To this end, a network organization that is responsive to the p arameters of the contemporary business environment. Voice-based order picking The use of speech to
guide orderpicking activities. Then we drove to the distribution center. "High Logistics Costs Stifle Vietnam's Economic Growth," eyeforTransport, February 24, 2009. From a managerial perspective, because OSHA standards are complex and lengthy, it can be quite costly and challenging to comply with OSHA regulations. 4.7 In what ways can a unionized workforce be a challenge to improving worker productivity? This means more cubic yards of ore can be stockpiled on a given site and that the ore can be carried on a slightly steeper, narrower conveyor belt. As an example, referring to Table 8.1, when the value of business inventory in 2006, \$1859 billion, is multiplied by the carrying cost in 2006, 24.0 percent, the relevant carrying costs are \$446 billion. Transportation Actual physical movement of goods and people between two points. Computer software forecasts that might have taken hours or days can now be generated in a matter of minutes or hours. Lighting provides a variety of opportunities for managing energy c onsumption; skylights, large windows that incorporate solar energy, and high-efficiency lighting can reduce electricity usage between 20 and 60 percent. Ekwell, Daniel. The rusvets would be about 10 percent of the kereste shipment's value. Specifically, HDT would receive \$172,000 per truck in U.S. funds FAS (free alongside ship) at the discharging vessel in Doha, which meant that HDT was responsible for all transportation costs up until the trucks were discharged from the ship's tackle at Doha. Hazen, Benjamin T. In many situations, no actual negotiations take place; the price for the product is stated, and one either buys at that price or does not. These factors include the following: older TMS systems needing upgrades, the growth of intermodal transportation, the improvement of TMS capabilities beyond just execution, the emergence of the previously described "big data", and a desire for more holistic solutions.34 In addition, the use of a TMS is now seen as one way for an organization to improve the environmental sustainability of their logistics activities. With respect to population characteristics, longer life spans can increase the demand for health-related products such as prescription medications. Another low-cost suggestion for improving warehousing productivity is to play music, if conditions permit; research suggests that worker productivity increases when music is playing.22 Safety Considerations Warehouses, distribution centers, and cross-docking facilities can be dangerous places to work; in the United States, for example, the fatality rate in warehousing is higher than the average rate for all industries.23 Figure 10.3 provides a listing of workplace safety issues, and many of these safety issues, such as falls and bodily reaction, are associated with warehousing facilities. Morash, "Supply Chain Strategies, Capabilities, and Performance," Transportation Journal 41, no. He learned from Hagi that these new customers were either a large state-owned company in North Korea or the North Korea or the North Korea government itself, which is why Terim spent that entire afternoon thinking about just one thing. For example, commodities that are sensitive to ethylene, such as apples, pears, and tomatoes. We'll conclude our discussion of transportation specialists by looking at parcel carriers, companies that specialize in transporting parcels, which are often referred to as packages that weigh up to 150 pounds. Security concerns have many dimensions. A transportation management system is a software package that automates the process of building orders, tending loads, tracking shipments, audits, and payments.33 Table 2.1 presents a representative list of 15 tasks that might be performed by a TMS package. Financial Intelligence: A Manager's Guide to Knowing What the Numbers Really Mean (Boston, MA: Harvard Business School Press, 2006). Guide to Supply Chain Management (Canada: The Economist Newspaper Ltd., 2009). Thus far this section has focused only on worker productivity, but asset productivity is also an important consideration for logistics managers. Dead Inventory Some companies have added a fourth category, D, to ABC analysis. In addition, the logistical considerations of a retailer's online store (e.g., orders from numerous customers; orders from a defined customers; orders in larger quantities). 18 Technological advances can also improve the productivity of the order picking process, which we'll discuss in greater detail in Chapter 7. However, I decided not to ask Jason whether he had begun receiving phone calls from them." "Inside the same routing recommendation for the second, larger (199 buses) component of the order, after the initial 90-day deadline is met? 13 M11 MURP4846 11 GE C11.indd 216 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 217 Figure 11.5 Automatic Guided Vehicle Source: Courtesy of Dematic Corp., Rapistan Division, Grand Rapids, MI. 3 (2003): 353-369; P. 12.3 Discuss the speed of airfreight transportation in terms of the line-haul and accessorial service. Bush had described Iran, Iraq, and North Korea as an "axis of evil." North Korea and those with whom it traded were under tight scrutiny from both the United States (which still stationed troops in South Korea). Logistics optimization models utilize spreadsheet software and add-ins to help logisticians make complex judgments and decisions about key logistics issues at strategic, tactical, operational and collaborative levels.9 For example, at a strategic level global consumer products company P&G uses spreadsheets with the add-in package "What's Best" to help them make decisions regarding plant location and size decisions.10 Logistics optimization instead of pure optimization.11 Thus, the use of spreadsheets provides a method for logisticians to conduct a variety of "what-if" analyses in support of their logistics decision making. In addition, he spent two weeks at the Providence center when the loading docks were M04 MURP4846 11 GE C04.indd 87 redesigned to accommodate pallet loading. Inventory generally exists to satisfy demand and can be classified as cycle (base) stock, safety (buffer) stock, pipeline (in-transit) stock, or speculative stock. 2.14 Cloud computing has experienced massive growth since the beginning of the twenty-first century. Facility Location, location, and location. "Risk Assessment for the Security of Inbound Containers at U.S. Ports: A Failure, Mode, Effects, and Criticality Analysis Approach." Transportation Journal 47, no. 2 (2012): 109-126. Customer considerations, particularly as they affect customer considerations, particularly as they affect customer consideration. How important, in fact, are the transport costs for the initial shipment of 25 buses? Physical distribution Storage of finished product and movement to the customers. To ensure that the general public is adequately serviced, common carriers assumed four specific obligations: to serve, to deliver, to charge reasonable rates, and to avoid discrimination in pricing and service. Handling costs, another component of inventory carrying costs, involve the costs of employing staff to receive, store, retrieve, and move inventory. A 2012 report by the National Fire Protection Association indicated that U.S. warehouses averaged approximately 1,300 fires per year between 2005 and 2009. Transportation managers can help manufacturing by advising on packaging and materials handling and materials handl expectations. J., 99, 99n Pinley, F., 92n Pohle, L., 201n Poist, R. For example, public warehousing is heavily involved in such value-added services as repackaging larger shipments into retail-size quantities and then shrink-wrapping them, assisting in product recalls, and doing price marking, product assembly, and product testing. In its liquefied, highly pressurized state, it is transported by oceangoing vessels in special tanks. R., 42n Bauer, M. 6 (2001): 6-10. Many remembered Fosdick from his earlier visits to the facilities (Facilities that receive unpalletized materials but ship on pallets may require a pallet-assembly operation.) 5. Bowersox and Patricia J. With respect to forward and reverse flows and storage, for many years logistics focused only on forward flows and storage, that is, those directed toward the point of consumption. A shipper's letter of instruction (SLI) often accompanies an SED and provides explicit shipment instructions. For example, you might recall from Chapter 9 that Poland and the Czech Republic have become favorite distribution sites with the eastward expansion of the European Union. Warehouses, distribution centers, or cross-docking facilities. So Berndsen offered two immediate possibilities. Order cycle time, order completion rate, and invoice accuracy can influence the speed in which one's customers pay their invoices, thus directly affecting the cash and accounts receivables categories on the balance sheet. Vendor-Managed Inventory (VMI) In traditional inventory, such as a distributor or a retailer. Although a commodity rate is very good for dealing with demand-specific situations, the number of commodity rates quickly becomes overwhelming (and potentially counterproductive) when you consider how many different products, weights, and distances exist. All rights reserved. Importantly, however, this blurring of distinctions may actually facilitate supplying the second state of the second sta chain integration, in that there is less emphasis on functional issues and more emphasis on cross-functional processes.31 The decision to use 3PL services can be driven by strategic considerations, in the sense that an organization believes that one or more aspects of its supply chain(s) need to be transformed. D., 59n Cowen, C., 176n Coyle, J. Moberg, Kate Vitasek, Theodore P. "A Systems Approach to Transportation Law, Logistics & Policy 74, no. The production costs for the cylindrical shades. Consider,
for example, an objective to reduce order picking errors from 5 to 2 percent within a 12-

month time period; let's assume that this objective is specific and measurable. Responsiveness reflects the degree to which an organization can accommodate 5 Much of the material, which should improve recyclability as well as changing a product or format to minimize packaging waste.9 One of the most noteworthy examples of packaging reduction is Germany's Packaging reduction is Germany's Packaging ordinance that was enacted in the early 1990s. There needs to be an organizational focus on improving quality as it relates to responsiveness. The seller facilitated possession utility by allowing the student to pay by credit card, and a healthy arrangement of the correct bouquet (form utility) arrived at the girlfriend's residence on Valentine's Day (place and time utility). Bulk cargoes have various handling characteristics, one of which is density. Political considerations such as war and governmental stability can also act as a barrier to SCM. Specification involves quantifying and qualifying current sources across a variety of dimensions such as quality, costs, reliability, and standardization, among others. Perry, "Who's Watching the Numbers That Count?" Railway Age, May 2005, 10. Both UPS and FedEx now offer package shippers service options that include same-day service involving air transportation, next-day service involving air or truck, and second-day service involving air or truck, among others. 14.17 Describe the potential problems in using cross-border rail transportation into and out of China. Warehouse employees should note these warnings on outbound shipping documents when materials leave warehouses. Twenty units of safety stock result in \$1,200 of additional carrying costs, whereas the additional stockout costs avoided are \$6,400 (16 * \$400). According to the data in Table 8.4, the optimum quantity of safety stock is 70 units. Terim came up with the excuse that if he didn't sell to the North Koreans, someone else would eventually, so why should he give up this money? Because of this, customers can stockpile inventories in the fall to last through winter months or can use alternate methods of transportation. Allocating, by contrast, involves breaking larger quantities; continuing with our suit example, whereas the department store might buy 5,000 suits in size 42 short, an individual store might only carry 15 or 20 suits in this size. The Black Mesa pipeline, which transports pulverized coal from northern Arizona to an electric-generating station, is probably the best-known slurry pipelines in current operation; other slurry pipe distances from the home office. This can include physical counting and inspection of all shipments, inspection of documentation, vehicle inspection, as well as driver inspection. Petersen. John Tufts, "9 Tips for Improving Warehouse Productivity," Multichannel Merchant Executive Insight, March 6, 2012, 1. It has been suggested that automation becomes economically viable only when a facility handles at least 50,000 cartons a day.21 Decisions as to materials handling equipment can also be influenced by an organization's order picking and assembly system. Finished goods inventories are, therefore, much more expensive to hold than raw materials or work in progress. A manager's ability to quickly receive information can be influenced by technology hardware and software, and faster and more powerful technology has helped to reduce retrieval and dissemination times. "But Quan says the size of ship we want is rather small and not likely to be sailing into Baltimore. In addition, we had a big weekend coming up. It is worth pointing out that in recent years warehousing in the United States has been subjected to closer OSHA scrutiny because warehousing customer. For example, 16 of the 19 subzones in Detroit, Michigan, involve automobile manufacturers.24 Finding the Lowest-Cost Location Many products are a combination of the metric system also caused some short-term packaging issues because the cartons that were used for transporting and storing quart bottles were in some cases just a bit too small to hold one-liter bottles. This dissolution of European shipping conferences in their region.20 In the mid-1990s, ocean carrier alliances, in which carriers retain their individual identities but cooperate in the area of operations, began forming in the container trades. Transportation Management Transportation can be defined as the actual physical movement of transportation activities by a particular organization. It covers weekly 03/06/14 5:13 PM 56 Part I • Overview of Logistics Current System Item Gas range Toilet Pump Refrigerator (large) Refrigerator (small) Foam cushion DVD player (type D) Dome lights Awning Brackets Insect Screens Using JIT Unit cost Average freight cost per unit (surface) 200 240 125 100 80 16 \$20 18 3 10 10 7 \$105 100 15 \$22 18 4 6 120 110 20 6 113 25 22 490 7 675 15 1,500 95 8 15 2 1 75 85 7 15 3 1,800 3 9 824 24 1,720 136 2 11 0 3 36 130 4 26 0 48 540 1,200 4 1 60 5 1 159 570 1,240 7 1 50 7 2 Distance from vendor (in miles) Average number of units used each week Current lot size purchased 1,145 606 26 10 10 56 22 Exhibit 2.A Ten Percent Random Sample of Component Inventory Note: The plant operates 52 weeks per year and produces 10 mini motor homes per week. Single sourcing A procurement philosophy that consolidates purchase volume with a single source of enjoying lower costs per unit and increased cooperation and communication in the supply relationship. Cost trade-offs Changes to one logistics activity cause some costs to increase and others to decrease. 1.3 How does logistics contribute to time and place utility? As such, online retailing requires an order management system capable of handling high volumes of orders, and it's also essential that the information management system be capable of correctly transmitting each order so that it can be filled in a timely fashion. This cannot be done for all products, because problems arise when goods in reused containers are contaminated by traces of whatever product had been carried earlier. Income Statement 2012 Sales \$4,003,450 Cost of goods sold Gross Margin Transportation cost Warehousing cost Inventory carrying cost Other operating Total operating cost Earnings Before Interest and Taxes Interest Interest and Taxes Interest and Taxes Interest M03_MURP4846_11_GE_C03.indd 68 03/06/14 5:15 PM 69 Chapter 3 • Strategic and Financial Logistics Exhibit 3.A shows actual 2012 figures for the first five months of 2013. 1.18 Briefly discuss the ownership, negotiations, financing, promotions, and logistics channels. "Insights into India." Supply Chain Management Review 16, no. Moreover, a truck trip from Delhi to Kolkata (formerly Calcutta), which is approximately 1,500 kilometers, can take more than four days to complete.23 By contrast, several U.S. motor carriers promise transit times of approximately 30 hours for a 1,500 kilometer trip. Develop and p resent your argument that the free lunches represent a long-standing employee benefit enjoyed by the distribution center's employees and that management's attempt to stop them is a breach of an unwritten contract and will be resisted. Gilmore, The Experience Economy (Boston: Harvard Business School Press, 1999). Objectives should be specific, measurable, achievable, and cost effective; the latter two are extremely important because relatively small increases in the overall level of customer service. Picker-to-part system An order picker goes to where the product is located (e.g., a forklift). For example, what services would the customer like to receive that presently aren't available from the seller? Other advantages to cloud computing include faster and less-costly installation, a smaller information technology staff, and regular upgrades and updates from the software, are now offering cloud-based deployment of TMSs and WMSs.56 Although cloud computing appears to be quite attractive, particularly from a financial perspective, it has several potential drawbacks. M07 MURP4846_11_GE C07.indd 140 04/06/14 11:56 AM Chapter 7 • Demand Management, Order Management, and Customer Service 141 Customer profitability analysis explicitly recognizes that all customers are not the same, and some customers are more valuable than others to an organization. 13.14 What is a freight bill? Similar to the example presented in Table 11.1, this company's savings resulted from optimizing carton efficiency as well as pallet load efficiency. Gustavsson, Mattias and Patrik Jonsson. A firm imports raw materials—such as pulpwood from Canada—or manufactured products—such as motorcycles from Italy or Japan. There needs to be a reorder (trigger) point (i.e., the level of inventory at which a replenishment order is placed) for there to be an efficient fixed order quantity system. Rather, because the Chinese New Year is based on the lunar calendar, it has a different starting date each year (see Table 14.1). In recent years, major U.S. railroads have dealt with blizzards, severe flooding, tornadoes, and tropical storms that have damaged and destroyed many miles of rail track. Find a local trucking company that can haul the Super Gym from the KiddieLand stores that have damaged and destroyed many miles of rail track. to the customer. Although form utility has generally been associated with production and manufacturing, logistics can also contribute to form utility. Deals with the administration of the PSAs developed by customer teams as part of the Customer Relationship Management process. 03/06/14 5:36 PM Chapter 13 • Transportation Management 251 Stowability refers to how easy the commodity is to pack into a load, and possible considerations involve the commodity. The enhanced communication across organizations is dependent on both technological capabilities and a willingness to share information (part of a long-term orientation). relatively high logistics costs (as a percentage of GDP) in the People's Republic of China (China) continue to restrict the country's economic development, and in particular the high costs of highway transportation have severely constrained the growth of China's e-commerce market. 2 Apart from the previous examples of macro-level economic impacts, the economic impacts of logistics can affect individual consumers such as you. It has a grocery distribution center in Providence, Rhode Island, from which deliveries are made to stores as far north west as Springfield Massachusetts. Exhibit 3.C is the 2012 balance sheet. Another component in a global sourcing development framework, relationship management, has been discussed in previous chapters. 24 See www.foreign-trade-zone.com 23 M09 MURP4846 11 GE C09.indd 180 04/06/14 12:01 PM Chapter 9 • Facility Location 181 Figure 9.3 Example of Transportation Forces Dictating Plant Location Source: Adapted from Alfred Weber, Theory of the Location of Industries, translated by Carl J. Because of geography, a nation's domestic commerce crosses foreign borders, often in bond. Overall, railroads are superior to air, motor, and pipeline, but inferior to water, in terms of their ability to transport different kinds of products. As is the case with loss and damage, incomplete deliveries result in negative customer ramifications, such as out-of-stock situations. Marketing channels A set of institutions necessary to transfer the title to goods and to move goods from the point of consumption and, as such, which consists of all the institutions and all the marketing activities in the marketing process. Because the border at Iskenderun is the most laxly guarded border in Turkey, small rusvets to low-ranking officers at the gates would allow the kereste to enter M06_MURP4846_11_GE_C06.indd 123 Turkey without any problems. He was in bad shape and the distribution center was in bad shape, so I had the opening in the Boston area and I let him have it. In addition, the "Logistics Activity Measures" section in Chapter 3 contains an expanded discussion of warehousing and inventory management performance measurements. Not only does inventory appear as an asset on company balance sheets, but inventory tends to be one of the largest assets (in terms of dollar value) on the balance sheets. The continuing growth of globalization means that many organizations, rather than relying on local and domestic suppliers, will continue to cast a wider net in search of supply sources. For example, leading-edge organizations are more likely to use a unified, as opposed to fragmented, logistics organizational structure. P., 59n K Kapp, A., 263n Karolefski, J., 146n Karpak, B., 114n Kasuganti, R. Situation analysis, the second step, looks at both the internal and external environments within which the supply decision is to be made. 9 (2000): 71-80. Ideally, firms should create their own TCO models that provide a more realistic view of the costs of global sourcing.22 Recently, rising transportation and energy costs, growing desires to be able to quickly adapt to changing market trends, along with risk and sustainability concerns have all influenced an examination of near-sourcing (procuring products from suppliers closer to one's own facilities) by many firms.23 Given that procurement strategies and logistics strategies are intertwined, managers considering when to source close to their home markets must carefully consider the inbound and outbound logistics strategies are intertwined, what changes, if any, should occur in the relationships between Ballenger's firm and his suppliers of components? A second logistical concern is that theft results in six possible domestic terms of sale, which are described below.5 • FOB origin, freight collect: The buyer pays freight charges, owns the goods in transit, and files loss and damage (L&D) claims, if needed. See Nonvessel-operating common carrier (NVOCC) O Obsolete materials, 119 Occupational Safety and Health Administration (OSHA), 192, 198 Ocean shipping, 282-284 Office automation system, 41-42, 41f Office Max, 104 On-demand software, 46 Opportunity cost, 150 Oracle, 48 Order bill of lading, 257 Order cycle, 129 Order delivery, 133-134 Order fulfillment, 95, 96f Order handling, 149 flow chart, 131f Order management definition of, 33 order cycle, 129 order delivery, 133-134 order fulfillment, 95, 96f Order fulfillment, 95, 9 transmittal, 130 order triage, 132 replenishment cycle, 129 Order picking and assembly, 132-133 Order-picking versus stock-replenishing functions, 196 Order triage, 132 03/06/14 5:39 PM Organizational and managerial issues acronyms related to, 80t CBP programs, 79 complexity, 85 Customs Trade Partnership against Terrorism (C-TPAT), 79 defined, 70 diversity, 83 environment, 83 ethics, 83 hazardous materials and, 78 human rights, 83 philanthropy, 84 philanthropy, 84 philanthropy, 83 philanthropy, 83 philanthropy, 83 philanthropy, 84 philanthropy, 83 philanthropy, 83 philanthropy, 83 philanthropy, 83 philanthropy, 84 philanthropy, 83 philanthropy, 84 philanthropy, 84 philanthropy, 84 philanthropy, 85 philanthropy, 86 philanthropy, 87 philanthropy, 86 philanthropy, 87 philanthropy, 87 philanthropy, 87 philanthropy, 87 philanthropy, 87 philanthropy, 87 philanthropy, 88 philanthropy, 89 philanthropy, 80 philanthropy sustainability, 83-85 theft, 80-81, 82f timeline for presenting electronic advance manifest information, 79t Organizational structures of logistics organization, 72 "C-level" position, 72 customer profitability analysis, 140-141 decentralized logistics organization, 71, 72 flexibility, 74 fragmented logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit, 83 unified logistics structure, 71 relevancy, 73 responsibility audit (LTL) carrier Shipments that range from about 150 to 10,000 pounds; they are often too big to handle manually, yet they do not fill an entire truck. In addition, inventory valuation is difficult because of Waitrose." Supply Chain Management: An International Journal 14, no. 2.20 Security is cited as a major macro-level information technology challenge. One reason for the widely divergent views of supply chain collaboration is that there are myriad definitions of it. The human impact of facility closings should be considered as well; individuals are not only losing their jobs and pay, but some individuals may suffer a loss of self-esteem as well. In the recent past, these terms of sale, commonly referred to as Incoterms 1990 and Incoterms 2000. The other way that products, especially large quantities of products, are handled is in bulk. "Well, as I understand it," responded Easter, "about two weeks ago Jason decided that he had had it with 03/06/14 5:20 PM 88 Part I • Overview of Logistics Bigelow and so he suspended him on a Monday morning after Bigelow showed up late, still badly hung over. In addition, the load should be distributed evenly over the axles. The outcome of this stage should be a set of global procurement policies and procedures that are consistent with an organization's overall objectives. It could be checked for completeness and accuracy; incomplete or inaccurate orders can negatively affect customer satisfaction and increase costs in the sense of addressing order irregularities. Contemporary Issues With Managing Inventory Much of what has been discussed to this point represents traditional thinking about inventory management. Quan says there is one foreign vessel entering the Great Lakes in April that is still looking for an outbound charter. and Christine Clemons. Leenders, and Harold E. 1 (2008): 79-99. For example, one way to facilitate customer interaction is to move decisions as close as possible to the point at which action is required, which requires empowering lower-level employees and managers with the authority to make decisions. Q.) Brant, with a fresh M.B.A. degree from the University of South Alabama, returned to the family firm, where he had once worked during summers. Satisfied of this, they would then mount, start their engines, and spend an inordinate amount of time motioning to each other to pass. What is the total annual cost of maintaining the components inventory under the present system? 5.13 Some companies are hesitant to use frequent shopper cards because the data provided could violate the customer's privacy. Perego, Alessandro, Sara Perotti, and Ricardo Mangiarcina. In addition, because the transittime reliability tends to decrease with distance, suppliers need to be located relatively close to their customers. Alternatively, the decision to use 3PL services could be more tactical in nature; an organization might have an inefficient distribution network, an inability to control internal costs, a costly or inflexible workforce, outdated information systems. Stapleton, Drew, Joe B. "How well is it working?" "Up until Jungle Jim jogged where he shouldn't, it worked fine. Kasuganti, and Erdooan Kumcu, "Are You Using Costly Outmoded Techniques to Purchase Materials?" Business Forum 27, no. 14.18 Why is the movement? Davis, Thomas S. Others, however, would point out that the sale and display of these bags is necessary to support the sale of canister vacuums. Planners for consumer products pay extremely close attention to various attributes of current and potential consumers. Airfreight rates discourage bulky cargo and use dimensional weight), which considers a shipment's density (the amount of space occupied in relation to actual weight) to determine a shipment's billable weight.3 Examples of products that move by air include the following: • Auto parts and accessories • Cut flowers and iPods • Fruits and vegetables • Machinery and parts • Metal products • Photographic equipment, parts, and film • Printed matter • Wearing apparel The reliability of airfreight is somewhat problematic. Chapter 3 discusses the strategic financial outcomes influenced by logistics decisions. Slurry systems Transport products that are ground into a powder, mixed with water, and then shipped in slurry form through a pipeline. 15 Bridget McCrea, "The Golden Age of Wireless," Logistics Management, October 2008, 47-50. Transportation management system (TMS) A software package that automates the process of building orders, tending loads, and tracking shipments, audits, and payments. and the missed shipment deadlines caused the company to spend more money for expedited transportation.45 THE INTERNET's influence on Logistics Although the Internet may appear to be a ubiquitous technology today, the reality is that only about 35 percent of the world's population currently uses the Internet, up from approximately 5 percent of the world's population at the beginning of the twenty-first century. 46 Just as the Internet's usage continues to expand during the twenty-first century, so does its influence on the logistics discipline. Robinson, Jessica L., Rodney W. A sample letter of credit appears in Figure 14.3; note the specific terms such as duplicate certificates of origin and duplicate packing lists, among others. M09_MURP4846_11_GE_C09.indd 170 04/06/14 12:01 PM Chapter 9 • Facility Location 171 involves companies that pursue a locavore strategy, that is, purchasing locally grown or produced foods. See Cost and freight (CFR) Channel intermediaries, 31 Chippy Potato Chip Company, 266 CIF. Whenever they have tried that," Olga continued, "the customer gets two of one box and none of another." "Well, Olga," Don interrupted, "can we charge the EOQ is the point where carrying costs, we need to calculate both of these costs (see Table 8.5). Figure 5.1 also points out that some supply chains can be much more complex (in terms of the number of participating parties) than others, and coordinating complex supply chains is likely to be more difficult than doing so for less-complex supply chains agreement. opportunities and limit federal government involvement. In addition, vehicle operators sometimes engage in work stoppages (e.g., strikes) and can be the cause of accidents. Moreover, upstream and downstream supply chain members tend to pursue different packaging design objectives. 2 With so many potential entities involved in packaging decisions, a natural question involves which entity (ies) drive the packaging design process? For example, the marketing department and retailers might prefer packaging design by consumers to purchase the product. HUNGARY Exhibit 14.A Map of Central Europe • N.A.M. would need three days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buses from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buse from the factories in Prague to the Port of Bremerhaven or Hamburg by train and four or five days to get the buse from the factories in Prague to the Port of Bremerhaven or five days to get the buse for the buse for the buse for th products to make certain that they do not contain these problems. 27 Report of Working Group on Warehousing Development and Regulation (New Delhi, India: Government of India, October, 2011). P., 115n, 273n Bartolacci, M. Developing strong relationships with other functional groups recognizes that the interfunctional consequences of procurement decisions require more cooperation and coordination than has traditionally existed between procurement and areas such as logistics, manufacturing, and marketing. Contract Warehousing facilities—public (renting) and private (owning). Six Sigma A practice that emphasizes the virtual elimination of business errors that strives to achieve 3.4 defects, deficiencies, or errors per one million opportunities. In Figure 9.4, the grid system has its lower left (southwest) corner labeled as point zero, zero (0,0). For example, while Hong Kong ranks second in terms of the overall 2012 LPI score, it ranks first in terms of the "ease of arranging competitively priced shipments" dimension. (Upper Saddle River, NJ: Prentice Hall, 2002). Furthermore, wood and plastic are much more flammable than is metal; you might recall from Chapter 10 that fires are a regular threat in warehousing. Bulk materials are in loose rather than in packaged form and are handled by pumps, shovel devices, conveyor belts (see Figure 11.8), or the mere force of gravity. Some trucking companies, for example, can examine inbound or outbound deliveries for a representative period of time using data gathered from a customer's paid freight bills. Order fill rate The percentage of orders that can be completely and immediately filled from existing stock. Figure 11.5 shows a unit load resting on an automatic guided vehicle. Inventory Measures Inventory management measures tend to relate to the inventory measures tend to relate tend to rel photograph or videotape drivers making pickups at their loading docks. Containers are moved by mechanical devices such as container cranes, and companies need only handle a container cranes, and companies need only handle a container cranes. • Decals are required for autos in employee parking lots, and nonemployees may be required to park in designated areas as well as to register with a company receptionist. From an absolute perspective, Table 8.1 indicates that the value of business inventory ranged between \$1.86 trillion and \$2.27 trillion between 2006 and 2012. This often results in a forklift falling from the trailer floor to the parking area. Guillou was young Robertson's fraternity roommate in college, and Pon thought the two of them shared a similar love of life in the fast lane An effective logistics system can provide positive support by enabling the firm to attract and utilize what it considers to be the most productive channel and supply chain members. Indeed, the contemporary marketplace is made up of heterogeneous customers who aren't necessarily well served by centralized logistics practices. "Cleaning Up the Mess: Redevelopment of Urban Brownfields." Economic Development Quarterly 24, no. (See Exhibit 9.A.) Luckily, most containers are used for traffic in both directions; moving empties is unproductive. Do you agree or disagree? See Environmental Protection Agency (EPA) E-procurement, 51–52 Ergonomics, 222 Ergonomics principle, 222 ERP. When an organization enters into a long-term agreement with a supplier or customer, the organization must keep in mind how this arrangement could affect the rest of the supply chain. 4 (2002): 1, 4. For example, the loss in situation 1 is negligible because the sale is only slightly delayed. "The Displacement Effect in Cargo Theft." International Journal of Physical Distribution & Logistics Management 39, no. "Greg," said Amy, "do our records reflect these returns and transfers?" "Oh, fairly well," was his response. 03/06/14 5:17 PM 106 Part II • Supply Chain Management Questions for Discussion and Review 5.1 What are the key differences between supply chain management and logistics? Bigelow then excused himself, saying he had to return to work. This can be illustrated by referring to Figure 1.1, which indicates that business logistics is made up of materials management (movement and storage of materials into a firm) and p hysical distribution (storage of finished product and movement to the customer). Johnson, James C., Dennis N. The nature of the product also affects the level of the customer service that should be offered. Indeed, research indicates that shippers are exhibiting more interest in transportation metrics such as transit time and transit time mentioned above, China uses standard-rail gauge; India, by contrast, uses broad- and narrow-rail gauge. 4 (2012): 34-41. From a logistics perspective, food processors continue to experiment with packaging alternatives that will extend the shelf life of ready-to-cook foods. Assume that the buyer in Saudi Arabia has made other large purchases in the United States and is considering consolidating all its purchases and loading them onto one large ship, which the buyer will charter. Although Canada has long been the United States' third-largest trading partner. each other would now stop, turn off their engines, dismount, and carefully walk around each other's trucks to ensure there was proper clearance. Jon, Seong-Jong, Hokey Min, Ik-Whan G. As a firm expands beyond its domestic markets, it finds requirements that differ for each nation with which the firm wishes to trade. 13.15 What is a freight claim? If the raw materials gain weight in processing, known as weight-gaining products, then the processing point should be close to the market. "Logistics Strategy and Organizations and Markets in Emerging Economies 2, no. This same-day delivery has been facilitated by a redesign of Toyota's automotive parts distribution network.16 Technological Advances Prior to the start of every academic year, Beloit College in Wisconsin releases its annual Mindset list that details the worldview of incoming first-year college in Wisconsin releases its annual Mindset list that details the worldview of incoming first-year college students.17 The class of 2017, which assumes a 1995 birth date, is particularly noteworthy because it has never lived in the non-Internet world. Pick to light can yield impressive operational improvements; for example, a candle company that implemented pick-to-light technology reported a 50 percent increase in shipping volumes.11 Order Delivery The final phase of the order cycle is order delivery, which refers to the time from when a transportation carrier picks up the shipment until it is received by the customer. As soon as Olga saw Don, she exclaimed, "Don, my friend, I have been meaning to talk to you." Don knew right then that his worst fears were confirmed Alternatively, powerful differences exist between online and in-store retailing with respect to the execution of logistics activities. If an organization provides higher levels of logistics service quality than their customer values or requires, it may be paying for something that is not needed. What longer-range steps should Fosdick take to control the operations of the Providence distribution center? Advances in information technology have facilitated, and continue to facilitate, an understanding of customer wants and needs, and these technological advances increasingly allow for interactive communication with customers—a key to meeting customer requirements. Diaz, Angel, Bjorn Claes, and Luis Solis. That's their very nature." Guridi asked, "Could we have field representatives who do nothing but deal with this problem? See Systems controls Logistics Uncertainty Pyramid Model, 77 Long-form bill of lading, 257, 258f Long-term asset, 61 Loss and damage, 260 Lost customer, 152 Lost sale, 152 Lowest-cost location, 180 Low Nail Company, 166-167 LTL shippers, 230-231 LTV Steel, 184 M Make-to-order situations, 127 Make-to-stock situations, 127 Malcolm Baldrige National Quality Award, 77 Management information system (MIS), 41f, 45-46 Manufacturing flow management, 95, 96f Maquiladora, 174 Marketing, role of international, 28 Marketing channels, 30-32 Martin Brower Company, 105 Mass logistics, 21 Materials handling, 33, 216-223 Materials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 73 McDonald's, 105, 135, 170 Mechanization, 222-223 Methods of payment letter of credit, 277, 278f open account, 277 Z03 MURP4846 11 GE SIDX.indd 312 Metrials management, 25-27 Matrix organizations, 284-284 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Mutrix organizations, 278 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods of payment letter of credit, 277, 278f open account, 277 Z03 Methods 205 MIS. For some industrial processes, water is used for cooling, and in some climates it is possible to use naturally flowing water for air conditioning during warm months. 1 (2013). Sometimes insurance is also a requirement in the agreement, so insurance companies may also serve as intermediaries. Thomas, and Karl B. Such instantaneous visibility offers the opportunity for supply chains to become more proactive and less reactive, which can translate into lower inventories and improved profitability throughout the supply chain. 27 Because supply chains depend on huge quantities of real-time information, it is essential that this information can be seamlessly transmitted across organizations. Main items for export are India 0 AFGHANISTAN 200 0 Jammu & Kashmir 100 400 KM 300 MILES 200 CHINA Himachal Pradesh Punjab PAKISTAN Haryana Delhi BHUTAN Agra Jaipur Rajasthan Arunachal Pradesh Sikkim NEPAL Assam Uttar Pradesh Nagaland Meghalaya Bihar Gujarat BANGLADESH Tripura West Bengal Madhya Pradesh Manipur Mizoram BURMA Dhaka Orissa Diu Daman Maharashtra Kolkata (Calcutta) Mumbai (Bombay) Arabian Sea Bay of Bengal Andhra Pradesh Goa Karnataka Chennai (Madras) Bengaluru (Bangalore) Kerala Andaman and Nicobar Islands Pondicherry Tamil Nadu SRI LANKA Exhibit 9.A Map of India M09_MURP4846_11_GE_C09.indd 186 04/06/14 12:01 PM Chapter 9 • Facility Location 187 bathroom fittings and spares, machine spares and chemicals, food processing machinery, furniture and kitchen equipment, and interiors. In a fixed order quantity system, the time interval may fluctuate while the order size stays constant; for example, a store might always order 200 cases of soft drinks. Excess (surplus) materials Stock that exceeds the reasonable requirements of an organization. Moreover, if performance does not exhibit satisfactory improvement during the probationary period, then the carrier might be fired. Their diameter varies from 3 to 48 inches; 8- to 10-inch pipe is the most common size. M01 MURP4846_11_GE C01.indd 19 03/06/14 5:11 PM 20 Part I • Overview of Logistics different sensitivities to time; three-day late delivery of nonperishable items M08 MURP4846 11 GE C08.indd 152 03/06/14 5:23 PM Chapter 8 • Inventory Management 153 Table 8.4 Determination of Safety Stock Level Number Additional 25% Annual of Units of Safety Stock Level Number Additional 25% Annual of Units of Safety Stock Level Number Additional 25% Annual of Units of Safety Stock Level Number Additional 25% Annual of Units of Safety Stock (\$480 per Unit) Cost 10 20 30 40 50 60 70 \$4,800 9,600 14,400 19,200 24,000 28,800 33,600 \$1,200 2,400 3,600 4,800 6,000 7,200 8,400 Total Value of Incremental Safety Stock Additional Orders Filled Stockout Costs Avoided \$1,200 move in opposite directions— higher inventory levels (hence higher inventory carrying costs) result in lower chances of a stockout (hence lower stockout costs). What kinds of customer service support must be provided for this initial shipment of 25 buses? • The cost per bus (in shipments of 20 buses or more) from Bremerhaven or Hamburg to Santos is quoted at € 6,000, and the trip requires 18 days. Sanchez-Rodrigues, D. Although the latter scenario may result in fewer managerial personnel being needed, it may also lead to congestion within the facility due to the number of workers. the sense that inland water transportation is somewhat unreliable due to weather-related conditions such as drought and icing. Pettit, Timothy J., Joseph Fiksel and Keely L. 04/06/14 12:01 PM 10 Warehousing Management Key Terms
Accumulating (bulk making) Allocating (bulk breaking) Allocating (bulk breaking) Assorting Contract (third-party) warehousing Management Key Terms Cross-docking E Fixed slot location Hazardous material(s) Multiclient warehousing Occupational Safety and Health Administration (OSHA) E Private warehousing Distribution center Dunnage E Regrouping function Sorting out Throughput Variable slot location Warehousing Distribution Conter Dunnage E Regrouping function Sorting on the state of the Learning Objectives To discuss the role of warehousing in a logistics system To learn about public, private, contract, and multiclient warehousing facilities To examine some prominent operational issues in warehousing facilities are considerations when designing warehousing faci nature of the logistics discipline and the individual functions that comprise it. Materials handling is one components in a logistics system and must be coordinate with other components in a logistics system and must be coordinate with other components in a logistic system. river's level as they move upstream or downstream) also contributes to transport unreliability. You may recall that Chapter 1 briefly mentioned the CPFR (collaborative planning, forecasting, and replenishment) concept, where supply chain partners share planning and forecasting data to better match up supply and demand. Incoterms – Terms of sale for international transactions that represent, from the seller's viewpoint, the different locations, or stages, for quoting a price to an overseas buyer. On Mondays, he would fall asleep 8.12 Define what is meant by dead inventory. Bridget McCrea, "Going Once, Going Twice," Industrial Distribution, July 2005, 30-32. Although this inevitably involves quantitative comparisons, companies should also consider the potential consequences of relocation on their human resources—consequences that may not be easily quantified. Figure 11.4 shows the type of label (the "box maker's certificate," or BMC) that motor carriers and railroads require on fiber boxes used for shipping freight. 11.16 Why might bagged and bulk items be part of the same load? CSCMP offers a three-level certification program, SCPro[™]. With 6 Center for Ports and Waterways, A Modal Comparison of Domestic Freight Transportation Effects on the General Public (College Station, TX: Texas Transportation Institute, 2009). For example, the continuing growth of e-commerce is causing some companies to shift away from warehousing's traditional cost focus to an emphasis on customer satisfaction in terms of rapid, and correct, order fulfillment.1 This chapter begins with an overview that defines what is meant by warehousing and discusses the role of warehousing productivity involves a review of existing procedures and practices to identify the tasks that are creating the largest inefficiencies and then developing methods to reduce or eliminate the inefficiencies without adding to or upgrading present technology or equipment. Combs, "Arhaus to Equip Trucks with iPads," Furniture Today 34, no. 2 (2012): 33-34. A product just being introduced needs a different kind of service support than one that is in a mature or declining market stage. For example, if the vessel is in peril of sinking, the captain may have some cargo jettisoned (thrown overboard) to keep the vessel afloat. www.ics-ccs.org 28 Robert R. After wheels were attached to the frame and axles, the nightshift labor force would push the chassis along to its next station on the line so it would be in place for the next M12 MURP4846 11 GE C12.indd 243 day's shift. This weighting technique serves as a foundation for generating a rating (score) for each possible supplier, and these ratings are instrumental in the fourth step of the supplier, shift. first century, many maquiladoras went out of business, in part because companies established production plants in even lower-wage countries such as China and Guatemala. "We could load two trucks per day on railcars here and send them to Baltimore. 4 (2011): 968-976. • What is the item's worth? 252 M13_MURP4846_11_GE_C13.indd 252 03/06/14 5:36 PM Figure 13.2 Continued 253 M13 MURP4846 11 GE C13.indd 253 03/06/14 5:36 PM 254 Part III • Elements of Logistics Systems Rate and Service regulations and thus has the opportunity to assume a proactive role in rate and service negotiations. If the driver works on a regular route, it may be possible to rearrange the stops so that the driver can avoid areas of traffic congestion. Nasir Khan. Why should each freight bill be audited? gauge = 1.067 m. If Robertson's fooling around is on schedule, he'll be wanting me to wire him some cash. However, a point may be reached where customers become sufficiently annoyed at having to make substitutions that they decide to take their business e lsewhere. 15 Lambert and Burduroglu, "Measuring and Selling the Value of Logistics." M03_MURP4846_11_GE_C03.indd 62 03/06/14 5:15 PM Chapter 3 • Strategic and Financial Logistics 63 Sales - Gross Margin Cost of Goods Sold - / Variable Expenses + Fixed Expenses Total Expenses Accounts Receivable + Other Current Assets / + Total Assets Asset Turnover Fixed Assets Figure 3.3 Strategic Profit Model Logistics Connections to Net Profit Margin Operationally, net profit margin is net profit divided by sales, and looking at net profit and sales, as reported on the income statement, suggests multiple ways in which net profit margin can be influenced by managerial decisions. He looked at the clock on the wall and realized he had spent the entire afternoon thinking about one thing and one thing only—the most recent meeting with his Romanian business "connection." Terim had just completed a trip to the Balkans and was in his office evaluating his firm's progress in the region. M05_MURP4846_11_GE_C05.indd 98 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept Relationship Type Definition Examples of Data Exchanged Transactional Integrate and automate the flow of information to align with product flow Purchase orders; invoices Tactical information before or after a purchase is made Order status; product prices Strategic Joint buyer/seller processes, decision making and measurement (often proprietary) Forecasts; fulfillment processes 99 Figure 5.2 Levels of Supply Chain Collaboration Source: John Matchette and Andy Seikel, "How to Win Friends and Influence Supply Chain Partners," Logistics Today, December 2004, 41. Vessel or aircraft departures are less frequent, and the capacities of planes or ships are strictly limited. 3.14 Do you think corporate cultures are relevant for designing a logistics measurement system? It seems reasonable to assume that the packaging expectations of specialty firms might be more demanding than those of industrial users. 3 (2009): 292-316. Some years ago, the owner of an automotive parts distributor became concerned with the amount of inventory his company. was holding. With respect to the egg example at the beginning of this chapter, one dozen (12) eggs represents the cycle stock—we use one egg per day, and we buy eggs every 12 days. 1 (2005): 24–32. From a marketing perspective, place decisions may also involve new strategies for reaching customers. (Mason, OH: South-Western, 2003). 4 (2009) 205-221. Rizzuto and Jennifer Reeves, "A Multidisciplinary Meta-Analysis of Human Barriers to Technology Implementation," Consulting Psychology Journal: Practice and Research 59, no. So they had made this offer to N.A.M. on strict condition that the company could ensure delivery of the first 25 buses to Santos, the port that serves São Paulo, by November 15 (only three months away). With respect to the situation at hand, as pointed out earlier, judgmental forecasting is appropriate where there is little or no historical data available. In the mini-motor-home business, generally the manufacturers are small and the component makers are large. necessary to design a network and enable a firm to meet customer requests while maximizing its profitability. Frequent communication and constant updating of the measures is a necessary condition for ensuring they are supporting the stated goals of the measures is a necessary condition. orders? Although these might seem like basic, commonsense questions, reality may be quite different. Beginning in the late 1970s, various sectors of the transportation industry experienced a reduction in economic regulation), and in 1985 the CAB went out of existence. 25 M02_MURP4846_11_GE_C02.indd 45 03/06/14 5:13 PM 46 Part I • Overview of Logistics as desired. E., 116n 303 Z02_MURP4846_11_GE_NIDX.indd 303 03/06/14 5:39 PM 304 Name Index Field, A. The rest of the week Bigelow was happy, enthusiastic, and h ardworking. Inventory requirements are influenced by the mode of transport used. Unified logistics structure Multiple logistics activities are combined into, and managed as, a single department. We looked at ocean shipping, international airfreight, and surface transportation, and we learned that the greater uncertainties associated with international airfreight, and surface transportation are combined into, and managed as, a single department. requires carriers to pick up and deliver at specific times. The health and safety of a country's population During the 1970s and the 1980s, widespread reductions in economic regulation (commonly referred to as deregulation) relaxed government control of carriers' rates and fares, entry and exit, mergers and acquisitions, and more. See Quick Response (QR), 161 R Radio-frequency identification technology (RFID), 44, 133 Rail gauge, 228 Railroads, 232-233 Rate and service negotiations, 254 Rate determination, 248-251 carrier-shipper negotiation process, representative rate and service items, 254t class rate system, example, 251t motor carrier classification, 249 worksheet for motor carrier classification, 252f Recycling, role of, 83 Red Spot Markets Company, 87-89 Regrouping function, 189 Regulation and deregulation, 22 Relationship management, role of, 96f Reverse auction, 52 Reverse auction, 52 Reverse logistics, 20 critical factors, 84 forward logistics versus, 84 RFID. What are the total costs of delivering the Style C shades to the Port of Shanghai? As an example, the time difference between the United States and China (at least 12 hours depending on one's location in the United States) doesn't readily lend itself to timely resolution of issues if managed under a centralized approach. As an example, whereas EDI capabilities might have been an important supplier selection criteria in the early 1990s, in the contemporary environment Internet-related capabilities (e.g., tracking, pricing) have assumed increased relevance and importance.14 Procurement Portfolio Approach As part of the situation analysis mentioned previously, procurement managers must continually be aware of the supply and demand characteristics of the raw materials, component parts, and supplies they purchase. More specifically, as illustrated in Table 8.3, each probability is multiplied by the respective loss to yield an average cost per event. 23 M04 MURP4846 11 GE C04.indd 80 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 81 You might be wondering why logisticians would be concerned about theft, particularly because many organizational and wave many organizational and managerial Issues in Logistics 81 You might be wondering why logisticians would be concerned about theft, particularly because many organizational and wave many organizational and managerial Issues in Logistics 81 You might be wondering why logisticians would be concerned about theft, particularly because many organizational and Managerial Issues in Logistics 81 You might be wondering why logisticians would be concerned about theft. to focus part of one's supply chain on a timely response to customer orders and/ or product variety and another part of the supply chain on leveling out the planning requirements to smooth production output. 25 M01_MURP4846_11_GE_C01.indd 25 03/06/14 5:11 PM 26 Part I • Overview of Logistics Raw materials, parts, and components Retailers and co Initial processing or creation of subassemblies Distribution to warehouses and wholesalers Factory Finished goods inventories are found and Outbound Movements In this drawing, the circles represent buildings where inventories are stored, and the lines with arrows represent movement performed by carriers, a stop-and-start process. For this reason, the Kalamazoo mini."), as were the components prior to installation. Bloomberg, Stephen LeMay, and Joe B. plant, which opened in 2008, is located in Greensburg, Indiana, in large part because many of Honda's existing automotive suppliers are located within one-half day's transit time from the new facility. R., 94n Mollenkopf, D., 21n Monczka, R., 111n Montgomery, K., 24n Morash, E. Ripening processes can be delayed through the use of lower temperatures or application of gases. See Central America Free Trade Agreement (CAFTA) Cargo preference, 270 Cargo security rules. See Point-of-sale (POS) systems Possession utility, 19 03/06/14 5:39 PM 314 Subject Index Postponement concept, 28 Preprinted short-form bill of lading, 257, 258f Price decisions, 29 Private carriers, 241 Private transportation 241-242 Private warehousing, 192-193 Privatization, 270 Procter & Gamble (P&G), 94 Procurement bribes, 117 cards, 111 define, 110 e-procurement, 51-52 excess materials, 119 global sourcing, 116 investment recovery, 118-119 ISO 9000, 76 kickbacks, 117 Malcolm Baldrige National Quality Award, 77 objectives, 111-112 obsolete materials, 119 procurement cards, 111 purchasing and supply management, 111 quality, 76 reverse marketing, 115 scrap materials, 119 Froduct decisions, 29 Product development and commercialization, 95, 96f Production scheduling, 27-28 Promotion decisions, 30 Promotions channel, 30, 31 Psychic stock, 148 Public warehousing, 191-192 Pure materials, 173 Q QR. 5 Ibid. had concentrated its business on small consumer products. In addition, EDI may lead to increases in cash flow, billing accuracy, productivity, and customer satisfaction. Neither plastic nor metal pallets are likely to break and splinter, thus improving worker safety and resulting in minimal repair costs. Insurance costs are not uniform across products; diamonds, for example, are more costly to insure than shampoo. Note that a number of the order transmittal and order processing components of the order cycle. UPS was able to attract customers in its early years because it offered certain services, such as automatic daily pickups, multiple delivery attempts, and the return of undeliverable packages, that were not available from competitive with Parcel Post. 1.2 Distinguish between possession, form, time, and place utility. 04/06/14 11:56 AM 131 M07 MURP4846 11 GE C07.indd 131 04/06/14 11:56 AM Figure 7.1 Flowchart of Order Handling (Order Processing) System 132 Part III • Elements of Logistics Systems the system, crediting a salesperson with a sale, recording the transaction, determining inventory location, and arranging for outbound transportation. 35 Diane Ritchey, "The \$80 Million Theft," Security: Solutions for Enterprise Security: Solutions for Enterprise Security Leaders, July 2012, 20–24. Several prominent USCG safety roles include responsibility for marine licensing and documentation as well as regular inspections of U.S. and foreign vessels.20 Economic Regulation Economic regulation in transportation refers to control over business practices and activities such as entry and exit, pricing, service, accounting and financial issues, and mergers and acquisitions. More specifically, cross-docks emphasize extremely rapid product movement, and they should be designed with a minimal amount of storage Γ," "U," and "E," and their applicability depends on the spatial configuration of the land used to build the crossdock as well as the number of docks to be ce and truck doors on two or more sides.7 Figure 10.2 shows an "I-shaped" cross-dock design—rectangular, long, and as narrow as possible.8 Other possible cross-dock designs include "H," "L used.9 3 William D. Each factory distributor maintained a complete stock of all styles and trims of the Handy Andy compactors, and these distributors were required to stock at least five units each of the 47 different styles available. "Mastering the Slippery Slope of Technology." Supply Chain Management Review 12, no. Although TL traffic may involve only one customer, it is possible that large shipments (greater than 10,000 pounds) from several customers can be consolidated into a truckload shipment. Appendix 1 Logistics Professional Organizations APICS—The Association for Operations Management (www.apics.org) APICS "builds and validates knowledge in supply chain and operations management." APICS offers three certification programs: Certified in Production and Inventory Management (CPIM), Certified Supply Chain Professional (CSCP). 19 No author, "Remote Asset Management Worth the Cost," GPSWorld, January 2009, 27. 3 (2010): 490-509. 5.14 Why can agile supply chains be considered beneficial? • How do a patient's insurance requirements impact the ability to use a substitute product?11 9 David Ruggles, "Turn," Ward's Dealer Business, November 1, 2011, 23-24. 7.16 Why is it important for an organization to establish clear customer service objectives? "Do Logistics and Marketing Understand Each Other? 7.2 Discuss the three basic demand forecasting, in that a firm does not simply wait for orders to arrive to learn what's happening with respect to demand. Two ships a week are scheduled from Baltimore to Doha. Slone, Reuben, J. Because reverse logistics can be so different (e.g., irregular flow of product, small shipments) from forward logistics, the outsourcing of reverse logistics continues to grow in popularity.36 Complexity The degree of complexity in a logistic system is largely a function of the dynamic, global, diverse, and highly uncertain nature of relationships and activities that are involved in today's business environment. Corporate-level strategy is focused on determining the goals for the company will be managed. Consider, for example, that electrical plugs, and electrical sockets differ across countries. 41 Joel D. David Biederman, "Inside the Supply Chain: Fourth-Party Logistics," The Journal of Commerce, June 6, 2005, 28-31. Ozment, John and Scott Keller. Other inventory exemptions deal more explicitly with distribution activities or functions. Source: Data derived from a sample rate calculator for Old Dominion Freight Lines . In addition, inland waterways can be circuitous in nature, which can add to transit time. The data on rail gauge are important because nonuniform costs. Increasingly, rate basis numbers are being replaced by the zip codes of a particular shipment 2 (class 100) and Shipment 1 (class 100) and Shipment 2 (class 100). Restrictions on manufacturing sites may be even more severe, especially if the operation might be viewed as an undesirable neighbor because of the fumes, noise, dust, smoke, or congestion it may create. J., 190n McCrea, B., 43n, 47n, 49n, 51n, 52n McCurry, J.W., 178n McGinnis, L., 65n McWhirter, C., 282n Mellgren, J., 160n Mentzer, J. Lin, Pei-Chun and Chia-Hui Lee. 03/06/14 5:20 PM This page is intentionally left blank. Also note that some cultures see bribery as a way to better distribute the wealth among their citizens. The automation principle. Ordering costs and setup costs. 5 The framework in this section is adapted from S. Oum, Jia Yan, and Chunyan Yu, "Ownership Forms Matter for Airport Efficiency: A Stochastic Frontier Investigation of Worldwide Airports," Journal of Urban Economics 64, no. For example, the current ratio, which is calculated by dividing total current liabilities, measures how well an organization can pay its current liabilities by using only current assets. 5.3 Discuss how the logistics function contributes to the supply chain management processes established in the SCOR and GSCF models. One of the most effective methods of protecting goods from theft or pilferage is to keep them moving through the system. Temporarily, ignore your work on Questions 2, 3, and 4. Sherer, and Yao Yuliang. The most promising opportunity at the time was in building supplies, so Low bought a business that specialized in sales of one size of nail. Without question demand forecasting is helpful in make-to-stock situations (when finished goods are produced prior to receiving a customer order). For a moment, Pon thought that the worst might happen: The component bills would be due at the same time as Robertson's and Guillou's request for a hefty cash advance. Multiclient facilities are particularly attractive to smaller organizations that don't have sufficient volumes to (1) build their own storage facilities or (2) use traditional one client contract warehousing services. 14 While we view multiclient warehousing as a distinct type of warehousing, some warehousing providers view "multiclient warehousing" as a synonym for "public warehousing." Design Considerations in Warehousing General Considerations one of the best pieces of advice with respect to the design of warehousing facilities is to use common sense, as illustrated by the businessperson who was convinced that warehouses were bland, boring, and visually unappealing. As a result, warehousing facilities are adding new types of equipment and being configured differently to allow specific value-added activities to take place. Judgmental forecasting involves using judgment or intuition and is preferred in situations where there is limited or no historical data, such as with a new product introduction. M04 MURP4846 11 GE C04.indd 85 03/06/14 5:20 PM 86 Part I • Overview of Logistics Ouestions for Discussion and Review 4.1 Discuss several issues that influence the organization of logistics or documents and small parcels and are called integrated carriers because they own all their vehicles and the facilities that fall in between. According to the Institute of Hazardous material "is Warehousing Management 201 Materials Management, a hazardous material" is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors."30 Examples of hazardous materials include explosives, flammable liquids, and flammable solids. Manrodt. For instance, design, lighting, and roofing represent three possible energy control areas in warehousing. Much of the preceding discussion could be viewed as a market-oriented approach to warehousing. Focus strategy Concentrates an organization's effort on a narrowly defined market to achieve either a cost leadership or differentiation advantage. 1 (2011): 11-34. Special care is needed to handle these and many other substances. Functional-level strategies will exist in such areas as marketing, finance, manufacturing, procurement, and logistics. Bribes Money paid before an exchange. We would need some pretty tight controls to make certain the goods were actually destroyed. 1 Stephen M. It would be delivered through the local dealer. Exempt carrier A for-hire carrier that has been exempted from economic regulation through provisions in various pieces of legislation. When comparisons are made among all eight warehouses, which one do you think does the best job for the Brant Company? Second, carrier specifications for protective packaging reduce the likelihood of damage to products while they are being carried; this, in turn, reduces the amount of loss and damage claims placed against the carrier. For example, severe flooding along the Ohio River in April and May 2011 caused substantial delays to the delivery of coal by barge transportation.8 Icing is a problem in northern states such as Minnesota and Wisconsin; the ice closes the rivers and prevents year-round operation. since his days as a local Providence high school football star. As a result, sellers must assess the extent to which their customers are willing to pay for convenience. J., 181f Friesen, G. 34 Bridget McCrea, "5 Trends Driving TMS Growth," Logistics Management 51, no. One possibility is to locate the parts at numerous warehousing facilities in that this allows the parts to be fairly close to potential customers, and in emergency situations, where time is of the essence, this can be critical to customer satisfaction. Airfreight When one thinks of air transportation, one immediately thinks of speed, particularly on the linehaul (terminal-to-terminal movement of freight or passengers); modern jet aircraft are capable of traveling between 500 and 600 miles per hour, a speed that far exceeds any other form of transportation. Accurate information may also reflect the effectiveness and efficiency of a company's logistics information system. R., 269n Cattrysse, D., 190n Cavinato, J. Suggestions for maximizing the effectiveness of routing quides include making them readily available to the relevant personnel as well as monitoring and enforcing compliance with them.13 Tracking refers to determining a shipment's location during the course of its move, and the ability to track shipments directly affects expediting, which involves the need to rapidly move a shipment to its final destination. In addition, retail stores were phoning with complaints about all the errors in their orders. Driven by the complexity of their multichannel business, they have established a CLO for their orders. shows, trade publications, and the Internet. Mentzer et al., "Defining Supply Chain Management," Journal of Business Logistics 22, no. It might entail expensive downtime for the entire plant. What functions do they serve? The chapter began by examining how logistics is organized within a firm, with a specific focus on organizational structure and design approaches. Human rights issues include child labor laws as well as sweatshop labor. The types of aircraft to be used, the total number of seats to be offered, the regions or cities to be served, the carriers that were to serve particular regions or city pairs, among others. 3.19 From the point of view of logistics analysis. (New York: Amacom, 2002), Chapter 14. Figure 6.3 shows an example of how aluminum cans might be recycled. 45 Marc L. The FRA employs safety inspectors are also responsible for ensuring railroad compliance with relevant laws, regulations, and the safety inspectors are also responsible for ensuring railroad compliance with relevant laws. (water) safety considerations. The method of payment for international shipments should be established at the time that a shipment price is decided upon and the payment method can be influenced by key factors such as the country the product is to be sold in and the seller's assessment of buyer risk. Container status message Source: R.G. Edmonson, "10 + 2 = Now," The Journal of Commerce, June 1, 2009, 13. Unlike traditional accounting techniques, activity-based costing attempts to trace an expense category to a particular cost object. Note that both the third and fourth strategies add a returned packaging loop to the supply chain and are examples of closed-loop systems, or those that consider the return flow of products, their reuse, and the marketing and distribution of recovered products. With respect to language of the exporting country, and it would not be unusual for cargo handlers in some countries to be illiterate. How important, if at all, is it for N.A.M. to ship via water to show its support of the European Union's Motorways of the Seas concept? This sounded like a feasible solution, but how much would such an operation cost? • How do the company's returned goods should not be anaged as an afterthought. Another important issue in logistics organization structure is the job title or c orporate rank (e.g., manager, director, vice president, chief) of the top logistics person; indeed, one attribute of leading-edge organizations is that logistics tends to be headed by senior-level (vice president, chief) personnel.4 Although in recent years logistics has assumed greater i mportance in many organizations in the sense that the top logistics person holds a vice p resident title, to date logistics has generally been excluded from holding a "C-level" position, which refers to corporate officer (CEO), a chief operating officer (CEO), a chief operating officer (CEO). One is Bob Guider, an international freight forwarder in Chicago whom we use for our export parts shipments. 24 Gail Scott, "Service Recovery," Healthcare Executive, January/February 2009, 44-47. Keong Leong, and Keah-Choon Tan, Principles of Supply Chain Management: A Balanced Approach, 2nd ed. 1-2 (2001): 71-87. 22 M02 MURP4846 11 GE C02.indd 44 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 45 reported by Walmart and some its suppliers.24 In addition, RFID reduced the time needed to count inventory by 80 percent and improved the accuracy of inventory counts at one clothing retailer.25 Despite the potential benefits associated with RFID, various challenges must be addressed before the technology becomes more widely used in logistics. For example, sometimes public warehousing doesn't have the space availability required by a particular user. Materials Handling Materials Handling refers to the short-distance movement of products within the confines of a facility (e.g., plant, warehouse), and materials handling considerations are presented in Chapter 11. "Liberalization of Logistics: Research & Applications 14, no. Hazen and Terry Anthony Byrd, "Toward Creating Competitive Advantage with Logistics: Research & Applications 14, no. Hazen and Terry Anthony Byrd, "Toward Creating Competitive Advantage with Logistics: Research & Applications 14, no. Hazen and Terry Anthony Byrd, "Toward Creating Competitive Advantage with Logistics: Research & Applications 14, no. Hazen and Terry Anthony Byrd, "Toward Creating Competitive Advantage with Logistics Information Technology," International Journal of Physical Distribution & Logistics Management 42, no. Some of the vessels go on round-the-world voyages and carry palm oil, coconut oil, chemicals, and refined petroleum products. In addition, some space is used in the company's Fargo warehouse. For example, Walmart was one of the first companies to adopt Internet-based EDI (I-EDI) in place of Value Added Network (VAN)-based EDI. The overtime charges would amount to an additional € 15 per bus (for buses 21, 22, etc.). In addition, as emphasized in this chapter, reliable service enables a firm to maintain a lower level of inventory, especially of safety stocks, which produces lower inventory holding costs. In recent years, plastic packaging has become a frequent target for environmental critics. Although Incoterms use is not mandatory, they are generally accepted by legal authorities are managed in multiple departments throughout an organization. Hossein, Mohammed Dadashzadeh, and Mutho Subramanian. 9 Agency Group 09, "Military Logistics Strained, but Healthy, Official Says," FDCH Regulatory Intelligence Database, January 10, 2012. Although the short-sea concept has received some attention in North America, a short-sea service that linked Halifax, Nova Scotia, to several Northeast U.S. ports ceased operations in early 2012 after only nine months in operation. Transportation costs are directly affected by the locations, and customers. Chapter 10, almost any material can possess hazardous qualities under certain conditions; for example, flour dust can explode and grain in elevators can self-ignite and burn. For example, one of the authors was shopping at a Nordstrom's and found a belt that he liked, but the store didn't have the correct size in stock. Objectives, the means by which goals are to be achieved, state certain minimum requirements and are more specific than goals. Thus, one manager might have transportation-related responsibilities, another manager might be responsible for ordering and inventory management, and a third management, and a third management, order picking and management, order Management, and Customer Service 133 Importantly, the effectiveness and efficiency of order picking and

assembly can often be improved without large expenditures. 13 Kristen S. Four components of an order cycle—order transmittal, order processing, order picking and assembly, and order delivery—were identified and discussed in some detail. Fawcett, Bradlee J. A contract carrier offers a specialized service to customers on a contractual basis, and the contract specifies the compensation to be received, the services to be provided, and the type of equipment to be used, among others. White, Andrew and Mark Johnson. Another key order processing decision (see Figure 7.1) involves determining the location(s) from which an order is to be filled. For example, although aluminum recycling can provide revenues to an organization, the recycling conserves raw materials, uses less energy, and reduces various types of pollution. The Providence grocery distribution center supplies 42 Red Spot retail stores. See Transportation management systems (TMS) Ton miles, 228 Total cost approach, 25-27 03/06/14 5:39 PM 316 Subject Index Total cost approach, 25-27 03/06/14 5: of ownership (TCO), 116 Total logistics concept, 27 Toyota, 23 TPS. Huber immediately sent back an e-mail, instructing Escabar to tentatively accept the offer, assuring the local authorities that they'd have their 25 buses in 90 days and the rest within 18 months. What could be improved? John Karolefski, "Time is Money," Food Logistics, June 2004, 18-22. Heskett, Nicholas A. However, the Grocery Manufacturers Association found forecasts. 5 It's important to keep in mind that no software package—regardless of its sophistication and cost—is capable of totally eliminating forecast errors. You might recall from Chapter 5 that relational exchanges adopt a long-term orientation that can be characterized by attributes such as trust, commitment, dependence, and shared benefits. "We would need temporary licenses and a convoy permit and pay to have the fuel tank on each truck drained before it is loaded. K., 58n, 76n Violino, B., 49n Vitasek, K., 94n, 97n Vitasek, K. 7.13 How are macroenvironmental factors causing organizations and individuals to demand higher levels of customer service? In such situations, one consideration in organizing might be to even out the w orkloads of each manager. An infinite planning horizon 8. Without question, the primary advantage for motor carriers is flexibility, or the ability to deliver the product to the customer (or where the customer has relatively easy access to it). These controls were particularly onerous in the U.S. transportation industry in the sense that price competition was essentially nonexistent, and customers were pretty much forced to accept whatever service the carriers chose to provide. As such, airfreight providers such as FedEx worked feverishly to inform customers when their shipments would be arriving.13 Many advances in telecommunication technology—such as fax machines, personal computers, electronic mail, cellular phones, tablets and smart phones, tablets of this book was published in the 1970s. Questions for Discussion and Review 14.1 Discuss some of the key political restrictions on cross-border trade. Sorting out refers to "separating products into grades and qualities desired by different target markets." 3 For example, a department store chain may sell \$1,000 men's suits only in stores located in high-income areas, whereas \$600 men's suits might be the highest priced suit sold in less-affluent areas. and Larry C. 23 Douglas M. For example, for a college student the "ease of doing business" with a bank might mean access to automatic teller machines, whereas for a small business owner it might mean bank tellers who specifically focus on commercial deposits and withdrawals. The buyer would take it to the railroad, and the railroad of plywood. First, the order cycle should be analyzed not only in terms of total cycle time but in cycle time variability (reliability) as well. In addition to being influenced by the goals of the corporate and business unit strategies, logistics strategy is directly influenced by strategic decisions in the functional areas of marketing, finance, manufacturing, and procurement. Amy decided to ignore Lori's remark, and she looked at Guridi and asked, "Are you satisfied with your control over inventories, Cheryl?" "I have no problem with the ones here in Biloxi," was Guridi's response, "but I have an awful time with them, waiting to place them with another retailer. Michael Knemeyer to be identified as the authors of this work have been asserted by them in accordance with the Copyright, Designs and Patents Act 1988. Balanced Scorecard (BSC) A strategic planning and performance management system that evaluates a business from four distinct perspectives: customers, internal business processes, learning and growth, and financial. 14 Ibid. It was nearly noon, and he told Bigelow to stay off the premises and to file a grievance with his union shop steward. Unfortunately, he was also aware that this was the way things worked in Third World governments. For example, FedEx customers can ship a sample test package to Right Package for Your Chain," Material Handling & Logistics, September 2011, 26-29. They require special packaging, loading, storage, and monitoring as they are moved from source to customer. Over the years, Tempo Ltd. Liabilities are the financial obligations a company owes to another party. 65 www.dictionary.com M02_MURP4846_11_GE_C02.indd 53 03/06/14 5:13 PM 54 Part I • Overview of Logistics 2.15 From a logistical perspective, what are some of the differences between online and in-store retailing? Increasingly this stowage is based upon load-planning software, and Figure 11.6 shows a computer printout from this type of software. Who is likely to benefit from the arrangement? 60 M02 MURP4846 11 GE C02.indd 52 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 53 ordering and shipment tracking makes it essential that websites. Quite simply, the quality of life in a region—is it a nice place to live?—impacts both employee retention and the ability to attract new employees.19 Locating in Other Countries, and one study indicated quality of life to be the most 18 John W. Hanna, Logistics (Upper Saddle River, NJ: Prentice Hall, 2002). "Logistics Routing and Flexibility and Lower Freight Costs through Use of Incoterms." Transportation Journal 49, no. 3 (2010): 48-56. M03 MURP4846 11 GE C03.indd 65 03/06/14 5:15 PM 66 Part I • Overview of Logistics of some of the picking
measures that managers could track. In many cases, the production people favor long production runs of individual products because this allows the relevant fixed costs to be spread over more units, thus M01 MURP4846 11 GE C01.indd 27 03/06/14 5:11 PM 28 Part I • Overview of Logistics resulting in a lower production cost per unit. 1 (2012): 42-44. Likewise, the incremental carrying costs of moving from 10 to 20 units of safety stock are \$1,200. Yet the acquiring company had little choice but to continue operating them because of substantial penalties (e.g., labor compensation) that would have been incurred if the facilities were closed. A constant and known replenishment or lead time 3. Mode and carrier selection has become even murkier in recent years with the rise in what we'll call the amodal shipper. Thirty units are demanded on days 10 and 11; inventory is thus 120 units (point K), and another reorder is placed at the beginning of day 12. Despite these concerns, Jim was painfully aware that he was using a public warehouse near his plant that usually contained between \$500,000 and \$1,000,000 in inventory, on which he paid more than 1.5 percent per month for the borrowed funds used to buy it, as well as expenses relating to the use of the warehouse itself. 2.17 Discuss the advantages and disadvantages of cloud computing. This length is significant because a 10,000-foot runway has generally been viewed as adequate for accommodating the largest existing wide-body aircraft; wide-body aircraft; wide-body aircraft; wide-body aircraft are essential to long-haul international movements of both freight and passengers. Payment for the goods, freight charges, and insurance for the in-transit goods (the financing channel) 3. Channel members are frequently in a position to pick and choose which manufacturer's products they wish to merchandise. An increasingly popular option for application-specific software is on-demand software is on-deman major advantage 29 James S. 13.8 Discuss how a transportation manager might take advantage of the trade-offs between Frankfurt, Germany, and Shanghai, China, as well as between Frankfurt and Delhi, India, among other city pairs. M01_MURP4846_11_GE C01.indd 37 03/06/14 5:11 PM 38 Part I • Overview of Logistics American Society of Transportation and Logistics." It offers four certification in the field of transportation and logistics." It offers four certification and Logistics (AST&L) (www.astl.org) AST&L strives "to promote and ensure a highest level of global standards through p rofessional certification in the field of transportation and logistics." It offers four certification and Logistics (AST&L) (www.astl.org) AST&L strives "to promote and ensure a highest level of global standards through p rofessional certification in the field of transportation and Logistics." It offers four certification is the field of transportation and Logistics." It offers four certification is the field of transportation and Logistics." It offers four certification and Logistics (AST&L) (www.astl.org) AST&L strives "to promote and ensure a highest level of global standards through p rofessional certification." It offers four certification and Logistics." It offers four certification and Logistics (AST&L) (www.astl.org) AST&L strives "to promote and ensure a highest level of global standards through p rofessional certification." It offers four certification and Logistics." It offers four certification and programs: Certified in Transportation and Logistics (CTL), Professional Designation in Logistics and Supply Chain Management (PLS), Distinguished Logistics Associate (GLA). Then he scratched his head and tried to figure out how. What is a possible application of this? Employers should keep current employees informed of planned relocations and how such relocations might affect them. Carrier selection is also less straightforward due to a lack of agreement on the number of relevant factors that might be used in carrier selection. For example, the order picker with the malfunctioning forklift may have to delay order picking until the forklift is repaired or another forklift becomes available for use. As an example, BMW is now requiring potential vendors to answer 29 questions on their social and environmental standards, and the results are an integral part of BMW's vendor selection process.25 Investment Recovery, which identifies opportunities to recover revenues or reduce costs associated with scrap, surplus, obsolete, and waste materials, is often the responsibility of the procurement management systems (WMS) are two prominent examples of logistics-related application-specific software. Why is this the case, and why is it popular in logistics? Assume you are Vanderpool. 3 Cecile Rohwedder, "U.K. Grocers Wage Price War, Yet Most Can Declare Victory," The Wall Street Journal, August 10, 2009, A1, A8. G., 78n, 79n, 80t, 80n Ellram, L. M07_MURP4846_11_GE_C07.indd 134 04/06/14 11:56 AM Chapter 7 • Demand Management, order Management, and Customer Service 135 ended to the servic were singled out for corrective action. However, not having enough items can be as bad as, and sometimes worse than, having too many items. A returned or recycled goods processing area When designing warehousing facilities, it's also important to keep in mind external spacerelated needs, which unfortunately are sometimes overlooked. These technological advances allow for less costly and more frequent contacts between the two parties. Many warehousing facilities have clearly articulated work rules that serve a number of purposes, the most important of which is to keep the workforce in general, and individual employees in particulated work rules that serve a number of purposes. destructive activities. M14_MURP4846_11_GE_C14.indd 293 • DAP (Delivered at Place). "Too many trips to Paris, dearest," said Lori, and the entire process is complex because of certain practices that are acceptable at sea. Z01_MURP4846_11_GE_GLOS.indd 296 Grid systems A location technique utilizing a map or grid, with specific locations marked on the north-south and east-west axes. In addition, his firm was now producing so many different models (one with a bath, one with a bath, one with a bath, one with a bath, one with a bath a safety stock for each component were going up every day. Devine, Jr., "10 Steps for FMC Licensing as an OTI," Florida Shipper, February 18, 2008, 11, 74. 3.3 Distinguish between an organization's income and expenditure. In certain regions, this commercial relationship has moved from a tightly regulated environment to a largely unregulated environment wherein shippers and carriers are free to work out whatever commercial relationship best suits them in confidential contractual agreements. Then determine Low's new EOQ. New, Steve. 2.5 What advances in telecommunications technology do you view as being most beneficial to logistics management? Assume that the cost to HDT of borrowing money is 12 percent per year. There may be a hesitancy to establish facilities in areas that are not racially, ethnically, or culturally diverse because it may be difficult to transfer workers to such locations. Grid systems are placed so that they coincide with north-south and east-west lines on a map (although minor distortion is caused by the fact that east-west lines are parallel, whereas north-south lines converge at both poles). The apparel and health care industries are approaching a critical mass of users. 3 "Williams-Sonoma Profits from Logistics Gains," Journal of Commerce 11, no. Seaway vessels, you know, are smaller because of the lock size restrictions. M04 MURP4846 11 GE C04.indd 78 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 79 Table 4.1 Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline for Presenting Electronic Advance Manifest Information Inbound to the United States Mode Timeline Advance Manifest Information Inbound to the United States Mode Timeline Advance Manifest Information Inbound to the United States Mode Timeline Advanc airports Rail Two hours prior to arrival at a U.S. port of entry Ocean vessel 24 hours prior to lading at foreign port Truck Free and Secure Trade (FAST): 30 minutes prior to arrival in the United States; non-FAST: one hour prior to arrival in the United States (FAST): 30 minutes prior to
arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival in the United States (FAST): 30 minutes prior to arrival (FAST): 30 minutes prior to arrival (FAST): 30 minutes prior (FAST): 30 minutes pr scheduled departure from the United States Rail Two hours prior to the arrival of the train at the border Ocean vessel 24 hours prior to the arrival of the truck at the border Source: Erlinda Byrd, "Rules for Improving Cargo Security," Customs and Border Protection Today, March 2004. For logistics managers to receive needed information, it's important that they be fairly specific when submitting requests. In addition, the People's Republic of China, long characterized by plentiful, low-cost labor, recorded labor cost increases of 20 percent per year between 2006 and 2010, with similar annual increases expected through 2015.4 As a result, some organizations have adopted near-sourcing, in which companies reconfigure their logistics networks to bring some production facilities closer to key consumer markets. On receipt of the freight, the carrier signs the bill of lading and gives the original to the shipper. M12 MURP4846 11 GE C12 indd 228 04/06/14 12:19 PM Chapter 12 • Transportation 229 (90 percent), with the remaining construction costs paid for by state governments. 26 M10 MURP4846 11 GE C10.indd 199 04/06/14 12:03 PM 200 Part III • Elements of Logistics Systems Property Warehousing facilities generate large volumes of waste materials, such as empty cartons, steel strapping, and broken pallets, as well as wood and nails used for crating and dunnage (material that is used to block and brace products inside carrier equipment to prevent the shipment from shifting in transit and becoming damaged). 4.15 Discuss reasons why products might be returned. "But with this Jungle Jim snafu we can expect the issue to occur. We'd be tying up a wharf for 1 day, and the wharfage charge runs \$2 per foot, and the Nola Pino is 535 feet long. Weight-losing product characteristics A product that loses weight during the product that loses weight during the product characteristics. time, of 300 customers who experienced a stockout, 10 percent delayed the sale, 25 percent switched and came back, but the remaining 65 percent were lost for good (see Table 8.3). Terim's Romanian connection, George Hagi, was not interested in any of the small transactions that Terim was suggesting. These units were likely unpacked from some larger container, such as 1 M11_MURP4846_11_GE_C11.indd 208 Logistics Dictionary, www.tntfreight.com 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 209 a crate or box, and these crates or boxes might have been delivered to the store on a unit load (which will be discussed later in the chapter). Consider the U.S. railroad that analyzed transit times on one of its origin-destination pairs located approximately 400 miles apart. Alternatively, new suppliers might be located in closer proximity to the new restaurants and distribution facilities but McDonald's will need to learn how to work with the new suppliers. The amount of the "full actual loss" is often determined according to the following common rule of thumb: The basic thought underlying the federal statutes that define the liability and prescribe the measure of damages in cases of this kind is that the owner shall be made whole by receiving the proper money equivalent for what has actually [been] lost; or, in other words to restore [the owner] to the position he or she would have occupied, had the carrier performed its contract.8 A key factor in determining the value of the full actual loss is the word earned. Mike's impressive blend of practical, academic, and consulting experience in logistics and supply chain management provides this edition with fresh insights and perspectives. Some of their principal functions are discussed in the following paragraphs. 03/06/14 5:35 PM Chapter 13 • Transportation Management 249 prices charged for passenger transportation). Rotterdam Cologne BELGIUM Prague Frankfurt CZECH LUX. 6. R., 190n Gerlach, S., 133n Gibson, B. For example, a shipment from Shanghai to Los Angeles might take one day by air transportation and two weeks by water transportation. Although the example in the previous paragraph suggests logistics structure can come in all shapes and sizes. Data collection and analysis are a major part of a performance measurement system in logistics. Today's transportation manager can craft rate and service packages that best meet an organization's logistical needs, and these rate and service packages can conceivably vary from product to product, location, or customer to customer to customer to customer. transportation cost savings for its members.11 11 Information from the Web site of the American Institute for Shippers' Associations. Ellram, and Jeffrey A. A newly formed alliance, the P3 (consisting of Maersk Lines, Mediterranean Shipping Company, and CMA CGM), is set to begin service during 2014. Some countries, for example, view time as circular, rather than linear, and under this perspective, today isn't much different from today. Logistics social responsibility similarly, tomorrow isn't much different from today. Logistics social responsibility issues that relate directly to logistics. For example, Figure 11.1 is a portion of a fabric-care label that goes on Levi's jeans sold in Japan. The inventory flow example presented in Figure 8.2 illustrates that safety stock can prevent against two problem areas: an increased rate of demand and a longer-than-normal replenishment. The principal function of scheduled airlines is to carry passengers; freight tends to be a secondary consideration and is often carried in the bellies of passenger aircraft. He said that a dead rat had been left in his desk drawer, and he wanted a transfer. In a fragmented structure, it's possible for the various logistics activities to be managed in two, three, four, or more departments. 29 No author, "More Chocolate Manufacturers Moving to Ethical Sourcing," Candy Industry, April 2010, 10-12. In short, the call center's primary customer service metric—the time length of customer calls—was different than the customer service must be measured if it is to be managed, organizations should resist the tendency to "measure everything that moves." Excessive measurement can strain an organization because it requires the collected, the data must be analyzed. The transport the firm's products. Which of the four work team sizes results in the lowest cost to Wayne? 2.13 Discuss advantages and disadvantages of enterprise resource planning systems. "Supply Chain Management: The Pursuit of a Consensus Definition." Journal of Business Logistics 26, no. J., 28n, 169n, 220n, 260n Larson, P. Some common macro-level measurements focused on warehousing include return on investment (investments in warehousing include return). facilities or equipment), warehouse order processing costs, and warehouse labor productivity. Will the three packages fit inside them?" By now the scope of the problem had become apparent to everyone at the meeting. One well-known example of a not-so-smooth integration involved Hershey Foods' effort to integrate several specialized supply chain software packages. Escabar had attended the meeting along with salespeople from competing truck and bus companies. For example, a decision to increase inventory carrying costs that flow to the variable expense to a marketing request would increase inventory carrying costs that flow to the variable expense to a marketing request would increase inventory carrying costs that flow to the variable expense to a marketing request would increase inventory carrying costs that flow to the variable expense category. entitled, "The 10 Best Warehouse Networks," which lists those available for serving the U.S. population, and in 2006 Chicago Consulting debuted a list of "The 10 Best Chinese Warehouse Networks," which lists those available for serving mainland China (see Figure 9.1). Although safety remains an important perspective, the storage and transport of hazardous materials in today's world are also managed with an eye to potential terrorist considerations. We'll take a rather detailed look at each of the five modes in this section and the discussion will be presented alphabetically by mode, beginning with airfreight. less-than-optimal situation for a revenue-generating asset. Handfield, Robert B. 32 Todd Nighswonger, "Are You Storing Hazardous Materials Safely?" Occupational Hazardous H Ohio into West Virginia; from West Virginia into Virginia). (10 Country of origin Cautionary marks Weight markings Entry port Number of packages and size of case Figure 14.2 A Package Marked for Export Source: From Ports of the World, 15th ed., a publication of CIGNA Property & Casualty. "Measuring and Selling the Value of Logistics." International Journal of Logistics Management 11, no. CASE Case 9.1 All-Indian Logistics Services (AILS) is a third-party logistics provider headquartered in South Delhi, India. D., 44n Jennings, B., 234n Jennings, M. Several key pieces of international documentation, including the certificate of origin and shipper's export declaration, were examined and international terms of sale—Incoterms—were discussed. Terrorism can be viewed as an illegal use of or threat of force or
violence made by a group or an individual against a person, a company, or someone's property with a goal of menacing the target, often grounded in politics or ideology.17 Although terrorism is often viewed by the media through a political or ideological lens, it can have important implications for commerce and for managing logistics, gatekeeping, and avoidance. 10 (2010): 76-82. Medda, Francesca and Gianni Carbonaro. For example, 500 miles traditionally served as the maximum range for overnight service in the trucking industry. A Aggarwal, V., 114n Aichlmayr, M., 158n, 196n, 223n Alford, L. Note that specialized storage requirements may also increase handling costs; a refrigerated warehouse requires workers to wear gloves, head coverings, and coats to protect them from the cold temperatures. 2 (2009): 425-436. One asset-related productivity concern involves space utilization, or the percent of available space that's actually being used. 1 (2010): 16-24. 2 (2009): 139-148. Next comes an overview of select barriers to SCM implementation, and the chapter concludes with a look at supply chain integration approaches. Hanna, Steve Yagla, Jay Johnson, and Dan Markussen. However, the chances of getting caught were much higher. Improved product quality from suppliers can be facilitated by looking at suppliers can be facilitated by looking at suppliers as partners, as opposed to adversaries, in the production process. Reductions in economic regulation in the U.S. airfreight, railroad, and trucking industries allowed individual carriers flexibility in pricing and service. The reason for this was that Vic Guillou, HDT's sales manager, liked to have trucks being built for as many accounts as possible on the assembly line at any one time. From a transportation manager's perspective, a large number of small shipments means that there needs to be an information system capable of keeping track of each shipment's status; as a general rule, it's easier to keep track of, say, one shipment of 10 units than to keep track of 10 shipments of one unit apiece. Dadzie. And, as pointed out in the previous section, inland water carriers can carry much greater volumes than can rail and truck. particular countries, are another political restriction on trade and generally result from political tensions. In addition, the Super Gym is packaged in three boxes weighing a total of 450 pounds. We're not here to judge the appropriateness or inappropriateness or inappropriateness of transportation regulation in individual countries; rather, logisticians need to understand the relevant transportation regulations of the countries in which they conduct business as well as the cost and service implications of these regulations. 14 15 M12 MURP4846 11 GE C12.indd 238 04/06/14 12:19 PM Chapter 12 • Transportation 239 The Federal Aviation Administration (FAA) has primary responsibility for air transportation safety businesses have conditioned many customers to only purchase if products are deeply discounted.3 If retailers offer consistently low prices, then their costs must also be consistently low in order for or profitable. More recently, however, there has been a resurgence of maquiladoras in part by focusing on high-value goods that depend on fast time to market, such as high-tech products. If you worked for Chippy, what new classification would you ask for? Recall from geometry that the length of the hypotenuse of a right triangle is the square root of the sum of the squared values of the right triangle's two legs. 6 (2012): 20-25. You will learn more about transportation in Chapters 12 and 13, so our discussion here will look at several key issues that can impact the effectiveness or efficiency of order delivery. world's 10 busiest container ports in 2012, as measured by twenty-foot equivalent units (TEU) throughput. 25 Joe Nowlan, "Safety Doesn't Have to Hurt Your Budget," Industrial Distribution, January 2008, 25–27. As such, it is imperative that suppliers' order systems be capable of handling an increased number of orders in an error-free fashion. Give your reasons. A third method of supply chain coordination involves informal agreements among the various organizations to pursue common goals and objectives, with control being exerted by the largest organization in the supply chain. Chapter 7 pointed out that macroenvironmental changes, such as globalization in the supply chain. true for transportation services. Organizational productivity. Having said this, anecdotal evidence suggests that cargo theft increased as U.S. economic conditions began to deteriorate in late 2007.23 Table 4.2 Information Required for 10 + 2 Rule Importer: 1. To further complicate matters, governments may offer incentive packages as an inducement for firms to locate facilities in a particular area. For example, highway freight transportation is accomplished by trucks (motor carriers) in certain countries; alternatively, highway freight transportation can be provided by bicycles or some type of animal and cart combination in certain countries. 5 (2011): 435-456. Low was uncertain how many M08 MURP4846_11_GE_C08.indd 166 nails to order at any time. Order cycle Elapsed time between when a customer places an order and when the goods are received. Magnan. Gross world product The sum of the gross domestic product of all countries. And where traditional supply chains are increasingly concerned with metrics (measures) such as labor costs and freight costs, customer-centric supply chains are increasingly concerned with metrics that take a more holistic perspective. M., 22n van Hillegersberg, J., 48n van Hoek, R. Importantly, an understanding of logistical cost trade-offs recognizes that the costs of certain logistical activities generally move in opposite directions. For example, should an organization use the same standards to evaluate international sources as are used to evaluate domestic sources? M14_MURP4846_11_GE_C14.indd 277 03/06/14 5:37 PM 278 Part III • Elements of Logistics Systems Figure 14.3 Letter of Credit Source: Courtesy of Wells Fargo Bank. Who is responsible? If yes, why? Next, the chapter will discuss modal and carrier selection and this will be followed by a discussion of documentation considerations. How is this concept applicable to logistics management? Likewise, organizational flexibility can be affected by mergers with, or acquisitions of, other companies, as illustrated by the case of a multibillion-dollar company that acquired a competitor's production and private warehousing facilities. Do you believe that this concept is workable? Too much inventory leads to high inventory carrying costs; too little inventory can lead to stockouts and the associated stockout costs. Moreover, travel time can be reduced through better slotting (placement) of products in the relevant facility.8 To this end, a company might place its most heavily demanded items in a fairly central and easily accessible location. Reverse auction A buyer invites bids from multiple sellers, and the seller with the lowest bid is often awarded the business. For example, many of the world's more industrialized economies have instituted fairly stringent regulations with respect to vehicle emissions (air pollution) from transportation equipment. are part of the same shipment; for example, bagged rice is placed on top of bulk rice to provide load stability on ocean vessels. White roof material, for example, tends to reflect sungenerated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof material, for example, tends to reflect sungenerated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof colors such as black and gray tend to absorb sun-generated heat, while darker roof such as black and gray tend to absorb sun-generated heat, while darker roof such as black a areas of a warehouse. M04_MURP4846_11_GE_C04.indd 90 03/06/14 5:20 PM Part II Supply Chain management B ecause supply chain management are inextricably linked with logistics takes a closer look at these two topics. 38 Ibid. As an example, a decrease in transportation costs is often associated with an increase in warehousing costs. 1 (1996): 1-22. For example, one way of addressing the last-mile issue of customer unavailability would be to install some type of receptacle (e.g., a drop box) for the product at the customer's residence. 28 M05 MURP4846 11 GE C05.indd 100 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 101 Third-party
logistics, also called logistics, also called logistics, continues to be one of the most misunderstood terms in logistics, and SCM. The book's author, J.K. Rowling, finished writing Harry Potter and the Deathly Hallows in Edinburgh, Scotland, in early 2007. "What Drives Perishable Inventory Management Performance? Macroenvironmental influences The uncontrollable forces and conditions facing an organization, where decision making and communication often follow a top-down flow. A popular contemporary marketing strategy involves co-branding, which refers to an alliance that allows customers to purchase products from two or more name-brand retailers at one store location. 294 Z01 MURP4846 11 GE GLOS.indd 294 03/06/14 5:38 PM Glossary 295 Complementary products Inventories that are used or distributed together (e.g., razor blades and razors). Bernon, Michael and John Cullen. Today, vendors are expected to have quality. Fosdick remembered Bigelow from the times he had been at the Providence center. Closely related to place utility is time utility, which refers to having products available when they are needed by customers. Indeed, transportation companies that have implemented global positioning systems have reported an increase in worker productivity, reduced operating costs, and improved customers. until our claims reps arrive." Coggins replied, "That would be expensive, because most retailers have little storage space for anything and would expect our claims rep to be there immediately. Van Wassenhove, "Humanitarian Aid Logistics: Supply Chain Management in High Gear," Journal of the Operational Research Society 57 (2006): 475-489. Generally speaking, companies prefer to carry lower inventory as the carrying cost percentage in creases, in part because there is greater risk (e.g., obsolescence) to holding the inventory. The firm that can offer a high level of customer service, especially on a personal basis, should find that it has a powerful sales advantage in the marketplace. Build Out (Horizontal) versus Build Up (Vertical) A general rule of thumb is that it's cheaper to build out; building out requires more land, which can be quite expensive, particularly in certain geographic locations. 1 (2012): 3-23. Expedited trucking, such as provided by Panther Transportation and FedEx Custom Critical, tends to have the highest cost per hundredweight (100 pounds), whereas truckload transportation tends to have the important factors in considering the efficiency of the clearance process by border control agencies? Our name may still be on the product, and the child's parents will no doubt claim the item was purchased from one of our retailers. For example, Five Star NDT exports, markets, and sells U.S.-manufactured products to grocery chains and retail stores in Mexico. Many big-box retailers explicitly recognize superior logistics as an essential component of their corporate strategies, and because of this, their logistical practices are often viewed as a barometer for emerging logistics trends. At issue is where a warehousing facility to serve these stores should be located. An exception is liquefied natural gas, or LNG, which is cooled and compressed into liquid form that is 1/630 of its volume in gaseous state. Huber eagerly agreed, as Berndsen decided to recommend Prague for this assignment. Cross-docking A process where product is received in a facility, occasionally married with product going to the same destination, and then shipped at the earliest opportunity, without going into long-term storage. For example, in the ownership channel, a common intermediary is the bank or finance company, which may assume temporary or partial ownership of goods as part of an ongoing transaction. Thus, containerization isn't feasible unless both the origin and destination ports are equipped with the appropriate containerization isn't feasible unless both the origin and destination ports are more susceptible to fires because the vertical spaces between stored materials serve as flues and help fires burn. The slow speed for pipelines is significant because this increases overall transit times and thus necessitates additional inventory in the logistics system. 8 (2008): 14-21. A common definition of sustainability centers around the "triple bottom line." What does this mean? In addition to tax credits, North Carolina also provided Google with job development grants, road widening, and railroad rerouting, among other benefits.14 Transportation considerations in the form of transportation often represents such a large portion of total logistics costs. In addition, because of smaller order quantities, online shopping is characterized by materials handling equipment, such as totes and push carts. Joseph Pine and James H. Container A uniform sealed reusable metal "box" in which goods are shipped. In recent years, however, ERP vendors have begun to provide high-quality application-specific logistical capabilities, particularly with respect to WMS.44 Given the preceding discussion on time and implementation costs, it is not surprising that some ERP installations do not go as smoothly as desired, and these ERP glitches occasionally have a logistical component to them. (Motor carrier rates for a movement are the classification multiplied by a distance factor. A., 135n Kerr, S. 3 (2006): 225-232. An earlier section in this chapter discussed supplier selection and evaluation, and although the evaluation process associated with global procurement has similarities. there are potential differences as well. 17 16 M01_MURP4846_11_GE_C01.indd 23 03/06/14 5:11 PM 24 Part I • Overview of Logistics warehouses and distribution centers. Mary Aichlmayr, "Narrow-Aisle: Form Follows Lift-Truck Function," Material Handling Management, June 2009, 18-20. The planning principle. 2 (2013): 10-17. 64 Tracey E. 8.4 What are the key reasons behind inventory shrinkage? One commonsense suggestion when hiring warehousing workers is to not hire people with substance abuse problems). 12 (2009): 3161-3177. S., 45n Weller, W., 111n Whang, S., 97n Wheatley, M., 24n White, M., 217n Whiteing, A., 78n Whitten, D., 58n Wilcock, A., 114n Williams, L. Warehouse management system (WMS) Software packages that control the movement and storage of materials within a warehousing facility. Droge, and S. On the other hand, a selling price, and a higher selling price tends to decrease buyer demand for most products. 26 Peter T. "One for our small accounts involves having our salespeople inspect the merchandise when they make a sales call. represent more business to the carrier than an individual shipper does, they have more success when finding space is difficult. Based on this success, N.A.M swiftly expanded manufacturing operations and distribution across the globe, only to have its foreign operations compromised by international politics on two occasions. Ludwig, Timothy D. However, when sales doubled to 60 units per day, the time between orders fell to 2 days. Pipelines' lack of vehicles means that it is the most reliable form of transportation in part because there aren't vehicle-related disruptions (such as accidents), and pipelines are virtually unaffected by adverse weather conditions. Facility relocation A firm must move operations to another facility to better serve suppliers or customers. The most common examples of vertical integration today are some lines of paint and automotive tires. The dust must be separated from the rest of the sugar, or the quality of the final bakery product in which the sugar is used will be affected. Naim. See Transportation (TSA) TWIC. We cannot go through another fiasco like Jungle Jim the Jogger for a long time. 6 (2006): 42-49. Consider the example of a company that built an approximately 700,000 square foot warehouse as a replacement for a smaller storage facility. You should not be made in isolation; rather, Chapter 10's discussion pointed out that certain warehousing decisions have distinct materials handling implications. John Langley, Brian J. Michael Knemeyer, currently Associate Professor of Logistics at the Fisher College of Business, The Ohio State University. Another 20 of our trucks were waiting to be loaded. Key enablers of SCM, such M05_MURP4846_11_GE_C05.indd 105 as and understanding of the implications of increased customer power and leveraging technology for enhanced visibility and communication, were identified and described. For example, motor carriers using the Interstate Highway System are limited to a maximum gross vehicle weight of 80,000 pounds. 31 Remko I. The company had little choice because it was obvious that sales had stopped. For example, bulk items (i.e., free flowing or loose) can be handled by pumps, shovels, or conveyor devices. During 2012, for example, drought conditions closed an 11-mile stretch of the Mississippi, costing barge operators approximately \$1 million per day.7 Flooding is another weather-related consideration that can affect the reliability of inland water transportation. 18 This material in this section is drawn from Donald F. (Mason, OH: South-Western Publishing, 2012), Chapter 5. 8.10 How can inventory flow diagrams be useful to a logistics manager? Summary Transportation, the actual, physical movement of goods and people between two points, is pivotal to the success of any logistics or supply chain operation. In addition, marketers growing emphasis on offering sustainable products that meet present needs without compromising the ability of future generations. Frump, "Danger at Sea," The Journal of Commerce, February 16, 2009, 20-24. Nations in various parts of the world are concerned that untreated wood and wood materials used in packing carries a wide variety of unwanted insects. 7 M02 MURP4846 11 GE C02.indd 41 03/06/14 5:13 PM 42 Part I • Overview of Logistics sources to multiple destinations, at a minimum transportation cost—could be analyzed using spreadsheet software.8 Today
spreadsheets have developed to the point that they are able to solve for basic logistics optimization models. Liberatore and Tan Miller, "A Framework for Integrating Activity-Based Costing and the Balanced Scorecard into the Logistics 19, no. 11.18 What is the importance of long-term reusability and biodegradability of pallets and other containers? That makes it hard for us because we have to inspect every item and decide whether it can be put back into stock. Anthracite coal has an angle of repose of approximately 27 degrees, whereas 17 John J. Moreover, pipelines are quite costly to construct and thus have high fixed costs; however, because these fixed costs can be spread over rather large capacities, pipelines offer their users a relatively low cost per unit. A key attribute of a network organizational design is a shift from function to process. Source: The World Factbook, www.cia.gov, 2013. What are several measures that can determine ABC status? What worried Terim were his new customers. Shipping Conferences and Alliances Beginning in the mid-1860s, ocean rates were determined by shipping conferences, or cartels of all ocean vessel operators operators operators operators and Europe. He had a couple of options. 19 William Atkinson, "The Big Trends in Sourcing and Procurement," Supply Chain Management Review May/June 2008, S48-S50. Gunasekaran, C. Robertson phoned from San Diego that he and Guillou had decided to vacation in Mexico for a while before returning to Crown Point. "If we charge for shipping, we must include that in the copy for the spring- summer brochure." an order (e.g., the wages of a person who takes orders by telephone), conducting a credit check, verifying inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846_11_GE_C08.indd 150 03/06/14 5:23 PM Chapter 8 • Inventory M08_MURP4846 Browne, and Anthony Whiteing. A prominent example of a logistics-related TPS is electronic data interchange (EDI), the computer-to-computer transmission of business data in a structured format. Data Facts or recorded measures of certain phenomena. The second factor in managing returned goods, optimizing reverse logistics, involves a number-to-computer transmission of business data in a structured format. of strategic and tactical considerations. See Delivered Duty Paid (DDP), 275 Delivered at Place (DAP), 275 Delivered at Terminal (DAT), 275 Demand forecasting, 33, 152 Delivered Duty Paid (DDP), 275 Delivered Duty Paid (DAT), 275 Demand forecasting, 33, 275 Demand forecasting, 33, 275 Delivered Duty Paid (DAT), 275 Demand forecasting, 33, 275 Delivered Duty Paid (DAT), 275 Delivered Duty Paid (DAT), 275 Demand forecasting, 33, 275 Delivered Duty Paid (DAT), 275 Delivered Duty Paid (DAT), 275 Demand forecasting, 33, 275 Delivered Duty Paid (DAT), 275 Delivered Duty 127-129 Demand management, 96t, 126-142 simple and weighted moving average techniques, forecasting, 128t Demurrage, 261 Density, 249 Department of Transportation (DOT), U.S., 238 Deregulation, 22 Detention, 261 Deutsche Post, 101 DHL International, 285 DHS. The horizontal (east-west) axis shows distances to the east. FedEx Packaging Services will report the testing results within five to seven days of receiving the package must pass through. One of the clerks suddenly saw Fosdick and said weakly, "We take these opened cases to the damaged merchandise room." Fosdick went into the lunchroom. Warehousing Operations Because operating a warehousing facility has many facets, efficient and effective warehousing management can be an exacting task. Evaluating suppliers can be facilitated if an organization (1) delineates relevant selection criteria and (2) assigns weights to these criteria. When used in the logistics decision-making process, the total cost concept approach forms what is commonly called the total logistics concept. Something as basic as adding cross aisles could reduce the length of horizontal runs as well as the length of backtracking. maintained. Resistance to flow is measured as viscosity, which can be lowered by increasing the temperature of a liquid. Chapter 8 discusses inventory classifications as well as inventory-related costs. Suppose weekly demand is 100 units, order cost per order is \$80, the value of an item is \$50 and carrying cost is 20 percent of the value of an item. What functions might be performed in it? See Department of Transportation (DOT), U.S. Draft, 220 03/06/14 5:39 PM Subject Index 309 Dry-bulk cargo, 283 DSS. For example, in-person surveys can take a great of time to complete and can be quite expensive (e.g., compensation costs of the researcher who conducts in-person surveys). For example, if you eat one egg a day and buy eggs by the dozen, every 12 days you would buy a new container of eggs, and the inventory of eggs remaining in your refrigerator would decline at the rate of one egg per day. Lori, I'm naming you to work with Carolyn and Kevin to develop recommendations as to how we can recycle the Jungle Jim item into something we can sell. M., 212n Heskett, J. M08 MURP4846 11 GE C08.indd 165 03/06/14 5:23 PM 166 Part III • Elements of Logistics Systems 8.7 Distinguish between a fixed order quantity and fixed order quantity and fixed order interval system. reduce lead time and ultimately reduce pipeline inventory that would show up on the balance sheet. 1.12 Explain what is meant by the systems approach to logistics. Marketers often prefer to carry higher quantities of particular items because this reduces the likelihood of stockouts (being out of an item at the same time there is demand for it). liquids also have unique handling characteristics. Those components could be obtained at a substantial savings, with the requirement that inventory in the particular parts be temporarily increased or that purchases from existing vendors be temporarily curtailed. market for goods and a potential source of labor. Because neither the center-of-gravity nor the weighted centerof-gravity approach is very sophisticated, adjustments may have to be made to take into account real-world considerations such as taxes, wage rates in particular locations, volume discounts, the cost and quality of transport services, and the fact that transport rates taper with increased distances. Prominent LTL carriers include ABF Freight, UPS Freight, and YRC Freight System, FedEx Freight, and YRC Freight, and YRC Freight, and YRC Freight, and YRC Freight System, FedEx Freight, and YRC Freight, on the building-blocks concept of putting products in containers that will provide efficient yet manageable units. In addition, importers are concerned with the cost of "10 + 2" compliance, which can include the cost of upgrading their information systems, the actual cost of filing the 10 pieces of information, and potential monetary penalties for erroneous information or failure to file the information.21 Theft (stealing), which can be defined as the taking and removing of personal property with the intent to deprive the rightful owner of it,22 is another logistics risk issue that confronts many managers. Let There Be Light designed a prototype cylindrical lamp shade that measured 11 inches high and 11 inches in diameter and would be packed into cartons that measured 12 inches by 12 inches. Rather, companies should consider tailored logistics approaches, in which groups of customers with similar logistical needs and wants. 8 The principles in this textbook are generally applicable not only to for-profit situations, but also to governmental and not-for-profit situations. It's common knowledge that ERP implementation costs. 8.17 How do the consequences of JIT go far beyond inventory management? Fortunately, a number of software packages exist to help organizations determine both the number and location of facilities in their logistics networks. 1 (2007): 1-24. Order triage Classifying orders according to preestablished guidelines so that a company can prioritize how orders should be filled. 9.13 What are industry clusters, and what are some of their potential advantages? 7.6 List the various methods of order transmittal and discuss relevant characteristics of each. A key challenge
is selecting the appropriate analog to use. For example, regularly occurring risks involve things such as earthquakes or terrorist attacks can also unexpectedly affect a logistics system.15 The Logistics Uncertainty Pyramid Model has been established to identify uncertainty sources that can affect the risk 10 "Exclusive 11 Worldwide Six Sigma Survey Reveals..." Business Credit, October 2005, 48-51. 17 Andrew K. Summary Many considerations, such as a product's physical characteristics, must be taken into account when thinking about packaging and materials handling decisions. 04/06/14 12:21 PM 120 Part II • Supply Chain Management 6.12 What are the components of the global sourcing development model presented in this chapter? Source Make Deliver Return Enable Source: SCOR Model, Version 11.0, Pittsburgh, PA: Supply Chain Council, Inc. Broadly speaking, organizations can pursue three primary methods when attempting to integrate their supply chains. This convenience is manifested in various ways to include extended store hours, home delivery of purchased items, and ready-to-cook foods, and each of these has logistics related implications. For example, efficient and accurate c ommunication among inbound and outbound transportation, warehousing, inventory management, procurement, and so on should be facilitated when they are combined into one department. Potential benefits to SSS include reduced rail and truck congestion, reduced highway damage, a reduction in truck-related noise and air pollution, and improved waterways utilization. M02 MURP4846 11 GE C02.indd 42 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 43 relations. Spence, Laura and Michael Bourlakis. The chapter 2 • Logistics and Information Technology 43 relations. an examination of transportation regulation and the legal classification of carriers. The differing ways of measuring inventory can create potential friction between the two groups, as illustrated in the following example. These promotion efforts handled by intermediaries must be coordinated with the firm's overall marketing communication activities. Cateora, Mary C. "Peeking Inside the Black Box: Toward an Understanding of Supply Chain Collaboration Dynamics." Journal of Supply Chain Management 48, no. Similar legislation was adopted by the European Union in the mid-1990s. Which of the two routing alternatives would you recommend? 3 M05 MURP4846 11 GE_C05.indd 93 03/06/14 5:17 PM 94 Part II • Supply Chain Management customers. To this end, a number of org nizations utilize transportation performance scorecards that contain a list of relevant attributes (perhaps the same attributes used to select carriers) and an evaluation of each carrier on every attribute. "Okay," Don began, "let's review our options. From a case flow perspective, the finance department might prefer to sell 2 boxes of hair dryers worth \$1,000 dollars than to sell 15 boxes of hair shampoo worth \$900. Consider three different bulk materials, namely, iron ore, coal, and grain, each of which is characterized by a different density. American Marketing Association Dictionary. Communication Systems Communication systems help various stakeholders—employees, suppliers, customers—work together by interacting and sharing information in many different forms.12 From a logistical perspective, the importance of well-defined and well-executed communication systems was highlighted by the events of September 11, 2001, especially for companies that use or provide airfreight services. Next, descriptions of two prominent SCM process 1 Foster Pinley and Chap Kistler, "Fixing an Underperforming Supply Chain," Supply Chain," Supply Chain Management Review 9, no. Engineers should examine the site to ensure that it has proper drainage and to ascertain the load-bearing characteristics of the soil. Fixed order interval system Inventory is replenished on a constant, set schedule and is always ordered at a specific time; the quantity ordered varies depending on forecasted sales before the next order date. M11_MURP4846_11_GE_C11.indd 220 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 221 Figure 11.8 Conveyor Belt Source: Shutterstock Photo. That is, if an organization provides logistics services of inferior quality when delivering their products, it runs the risk of lowering their products, it runs the risk of lowering their products, it runs the risk of lowering their products services of inferior quality when delivering their products. acquisition of materials handling equipment (e.g., forklifts) and packaging equipment (e.g., a shrink-wrap machine). Alternatively, the wholesaler will place a large, guaranteed order, and the manufacturer can take that order to a bank and use it as a basis for receiving a loan. 2. Viewed from overhead, the goods move in a u-shaped rather than a straight configuration. "Reverse Logistics Program Design: A Company Study." Business Horizons 52, no. VMI represents a huge philosophical shift for some organizations in the sense that they are allowing another party to have control over their inventories. The chapter will also look at making and receiving shipments and concludes with an examination of transportation service quality. M13 MURP4846 11 GE C13.indd 261 03/06/14 5:36 PM 262 M13 MURP4846 11 GE C13.indd 262 03/06/14 5:36 PM Truckload of railcar lots from supplier and plants to warehouse. Dieter Berndsen, the production V.P., listened as his old friend Huber described the opportunity, jotting down notes as he went. More specifically, Lighthouse used to carry nearly twice as much inventory as actually needed for certain stockkeeping units (SKUs) because of inaccurate demand forecasts for those items. 3 3 M07 MURP4846 11 GE C07.indd 128 Carol Casper, "Demand Planning Comes of Age," Food Logistics, January/February 2008, 19-24. Warehousing Measures Performance measurement in warehousing is used to identify design and operations options that provide benefits in terms of increased speed or reduced costs. 21 The primary warehousing measures include such things as labor, cost, time, utilization, and administration. See Warehouse management systems (WMS) Workplace safety issues, 199f Worker Adjustment and Retraining Notification (WARN), 183 Worker productivity, 74-76 03/06/14 5:39 PM Another consideration is the size of particle of the cargo in question; costs are involved in pulverizing to a uniform size so it can be handled by pneumatic or slurry devices. "Perspectives on Logistics vs. Much of the situation described in the case seems to evolve around the personality of T. If we fast-forward to today, global positioning systems can provide real-time location), as well as providing information about the vehicle's temperature, humidity, and vibrations. Online orders tend to be much smaller than those going to retail stores; as a consequence, picking and assembling an order for one or two items is much different from picking, or six standard deviations, the area covered is 99.99966 percent, leaving a tiny area, .00034, uncovered. Product Decisions A number of potential interfaces are possible between marketing and logistics in terms of product decisions. What kind of equipment is needed to handle or to store product? • Is the item in an unopened package that can go into inventory for immediate resale? To underscore the seriousness of pirate attacks for today's logistics manager, the International Maritime Bureau, an arm of the International Chamber of Commerce, reported 240 pirate attacks worldwide in the first six months of 2009 compared to 114 pirate attacks during the same time period in 2008.27 Much of the 2009 increase was due to a surge in pirate attacks off the Somalian coast, and managerial responses to these attacks included outrunning the pirates, rerouting vessels away from Somalia, vehicle escort services, and armed professionals. Water is also necessary for fire protection, and the fire insurance premiums charged depend on the availability of some type of water supply. 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 107 CASE Case 5.1 Johnson Toy Company Located in Biloxi, Mississippi, the Johnson Toy Company is celebrating its seventy-fifth year of business. If a manufacturer is not consistently able to provide a certain product at the right quantities, and in an undamaged condition, the channel members may end their relationship with the supplier or cease active promotion of the supplier's product. Assume, instead, that a product is ordered especially for a customer. An examination of key enablers that can influence a firm's ability to implement SCM, such as the leveraging of technology for enhanced visibility and communication, will follow this. First, packaging specifications determined by product density encourage shippers to tender loads in densities that make the best use of the equipment's weight and volume capabilities. However, exporters nearly always buy additional insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export
shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for their export shipments, and the type of packaging influences the insurance coverage for the type of packaging influences the insurance coverage for the type of packaging influences the insurance coverage for the type of packaging influences the type of packaging influence Part III • Elements of Logistics Systems Table 10.1 Possible Shortcomings in Warehousing Security tools Laissez-faire attitude toward theft Fewer than 5 percent who commit crimes are prosecuted Security control and the security tools Laissez-faire attitude toward theft Fewer than 5 percent who commit crimes are prosecuted Security control and the security tools Laissez-faire attitude toward the security on Don't wait until theft reaches an "unacceptable" level Approximately 90 percent of drug users either steal or deal to support their habit They may become complacent Minimal (or no) penalties for on-the-job substance abuse Hiring personnel who are predisposed to theft Outsourcing the reporting may be more effective An ounce of prevention is worth a pound of cure Source: Julia Kuzelievich. "The SEVEN DEADLY SINS in Warehouse Security." Canadian Transportation & Logistics. April 2006, 44. Right-to-work laws - State laws that specify that a worker does not have to join the union to work permanently at a facility. Private transportation is most prevalent in the trucking industry, accounting for over 50 percent of the U.S. highway mileage for trucks. 26 Prominent private truckers in the United States include Frito-Lay, Kraft Foods, Marathon Petroleum, and Walmart, among others. For example, many logistical functions in the United States include Frito-Lay, Kraft Foods, Marathon Petroleum, and Walmart, among others. and activities—such as transportation, warehousing, 43 Bob Violino, "Will a New Planning System Bust You?" Baseline, June 2005, 88. 15 M08 MURP4846 11 GE C08.indd 163 03/06/14 5:23 PM 164 Part III • Elements of Logistics Systems Figure 8.4 Advertisement from a Parts Bank Service Source: Courtesy of Associated Distribution Logistics (ADL). It promises a personalized prompt service with value for cost. One advantage to private transportation is that the equipment can serve as a rolling billboard that allows an organization to promote itself. "Perceived Quality Deficiencies of Demand Information and Their Consequences." International Journal of Logistics: Research & Applications 11, no. "I don't know," was Vanderpool's reply. Recall from Chapter 7 that order cycle times continue to decrease in length, meaning that the associated levels of cycle stock continue to decrease as well. M., 53n Reiskin, J., 21n Reuvid, J., 276n Reyes, P., 104n Ritchey, D., 201n Rizzuto, T. As was discussed in the income statement section, profit is a basic financial measure that represents the difference between revenues and expenses. 1 (2008): 113-132. Most of these considerations are invisible boundaries that can be of great significance in the location decision. Genchev, Stefan E. In the systems approach of logistics, changes to one function affect other functions as well. Chapter 1 presents an overview of logistics and introduces you to what logistics is and why it is important. The rate of sales doubles to 60 beginning of day 6 (point E), and another order is placed. Paul Dittmann. 2 267 M14 MURP4846 11 GE C14.indd 267 03/06/14 5:37 PM 268 Part III • Elements of Logistics Systems International logistics—logistics activities associated with goods that are sold across national boundaries—occurs in the following situations: 1. Larson and Robert A. 4 (2006): 9-27. Information collection should emphasize both internal and external sources; unfortunately, internal sources of logistics information are not always as plentiful Logistics Information System Information Request from Logistics Manager DATA Collects Analyzes Disseminates Stores Retrieves Regular and Customized Reports Figure 2.2 Structure and Function of a Logistics Information System Source: Adapted from Michael Etzel, Bruce Walker, and William Stanton, Marketing, 14th ed. Of particular interest to logisticians and supply chain managers is the inventory tax, analogous to personal property taxes paid by individuals. Melo, M.T., S. For example, there may be disagreement in terms of how to operationalize "amount"—are we concerned with the number of units or the dollar value of items? The inventory turnover for this data is as follows: Cost of goods sold (\$675,000), Average inventory [(\$200,000 + \$250,000), 2], or \$675,000, which equals 3. 4.20 What are affecting logistics activities in a firm? "Coping with Time Pressure in Interfirm Supply Chain Relationships." Industrial Marketing Management 40, no. Ibid. For example, Chapter 1 now includes a discussion of the rapidly emerging topic of humanitarian logistics? M., 101n Cousins, P. Assume that Low's warehouse offers to rent Low space on the basis of M08 MURP4846 11 GE C08.indd 167 the average number of keys Low will have in stock, rather than on the maximum number of keys Low would need room for whenever a new shipment arrived. Oklahoma, and Dallas, Texas, are two locations along Interstate 35 that have seen a dramatic increase in the construction of distribution facilities in recent years. 9 (2011): 638-657. "Well, we have never done that before, but then we have never sold a 450-pound item before. The chapter next examines unit loads and unit load platforms such as pallets and slip sheets. "Would you mind doing some checking?" Vanderpool said he would mind doing some checking?" Vanderpool said he would mind doing some checking?" Vanderpool said he would mind doing some checking. goods to the named place of destination ready for unloading and clearing for import. A supply chain can be liberally viewed as a combination, and financial transactions move in and between enterprises from original producer to ultimate enduser or consumer.4 Figure 5.1 presents illustrations of several generic types of supply chains, and it's important to note several key points. "Motorway of the Sea Port Requirements: The Viewpoint of Port Authorities." International Journal of Logistics: Research & Applications 11, no. Table 14.1 Beginning Dates for the Chinese New Year 2015-2020 Year Beginning Date 2015 2016 2017 2018 2019 2020 February 19 February 19 February 19 February 14 Source: www.apples4theteacher.com/holidays/chinese-new-year/ when-is-chinese-new-year/ when-is-chinese from the Reiss Steamship Company to the authors. The effective and efficient utilization of information can be quite beneficial to logistics and supply chain, which makes it possible to replace inventory with information • Greater awareness of customer demand via point-of-sale data, which can help improve planning and reduce variability in the supply chain 39 M02 MURP4846 11 GE C02.indd 39 03/06/14 5:13 PM 40 Part I • Overview of Logistics • Better coordination of manufacturing, marketing, and distribution through enterprise resource planning (ERP) systems • Streamlined order processing and reduced lead times enabled by coordinated logistics information systems.1 Successful implementation and exploitation of the right information technologies is critical to maintaining competitiveness.2 Additionally, the effective and efficient use of information allows organizations to simultaneously reduce their costs and improve customer satisfaction in the sense that organizations stock the inventory that will be demanded by customers. Productivity The amount of output divided by the amount of stock the inventory that will be demanded by customers. concepts both internally as well as pushing the concept out to their supply base with Halliburton's increasing demand and supply expectations.11 Another quality-related initiative is the Malcolm Baldrige National Quality Award, which was established in the late 1980s to recognize U.S. organizations for their achievements in quality and performance. At first glance, the solution seemed clear: Reduce the inventory of oil filters to a level more in line with demand. As a result, the U.S. Food and Drug Administration (FDA) issued an order restricting the reuse of such containers to avoid food contamination. 2 (2009): 271-275. As pointed out earlier, a higher class rating takes a higher rate and Shipment 2's rate per hundredweight (\$504.22) is noticeably high than Shipment 1's rate per hundredweight (\$269.74). • Each chapter in this edition has been revised and incorporates new examples and references. M10 MURP4846 11 GE C10.indd 194 04/06/14 12:03 PM Chapter 10 • Warehousing Management 195 capacity of the storage facility. For example, damagement of the activities that take place between the time a customer places an order and the time it is received by the customer. Cubes out Occurs when a cargo takes up a vehicle's or a container's cubic capacity before reaching its weight capacity. Carrying costs are 20 percent. 5.10 Discuss the impact of the Internet on supply chain management. Importantly, I-EDI's significantly lower setup costs than VAN-based EDI make I-EDI more affordable for smaller companies, thus expanding EDI's scope.22 Automatic identification technologies, another type of logistics-related TPS, include optical character recognition (which can scan, inspect, and interpret what it views), voice-data entry (which can record and interpret a human voice), radio-frequency identification (which can be used where there is no line of sight between scanner and label), and magnetic strips. However, before proceeding with this discussion, readers should recognize that the level and degree of transportation regulation varies from country. Before proceeding to a discussion of the four order cycle stages, several points should be made. The legal action referred to the relevant zoning laws—which had not been checked
prior to beginning construction—that prohibited any new grocery store! As a result, the supermarket chain had to cancel its grand opening, close the brand-new store, transfer the products to other stores, and lay off many of the newly hired personnel.1 The Strategic Consideration. In the past, with

manual systems, repeated and serious customer service errors occurred before a vendor's activities 12 Jessica Tremayne, "The Science of Service," Smart Business Cleveland, March 2009, 61-66. Although China currently reports nearly 70 airports with 10,000 foot runways, this number is expected to increase dramatically because the country plans to construct nearly 100 new commercial airports by 2020. The factory distributors also indicated that buyers would receive better after-sale service because higher-priced purchases if something malfunctioned. This chapter also discussed specialized location characteristics, and it presented several examples of how grid systems can be useful for determining the lowest-cost location for a facility. 1.19 Discuss five activities that might be part of a company's logistics department. Facility Relocation for a facility relocation (associated with business growth) and the other involving facility closing (associated with business contraction). Indeed, the shipping container—a uniform sealed reusable metal box in which goods are shipped—is often championed as an important catalyst for the growth in global trade. causeand-effect forecasting include simple and multiple regression; in simple regression; in simple regression, demand is dependent on two or more variables. "Are Freight Pipelines a Pipe Dream? "Customer Service in the Baltic Region: An Exploratory Study." International Journal of Logistics Management 18, no. Not surprisingly, these fulfillment shortcomings caused a great deal of customer dissatisfaction, which explains why some early online retailers (e.g., etoys.com) are no longer in business. One alternative to the pallet is a slip sheet, a flat sheet of either fiberboard material or plastic, which is placed under the unit load. "Long-Distance Truck Drivers Discuss Their Occupation." Journal of Transportation Law, Logistics & Policy 77, no. Fawcett, Jeffrey A. Connections with other carriers are more difficult to arrange, and the relative bargaining strength of any one shipper with an international carrier is usually weaker than it is with respect to domestic carriers. As such, one reason that the author's employer chose the name "AAA Trucking Corporation" was because it would be the first listing in a telephone book. In fact, the worldwide public cloud services market—where software, services, or information are shared via the Internet without the users having control over the technology infrastructure—grew almost 20 percent between 2011 and 2012.53 There are myriad logistics-related applications for cloud computing, including collaborative forecasting and inventory optimization, with transportation management systems emerging as the most popular on-demand application.54 One reason for cloud computing's popularity is that its pay-per-use formula allows customers to avoid high capital investment costs, which speeds up return on investment for the software. An area for equipment storage and maintenance (For example, battery-powered lift trucks need to be recharged on a regular basis.) 11. 1 (1972): 1-22. Furthermore, the increased use of vendor guality-control programs necessitates higher levels of customer service. Demurrage and Detention Demurrage is a penalty payment made by the shipper or consignee to a railroad for keeping a railcar beyond the time when it should be released back to the carrier. Excess capacity, or unused available space, can be unproductive because it may result in the purchase of additional equipment or facilities -a situation that adds to costs (input) but not necessarily to output, thus resulting in lower productivity. 5.7 What is the difference between relational and transactional exchanges? For example, large shipments of apples are accompanied by a mechanical temperature recorder, which provides the receiver with a greater workable knowledge of each load, such as information on temperature variation that may affect the speed at which the receiver should handle and merchandise the apples. Some of the key things to consider when applying performance measures to logistics activities include the following: 1. For example, Target is committed to reducing its carbon footprint and does so with transportation by choosing the proper transport modes, reducing the number of transportation miles that freight is moved, and improving vehicle loading practices by maximizing space utilization.22 In a similar fashion, two of Best Buy's sustainability goals for 2020 are to recycle one billion pounds of consumer goods and reduce its carbon footprint by 20 percent (relative to 2009 performance).23 18 Shelly Banjo, "Wal-Mart's E-Stumble with Amazon," The Wall Street Journal, June 18, 2013, B1. In addition, pharmaceuticals that are sold outside of traditional channels can create potential safety risks (e.g., lack of refrigeration could contaminate some pharmaceuticals) and the revenues from such sales aren't realized by the manufacturer. Wagner, Stepan M. "Which TMS is Right for You?" Supply Chain Management Review 12, no. M., 98n Morton, R., 42n Moser, R., 59n Mulaik, S., 270n Murphy, P. This may include changing the symbols every few months. 3 M06_MURP4846_11_GE_C06.indd 111 04/06/14 12:21 PM 112 Part II • Supply Chain Management First and foremost, procurement's objectives. One commonsense piece of advice is that prior to designing a warehousing facility, the quantity and character of goods to be handled must be known. 6 Connie Robbins Gentry, "Distribution Utopia," Chain Store Age, November 2005 70-72. 33 M02_MURP4846_11_GE_C02.indd 47 03/06/14 5:13 PM 48 Part I • Overview of Logistics their overall logistics processes, even though the costs of the WMS affected the costs of the WMS affected the costs of the wirely and a storing and retrieving functions are increased. An understanding of the various order processing activities is only a first step, however. and Rebecca Bromley-Trujillo. Topics discussed include global positioning systems, electronic data interchange, applicationspecific software, and enterprise resource planning systems. Contains relevant export transaction data such as the transportation mode(s), transaction participants, and description of what is being exported. 3 (2010): 276-287. 1 (2011): 91-108. Third, because logistics personnel handle order processing, they have instantaneous records of actual sales, which indicate the initial success of the promotional efforts. 11 Rudolf Traub-Merz, All China Federation of Trade Unions: Structure, Functions and the Challenge of Collective Bargaining (Geneva: Global Labor University, 2011). The SDS contains information about the physical and health hazards associated with a particular product as well information about its proper storage.31 Hazmat experts generally agree that the applicable regulations should only provide a starting point for proper storage of hazardous materials, in part because for some situations and acquisitions, improving supply chain efficiency, poor planning, or an insufficient volume of business. 4.17 What are some ways in which the Transportation security Administration is attempting to improve the security of the U.S. transportation system? Unlike other forms of transportation, the great majority of airfreight is carried in the freight compartments of passenger airplanes (so called belly freight). Dadzie, and Kofi Q. We discuss demand forecasting in Chapter 7. Arranging for Insurance Unlike domestic shipments, international shipments must be insured. "Going Green? • FOB destination, freight charges in advance but bills the buyer for them; the seller owns the goods in transit and files L&D claims if needed. 110 M06 MURP4846 11 GE C06.indd 110 04/06/14 12:21 PM Chapter 6 • Procurement 111 strategic orientation in many organizations, and a contemporary procurement manager might have responsibility for reducing cycle times, playing an integral role in product development, or generating additional revenues by collaborating with the marketing department. 2 Historically, procurement, purchasing, and supply management were terms that could be used almost interchangeably, but this is no longer the case. Do his work for him. Until the policy you recommend in your answer to Question 3 takes effect, how would you handle the immediate problem of retailers wanting to return unsold Jungle Jim the Jogger dolls? While the goal 7 Ashutosh Dekhne, Xin Huang, and Apratim Sarkar, "Bridging the Procurement-Supply Chain Divide," Supply Chain Divide," Supply Chain Divide," Supply Chain Divide, "Supply Chain Divide," Supply Chain Divide," Supply Chain Divide, "Supply Chain Divide," Supply Chain Divide," Supply Chain Divide," Supply Chain Divide," Suppl decides to make all future purchases from that competitor; the relevant cost involved is that of developing a new customer. By contrast, there is much less documentation required for products imported from China.11 Terms of Sale Choosing the terms of sale involves parties working within the negotiations channel, looking at the possible logistics channels, and determining when and where to transfer the following between buyer and seller: 1. Bardi, and Robert A. Tropical fish are carried in plastic bags with enough water to cover them, but no more than necessary, to keep weight down. What longer-range steps can Fosdick take to reduce the distribution center's high rate of shrinkage? The service obligation means that common carrier's scope of service, so long as the commodity and origin/destination are within a carrier's scope of service. Murphy, Jr. A. This Global Edition preserves the cutting-edge approach and pedagogy of the original, but also features alterations, customization, and adaptation from the North American version. More specifically, these companies are willing to accept a slower order cycle so long as it exhibits a high level of consistency. 1 (2011): 42-46. Cargo moving aboard ocean vessels has distinct markings that identify the
shipper, consignee, destination point, and piece number (in multipiece shipments). The next focus is more precise; it usually involves a selection of the area(s) in which the facility will be located; once this has been determined, a detailed examination of various locations within the selected area is appropriate. other promotional efforts. Simulation is a technique that models a real-world system, typically using mathematical equations to represent the relationships among the system's components. The social responsibility concept suggests that an organization's obligations transcend purely economic considerations such as profit maximization. Warehouses emphasize the storage of products, and their primary purpose is to maximize the usage of available storage space. Products shipped in bond are not subject to normal duties of the country through which they are passing. "The Size of a Logistics Performance Measurement System." Facilities 29, no. For materials that lose no weight in processing, known as pure materials, the processing point can be anywhere near the raw material source and the market. The carton dimensions were 12 inches by 48 inches, a carton weighed 101 pounds. Weighing out Cargo reaches a vehicle's or a container's weight capacity without filling its cubic capacity. Indeed, air is generally the fastest mode of transportation for shipments exceeding 600 miles although some motor carriers now offer overnight service of between 600 and 700 miles. Table 4.1 summarizes the manifest times for inbound and outbound shipments involving air, rail, water, and truck. Line-haul Terminal-to-terminal movement of freight or passengers. Fewer than 15 U.S. states currently assess inventory taxes, and they have become increasingly difficult to collect, in part because of valuation on the basis of first in first out vs. The first couple of years were easy for Terim because he was working very hard, and the Turkish economy was soaring. Bob Martinson, "The Power of the P-Card," Strategic Finance, February 2002, 30-35. From the shipper's perspective, an NVOCC is a shipper. (www.supply-chain.org) involving all business functions. Whereas LTL shipments are routed through terminals, TL shipments tend to move directly from the shipper's location to the consignee's location. 13.4 What are the three primary factors that determine transportation rates? The topic of socially responsible procurement is much broader than the space devoted to it in this chapter indicates. As Fosdick watched, one of the stock clerks came out of the lunchroom with an opened case of sweet pickles from which three jars had been taken. Governmental regulations address labeling, packaging and repackaging, placing warnings on shipping documents, and notifying transportation carriers in advance. Alternatively, from a logistics perspective, the proliferation of SKUs creates challenges such as more items to identify, more items to store, and more items to store, and more items to store, and more items to identify, more items to store as more items to store. bartered lumber from North Korea. As a general rule, the earlier the delivery time, the more expensive the transportation cost. Just as longer order cycle time variability require additional levels of inventory, so too does greater cycle time variability require additional levels of inventory. for analyzing packaging inefficiency in the sense that packaging inefficiency tends to be compounded as one moves from a very small unit, and so on. Kraljic's Portfolio Matrix was introduced as a way to segment procured items in order to more effectively align sourcing strategies. Second, Berndsen suggested sending the new Brazil order to N.A.M.'s Prague facility. Draft a brief statement (catalog copy) to be inserted in the firm's spring-summer brochure that clearly explains to potential customers the policy you recommended in Question 5. 3 (2006): 41-50. Procurement (purchasing) Raw materials, component parts, and supplies brought from outside organizations to support a company's operations. Chapter 2 provides an overview of the general types of information management systems that are applicable across each business function, and it provides examples of how these general types of information management. M03_MURP4846_11_GE_C03.inde 66 03/06/14 5:15 PM Chapter 3 • Strategic and Financial Logistics 67 Questions for Discussion and Review 3.1 Discuss the differences between corporate-level, business unit-level, and functional-level strategies. For example, suppose the cost of goods sold is \$675,000, beginning inventory is \$200,000, and ending inventory is \$250,000. Although the preceding discussion has focused on lessened economic regulation in the United States, it appears that deregulation has had similar effects in other countries. Moreover, the contract carrier is under no obligation to treat its customers on an equal basis. Identifying Packaging Inefficiencies We introduced the building-blocks concept of packaging earlier in this section, and to refresh your memory, this means that a very small unit is placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is then placed into a slightly larger unit, which is the placed into a slightly larger unit retailers in developing countries.5 This chapter provides an overview of how an organization's strategic financial outcomes are influenced by logistics decisions. The buyer assumes all risks and costs with delivery of goods to final destination including transportation after delivery to carrier and any customs fees to import the product into a foreign country. 20 Christine Blank, "Cruise through Customs," Multichannel Merchant, August 2006, 21 R.G. Edmonson, "10 + 2 = Now," The Journal of Commerce, June 1, 2009, 10-13. Order picking traditionally involved paper pick tickets that listed the particular item(s) and quantity to be picked—and not necessarily the item's location in a facility. For example, a footwear manufacturer reduced transportation spending by 25 percent and warehousing costs by 35 percent through improved packaging. 4.8 Discuss how technological considerations can help in managing truck drivers and their productivity. Unlike the common carrier, the contract carrier is under no obligation to render services to the general public and only has to serve customers with whom it 22 John D. 2.18 Discuss the benefits and drawbacks to electronic procurement. Classification numbers are very important because they are code words that describe cargo in a manner that carriers and shippers understand, and classification descriptions also specify the packaging that must be used and that carriers require. Jim was also concerned about his relationship with his suppliers, as compared, say, to a large auto manufacturer. K., 30 Rudelius, W., 135n Ruggles, D., 160n Rutner, S. Brazil, by contrast, uses broad gauge (1.676 meters), standard gauge, and narrow gauge (1.000 meter) in its rail infrastructure, whereas Nigeria uses only narrow-gauge rail—with Nigeria's narrow gauge measured at 1.067 meters. The space utilization principle. Logistics services may also be an important focus of procurement activities within an organization. And although it would seem as if this advancement would contribute to improved forecasts, software packages should not be viewed as a forecasting panacea. Before beginning our discussion of ocean shipping and international air transportation, you should recognize the transit time/cost trade-offs between them. A key reason for warehousing is because patterns of production and consumption do not coincide, and warehousing serves to match different rates or volumes of flow. Under what terms and conditions? Caplice, Chris and Yossi Sheffi. Some shippers also conduct external audits (work is performed by an independent third party) of their freight bills. Bigelow. The instructor should visit for answers to frequently asked questions and for toll-free user support phone numbers. Shipping conferences Cartels of all ocean vessel operators operating between certain trade areas. Magnan, and Amydee M. 12 William Hoffman, "Thinking Inside the Box," Traffic World, December 11, 2006,
17. M13_MURP4846_11_GE_C13.indd 263 03/06/14 5:36 PM 264 Part III • Elements of Logistics Systems Transportation Service Quality We'll conclude this chapter with a look at transportation service quality. Performance measures are developed to address particular goals or capabilities under one of these four perspectives. Excess (surplus) materials refer to stock that exceeds the reasonable requirements of an organization, perhaps because of an overly optimistic demand forecast. In a similar vein, some products can be exposed to freezing conditions, but others cannot. As a result, customer service agent may be charged a fee for talking to the service that for many years was "free" to the customer). In addition to understanding the financial effects of a logistics cost reduction, any potential cost increases should also be analyzed. 15 A. J. Product density (weight per volume) is yet another physical characteristic that can affect packaging considerations. Indeed, the magazine U.S. News & World Report highlighted has "logistician" as one of the 50 best careers and suggested that logistics employment should increase by 20 percent through 2018.35 Logistics-related jobs include, but are not limited to, logistics analyst, consultant, customer service manager, and warehouse operations manager, and warehouse operations manager. 36 In the United States, compensation levels for entry-level positions requiring an undergraduate degree in logistics can range from the upper \$30K to the mid-\$50K level. Minami, Chieko, Davide Pellegrini, and Munchiko Itoh. M10_MURP4846_11_GE_C10.indd 192 04/06/14 12:03 PM Chapter 10 • Warehousing Management 193 within a facility; some products, for instance, should not be stored on the floor. In picker-to-part systems, an order picker goes to where a product is located, such as with a forklift, whereas in part-to-picker systems, the pick location is brought to the picker, such as with carousels. With supplier parks, key suppliers locate on, or adjacent to, automobile assembly plants, which helps to reduce shipping costs and inventory carrying costs. The chapter then turned to an examination of materials handling and identified some of the challenges associated with handling the various types of bulk products. 4 No author, "2008 Cross-Docking Trends Report," Saddle Creek Corporation, 2008. What are the likely reasons for one to be made? Motor Carriers The backbone of the U.S. highway system is the Interstate Highway System (its formal name is the Dwight D. Some companies, however, are reluctant to fully utilize the information that comes from these data; they believe that the highly detailed data that can be provided by the cards—what was purchased, when it was purchased, how it was purchased—potentially violate the customer's right to privacy. Examples of quality-of-life factors include cost of living, educational opportunities, the weather, and cultural amenities, among others. 8.13 In what ways can inventory turnover provide important insights about an organization's competitiveness and efficiency? With a retail value of approximately \$45, it's likely that the particular Nordstrom's lost money on this purchase. Moreover, customer 13 Roger A. Bristow, Diane J. Companies that have adopted newer-generation voice-based technology have reported increased productivity and higher pick accuracy. 5.20 Discuss, using examples, the key risks to effective supply chain management. Intermediaries fill niches, they are very well focused, and they serve as buffers between various channel members. The transfer involved no increase in pay. Stanger, Sebastian H.W., Richard Wilding, Nicky Yates, and Sue Cotton. Does this change the answer to Question 1? Where JIT tends to encompass movement of materials and component parts from supplier to producer, ECR and QR tend to focus on product movement from manufacturer to retailer. At the time the order was signed in 2002, Guillou argued that the FAS destination port represented the best terms of sale because ocean charter rates were declining as a result of an oversupply of tonnage. Moreover, wheel chocks—hard-rubber wedges that are inserted under truck tires—can guard against intentional or unintentional trailer movements.29 Hazardous Materials (hazmat) often receive special attention from logistics managers because of the injuries, death, and property damage they can cause. 23 Tommie Jones, "Warehousing & Storage Safety Establishing a Comprehensive Safety Approach," Professional Safety, June 2010, 34-36. Because Chapter 6 is devoted specifically to procurement (purchasing), our discussion here focuses on logistical relationships with finance, production, and marketing. Form utility refers to a product's being in a form that (1) can be used by the customer and (2) is of value to the customer. 4 (2010): 519-529. Transportation Cost Analysis Another consolidation decision. Watson, and Gregory M. Rodrigue, Jean-Paul, Jean Debric, Antione Fremont, and Elisabeth Gouvernal. Class rate system A system that simplifies each of the three primary rate factors—product, weight, and distance. Frank Esposito, "PolyOne Reports Progress on Supplier Scorecards," Rubber & Plastic News 41, no. His second option would be to send the lumber to a country where its entry would be legal. Balance of payments Systems of accounts that record a country's international financial transactions. Organizations occasionally resort to seemingly desperate measures to manage their dead inventory. Tariffs Taxes that governments place on the importation of certain items. For big-ticket items, such as ships or warehouses, the buyer almost always borrows money to finance part of the purchase. Although the cost of motor carrier service is lower than for airfreight, motor carriers tend to be more costly than the remaining modes of transportation. Stores to the west are supplied by a grocery warehouse located in Newburgh, New York. Bauer, "The Effect of the Internet on Supply Chain & Logistics," World Trade 13, no. Wisner, G. 13 Importantly, organizations that choose not to apply for a Baldrige Award can use these seven categories as a template for evaluating the quality of current and prospective suppliers. Dead inventory (dead stock) Product for which there is no demand. Cavinato, and C. Similar approaches could be applied to other measures of ABC status such as sales volume in dollars and item profitability. Terim had established Tempo Ltd. List and discuss the advantages of stocking Super Gyms at the distribution center to the retail stores also make deliveries of Super Gyms to individual customers. What is his new EOQ? 23 No author, "Will 2012 See Widespread Adoption of RFID?" RFID Journal, January/February (2012): 6-9. Anthony Inman, "The Impact of Logistics Performance on Organizational Performance on Organizational Journal, January/February (2012): 6-9. 0,0. A common measure of organizational financial success is return on investment (ROI), which can be measured by return on net worth (RONW) or return on assets (ROA). Farooquia, Parveen and M. More specifically, facility relocation occurs when a firm decides that it can no longer continue operations in its present facility and must move operations to another facility to better serve suppliers or customers. A reorder point for each item can be established electronically so it can indicate when the stock has been depleted to the point where a new order should be placed. For instance, metal cylinders are one method for the packaging of gases, whereas metal pails can be used for the packaging of liquids. All imports require advance approval, and goods that arrive without prior approval are not allowed to enter. Poorly handled facility closings can result in tremendous amounts of unwanted negative publicity for a company, which does little more than exacerbate an already unpleasant situation. Martins. Use examples to illustrate they can be nested, that is, stacked inside each other, meaning that, unlike Style A, multiple lamp shades could be packed into a single carton. Moreover, incorrect information can cause sellers not to be paid by buyers. The logistics function can c ontribute to customer relationship management and supplier relationship management processes in terms of outbound or inbound material flow being part of a product and service agreement with a key customer or supplier. Asset turnover In the Strategic Profit Model, asset turnover In the Strategic Profit Model, asset turnover measures the efficiency of capital employed to generate sales. 1 Mary Shacklett, "The 21st Century Warehouse," World Trade, March 2011, 18-25. 10 This material in this section is drawn from Donald F. The chapter concluded with a discussion of a relatively new international logistics concept, the Logistics Performance Index. Kraljic's Portfolio Matrix A technique used by many managers to classify corporate purchases in terms of their importance and supply complexity with a goal of minimizing supply vulnerability and getting the most out of the firm's purchasing power. In addition, the ability to realize scale economies in areas of transportation and procurement could also be affected by this type of complexity. • FOB origin, freight prepaid and charged back: The seller pays the freight charges in advance but bills the buyer for them; the buyer owns the goods in transit and files L&D claims, if needed. 4 (2011): 385-395. RONW measures the profitability of the funds that have been invested in the business, and is most likely of primary interest to investors. Questions 1. A total of 22 separate U.S. government entities were incorporated into the DHS, with the Transportation Security Administration (TSA) and Customs and Border Protection (CBP) being two of the most important from a logistics perspective. Whether words, pictures, or code numbers are used depends on the nature of the product and its vulnerability to pilferage. To this end Five Star represents U.S.
manufacturers like Mrs. Coyle, Edward J. Because global sourcing increases the distance that components and holding costs. Schneider. Escabar gave Huber some good news and some bad news. R., 271n D d'Amico, M., 40n Daugherty, P. For instance, employee training, data conversion, and integrating and testing the new system all require time beyond the installation of the ERP software itself. 2 (2009): 141-154. For example, Honda's most recent U.S. assembly 14 Nanette Byrnes and Coleman Cowen, "The High Cost of Wooing Google," Business Week, July 23, 2007, 50-56. 62 Pau Demery, "Safe Driving? Survey research, for example, can require quite a bit of both money and time, depending on the media (i.e., mail, telephone, electronic, in-person) used to collect and analyze the data. Stank, and Abre Pienaar, "Time to Remodel," Supply Chain Quarterly 2, no. Larson and Stephen G. 03/06/14 5:37 PM Chapter 14 • International Logistics 293 2. However, rails generally have greater flexibility than air, water, and pipeline. Martin, Juan Carlos. Electronic procurement (e-procurement) Uses the Internet to make it easier, faster, and less expensive for an organization to purchase goods and services. If the classification were lowered, the rate would be lowered proportionally for all shipments.) Questions 1. 26 25 M12 MURP4846 11 GE_C12.indd 241 04/06/14 12:19 PM 242 Part III • Elements of Logistics Systems as opposed to a time that might be convenient for a for-hire carrier. Moreover, in some geographic locations logistics Systems as opposed to a time that might be convenient for a for-hire carrier. unionized, and the union contracts can provide a challenge to improving productivity. Newmann, W.P. and L. The drive to be fast and agile has even resulted in some e-commerce firms such as Amazon to begin offering same-day delivery deliv push supply chains should be replaced by customer-centric, pull-oriented ones. This meant that all LTL carriers charged the exact same prices for transporting shipments between any two points and when companies can't compete on service. and improve satisfaction by looking at orders from the customer's perspective.14 However, firms must focus on both effectively and efficiently designing their supply chains according to market needs/characteristics. 2 (2005): 275-290. Kerr, John. There is often a natural tension between shippers and carriers with respect to a product's classification shippers tend to prefer a lower classification number. One is the myriad of inefficiencies associated with suppliers initiating marketing efforts toward purchasers, such as suppliers possessing inadequate, insufficient, or untimely information. Higgins "Forecasting to Believing," Food Engineering, October 2009, 57-64. The owners soon founded additional iron and coal mills, and then established the firm as Gute Hoffungshuette (GHH). 61 Ibid. Note also that customers are an integral component in supply chains, regardless of their complexity. 1 (2009): 19-44. Economic utility Refers to the value or usefulness of a product in fulfilling customer needs and wants. Dan Olson, "Six Keys to Plant Site Selection," Industry Week, September 2010, 22. 7.19 Describe some of the key issues associated with measuring customer service. Inventory shrinkage is another component of inventory carrying cost and refers to the fact that more items are recorded entering than leaving warehousing facilities. 15 John Paul Quinn, "How to Avoid Communication Breakdowns," Logistics Management, April 2006, 37-41. If a company decides to internally manage returned goods, there must be recognition that one or more employees will have returned goods as their primary, if not only, job 31 Mariannees and the second se Wilson, "Green Transport," Chain Store Age, January 2009, 55. Three separate orders were involved and totaled 115 trucks. One way of classifying motor carriers is according to whether they carry less-thantruckload (LTL) or truckload (LTL) or works with Hapag-Lloyd AG. See Radio-frequency identification technology (RFID) Right-to-work laws, 174 RM. The strategic issues at this level are related to business unit and corporation. Often, the transportation manager must approve each freight bill before it is paid, and carriers must be paid within a specific number of working days. Contract logistics See third-party logistics (logistics outsourcing). This increased power of customers has important implications for the design and management of supply chains. 19 M14_MURP4846_11_GE_C14.indd 282 03/06/14 5:37 PM Chapter 14 • International Logistics 283 Table 14.2 World's Busiest Container Ports (2012) Port Country Shanghai Singapore Hong Kong Shenzhen Pusan Ningbo Guangzhou Qingdao Dubai Tianjin China South Korea China China South Korea China China South Korea China China Singapore China China South Korea China China China South Korea China China China South Korea China China South Korea China China South Korea China China China South Korea China China South Korea China China China South Korea China China China South Korea China China China South Korea China China China China South Korea China Chin 14,743,600 14,500,000 13,280,000 12,300,000 Source: www.daily-cargo.com/english/2013/0221. Today, by contrast, order picking, as well as robotic picking, as well as robotic picking, as well as robotic picking. An underlying assumption of time series forecasting is that future demand is solely dependent on past demand. You may not be aware, for example, that until 2007 commercial airline pilots in the United States faced mandatory retirement upon reaching 60 years of age (65 is now the mandatory retirement age for commercial pilots). According to Professor Mentzer and colleagues, "the supply chain concept originated in the logistics has continued to have a significant impact on the SCM concept." 2 More specifically, a dominant logistical philosophy throughout the 1980s and into the early 1990s involved the integration of logistics with other functional areas of an organization that there could be value in coordinating the various business functions not only within organizations but across organizations as well—in what can be referred to as an SCM philosophy. 9 Jan Van Boelle, Paul Valckenaers, and Dirk Cattrysse, "Cross-Docking: State of the Art," Omega 40, no. K., 43n Reeves, J. The seller bears the cost of freight and insurance to the named port of destination. In terms of the connection to procurement strategy, the decision to move from domestic to global sourcing would naturally affect logistics activities such as the potential use of new modes of transportation. 6.11 Define supplier development, and explain why it is becoming more prominent in some organizations. Ocean Shipping If you don't live near a seaport, you might not have an appreciation for the importance of water transportation in international trade; a frequently cited statistic is that approximately 60 percent of cross-border shipments moves by water transportation. 9.3 In what way is the location of customer markets a strategic consideration in facility location? If rail were used from Prague to Rotterdam, the cost per flatcar would be € 1,943. Because of the tremendous distances that can be involved in global sourcing, managers must understand the trade-offs between transportation and holding costs. north and more east than what was determined in the basic center-of-gravity approach (2.4 miles north; 3.2 miles east). Murphy, and Daniel L. 3 (2005): 32-51. Forslund, Helena. Various barriers to SCM, such as lack of top management commitment and reluctance to share, or use, relevant data, were also presented. For instance, it may be difficult for the basic center-of-gravity approach (2.4 miles north; 3.2 miles east). for a supplier to achieve both competitive pricing and high-quality supply. Preparing an Air Waybill or Bill of Lading of Lading is not. Having said this, the growth of intermodal transportation (which will be more fully discussed later in the chapter) has given railroads and high-quality supply. access to manufactured and packaged products, which tend to be higher value. 31 David Hannon, "On-Demand Brings Spend Control to the Masses," Purchasing, March 2, 2006, 40-42. 38 M02_MURP4846_11_GE_C02.indd 48 03/06/14 5:13 PM Chapter 2 • Logistics and Information Technology 49 One of the most frequently mentioned shortcomings of ERP systems involves the costs of installation. The Union Pacific also assesses demurrage charges of \$175 per day per 10 Ibid. 1 (2003): 77-109. Dimensional (dim) weight Considers a shipment's density (the amount of space occupied relative to weight) to determine a shipment's billable weight. A second reason for the importance of meeting customer requirements is the notion that because different customers have different logistics approach (mass logistics)—in which every customer gets the same type and levels of logistics service—will result in some customers being overserved while others are underserved. 20 Ian Putzger "Apps Mania," CT&L, April 2012, 32-33. The evaluation of transportation availability is likely to depend on the type of facility that is being looked at. It was two blocks from the distribution center and on the side away from the office. Murphy and Richard F. • Door-to-door services. AILS is fully equipped to deliver door, which includes cargo pickup from the supplier's warehouse, warehouse, warehouse, complete customs clearance, complete customs clearance, who handles to receive cargo in India. V., 190n Bowersox, D. When we got to Jason's office, he had a message to phone Ed Meyers, our local attorney in Providence, who handles much of our labor relations work there. Printed and bound by Courier Kendallville in The United States of America. Centralization allows an organization to take advantage of the cost savings that can arise from volume-creating opportunities. Relational exchanges tend to be characterized by a far different set of attributes than
are transactional exchanges, including—but not limited to—trust, commitment, dependence, joint investment, and shared benefits.18 At a minimum, relational exchanges may result in individual supply chain members. CASE Case 10.1 Minnetonka Warehouse Wayne Schuller managed warehouse in Minnetonka, Minnesota. A particularly noteworthy example involved an intern for the state of Ohio, stolen from her car. One concern with electronic commerce in general and e-procurement in particular, involves the security of information that is being transmitted; there is a risk that sensitive or proprietary information could end up in the wrong hands. M07 MURP4846 11 GE C07.indd 142 Eroglu, Cuneyt and A. In both cases, a few extra eggs would ensure that you won't run out of eggs. Alternatively, holding low levels of inventory carrying costs and some (high) stockout costs. As organizations continue to expand their supply bases, many are realizing hidden cost factors are affecting the level of benefits that were projected to be achieved through this approach. In the United States, the wooden pallet has long been the backbone of the unit load in 14 "Marshall White on the State of Pallets,' Modern Materials Handling, March 2006, 53-58. F., 115n, 273 Wu, C., 286n Wu, L., 177n Y Yagla, S., 62n Yan, J., 22n Yeung, J. S., 42n Kumar, K., 48n Kumcu, E., 114n Kutanoglu, E., 162n Kuzeljevich, J., 81n, 202f L Labs, W., 180n Lacefield, S., 133n Lado, N., 20n LaFontaine, F., 22n 03/06/14 5:39 PM Name Index 305 Lambert, D. For example, one frequently cited suggestion is to place fast-moving items close to pick locations, such as a conveyor, so as to reduce a picker's travel time. "Packaging Design Model from a Supply Chain Approach." Supply management is now viewed as a relational exchange approach involving a limited number of suppliers. Logistics managers need to understand how logistics costs influence the profits or losses being incurred by their firm so that they can make appropriate decisions. You might be familiar with global positioning systems in the form of personal navigation devices that provide maps or voice instructions as you drive your automobile. The unloading times given in the preceding items (1-5) are average figures. 3.16 Describe how logistics decisions might affect an organization's cost of goods sold. Pon, in turn, thought that Robertson had yet to shed the image he had acquired in the 1980s when his late father was president of HDT. Alternatively, quality control might be interested in packaging design that minimizes loss and damage. The follow-on order for 568 more vehicles was, essentially, contingent on meeting terms of the initial contract to the letter, with regard to the 224 buses. Workforce motivation can be difficult because of the somewhat repetitively and the initial contract to the letter, with regard to the 24 buses. nature of the work. See Efficient Consumer Response (ECR) EDI. Another product-related consideration when establishing customer service goals and objectives is where the product life cycle. Despite the current tepid economic conditions, the job market for logisticians continues to be strong at both the undergraduate and MBA levels. 3&4 (2011): 37-42. and Daniel R. Suppose, for example, that an organization has four distribution facilities that annually generate 125,000 pounds. Possession utility refers to the value or usefulness that comes from a customer being able to take possession of a product. 13.20 How can the performance scorecard be used as a diagnostic tool? 7 Jonathan Reiskin, "Carriers Invest in Web Sites, Software, Networks," Transport Topics, May 8, 2006, 10. Social Responsibility Research suggests that socially responsible procurement consists of five dimensions, namely, diversity, the environment, human rights, philanthropy, and safety. Questions for Discussion and Review 7.1 What is the relationship between demand management, order management, and customer service? For example, warehousing safety could be enhanced if employees refrain from jumping from one dock plate to another. José Ortega worked in Handy Andy's distribution department in the St. Louis headquarters. Chapter 10 focuses on warehousing management and you will be introduced to the various types of warehousing, warehousing macro-level challenge is the recognition that information technology is a tool that can help managers to address organizational problems. Not surprisingly, many logistics managers attempt to have their inventories as low as possible on the assessment date(s), and businesses may offer sales to reduce their inventory prior to the assessment date. 3.2 Discuss the cost leadership, differentiation, and focus strategies. Daugherty, Patricia J., Haozhe Chen, and Bruce G. Location of Customer or Supply Markets Improvements in transportation (e.g., high-speed highways) and technology (e.g., air conditioning) allow consumers to migrate relatively easily from one region or country to another. Suggested Readings Cederlund, Jerold P., Rajiv Kohli, Susan A. Statistical tests can be applied to the data to determine whether the damage pattern is randomly distributed. 12.4 Why is the reliability of airfreight transportation somewhat problematic? These considerations increase the complexity, as well as the time, to do the necessary calculations and partially explain why some companies have turned to specialized software packages to help them with facility location decisions. However, he wasn't going to let a detail like this get in the way of new markets. Logistics strategy decisions involve issues such as the number and location of warehouses, the selection of appropriate transportation modes, the deployment of investments in technology that support logistics activities. The probability of each event taking place can be used to determine the average cost of a stockout. This example also assumes that the various levels of safety stock prevent a certain number of stockouts. For example, the storage facility can be constructed to the user's specifications, which is a particularly attractive feature when a company has unique storage or handling requirements, as is the case with steel beams and gasoline. 8.2 Why is it necessary to try applying classifications or categories to inventory? JIT emphasizes to inventory? minimal inventory levels, and as a result customers tend to place smaller, more frequent orders. While the former might result in higher deliveries, the latter requires a higher deliveries, the latter requires a higher delivery costs because of multiple deliveries, and as a result customers tend to place smaller, more frequent orders. delays often arise in international movements, safety stocks must be larger. Shrink-wrap Plastic wrapping that when heated shrinks in size to form a cover over the product. Credit is important to all parties in the channel, who frequently receive or extend it, and credit becomes an integral part of the negotiations. Next came another stock clerk with an opened carton of mustard from which two bottles had been removed. Crate and Barrel, a retailer of housewares, furniture, and home accessories, currently uses mushroom-based packaging, as does Dell, the computer manufacturer.10 A third strategy is to use reusable containers, such as refillable glass beverage bottles. Before proceeding further, it's important to distinguish between data and information: "data are simply facts—recorded measures of certain phenomena—whereas information is a body of facts in a format suitable for decision making." Advances in technological hardware and software now allow logisticians access to abundant amounts of data in relatively short periods of time. The unit load does have its limitations, however. For example, consider the following dilemma: "So many complementary products for the meat and fish that you'll never be able to display them in the same section (of the store)." Possible complementary products for the meat and fish section include cheeses, seasonings, skewers, skillets, and wines, among others.10 Another issue associated with complementary products involves the amount of inventory to be carried. International freight forwarders' income comes from three sources. Kumar, Sameer, Jennifer Medina, and Mark T. Today, by contrast, procurement has a much more 1 John Hyatt, "The Rise and Rise of Procurement," CFO 28, no. 2 (2008): 422-435. Vanderpool also said that he did not have the authority to charter a ship and suggested that Pon determine who could do so in Robertson's absence. How many viable alternatives do you have to consider regarding the initial shipment of 25 buses? Farris II, M. One important situation concerns the availability of highly advertised products, particularly when a company is running pricing campaigns that lower the price of certain items. See Delivered at Terminal (DAT) Data warehouse, 48, 103 DDP. Special procedures must be established for handling broken or damaged items, if only from the standpoint of employee safety. 4 (2009): 831-845 With a fixed slot location, each SKU has one or more permanent slots assigned to it (think of a parking garage that assigns particular parking spaces to certain individuals). One part of the negotiations covers how activities in the other channels are to be handled. This figure is divided by the number of stores (5), resulting in a north location of 12/5 or 2.4 miles. 2 (2008): 58-67. Lee, Hau L. From a space utilization perspective, one pallet occupies 80 times more space than a plastic slip sheet. For example, if we switch the probabilities in Table 8.3 for brand loyalty and lost customer (i.e., brand loyal probability is .10), then the average cost of a stockout becomes \$129.25 (as opposed to Table 8.3's \$789.25). Centralized logistics organization a single logistics department that administers the related activities for the entire company from the home office. Another alternative is to e-mail a brief survey about the
installation experience within three to five days of receiving a warranty activation form. In general, there are five possible ways to transmit orders: in person, by mail, by telephone, by facsimile (fax) machine, and electronically. Examples include Table 1-1, "The Cost of the Business Logistics System in Relation to a Country's Gross Domestic Product"; Figure 10-3, "2012 Liberty Mutual Workplace Safety Index Findings"; and Table 12-1, "Infrastructure Statistics in Several Countries." • The list of Key Terms at the beginning of each chapter has been modified in the eleventh edition, and each key term is defined in the Glossary. Land requirements are another natural resource consideration in facility location, and distribution and production facilities may require large parcels of land to facilitate effective and efficient operations. Finally, measures such as shipping dock door utilization percentage, cases shipped per day, and cost of shipping per order could be utilized. As such, the U.S. railroads have a substantial cost disadvantage must be captured in railroad price that is based on a product's landed cost allows the seller to offer "free" delivery of the product to prospective customers, because the transportation costs associated with delivery are captured in the landed cost. Hence, this option was dropped. Most containers are dry-cargo boxes, although some are insulated and come with temperature-controlling 9 www.mvs.usace.army.mil/floodfight/L-D/LD21.pdf This definition comes from Barton Jennings and Mary C. Likewise, because Product 2 accounts for 70 percent (7/10) of the total orders, its relevant transmittal costs are \$700. 1 (2006): 48-53. L., 40n, 198n W Wagner, S. 26 George Gecowets and Michael J. In addition, logistics decisions can influence the speed at which invoices are paid as reflected in accounts receivable on the balance sheet. The worst outcome of stockout is to lose both a sale and all future business from the customer. Import quota Absolute limits to the quantity of a product that can be imported into a country logistics (3PL) Logistics systems controls. The bankruptcy of LTV Steel in the early twenty-first century provides one such example; unfortunately, many LTV workers first learned about key pieces of bankruptcy information from various media, including television and the Internet, before being notified by the company.26 Summary This chapter discussed several issues associated with the location of warehousing, manufacturing, and assembly facilities. 3 (2012): 10-18 M08_MURP4846_11_GE_C08.indd 151 03/06/14 5:23 PM 152 Part III • Elements of Logistics Systems Consider the following customer responses to a particular stockout situation. Simulation reliability is achieved by making the model as akin to the real world as possible. For example, an organization with a participative management style might not mesh very well with an organization that has an autocratic management style.40 All manifestations of corporate culture may provide important clues about the ability of companies to work together. The net weighted scores for all seven attributes are summed (4.1375 in Table 13.3) and divided by the maximum possible evaluation (5.00) to yield the "performance score" (82.75). Customer profitability analysis suggests that different customers is eagle to communicate electronically with an organization, whereas other customers are able to communicate electronically with an organization. M14_MURP4846_11_GE C14.indd 290 By 2003 the company had reclaimed its preeminence as a global player in heavy truck and bus design, engineering, and manufacturing, as well as in print technology, rocket, and energy science. From a macroeconomic perspective, Table 1.1 presents logistics costs in relation to gross domestic product (GDP) for a select group of countries. Since transportation deregulation, the volume of claims activity has dropped because, during the negotiation process, the shipper may agree to hold the carrier less liable for claims in return for lower transportation charges. 13.13 Distinguish between the straight bill of lading and the order bill of lading. Although these advances are more costly than paper picking, they can lead to substantial improvements in picking efficiency. Z01 MURP4846 11 GE GLOS.indd 299 Stowability Refers to how easy a commodity is to pack into a load. Bardi, Supply Chain Management: A Logistics Perspective, 8th ed. The garment forwarders use special containers in which the garments are on hangers and thus ready for display on arrival. The work principle. Such costs can accrue during stockouts, when customers demand items that aren't immediately available. To be frank, Fred, one of the union employees there made so much trouble for Jason, he couldn't stand it." "Who's the troublemaker?' asked Fosdick. The daily demand of 30 means that 150 units are available for sale at the beginning of 3 A number of supply chain management textbooks contain detailed examples of the EOQ modified for various conditions of uncertainty. Moreover, clean and sanitary warehousing facilities can have a positive impact on employee safety, morale, and productivity while also reducing employee turnover.37 Fortunately, warehouse cleanliness and sanitation are not predicated on complex theories or costly technology, but rather on common sense and diligence. The Plug at its Upper End Is Marked with a Unique Number Source: CGM Security Solutions, Inc. Consolidator's name and address 7. Rather, distribution and production facilities tend to be added one at a time, as needed. Package Testing and Monitoring To properly design a protective packaging system requires three important kinds of information: the severity of the distribution environment, the fragility of the product to be protected, and the performance characteristics of various cushion materials. For example, perishable items such as dairy products, meat, and poultry are often sold with expiration dates, causing them to have little or no value after a certain date. Facility closing A company discontinues operations at a current site because the operations are no longer needed or can be absorbed by other facilities 10 11 M08 MURP4846 11 GE C08.indd 160 03/06/14 5:23 PM Chapter 8 • Inventory Management 161 It's also important that companies have a thorough understanding of substitution patterns. For example, if a certain product should not be stored on the floor, then this can be explicitly reflected in the particular contract. He knew he could find a market in Turkey for lumber because little was produced domestically, and both new construction and earthquake reconstruction were underway. For example, to achieve produce thousands of cases of a certain type of soft drink (e.g., diet cola). Two chapters are devoted to transportation because it often represents the highest cost logistics activity in a company. Research has shown positive affect of this alignment of functional level strategies with higher-level strategies on financial performance.11 Specifically, logistics strategy must be designed to optimally support the requirements of the 8 Michael Porter, Competitive Strategy: Techniques for Analyzing Industries and Competitors (New York, The Free Press, 1980). Pearson published this exclusive edition for the benefit of students outside the United States and Canada. Tracking A carrier's attempt to determine a shipment's location during the course of its move. In addition, you might not be aware of the variety of ship types available for transporting international shipments by water. An area to salvage or repair damaged merchandise 8. 12 M14 MURP4846 11 GE C14.indd 274 03/06/14 5:37 PM Chapter 14 • International Logistics 275 Two key changes with Incoterms 2010 involve (1) organizing the terms by modes of transport and (2) using the terms in both international and domestic transportation. The challenges of implementing the appropriate logistics strategies, 47 Norm Saenz, Jr., "Picking the Best Practices for E-fulfillment," IIE Solutions 33, no. Although simulation can be a powerful analytic tool, a poorly constructed simulation involving bad data or inaccurate assumptions about the relationships among variables can deliver suboptimal or unworkable solutions to logistics problems. It's also important for a hazmat storage facility to have proper sprinkling systems as well as excellent ventilation. Fawcett. Cost leadership strategy Requires an organization to pursue activities that will enable it to become the low-cost producer in an industry for a given level of quality. The U.S. Environmental Protection Agency's Smart Way Transport Partnership, established in 2004, helps companies to address environmental challenges such as fuel consumption. Hapag-Lloyd indicates that deck space is available for the initial shipment of 25 buses on vessels departing Hamburg on October 24, October 24, October 31, and November 3. Indeed, consultant fees can guickly ratchet up ERP implementation costs; there are suggestions that consultant fees can guickly ratchet up ERP implementation costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs are factored in, ERP installation costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than
the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; there are suggestions that consultant fees may be three times more costly than the software itself.43 When all relevant costs; dollars, and installation costs in the hundreds of millions of dollars are not out of the question. Gunasekaran, Angappa and Bulent Kobu. Another example of the importance of water transportation in international trade can be seen in Table 14.2, which provides data on the 18 American Shipper, September 2001, 26. One set of considerations involves the various types of pollution, namely, air, noise, and water, while another environmental consideration involves the conservation of natural resources. A01 MURP4846 11 GE FM.indd 2 03/06/14 12:22 PM Eleventh Edition Contemporary Logistics Global Edition Paul R. Although the majority of this chapter will focus on several of the transportation manager's key responsibilities, it should be pointed out that transportation managers are also involved with many other operations of the firm. A., 58n, 76n Morgan, R. The results are largely driven by the increased visibility that is provided by the WMS.37 Because of the many different TMS and WMS options that are available to a logistics manager, it's important that an organization utilizes a software package that best suits its needs, as opposed to one from a "name" provider or one that are the easiest to measure, which isn't necessarily a good idea because aspects that are difficult to measure may provide better insights into customer likes and dislikes. If Terim puts together this transaction, is he acting ethically? Another drawback to RFID involves privacy concerns, such as the inappropriate use of the technology. Suggested Readings Bhatnagar, Rohit and Chee-Chong Teo. Gardner. However, the achievement of these potential savings is connected to the buyer's relative size in the market. Return on assets (ROA) Indicates what percentage of every dollar invested in the business ultimately is returned to the organization as profit. 6 (2008): 427-441. If the dealer did not have one in stock, one could easily be obtained from another area dealership. Diversity is concerned with procurement activities associated with minority or women-owned organizations, whereas the environment includes considerations such as waste reduction and the design of products for reuse or recycling. In this vein, the classic issue of transportation cost minimization—transporting products from multiple 6 Alter, Information Systems, p. No list of methods for protecting goods is complete: determined thieves are likely to overcome almost any safeguard placed in their way. One disadvantage is that a matrix organization tends to be more costly because more managerial-level employees are necessary in comparison to a hierarchical organization. The chapter concludes with a description of the balanced scorecard and common logistics performance measures in the areas of transportation, warehousing, and inventory. S., 48n Gattorna, J., 93n Gecowets, G., 99n Gentry, C. Each warehouse worker receives \$14 per hour, must be paid for an entire shift, and—because of union work rules—cannot be assigned to other tasks within the warehouse. 1 (2008): 21-38. Alternatively, cramped conditions can lead to such inefficiencies as the product damage that can be caused by forklift puncture and movement Applications: What Role Does Firm Size Play?" Supply Chain Management: An International Journal 13, no. Moreover, because most shippers and consignees (receivers of freight) are not located at an airport, this requires transportation from the destination airport to the consignee. In addition, the factory distributors in these few cities indicated that they, not Handy Andy, Inc., stood behind the one-year warranty. Financial hurdle rates of return may affect the decision to manage one's own warehouse or use a third-party provider. Third, the evolution of business practices and philosophies, such as just-in-time, green purchasing, and supply chain management, may require new selection criteria or the reprioritization of existing criteria. The interfaces involving wireless communications, global positioning systems (GPS), and graphical information systems (GIS) offer tremendous technology-related opportunities to improve driver productivity. 6 Kate Leahy, "The Era of Sustainability," Restaurants and Institutions, October 2008, 38-46. 27 M07 MURP4846 11 GE C07.indd 146 04/06/14 11:56 AM 8 Inventory (dead stock) Stock Corder quantity (EOQ) Fixed order quantity (system Inventory Inventory Inventory Corrying) Fixed order quantity (EOQ) Fixed order quartity (EOQ) Fixed order quartity (EOQ) Fixed order quartity (EOQ) Fixed order quartity (EOQ) Fixed order (holding) costs Inventory shrinkage Inventory stock Pipeline (in-transit) stock Pipeline (in-transit) stock Pipeline (in-transit) stock Vendor-managed inventory turnover (VMI) Learning Objectives To learn about the ways that inventory can be classified To discuss inventory costs and the trade-offs that exist among them To identify when to order, with a To differentiate the various inventory flow patterns To discuss special concerns with inventory management To identify several contemporary approaches to managing inventory particular emphasis on the economic order quantity Inventory refers to stocks of goods and materials that are maintained for many purposes, the most common being to satisfy normal demand patterns. closing process. CASE case 7.1 Handy Andy, Inc. NOI stands for "not otherwise indexed by number" (i.e., one cannot find a definition that fits more closely). Specialized intermodal containers are also available that carry tanks for holding liquids or gases as well containers that hold insulated or refrigerated cargo. Contract warehousing involves specially tailored warehousing services that are provided to one client on a long-term basis, is told to determine how much the firm is likely to spend for over seven months, the highest figure since 1989. C., 234n Huang, X., 112n Z02 MURP4846 11 GE NIDX.indd 304 Hunt, K. Firms demonstrating a commitment to q uality through training, reviews, and continuous improvement can receive ISO 9000 certification. Based on the sales success of this doll, Amy and Lori made commitments to manufacture 10 million Jungle Jim the Jogger dolls this year and to introduce a wide line of accessory items, which they hoped every doll owner would also want to have. Child, "Organizational Structure, Environment and Performance: The Role of Strategic Choice," Sociology 6, no. It uses the strategic profit model to highlight how logistics activities influence the key corporate financial measures of net income, capital employed, and return on capital employed. "Don't get uptight," he said to Fosdick. Assorting refers to building up a variety of different products for resale to particular customers; our department store example might want to supply individual stores with a number of different suit sizes (e.g., size 38, and size 40) and styles (e.g., two-button suits and threebutton suits). This was due, almost in total, to Guillou's additional sales of oil-field equipment to Middle Eastern producers. However, the contemporary business environment is increasingly characterized by a myriad of decision alternatives and shorter time windows for making decisions. Companies should also recognize that, no matter how well planned beforehand, a relocation from one facility to another is rarely trouble free; at a minimum, relocation glitches can add to logistics costs and detract from customer service. Unlimited capital availability. What else is involved?" "There are two ways of getting the trucks to port," said Vanderpool. Koetse, Mark J. For example, the use of storage racks allows for narrow aisles, but narrow aisles, but narrow aisles require specialized handling equipment capable of moving both vertically and horizontally. One must think in terms of both time and location. 6 (2007): 454-468. This leads directly to the third critical factor in managing reverse moving both vertically and horizontally or outsourced to a third party. If so, is the improvement in customer service (i.e., from 5 percent order picking errors) worth the additional costs? Multiplying the case efficiency Table 11.1 A Hypothetical Example of Packaging Inefficiency Product: One (1) Desktop tape dispenser (cube = 30 inches) 12 dispensers per carton Product cube per carton: 30 cubic inches * 12 dispensers = 360 cubic inches Carton dimensions: 1,140 cubic inches Pallet load efficiency: Product cube per carton * 60 cartons = 68,400 cubic inches Pallet load efficiency: Carton cube per pallet divided by pallet capacity 68,400 / 90,720 = 75.4% Carton efficiency times pallet load efficiency = the amount of pallet cube that is actually product: M11 MURP4846 11 GE C11.indd 214 90,720 cubic inches Carton cube per pallet. 31.6% * 75.4% = 23.8% 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 215 (31.6 percent) by the pallet load efficiency (75.4 percent) means that less than 25 percent (23.8 percent) of available pallet space is occupied by actual product. It appeared that in these cities the factory distributor would contact
individuals who had purchased a standard model compactor from licensed retailers. As a result, it wouldn't be realistic to search for ways to reuse waste materials elsewhere in an organization or to find prospective buyers for the waste products. Van Belle, Jan, Paul Valckenaers, and Dirk Cattryse. Mentzer, "A Telling Fortune," Industrial Engineer, April 2006, 42-47. Yet another reason is that achieving competitive advantage in the supply chain is predicated on purchasers adopting a more aggressive approach so as to compel suppliers to meet the necessary requirements.17 Global Procurement (Sourcing)18 While world trade continues to grow, the pace of this growth has slowed significantly since the 2008/2009 world economic downturn. For example, the Supply Chain Council lists over 25 distinct activities as part of the order cycle.7 By contrast, we view the order cycle as consisting of four components or stages: order transmittal, order processing, order processing, order processing, order transmittal, order transmittal, order processing, order transmittal, order transmittal, order processing, order transmittal, order transmit described next. Figure 11.3 shows a small sampling of labels that can be purchased for individual placement on cartons or pallets. Questions for Discussion and Review 10.1 Why does warehousing exist in a supply chain? Preparing and Sending Shipping Notices and Documents The financial transac- tion involving the sale of goods is carefully coordinated with their physical movement, and rather elaborate customs and procedures have evolved to ensure that the seller is paid when the goods are delivered. This meant that Low had to rent a constant amount of warehouse space for the year, and it had to be large enough to accommodate an entire order when it arrived. While both China's and India's gross domestic product (GDP) have been rapidly expanding over the past 15 years, China's GDP per capita is approximately \$3,900.7 GDP per capita is sustainability perspective because they reduce carbon footprints related to production and transportation. 6 Determining the total number of facilities that a firm should operate. Piggyback transportation Truck trailers on flatcars, also referred to as TOFC. Trade-offs must be made among space, labor, and mechanization with respect to warehousing design. From a capability perspective, pipelines are quite limited in the sense that products must be liquid, liquefiable, or gaseous in nature. Order management and customer service begin where demand management ends.

3.7 How do logistics directly affect accounts receivable? Analog forecasting involves determining an analog (similar item) to the item being forecast. For example, retail point-of-sale information can be transmitted directly to suppliers and translated into orders for replenishment of product. For example, U.S. trade with Cuba has been banned since the late 1950s (corresponding to Fidel Castro's rise to Cuban prime minister and installation of a communistic government). The buyer is responsible for all costs and risks associated with unloading the goods and clearing customs to import the goods into the named country of destination. He started marketing Turkish-made goods to former communist countries around Turkey and in central Asia. From a logistical perspective, the ERP-related problems meant that the company missed shipment deadlines, could not respond to customer inquiries, and had limited information about order status. 41 Pedro Reyes, Mahesh S. 3.17 What is the current ratio? See Union Pacific (UP) UPS. For example, the Transportation Act of 1940, which brought domestic water carriers under economic regulation, as well as dry-bulk commodities, so long as no more than three dry-bulk commodities were moved in a particular tow.24 In a similar fashion, the Motor Carriers under economic regulation; the Motor Carriers under economic regulation; the Motor Carriers and plants from regulation.25 Private carriers, which are exempt from any economic regulation, are companies whose primary business is other than transportation and provide their own transportation service by operating trucks, railcars, barges, ships, or airplanes. expiration dates are sometimes donated to local food banks. Neeraj Bharadway, "Investigating the Decision Criteria Used in Electronic Components Procurement," Industrial Marketing Management 33, no. If you worked for Chippy, how—if at all—would you argue that this factor influences classification? 3 (1995): 5-13. The chapter presented a discussion of the five modes of transportation in terms of each mode's capability, capacity, cost, flexibility, reliability, reliabilit jacks (trucks) can range in price from \$275 to \$4,500, whereas conventional forklifts can range in price from \$7,500 to \$30,000. The topic of Chapter 9 is facility location, which has moved from a tactical to a strategic consideration in many companies in part because of globalization. They can assist marketing by quoting freight rates for salespeople, suggesting quantity discounts that can be based on transportation savings, and selecting carriers and routes for reliable delivery of products. Do you think that the returns policy favored by the logistics manager would differ from what would be best for the firm? Is Your Lap Strapped in?" Accounting Technology, September 2006, 45-49. To illustrate the weighted center-of-gravity approach, consider the preceding five-store example, but modify the assumption that each store receives the same volume. The section will conclude by providing some guidance on how best to design and implement a system of logistics measures in an organization. Several days later, the author received a telephone call from a Nordstrom's salesperson indicating that the desired belt was available for purchase at the local store. The forwarder determines whether the client that the letter of credit must be amended. In a similar fashion, the services in a multiclient facility are more differentiated than those in a public facility, but less customized than would be found in contract warehousing. Approved International symbol for compliant wood packaging material f. Less than a year later, the storage facility had to be redesigned because the state-of-the-art materials handling equipment was inconsistent with the types of products sold by the company as well as with its customers' ordering requirements. Many regulations govern the labeling of packaging, including the labeling of weight, specific contents, and instructions for use. According to the Federal Maritime Commission, NVOCCs are common carriers and thus have common carrier obligations to serve and deliver, among others. 1.14 What are the various areas in which production and logistics might interface? Warehousing That part of a firm's logistics system that stores products at and between points of origin and point of consumption. For items from closer sources, a safety stock representing one week of use is maintained. 19 Sam Flanders, "6 Questions to Ask Before You Consider Distribution Center Automation," Multichannel Merchant Executive Insight, January 18, 2012, 2. For example, each buying party will specify the point and time of delivery and the point and time of payment. 8.15 What are substitute items and how might they affect safety stock policies? Potential procurement objectives include, but are not limited to, (1) supporting organizational goals and objectives, (2) managing the purchasing process effectively and efficiently, (3) managing the supply base, (4) developing strong relationships with other functional groups, and (5) supporting operational groups, and (5) supporting groups, and (5) supportin some locks dating to the 1930s, and their maintenance needs tend to increase as a function of age. 10.5 What are the advantages and disadvantages and disadv service). Broadly speaking, three primary types of organizational design are used: hierarchical (also called functional), matrix, and network. Although home delivery should be made when the purchaser is at home. Although variable slot location generally results in more efficient space utilization, from an order picking perspective it requires a near-perfect information system because there must be flawless knowledge of each product's location. "Ensuring Supply Chain Resilience: Development of a Conceptual Framework." Journal of Business Logistics 31, no. Melnyk, Paul D. Roofing, which tends to be the largest exposed surface of a warehouse facility, is often overlooked as an area for energy control. How well does the seller currently provide what the customer wants? M04 MURP4846 11 GE C04.indd 79 03/06/14 5:20 PM 80 Part I • Overview of Logistics and manufacturers) organizations work together to prevent terrorism against the United States through imports and transportation. In addition, since VMI is based on actual point-of-sale data, there is reduced reliance on demand forecasts always contain errors. Within eight weeks, figured Berndsen, Prague could easily handle the order for Brazil's first 25 buses Our discussion here will focus on the documents associated with domestic shipments; the documentation for international shipments is presented in Chapter 14. Today, by contrast, the 16-ounce beverage container has been replaced by the .5-liter (approximately 16.9 ounces) beverage container. For example, an advantage of FOB destination from the seller's perspective is that the seller controls transportation and can assure a more uniform transportation outcome for each buyer. However, reverse auctions can provide sellers with valuable information such as the number of logistics systems. When new products or new packaging techniques are refusing to see our sales staff until the matter is resolved. These processes interact with all other internal and external processes associated with supply chain. Handy Andy, Inc., produced residential trash compactors at a factory in St. Louis, Missouri, and sold them throughout the united States. Many trade-offs are inevitable when designing the structure as well as the arrangement of the relevant storage and handling equipment. The buyer would go to the bank and pay for the plywood, and the bank would give the original copy to the buyer. 10 M12 MURP4846 11 GE C12.indd 234 04/06/14 12:19 PM Chapter 12 • Transportation 235 Figure 12.1 Various Types of Intermodal Surface Containers Source: Ports of the World, 14th ed., CIGNA Property & Casualty Companies. Stank. 20 21 M07 MURP4846 11 GE C07.indd 141 04/06/14 11:56 AM 142 Part III • Elements of Logistics, a confluence of events suggests that organizations should carefully consider the potential trade-offs before adopting a lean philosophy. The two approaches just described are relatively simple and straightforward, and the calculations can be done relatively quickly to provide approximate location Monthly Volume (tons) North • Volume East • Volume 3 3 2 1 3 1 3 4 2 6 3 5 4 2 6 20 (3 * 3) = 9 (3 * 5) = 15 (2 * 4) = 8 (1 * 2) = 2 (3 * 6) = 18 52 (1 * 3) = 3 (3 * 5) = 15 (4 * 4) = 16 (2 * 2) = 4 (6 * 6) = 36 74 2.6 3.7 Weighted average M09 MURP4846 11 GE C09.indd 182 04/06/14 12:01 PM Chapter 9 • Facility Location 183 at least in a transportation sense. Lambert, Editor, Supply Chain Management: Processes, Partnerships, Performance, 4th ed., Ponte Vedra Beach, FL: Supply Chain Management Institute, 2014. Moreover, closer analysis of the six processes, and their definitions, indicates the important role of logistics in SCM. From a marketing perspective, co-branding offers potential customers convenience by allowing for one-stop shopping as well the opportunity to purchase 26 John J. "Logistics and Financial Performance: An Analysis of 424 Finnish Small and Medium-Sized Enterprises." International Journal of Physical Distribution & Logistics Management 38, no. Order processing The time from when the seller receives an order until an appropriate location is authorized to fill the order. Moreover, some warehousing facilities are being designed with grass roofs, which lower energy consumption during the summer months. The preprinted bill can be prepared more rapidly and with less chance of error; for example, the shipper can insert the correct classification rather than letting the carrier determine it. We're going to lose money this year, no matter what, and I have already told Kevin that there will be virtually no money available for retooling for next year's new products." Questions 1. New Supply Chain Agenda: The 5 Steps That Drive Real Value (Boston, MA: Harvard Business Review Press, 2010). 3 Donald J Figure 11.7 Inflated Dunnage Bags between Pallets Source: Courtesy of Sea-Land Service Inc. Reeve, James M. Systems approach A company's objectives can be realized by recognizing the mutual interdependence of the major functional areas of the firm, such as marketing, production, finance, and logistics. Various logistics performance measures were also presented. The CSCMP view goes on to establish that SCM has a leading role for connecting business functions and busin can contribute to the success and benefit from involvement in SCM.6 Moreover, although nearly any organization can be part of a supply chain.7 Successful SCM requires companies to adopt an enterprise-to-enterprise point of view, which can cause organizations to accept practices and adopt behaviors that haven't traditionally been associated with buyer-seller interactions (as will be seen later in this chapter). The backhaul is often a significant source of excess capacity, or unused available space. 3-4 (2001): 29-47. 15 April Terriri, "Balancing Cost, Quality, Strength, Service," Food Logistics April 2009, 24-27. These impacts can be illustrated through the concept of economic utility, which is the value or usefulness of a product in fulfilling customer needs or wants. Michael Knemeyer, The Ohio State University ©2018 | Pearson Format On-line Supplement ISBN-13: 9780134520285 Availability Table of contents : Cover.....Page 1Brief Contents......Page 6Contents......Page 25 The Systems and Total Cost Approaches to Logistics......Page 23 Technological Advances......Page 24 The Growing Power of Retailers......Page 25 The Systems and Total Cost Approaches to Logistics......Page 26 Production......Page 28 Marketing......Page 29 Marketing Channels......Page 31 Customer Service......Page 33 Procurement......Page 34 Logistics Careers......Page 35 Suggested Readings......Page 36 Case 1.1: KiddieLand and the Super Gym......Page 37 Appendix 1: Logistics Professional Organizations......Page 38 Chapter 2: Logistics and Information Technology......Page 40 General Types of Information Systems (TPS)......Page 42 Communication Systems (EIS)......Page 43 Transaction Processing Systems (TPS)......Page 44 Management Information Systems (MIS) and Executive Information 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Sustainability.......Page 78 Sustainability......Page 78 Sustainability......Pag Company......Page 88Part II: Supply Chain Management......Page 92 Chapter 5: The Supply Chain Management Concept......Page 93 Evolution of Supply Chain Management Process Frameworks......Page 95 Understanding the Implications of Increased Customer Power......Page 97 Establishing Appropriate Relationship Structures......Page 99 Leveraging Technology for Enhanced Visibility and Communication......Page 100 Use of Supply Chain Integration......Page 105 Summary......Page 106 Suggested Questions for Discussion and Review......Page 120 Case 6.1: Tempo Ltd......Page 120 Case 6.1: Tempo Ltd......Page 120 Order Management, and Customer Service......Page 127 Demand Forecasting Models......Page 128 Demand Forecasting Issues......Page 129 Order Management, and Customer Service......Page 120 Case 6.1: Tempo Ltd......Page 120 Case 6.1 Processing......Page 131 Order Picking and Assembly......Page 135 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Carriers......Page 231 Pipelines......Page 232 Railroads......Page 233 Water......Page 234 Intermodal Transportation......Page 235 Transportation Specialists......Page 237 Safety Regulation......Page 239 Economic Regulation......Page 240 Legal Classification of Carriers......Page 243 Case 12.1: Truck Company......Page 244 Contemporary Transportation Management......Page 248 Rate Determination......Page 249 Rate and Service Negotiations......Page 255 Modal and Carrier Selection......Page 256 Bill of Lading......Page 257 Freight Bill......Page 257 Freight Bill......Page 258 Freight Claims......Page 257 Freight Bill......Page 258 Freight Claims......Page 258 Freight Claims......Page 259 Consolidating Small Shipments......Page 259 Consolidating Small Shipments......Page 259 Consolidating Small Shipments......Page 250 Bill of Lading......Page 258 Freight Claims......Page 259 Consolidating Small Shipments......Page 259 Consolidating Small Shipments......Page 259 Consolidating Small 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DAP (Delivered at Place)......Page 275 DAP (Delivered at Place).......Page 275 DAP (Delivered at Place) 276 Methods of Payment......Page 277 International Freight Forwarders......Page 286 Surface Transport Considerations......Page 280 Export Management Companies......Page 283 Shipping Conferences and Alliances......Page 285 International Airfreight......Page 286 Surface Transport Considerations......Page 287 International Trade Inventories......Page 288 Logistics Performance Index......Page 295 Name Index......Page 290 Case 14.1: Nurnberg Augsburg Maschinenwerke (N.A.M.)......Page 291 Glossary......Page 295 Name Index......Page 290 Case 14.1: Nurnberg Augsburg Maschinenwerke (N.A.M.). editorial team at Pearson has collaborated with educators across the world to address a wide range of subjects and requirements, equipping students where membership cooperatives where membership considerations, such as shipping a particular commodity or commodities, belonging to a particular industry, or being located in a particular area. P., 213n Stank, T. An understanding of this relationship leads to the recognition that there are but three ways to improve productivity— reduce the amount of output constant, or increase output while at the same time decreasing input. Moreover, despite substantial hype about the potential benefits of e-procurement, one study discovered that only about 25 percent of the responding companies mandate the use of electronic procurement. Take into account the answer to Question 1 and the supplier's new policy outlined in Question 2 and the warehouse's new policy in Question 3. Insurance costs were 2 percent of the shipment ready to be loaded aboard ship in Vancouver (i.e. all of the company's costs up to this point). 11 (2007): 30-34. Intramodal competition Refers to competition among carriers within a particular mode. The other was to send the kereste by ship to Syria, truck it to Turkey, and bribe customs inspectors at the Turkish border. 6 C. M05_MURP4846_11_GE_C05.indd 104 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 105 Supply chains are integrated by having various parties enter into and carry out long-term mutually beneficial agreements. Agile supply chain Focuses on an organization's ability to respond to changes in demand with respect to volume and variety. How Managers Handle Conflict in Supply Chain Collaborative Relationships in Ghana." Journal of African Business 10, no. See Total cost of ownership (TCO) Tempo Ltd., 120-124 Terminals, 230 Terms of sale, 254-255, 274-275 Testing, package, 209-210 TEU, 235 Third-party arrangements, 105 Third-party logistics (3PL), 93f, 94, 100-101, 185, 237, 256 Third-party warehousing, 193 3PL. Alternatively, an order could be filled from the facility location that currently has the largest amount of requested product; this likely would increase both order cycle time and transportation cost, but could help the seller by reducing excess inventory at a particular location. 2 (2012): 220-237. Having said this, readers should recognize that an individual country's topology, economy, infrastructure, and other macroenvironmental factors could result in a different transportation system than that found in the United States. Although Turkey recovered quickly from the earthquakes, political instability continued and pushed the entire economy into a slowdown. Slip sheet A flat sheet of either fiberboard material or plastic that is placed under the unit load. A relatively smooth and painless returns process not only improves returns process not o likely to facilitate the effectiveness and efficiency of online shopping. M07_MURP4846_11_GE_C07.indd 138 04/06/14 11:56 AM Chapter 7 • Demand Management, and Customer Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Located in Northern Spain to Query Customers about Several Service 139 Figure 7.3 Form Used by a Firm Several Service 139 Figure 7.3 Form Used by a Firm Several Severa mistakes in quantities shipped. "Supply Chain Visibility: More Trust than Technology." Supply Chain Management Review 16, no. An order management Review 16, source of delays is that certain countries conduct inspections of trucks as they move from one state to another. 5.18 What are some reasons that third-party logistics arrangements aren't always successful? 11.12 How do transportation tariffs and classifications influence the type of packaging and packing methods? The JIT approach has a number of important implications for logistical efficiency, one of which is that suppliers must deliver high-quality materials to the production line; because of JIT's emphasis on low (no) safety stock, defective materials result in a production line; because of JIT's emphasis on low (no) safety stock. Although VMI is often associated with consumer products, it also has been applied to industrial products such as airplanes, construction equipment, fasteners (e.g., bolts, screws), and heating and cooling systems, among others. Customs Trade Partnership Against Terrorism (C-TPAT) A program in which public and private organizations work together to prevent terrorism against the United States through imports and transportation. New, "The Role of Coherent Supply Chain Strategy and Performance Management in Achieving Competitive Advantage: An International Survey," Journal of Operational Survey, "Journal of Operational Survey," Journal of Coherent Supply Chain Strategy and Performance Management in Achieving Competitive Advantage: An International Survey," Journal of Operational Survey, "International Survey," Journal Operational Survey, "International Survey," Journal of Operational Survey, "International Survey," Journal Operational Survey, "International Survey, "International Survey," Journal Operational S state to meet planned or actual demand. These two systems involve trade-offs between travel time; recall that travel time accounts for between 60 and 80 percent of total order picking time. Domestic Terms of Sale One consideration in rate and service negotiations involves the terms of sale, or when the freight charges are paid for a particular insights about potential transportation cost savings if shifting from one service level to another, the sensitivity analysis does not estimate other relevant costs (e.g., unhappy customers because of slower transportation service). 5 Mike DelBoro, "Cross-Docking Rediscovered," Material Handling & Logistics, May 2011, 34–37. Alford and John R. Provides the structure for developing and bringing to market products jointly with customers and suppliers. 9 M07 MURP4846 11 GE C07.indd 133 04/06/14 11:56 AM 134 Part III • Elements of Logistics Systems must arrive. and globalization are all pushing firms to develop efficient, effective, and differentiated logistics activities. 1 Research has continuously demonstrated that logistical activities can be an important consideration for achieving exceptional levels of customer service and ultimately contributing to firm financial performance. 2 For example, housewares retailer Williams-Sonoma was able to significantly increase their profits through logistics gains from implementing improved distribution accuracy programs that helped them enhance their customer service levels and reduced inventory shrinkage. 3 1 Brian S. One reason that Kevin can't get an accurate count is that returned dolls are showing up on our receiving dock and getting mixed up with our instock inventory." "How can that happen?" asked Amy, angrily. Regardless of how thoroughly the provider and customer have prepared for a 3PL arrangement, unexpected issues and challenges are bound to arise. could be the ones with the highest criticality, B items could be those with moderate criticality, and C items could have low criticality, and C items could have low criticality. 10 Donald J. L., 96n V Valeri, L. Having said this, shipment consolidation decisions affect other logistical activities such as warehousing and inventory management. The importance of information in contemporary logistics is captured by Fred Smith, CEO and chairman of FedEx (a leading logistics service provider), who believes that "information about the package is as important as the package is a simple of the service provider), who believes that "information about the package is as important as the package is a simple of the service provider), who believes that "information about the package is as important as the package is a simple of the service provider). tools in contemporary logistics management. No list of taxes, social security taxes, and severance taxes, corporate income taxes, corporate income taxes, social security taxes, and severance taxes (for the removal of natural resources). The chapter concluded with a look at issues around and approaches for supply chain integration. Scorecards can be categorical (simple check-offs items that reflect supplier performance), weighted point (weights assigned to multiple categories with defined performance), a producer of latex, compounds, and plastics, has used a scorecard program with their top suppliers to improve on-time delivery and grow sales.11 The preceding paragraphs have presented supplier selection and evaluation can actually be quite complex Evolution of Supply Chain Management SCM is a relatively new concept in the sense that it was rarely mentioned in either the academic or practitioner communities prior to 1990. Poist, "Socially Responsible Logistics: An Exploratory Study," Transportation Journal 41, no. As mentioned previously, the logistics channel, its components, and its functioning are the main topics of this book. See Economic order quantity (EOQ) EPA. Organizations strive for the proper balance (i.e., right amount) of inventory, but achieving the proper balance can be quite difficult because of the trade-offs between inventory carrying cost and stockout cost, both of which will be discussed in greater detail later in the chapter. While this type of decision would need to consider the cost implications of providing this level of service, it would be expected that the move would have a positive influence on customer retention and sales. Bullwhip effect Characterized by variability in demand orders among supply chain participants. When comparing performance during the first five months of 2013 with performance in 2012, which warehouse shows the most improvement? The attractiveness of a particular mode depends on the following attributes1: • Cost (price that a carrier charges to transport a shipment) • Speed (elapsed transit time from pickup to delivery) • Reliability (consistency of delivery) • Capability (amount of different types of product that can be transported) • Capacity (volume that can be carried at one time) • Flexibility (ability to deliver the product to the customer) It is important to recognize that public policy can affect a mode's performance on these attributes. New Key Terms in this edition include humanitarian logistics, big data, Logistics Uncertainty Pyramid Model, near-sourcing, and total cost of ownership, among others. By using the information provided, companies can get their freight to where and when it is needed in a more environmentally efficient manner.35 Warehouse management systems are software packages that provide oversight of the storage and flow of materials within a company's operations. 36 Activities that can be controlled by a WMS include inventory management, product receiving, determination of storage locations, order selection processes, and order shipping. 03/06/14 5:23 PM 9 Facility Location Key Terms
A glomeration (industry cluster) Brownfields Center-of-gravity approach Expatriate workers Facility closing Facility relocation E a B B B Free trade zone Grid systems Intermodal competition Intramodal Weight-losing products Learning Objectives To examine the strategic importance of facility location a ro explain location decisions using simple grid systems To learn about facility relocation and facility closing Facility location is a logistics/supply chain activity that has evolved from a tactical decision to one of tremendous strategic importance in numerous organizations. 6.5 Name and describe the steps in the supplier selection and evaluation process. 29 Marc Winter and A. Expenses, also referred to as costs, provide a dollar value for the costs incurred in generating revenues during a given period of time. "Diffusion of Online Reverse Auctions for B2B Procurement: An Explanatory Study." International Journal of Operations & Production Management 28, no. However, the development of the U.S. Interstate Highway System allowed motor carriers to improve their speed, reliability, and although railroads still have the largest share of ton miles, motor carriers now account for the majority of freight revenues. Although absolute and relative logistics costs in relation to GDP vary from country, logistics is most definitely an important component in any country's economy. You should recognize that warehouse fires may result in substantial property damage as well as injury or death, as illustrated by a 2008 warehouse fire in South Korea that injured 17 and killed 40 people. 3 & 4 (2011): 133-148. In a similar fashion, because of long-standing political tensions, Israel and a number of Arab nations do not trade with each other, and this embargo has been extended to include nations that are sympathetic, or provide support, to Israel. Unfortunately, bumpers on the newest autos cannot accommodate trailer hitches." "Oh, no," moaned Olga, "we only expect to sell 5.7 sets per store. This emphasis has resulted in computer-assisted analysis to identify vendors that consistently give either good or bad levels of service. In terms of the volume that can be carried at any one time (capacity), rails are superior to air and motor, but not as good as pipeline or water. International Society of Logistics (SOLE) (www.sole.org) The International Society (SOLE) (w a "non-profit international professional society composed of individuals organized to enhance the art and science of logistician Program (DL Program), the Certified Professional Logistician Program (CPL), and the Certified Master Logistician Program (CML). 25 "BMW Broadens Its Supply Standards." Supply Management 14, no 21 (2009): 11. Hence, cautionary symbols, rather than writing, must be used (see Figure 14.1). Consider that the American Society of Quality, which bills itself as the world's leading membership organization focused on quality, notes that quality is a subjective term.8 Each person will have his or her own definition. The tanks have different types of coating; some are temperature controlled. 8 Atlantic Coast Line Ry. Co. v. Employee washrooms, lunchrooms, and the like 4. Each method of order transmittal has advantages and disadvantages and disadvantages and disadvantages. the time to order, the potential for order errors, and ordering convenience. Owners' equity Difference between what a company owns and what it owes at any particular point in time. 4 (2012): 57-59. • Exports. AILS has expertise in handling exports of various kinds of cargo by ocean and by air freight and ensures the timely movement of cargo 04/06/14 12:01 PM 186 Part III • Elements of Logistics Systems at the most competitive rates. 2 Benjamin T. 3 (1993): 87-98. Since the contemporary business world is characterized by a great deal of uncertainty, the basic EOQ model can be modified to account for one or more conditions of uncertainty. Parry, Glenn and Andrew Graves. The discussion of demand forecasting models is drawn from Chaman L. 13.5 Distinguish between a commodity rate and a class rate. 13.12 Discuss some of the basic functions performed by the bill of lading. (15 (762 x 609.6 x GROSS 33 LBS KG) NET 22 LBS. Moreover, from a logistics perspective, a network organizational design is manifested in terms of relevancy, responsiveness, and flexibility. Readers should recognize that each country may have its own hours of service rules for motor carrier operators as well as its own speed limits. It would take the trucks an average of 4 days to reach Baltimore, where they would wait an average of 4 days to be loaded aboard ship. Logistics managers are inherently concerned with assets such as inventory and equipment used to support logistics activities. Mary Shacklett, "Supply Chain Technology Prospects for the Warehouse," World Trade: WT 100 25, no. More specifically, some larger companies now pay their bills within 90 days, as opposed to 30-60 days prior to the recession. If it should not because of the warehouse, "World Trade: WT 100 25, no. More specifically, some larger companies now pay their bills within 90 days, as opposed to 30-60 days prior to the recession. If it should not because of the warehouse, "World Trade: WT 100 25, no. More specifically, some larger companies now pay their bills within 90 days, as opposed to 30-60 days prior to the distributed to them, who should receive copies? When a worker in a warehouse falls behind schedule, it is usually noticed relatively quickly, and corrective action can be taken in a timely fashion. 4.16 What questions should be asked after a returned item has been counted and recorded? It ships them to a free trade zone in the Far East, where lowcost labor assembles them, and then the assembled components are returned to the United States to become part of the finished product. 04/06/14 12:21 PM 124 Part II • Supply Chain Management Terim gazed at his notes, which were full of numbers and currency exchange rates. The time needed to set up production lines should be reduced to the absolute minimum. The transportation manager assigns each attribute an importance rating, such as 30 percent for "improved cost performance." The transportation manager also evaluates each attribute with respect to a particular carrier's performance." "Net weighted score is calculated by multiplying each attribute's importance rating by its evaluation; for example, the 1.2 for "improved service performance" comes from its 30 percent importance multiplied by its evaluation; for example, the 1.2 for "improved service performance" comes from its 30 percent importance multiplied by its evaluation of 4. Tachograph A recording instrument that is installed inside a truck and produces a continuous, timed record of the truck, its speed, and its engine speed. "Facility Location and Supply Chain Management: A Review." European Journal of Operational Research 196, no. Warehousing is discussed in Chapter 10. A basic challenge for the two areas is that the finance department often measures inventory in terms of its cost or value in dollars, whereas logistics tends to measure inventory in terms of units. Next, the chapter looks at several fundamentals of packaging, 206 M11 MURP4846 11 GE C11.indd 206 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 207 such as its promotional and protective functions as well as labeling considerations. On Thursday morning a record-breaking blizzard hit Chicago; everyone went home early. Alternatively, when the smallest packaging for lightbulbs), the larger packaging for lightbulbs) and/or careful arrangement of the smallest packaging for lightbulbs). believe that common sense is one of the keys to being an effective logistics manager—consider the case of the company that used the same trucking company to deliver materials and parts to one of its products from the facility. 3.5 What are the key components of the strategic profit model? This rate and service flexibility allows transportation managers to take advantage of tradeoffs between price and service, and these price and service flexibility allows transportation manager's creativity and ingenuity. Multiple sourcing proponents argue that by having more than one supplier increased amounts of competition, greater supply risk mitigation and improved market intelligence can arise. Short-sea shipping Refers to waterborne transportation, rather than technical (i.e., employee knowledge and skills), factors. 04/06/14 12:19 PM Chapter 12 • Transportation 231 have been the subject of near-constant legislation in the United States since the beginning of the twenty-first century, and rather than trying to articulate the relevant rules, suffice it to say that— unlike automobile drivers—truck drivers are limited in terms of the number of hours that can be driven in a 24-hour period, as well as the number of hours that can be driven in a one-week period. Railroads, for example, were the dominant mode, as measured by ton miles (the number of hours that can be driven in a 24-hour period, as well as the number of hours that can be driven in a 24-hour period. nineteenth century through the middle part of the twentieth century. E., 279n Droge, C., 58n, 65n, 72n, 76n Duffy, R., 99n Durtsche, D. This concept is unique not because of the integration of all activities into a unified whole that seeks to minimize distribution costs in a manner that supports an organization's customer service objectives. As pointed out earlier, knowledge of substitutability has i mportant implications with respect to stockout costs and the sizes of safety stocks to be maintained. 11.4 What information is needed to design a protective package properly? In what form will it be? 39 Craig Stedman, "Failed ERP Gamble Haunts Hershey," Computerworld, November 1, 1999, 1-2. This type of inventory is associated with retail stores, and the general idea is that customer purchases are stimulated by inventory that they can see.1 This concept helps to explain, in part, why some retailers stock huge amounts of certain merchandise. This example also illustrates that when a fixed order quantity system such as an EOQ is used, the time between orders may vary. 03/06/14 5:15 PM 4 Organizational and managerial issues in logistics organization and managerial issues issues in logistics organization and managerial issues in logistics organization and manager Excess capacity Fragmented logistics structure Fragmented logistics service quality Logistics se Transportation worker identification credential (TWIC)
To examine organizational design for logistics To explore productivity issues in logistics To explore quality issues in logistics To explore design for logistics at a logis manage theft and pilferage To introduce you to the concept of logistics social responsibility To discuss issues associated with reverse logistics systems This chapter focuses on organizational and managerial issues in logistics, and with respect to organizational issues the degree to which logistics activities are fragmented or unified can play a key role in determining an organization's logistical effectiveness and efficiency. One disadvantage of hierarchical design is that societal changes, such as individuality and q uestioning authority, are not easily accommodated in a command and control philosophy M03_MURP4846_11_GE_C03.indd 69 5. A second reason for more proactive and aggressive procurement is that the purchaser may be aware of important benefits, such as reduced inventory and improved forecasting accuracy, which are unknown to the supplier. 10.3 Distinguish among warehouses, distribution centers, and cross-docking facilities. Selecting the most appropriate number of suppliers a firm should use has been the subject of continuing debate. He is responsible for managing both distribution centers, for transportation management, and for inventory control. Shipment 1 in Table 13.1 will serve as our reference point for looking at changes in commodity classification, weight, and distance. 10.18 According to experts, answering which four questions can help manage hazmat storage effectively? Alternatively, an open account, where a seller sends the buyer to pay by a certain date, involves tremendous potential risk for the buyer. We conclude this chapter with a discussion of several macro-level information technology challenges, or those challenges that might be faced regardless of the type(s) of information technology being utilized. When the retailer completed the sale, the order would be transmitted to use the Deutsche Bundesbahn to transport the buses by train to the North Sea port of Bremerhaven, but he wasn't sure that this was the best solution for each of the plants involved. Lee, Hau. The former alternative leads to fewer facilities and higher inventory costs; the latter leads to fewer facilities and higher inventory costs. but lower transportation costs. As for costs, the greater geographic distances tend to result in higher transportation costs, and documentation requirements can be quite costly as well. Globally, what are the other roles of coast guards? As a result, a 120-volt electrical product designed for use in the United States would need both a voltage converter and a plug adapter in order to be used in Europe. You're not likely to purchase diet cola by the thousands of cases (unless you're having a really big social event!) but rather in smaller lot sizes, such as a six- or twelve-pack. 13 www.quality.NIST.gov 14 Ibid. Brownfields are an important locational issue because many are found in urban areas that are often desirable from a locational point of view. Carriers are advised to supply drivers with stickers to place on the bills of lading indicating that their signature means only that they have picked up the freight. A narrow-body Boeing 737-800, offers approximately 1,850 cubic feet of belly space, whereas a wide-body Boeing 777-200 offers approximately 5,950 cubic feet of belly space.2 However, wide-body aircraft devoted to all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of an all-cargo service have impressive carrying capacity; the latest version of all-cargo service have impressive carrying capacity; the latest version of all-cargo service have impressive carrying capacity; the latest version of all-cargo service have impressiv dramatically increases for two products, beer and Kellogg's Pop Tarts (a toasted pastry product)! So, when a hurricane is projected to hit Florida, Walmart makes sure that additional stocks of beer and Pop Tarts are available in its stores there. suppliers.32 The promotions channel is concerned with promotion effort. Form utility Refers to a product's being in a form that (1) can be used by the customer and (2) is of value to the customer. 5 Unfortunately allowances are often part of the promotion effort. to date fewer than 70 countries have implemented the GHS. Although much of the discussion deals with single facilities, the decision p rocess often involves a combination of facilities, in which case one must take into account the relationships among them. Frazier, Michiel R. M11 MURP4846_11_GE_C11.indd 225 Questions 1. Carter and Mariannee and Marianne M. Arezas, A. Measurements in this area include items such as return on investment (investment), outbound freight costs, transportation labor productivity, on-time deliveries, and in-transit damage frequency, to name a few. "The New Supply Chain Agenda: A Synopsis and Directions for Future Research." International Journal of Physical Distribution & Logistics Management 41, no. 6.19 Distinguish between excess, obsolete, scrap, and waste materials. This seems to be common sense, but the authors are aware of a consumer products company that redesigned one of its storage facilities with the primary purpose to be a state-of-the-art showcase in terms of materials handling equipment. See Transaction processing system (TPS), 41f, 43-45 Transit privileges, 43-45 Transportation, 226 HDT Truck Company, 243-246 infrastructure statistics, 227t Transportation considerations, 176, 215, 282-287 Transportation costs, 226 Transportation costs, 226 Transportation management, 248 amodal shipper, 256 carrier performance scorecard, example, 264t certificate of origin, 274 Chippy Potato Chip Company, 266 class rate system, 249 commercial invoice, 274 commodity rates, 249 consolidation of shipments, 47t, 227, 248, 255, 260 demurrage, 261 density, 249 deregulation, role of, 22 detention, 254 rate and service negotiations, 254 rate determination, 248-253 rate regulatory bodies, 238 routing, 263 shipper's export declaration, 274 shipper's letter of instructions, 274 small shipments, consolidation, 260-261, 262f stowability, 251 tracking, 248 transit time, 133 Transportation management systems (TMS), 47 Transportation rates, 249 Transportation Security Administration (TSA) 78 Transportation system accessorial service, 229 broker, 32 bulk cargo, 213, 220, 221, 283–284 consignees, 229 dimensional weight, 229 Z03_MURP4846_11_GE_SIDX.indd 316 dry-bulk cargo, 283 excess capacity, 75, 177, 192, 195, 232, 237 freight classification, 215, 249–251 freight forwarders, 277 hazardous materials, 200–201, 210–212 intermodal transportation, 234-236 line-haul, 229 LTL shippers, 230-231 parcel carriers, 237 piggyback transportation, 234 pipelines, 231-232 private transportation, 236 slurry systems, 232 terminals, 230 TEU, 235 third-party logistics (3PL) services, 100 Transportation Workers Identification Credential (TWIC), 78 TSA. Grid Systems are important to locational analysis because they allow one to analyze spatial relationships with relatively simple mathematical tools. One reason such a major potential still exists is the simple fact that hard-working, sharp-trading people like Fatih Terim never stood still and kept putting together the best deals they could. For example, tractor-trailer drivers who are backing into loading/ unloading docks should utilize a lookout person to alert the driver about employees who might be walking behind the vehicle. As was the case with rate and service negotiation, it's not possible to provide a comprehensive list of all possible factors that might be used in the carrier selection decision. The convenience dimension also plays a key role in a consumer's purchasing decision. 28 M01 MURP4846 11 GE C01.indd 29 03/06/14 5:11 PM 30 Part I • Overview of Logistics Promotion Decisions Many promotional decisions require close coordination between marketing and logistics. A ABC analysis, 158 ABF Freight System, 230 Acceptance of letters of credit, advising on, 277 Accessorial service, 229 Accounting controls, 239 Accounting, 31, 190 Activity-based costing, 141 Agglomeration (industry cluster), 176 Agile supply chain, 96 AILS, See All-Indian Logistics Services (AILS) Airfreight, 229-230 Air waybill, preparing, 278 All-Indian Logistics Services (AILS), 185-187 Allocating, 31, 190 Amodal shippers, packaging requirements may, of course, be one element of negotiation. Agglomeration (industry cluster) Refers to the net advantage which can be gained by a sharing of common locations by various enterprises. In addition, theft can factor into the facilities in areas characterized by high crime rates.24 It's also possible for the stolen products to reappear in the market at a lower price to compete with products that have moved through traditional channels. Once a precise site is under consideration, many other issues should be dealt with before beginning construction or operations. The senior manager and his boss decided to "solve" the missed meeting problem by providing the manager with a smart phone that contained a calendar detailing the time and place of his various meetings. Table 13.3 Example of a Carrier Performance Social media presence Sum Performance Social media presence Sum Performance (%) Evaluation (1-5) 30 25 20 15 10 4 4.5 4.25 4.75 2.5 Weighted Evaluation 1.2 1.125 .85 .7125 .25 4.1375 82.75% The data are hypothetical and for illustrative purposes only. Scrap materials that are no longer serviceable, have been discarded, or are a by-product of the production process. Table 7.2 provides representative customer service measures for each of these four dimensions. Land may be zoned, which means that there are limits on how the land can be used. The potential delicateness of concealed loss or damage claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (2) upsetting a shipper or consignee by seemingly implicating them in the loss or damage claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims is the balancing act between a carrier (1) not wanting to pay claims act between a carrier (1) not wanting to p damage. Since 1980, however, increasing recognition has been given to business logistics, in part because of tremendous—and rapid—changes in the discipline and several key reasons are discussed next. M14 MURP4846 11 GE C14.indd 275 03/06/14 5:37 PM 276 Part III • Elements of Logistics Systems DDP (Delivered Duty Paid) The seller bears all risks and costs associated with delivering the goods to the named place of destination ready for unloading and clearing for import. Bigelow was nicknamed T. Kickham, "Staying Focused on Hose," Industrial Distribution, October 2008, 22–25. 17 M10_MURP4846_11_GE_C10.indd 196 04/06/14 12:03 PM Chapter 10 • Warehousing Management 197 to reduce labor costs and to improve warehouse productivity, it's important for managers to ensure that the automation results in noticeable improvement in warehousing effectiveness and efficiency. J., 111n, 114n Trunick, P. The first is to allow goods to move easily through customs. 27 David Cullen, "Private Fleets: Measuring Up," Fleet Owner. October 2010, 30-32, 36. The differences in forecasted demand between the simple and weighted moving averages can be seen in the example in Table 7.1, 1 John T. The major advantage of the unit load is that it enables mechanical devices to be substituted for manual labor and numerous machines have been devised that can guickly build up or tear down a pallet load of materials. Sustainable products a primary objective of SCM is to optimize the performance of the supply chain as a whole, rather than optimizing the performance of the supply chain as a whole, rather than optimizing the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is to optimize the performance of the supply chain as a whole a primary objective of SCM is the performance of the supply chain as a whole a primary objective of SCM is the performance of the supply chain as a whole a primary objective of SCM is the performance of the supply chain as a whole a primary objective of SCM is the performance of the supply chain as a whole a primary objective of SCM is the performance of the supply chain as a whole a primary objective of SCM is the performance of the perf of individual organizations, collaboration among supply chain members across both transactional and relational exchanges is essential. "The Impact of Logistics Performance on Organizational Performance in a Supply Chain Management: An International Journal 13, no. Actual 5 Months May 31 Budgeted 12 Months Jan.-Dec. There are substantive differences between ISO 9000 and the Baldrige Award; ISO 9000 essentially allows an organization to determine if it complies with its specific guality system. The savings of \$8,000 is much greater than the additional carrying costs of \$1,200, so the firm wants to hold at least 10 units of safety stock. 2 (2012): 21-36. Supply chain analytics leverage enterprise applications, the Internet, data warehouses, and information obtained from external sources to locate data patterns. This hierarchy of strategy formulation. If the shipper may choose the type of packaging to use. In terms of changing family roles, 40 years ago less than 45 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of U.S. adult women were in the workforce; today, by contrast, approximately 60 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of U.S. adult women were in the workforce; today, by contrast, approximately 30 percent of the item and its container, this means selecting lightweight packing materials. Why is it being stored? The bag is sealed and placed inside a cardboard box. Supported by technology, supply chain analytics help decision makers in areas such as sourcing, inventory management, manufacturing, guality, sales, and logistics. It's no exaggeration to state that the terrorist attacks in the United States on September 11, 2001, were a defining moment that brought terrorism considerations to the forefront of logistics management. KiddieLand 03/06/14 5:11 PM 37 Chapter 1 • An Overview of Logistics headquarters was closed on Friday because of the blizzard. Reasons for the increased globalization of supply chains include lower-priced materials and labor, the global competition, among others. 41 Supply chain integration challenging in a domestic setting, but integration challenges are even greater in global supply chains due to cultural, economic, technological, political, spatial, and logistical differences. 7.8 How might an organization decide on the location that will fulfill a customer's order? Beginning on day 8, the demand settles back to 30 units per day. S.A. CASE NO. Owners' equity is the difference between what a company owns and what it owes at any particular point in time. M02 MURP4846 11 GE C02.indd 56 Questions 1.1 (2012): 8-35. Should it apply to the Jungle Jim dolls? Z01 MURP4846 11 GE C02.indd 56 Questions 1.1 (2012): 8-35. practices across the enterprise, and produce and access information in a real-time environment. Although there is no one right attribute(s) are likely to delight some customers (those that exhibit the chosen attribute) and disappoint other customers. Suggested Readings Bagchi, Prabir K. A supplier audit usually involves an onsite visit to a supplier's facility. Rail gauge The distance between the inner sides of two parallel rail tracks. One of the best-known CBP programs enacted since September 11 is the Customs Trade Partnership Against Terrorism (C-TPAT), in which public (CBP) and private (e.g., retailers 19 R.G. Edmonson, "DHS's New Boss," The Journal of Commerce, March 9, 2009, 16. Fuller, James O'Conor, and Richard Rawlinson, "Tailored Logistics: The Next Advantages to donating dead stock include allowing an organization to focus on its better-selling products, freeing up warehousing space, and eliminating the challenges of managing problematic products.7 Inventory turnover Inventory divided by 2. Businesses involved in foreign trade find that a federal government's role is more significant than in domestic transactions, and as a result the buying and selling parties are not always free to contract the terms to suit their needs. 2 Michael Tracey, "The Importance of Logistics Efficiency to Customer Service and Firm Performance," International 283-284 Bulk materials, 213, 220 Bullwhip effect, 97, 103 Burlington Northern (BN), 232, 257 C CAB. F., 115n Johnston, R., 141n Jones, T., 198n Joseph, S., 48n Joshi, M. The company could have one 8,000pound LTL shipment each day, or the company could accumulate five days of crayons into one 40,000-pound TL shipment. Alternatively, a variable slot location involves empty storage slots being assigned to incoming products based on space availability. A great deal of consolidation has occurred among 3PL providers in recent years (e.g., Deutsche Post acquired Exel, UPS Supply Chain Solutions acquired Exel, UPS Supply Chain Solutions acquired Exel, and this consolidation is expected to continue into the future. Monczka, Robert M. Thus, accumulating involves bringing together similar stocks from different producers. Changing trade patterns, spurred in part by multicountry trade alliances, have had a profound influence with respect to the location of distribution facilities. 3 (2012): 24-28. These and other labor characteristics should be viewed as interrelated rather than as distinct attributes. In contrast, efficiency can be thought of as how well (or poorly) company resources are used to achieve what a company promises it can do. 14 Aaron Kapp, "Advantage Ground," Air Cargo World, August 2005, 26-30. Another key area of decision making in transportation, among others. If material is found to be infested, it cannot enter the country until it is cleaned. Alternatively, other companies may be hesitant to enter into long-term relationships because such relationships might be perceived as limiting their operational flexibility or potentially increasing costs. Consignee The receiver of a shipment. "Supply Chain Orientation and Balanced Scorecard Performance." Journal of Managerial Issues 20, no. Paul R. Many companies use supplier scorecards to report performance information to their suppliers. 4.12 Explain why piracy attacks on ships are a potentially serious issue for today's logistics manager. With regard to competition among suppliers from manufacturers that were going out of business. Shippers or forwarders tender full containers, and if a shipper tenders a less-than-container lot, the vessel operator must load all the vessel operator must load exchanges, whereas a short-term orientation tends to focus on transactional exchanges. The Systems and Total Cost Approaches to Logistics is a classic example of the systems approach to business problems. As such, the FMCSA has primary responsibility for developing, monitoring, and ensuring compliance with the commercial driver's license program for operators of commercial motor vehicles.17 The Office of Pipeline Safety (OPS), which is part of the Pipeline and Hazardous Materials Safety Administration, is responsible for safety considerations for natural gas and liquid pipelines. 40 Douglas M. A general rule of thumb is that actual time to implement ERP systems may range from two to four times longer than the time period specified by the ERP vendor. 2 Carlos Niezen and Wulf Weller, "Procurement as Strategy," Harvard Business Review 84, no. "The Chicago-East Coast Corridor: Changing Intermodal Patterns." Transportation Journal 51, no. For example, the Middle East has been a hotbed of widespread political instability since late 2010; a short list of Middle Eastern countries impacted by political turmoil in recent years includes Egypt, Libya, Saudi Arabia, and Syria. Both demurrage and detention operate on a "free-time" principle; that is, shippers or consignees are permitted a specified amount of time to load or unload freight before monetary penalties are levied. Start with Sourcing." Supply Chain Management Review 13, no. Seller's name and address 3. Assuming that each store receives the same volume and that straight-line distances are used, the best (lowest-cost) location for a warehousing facility to serve the five stores is determined by taking the average north-south coordinates and the average east-west coordinates of the retail stores. Brownfield developments in the United States continue to grow in popularity because of the emergence of environmental insurance as well as legislation that makes it easier and less costly to develop brownfield sites. 21 Another specialized characteristic involves the weather, and location decisions can be influenced by the potential for tornadoes, floods, and hurricanes, among others. Larson, Edward W. Although U.S. motor carriers can travel wherever there are roads, their length of haul is mitigated by several factors, such as speed limits and hours-of-service (HOS) rules. We pointed out in an earlier chapter that the carrying capacity of containerships continues to increase, and this increased vessel size is one contributor to the growth of load centers, or major ports where thousands of containers arrive and depart each week. In addition, it is acceptable to use previous versions of Incoterms, but both parties should clearly indicate which version is being used (e.g., Incoterms 2010, Incoterms 2000, Incoterms 1990). Johnson, and Daniel L. Supply chain collaboration Cooperative, formal or informal supply chain relationships between manufacturing companies and their suppliers, business partners, or customers, developed to enhance the overall business performance of both sides. Poor inventory turnover, an indicator of unproductive asset utilization that can negatively affect firm performance, can be addressed by consolidating stocking points and eliminating slow-moving items. At a minimum, an understanding of the modal characteristics presented in Chapter 12 would be the formation of a formal supply chain members. Stockout costs The costs to a seller when it is unable to supply an item to a customer ready to buy. "Reasons for House Food Waste with Special Attention to Packaging." Journal of Cleaner Production 24 (2012): 141-148. However, if many products can perform the same task, then customer service standards become important from a competitive marketing point of view. Waste materials have limited investment recovery options tend to be thought of as providing a large number of transportation-related services for their members (full-service associations). Retrieved from Dictionary.com website: . Moreover, the installation of a TMS or WMS can cause organizational upheaval in the sense that the organization will change its established approach to managing transportation and warehousing, and current employees will need varying degrees of training to become proficient with the new system. As of this book's publication, the Union Pacific Railroad's penalties for demurrage violations were \$80 per day per car, with several exceptions. Multiclient warehousing, a relatively new alternative, is a mixture of public and contract warehousing. Many well-run companies today view warehousing as a strategic consideration—and thus a potential source of competitive advantage. as narrow aisle forklifts, that are capable of simultaneously moving both vertically, and which are more expensive to buy or lease than are conventional forklifts. For example, it might seem like a good idea for a company to strive for minimizing stockouts, except that to actually accomplish this might require inordinately large safety stocks. As pointed out earlier in the chapter, the liquor industry is heavily regulated in the United States, and one example of this regulation is the high taxes that are applied to alcoholic beverages. For example, an organization may want to start off slowly in new markets or may be uncertain how well its products will be received in these markets, and public warehousing can provide storage services in these markets without an overwhelming capital commitment. In some countries, such as the United States, donations of dead inventory to charitable organizations allow businesses to the final consumer. 1 (2004): 57-71. Carrying costs for inventories can be significant, and the return on investment to a firm for the funds it has tied up in inventory should be as high as the return it can obtain from other, equally risky uses of the same funds. However, one potential advantage to plastic and metal is their longevity relative to wood; wood pallets might last only one use, and their maximum life span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Customer Advocacy: A New Era in Marketing," Journal of Public Policy and Marketing," Journal of Public Policy and Marketing, "Last only one use, and their maximum life span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Customer Advocacy: A New Era in Marketing," Journal of Public Policy and Marketing, "Last only one use, and their maximum life span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Customer Advocacy: A New Era in Marketing," Journal of Public Policy and Marketing, "Last only one use, and their maximum life span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Customer Advocacy: A New Era in Marketing," Journal of Public Policy and Marketing, "Last only one use, and their maximum life span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Customer Advocacy: A New Era in Marketing," Journal of Public Policy and Marketing, "Last on the span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Last on the span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Last on the span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Last on the span is three years (and only with gentle use). Perreault, Jr., Joseph P. Harrison and C. Roe, 118 So. 155. Urban, "Last on the span is three years (and the span is three years logistics clearly contributes to time and place utilities. Although 12 months might be a reasonable time period in which to achieve this reduction? If you bought this textbook from an online site, then it was most likely delivered to your residence by a truck, perhaps a small package truck. The OPS has responsibility for establishing and enforcing regulations with respect to pipeline design, construction, and operation.18 Among its myriad responsibilities, the Federal Railroad Administration (FRA) also has primary responsibility for safety in the U.S. railroad industry. "The retailers are paying the freight just to get rid of

them." "We've received several bills in which the retailer has deducted the costs of the Jungle Jim dolls and of the freight for shipping them back from what he owes us," 03/06/14 5:17 PM 108 Part II • Supply Chain Management said Sullivan. For example, although a computer manufacturer might not be able to forecast the exact configuration of each order for computers that it receives, the manufacturer might be able to forecast the percentage of orders for desktop and laptop computers (i.e., standard components). Fosdick was surprised that Jason had requested his reassignment to a slot that did not involve an upward promotion. 19 Mary Shacklett, "Collaboration-It's Now Closer Than Ever," World Trade 25, no. There are a number of packaging fundamentals that organizations should be aware of and we'll discuss three of them—functional trade-offs, package testing and monitoring, and labeling—in this section. The data in Table 8.1 offer insights about the absolute and relative magnitude of inventory costs in the United States between 2006 and 2012; note how Table 8.1 highlights the impacts of the economic recession in 2008 and 2009. "Cost-to-Serve Measurement 19, no. Croxton, "The Role of Logistics Management 19, no. Croxton, "The R Journal of Business Logistics 29, no. Questions for Discussion and Review 9.1 Explain how the location decision process involves several layers of screening or focus. A., 40n Byrne, R. The choice of pallet materials handling systems subject pallets to greater stressed in importance, in part because highly mechanized and automated materials handling systems subject pallets to greater stressed in importance, in than when materials handling involved less mechanization and automation.15 Each pallet material has its advantages, with price being a major drawback to both plastic and metal pallets. A second challenge with international returns is that it may be unreasonable or impractical to tell buyers to return a defective item to the country where it was produced. 2 (2008): 27-51. Organizations can better manage pilferage if they have clearly articulated and enforced pilferage-related policies. I want to make sure there are no more costs involved. 4 (2009): 20-25. Assume that you are Cheryl Guridi, the firm's logistics manager. The text below the label gives the fabric content the nation of origin, and the name Levi Strauss. Source: Courtesy of Levi Strauss Japan K.K. (d) US 0000 (c) B HT (b) TRADEMARK (e) I P P C (a) a. Figure 7.1, which presents an order processing flowchart, highlights that there are many distinct order processing activities. (Robertson did not want charge records generated for some of his expenses.) As usual, Pon started wondering how paying for the Robertson and Guillou vacation venture would affect HDT's cash flow. Indeed, a 2011 study indicated that both manufacturers and retailers wield greater power in the manufacturers and retailers wield greater power will increase in the manufacturer. the future.21 So-called big-box retailers—stores with large amounts of both floor space and products for sale—such as Walmart, Costco, and Dick's Sporting Goods provide an excellent example of the growing power of retailers. is aggressive and is going to recommend that his father cancel the contract with one of the warehouses and give that business to a competing warehouse in the same city. Intermodal transportation Using a container that can be transferred from the vehicle of another, and with the movement covered under a single bill of lading. Having said this, the more sophisticated security devices also tend to be more expensive, and organizations need to weigh the trade-off of whether the devices' benefits exceed their costs. This was M06 MURP4846 11 GE C06.indd 120 necessary because he was thinking of going to Syria for the same reasons that had taken him to the Balkans: finding goods at cheap prices and selling them with handsome markups at home in Turkey or in other neighboring countries. J., 28n, 169n, 220n, 248n Barone, A. 8, (2012): 66-75. 1 (2012): 233-262. Next is a discussion of key international trade specialists, including internatist, including international trad you suggest should be done to bring moral values into the situation so that the developing countries are somewhat in accordance with Western standards? These include, but are not limited to, dry freight, foodstuffs, refrigerated products, liquid products, animals and livestock, automobiles, and steel. CASE case 6.1 Tempo Ltd. Moreover, where expediting historically involved shipments by air transportation, in recent years expediting has seen an increasing use of motor carriers. Summary Demand management deals with determining what customers want, and a key component involves demand forecasting. 34 Linda Pohle, "What to Do with a Warehouse," SDM: Security Distribution and Management, September 2008, 64-70. The buyer assumes all risks and costs for goods from this moment forward. Under a fixed order quantity system, if sales start to increase, the reorder point will be reached more quickly, and a new order will automatically be placed. An example of land requirements for a particular type of facility is a 250,000square-foot distribution center that could require at least 50 acres of land. Ideally, all participants in the supply chain functions in the most desirable manner. Facility location decisions are increasingly important as the configuration of logistics systems is altered due to the impacts of multinational trade agreements. 6.14 Pick, and discuss, two components of the global sourcing development model presented in this chapter. A., 148n Demery, P., 52n Devine, Jr. J. Comparing them with the volume of error-free activity gives a measure of relative activity accuracy in performance. The most recent revision, Incoterms 2010, became effective on January 1, 2011 and it reflects the rapid expansion of global trade with a particular focus on improved cargo security and new trends in cross-border transportation.12 11 Alan M. M09_MURP4846_11_GE_C09.indd 175 04/06/14 12:01 PM 176 Part III • Elements of Logistics Systems A general rule of thumb is that the services received represent only about 50 percent of the taxes paid, and this imbalance may cause businesses to invest more money to receive the required level of service. 22 This section based on findings from Angappa Gunasekaran and Bulent Kobu, "Performance Measures and Metrics in Logistics and Supply Chain Management: A Review of Recent Literature (1995-2004) for Research and Applications," International Journal of Production Research 45, no. 3 (1994): 20-38. Data warehouse A central repository for all relevant data collected by an organization. Figure 7.1 also contains an order triage activity. B., 65n, 72n Rohwedder, C., 169n Ronkainen, I. Fawcett, Stanley E., Amydee M. 16 Sidhartha S. Ellram, Fundamentals of Logistics Management (New York: Irwin McGraw-Hill, 1998), Chapter 8. 39 Michael S. 3 (2006): 210-230; and Kenneth W. These and other challenges have led some organizations to outsource their service parts logistics to companies that specialize in this area (see Figure 8.4). For example, a number of U.S. freight railroads currently allow 24 hours of free time for loading railcars and 48 hours of free time for unloading railcars. In addition, the TSA was responsible for developing a Transportation Worker Identification Credential (TWIC) which is a common credential used to identify workers across all modes of transportation. Consignee identification number 9. M01 MURP4846 11 GE C01.indd 35 Lynch, J. As a result, many transportation providers are actively searching for ways to reduce their fuel costs. Technological considerations play an increasingly important role in managing truck drivers and their productivity. "We lose track of individual items and quantities, but if the salesperson is honest—and I think ours are—we can follow the dollar amount of the return to the salesperson's inventory, to another retailer, or back here to us. With respect to quality-of-life considerations, is Patna or Lucknow the preferred location? If so, at what price? M14 MURP4846 11 GE C14.indd 285 03/06/14 5:37 PM 286 Part III • Elements of Logistics Systems Surface Transport Considerations While ocean shipping and air transportation play a key role in international trade, particularly among shipments that move long distances, an understanding of surface transportation size and air transportation play a key role in international trade, particularly among shipments that move long distances. asset is typically inventory. Waste materials refer to those that have been spoiled, broken, or otherwise rendered unfit for further use or reclamation. The transportation manager faces the decision of whether and when to consolidate large numbers of small shipments into small numbers of large shipments. Besides Amy and M05_MURP4846_11_GE C05.indd 107 Lori, those present included Carolyn Coggins, the firm's sales manager; Cheryl Guridi, the logistics manager; Cheryl Guridi, the plant engineer. That was his first question to Easter after Easter asked whether he was interested in the Providence assignment. 7.17 What are the key distinctions between performance and process benchmarking? In general, real estate tends to be more plentiful and less costly in more rural locations—locations that might not have adequate transportation or labor resources. For productivity purposes, human labor is considered an input (i.e., workers receive wages or salaries), and most humans are resistant to productivity suggestions that focus on reducing their wages or salaries (i.e., input). Roodbergen, Kees Jan and Iris F.A. Vis. By contrast, a domestic focus might target a state (province/territory) or group of states (province/terri including order management, transportation management, and distribution management. Although some delivery windows are one hour in length, other windows are one hour in length, other windows are one hour in length. the relevant data; for instance, although the Internet can provide access to tremendous amounts of external information is suspect. Lock Raises or lowers barges so that they can meet the river's level as they move upstream or downstream. First, there is no need for vehicle operators, an important consideration, given that vehicle operators in some modes, such as airplane pilots and ship captains, can achieve annual compensation in excess of \$100,000. Truckload (TL) carriers focus on shipments of greater than 10,000 pounds, and although the exact weight depends on the product, it is close to the amount that would physically fill a truck trailer. 3 (2008): 259–278. What other costs and risks are involved in these proposed transactions, including some not mentioned and Managerial Issues in Logistics 73 Organizational Design for Logistics 5 Organizational design is much broader than the familiar series of boxes and lines that detail reporting relationships in an organization. Lean Six Sigma integrates the goals and methods of these two approaches in pursuit of quality. This chapter begins with a brief look at various classifications of inventory, followed by a discussion of inventory costs. See European Union (EU) European Union (EU), 178, 213, 271, 284-286 Excess capacity, 75, 177, 192, 195, 232, 237 Excess materials, 119 Executive information system (EIS), 41f, 45-46 Excel Logistics, 101, 237 Excent carriers, 240, 241 Expartiate workers, 175 Expediting, 263 Expenses (costs), 63 Export declaration, preparing, 274 Export management companies, 281 Export packers, 282 Export quotation worksheet, 280f-281f External audit, 257 EXW. Having an understanding of how to calculate stockout costs highlights several key managerial issues. Although the remaining chapters will discuss managerial issues, warehousing specific managerial issues, and so on), the following sections will focus on overarching managerial issues affecting logistics managers that are not activity specific. Private carrier Companies whose primary business is other than transportation provide their own transportation service by operating truck, railcars, barges, ships, or airplanes. However, the reality is that routing guides aren't always followed, which can lead to higher transportation costs and potentially dissatisfied customers. This section decisions. The chapter concludes with an examination of materials handling, with a particular emphasis on 10 materials handling principles and types of materials handling equipment. 10. Even after much of the motor carrier industry was deregulated, Chippy had difficulty finding contract truckers interested in negotiating specific contract rates. They went to work! By noon we were back on schedule, and by the end of the shift we were a half-hour ahead of schedule Porth, "Alignment of Strategic Priorities and Performance: An Integration of Operations and Strategic Management Perspectives," Journal of Operations Management 21, no. N.A.M. would formally agree to the proposal within five working days. on minimizing inventory, the consequences of JIT actually go far beyond inventory management. • The interest for N.A.M.'s line of credit is 10 percent. Second, the LPI can be analyzed in terms of an individual country's performance (1) over time, (2) relative to its geographic region, and (3) relative to its income group. Some inventory items have other types of carrying costs because of their specialized nature. Contract warehousing is a preferred alternative for many organizations because it simultaneously mitigates the negative aspects of public and private warehousing. Indeed, many of the hidden costs of ERP implementation mentioned in the previous paragraph are the result of hidden time associated with ERP implementation. "Functions and Activity-based costing is focused on better understanding the cost of a product by identifying what activities drive particular costs. Although reducing average inventory is easier said than done, you should recognize that an understanding of two concepts discussed earlier in this section, ABC analysis and dead inventory, can help to reduce average inventory. In short, organizations designing their logistics service offerings must understand issues of quality and strive to match the quality levels of the logistics services they provide with the expectations of their customers and the competitive landscape in which they operate. B., 21n G Garcia-Dastugue, S. 13 Ibid. Management Information Systems (MIS) and Executive Informat managing an organization, with the objective of providing managers and executives with the information to logistics decision to logistics decision as "the people, equipment, and procedures to gather, sort, analyze, evaluate, and distribute needed, timely, and accurate information to logistics decision makers."28 As shown in Figure 2.2, an LIS begins with a logistics manager receiving regular and customized reports. A centralized logistics organization should be able to achieve for 125,000 pounds of volume than the individual facilities could each achieve for 125,000 pounds of volume. The assembly line was relatively slow. Unfortunately, one truck would arrive early in the morning to deliver the materials and parts, and another truck would arrive in the late afternoon to pick up the finished products. 5 (2012): 36-42. The magnitude of procurement expenditures meant that procurement's historical focus in many organizations was to achieve the lowest possible cost from potential suppliers; oftentimes these suppliers were pitted against each other in "cutthroat" competition involving threeor six-month arm's-length contracts awarded to the lowest bidder. M13 MURP4846 11 GE C13.indd 251 03/06/14 5:36 PM Figure 13.2 Motor Carrier Classification Docket Proposal for the Classification of Soft Contact Lenses Source: Permission to reproduce this material has been granted by the National Motor Freight Traffic Association, Inc., 2011. The general agreement between the factory distributors and Handy Andy was that the distributors and Handy Andy was that the distributors would deliver and install the compactor within five days after receiving an order from a licensed retailer. The completed form can be returned by toll-free fax. Source: SFT Group. Because 4PL/LLP is still relatively young, there is disagreement as to what it 29 Jeff Berman, "Recent Deals Drive Logistics Industry Consolidation," Logistics Management, January 2006, 14–16. He decided to build a more aesthetically pleasing facility and designed a warehouse with black floors, reasoning that black floors, reasoning that black floors many other warehouses. 1.13 Define what is meant by a cost trade-off. One advantage to hierarchical design is flexibility in exercising command in the sense that no one manager commands more than a "limited" number (e.g., 10, 20, 25) of employees. Do you want me to tell him we won't reimburse him?" "This is worse than I imagined," said Amy. However, this reluctance can contribute to supply chain problems because members may be making decisions based on erroneous data or assumptions. How much would Schuller save in unloading dock costs if he could reassign warehouse workers to other tasks when they are not unloading trucks, assuming that he has picked a good team of workers and each worker works 8 hours a day? The ability of logistics function to ultimately influence the overall financial success of an organization is based on the ability of logistics managers to develop and implement strategies that are aligned with the overall corporate strategy. Shippers' associations Nonprofit membership cooperatives that perform basically the same function as freight forwarders. Vitasek, "DC Measures 2012," WERC Watch, Spring 2012. Bracing or inflatable dunnage bags (see Figure 11.7) are used to fill narrow empty spaces, and when inflated, they fill the void space and function as both a cushion and a brace. 12.7 What are advantages and disadvantages in the sense that job descriptions spell out in exacting detail the responsibilities associated with a particular job. Unfortunately, it is often difficult to accurately quantify the impact of theft, in part because some companies are hesitant to report this data because a reported theft serves as direct evidence of a logistic system shortcoming. They spring up and flourish in areas where communications and other interactions between major parties are not well meshed. Although storage and handling equipment are very different, the choice of the other. Each Style C lamp shade would cost \$5 to make and could be shipped nested, with 10 lamp shades per carton. A few shippers are adopting their own bills of lading, which carriers may be reluctant to accept because the carriers may be subject to new liabilities specified in the documents. 10.11 Discuss the trade-offs associated with order-picking versus stock-replenishing functions. A., 169n, 220n, 248n Nowlan, J., 199n, 200n O O'Connell, A., 58n O'Conor, J., 21n Odesser-Torpey, M., 29n Ogden, J. 191. In addition, organizations that adopt VMI must recognize that the process will not produce some errors in the short run.16 Summary Inventory is a key component in logistics because inventory decisions are often a starting point for other business activities. While it is not always possible for a logistics service improvements with an increase in sales, superior logistics service can have a positive influence on an organization's financial performance. The system principle. Assume that it is decided to prepare a statement on returns to be distributed to all retailers and that it should be less than a single double-spaced page. 50 Saenz, "Picking the Best Practices." 51 Tim Parry, "Many Happy Returns?" Multichannel Merchant, February 2006, 37. 5.15 Do you think corporate cultures are relevant for supply chain management? 3.6 Discuss how logistics decisions affect net profit margin in an organization In particular, oceangoing containers destined for the United States are receiving much greater scrutiny today than prior to September 11. This will be followed by a discussion of surface transportation in international logistics. (Cincinnati, OH: South-Western, 2001), p. Methods of payment With respect to international transactions refers to the manner by which a seller will be paid by a buyer. Weight-gaining product characteristics A product that gains weight in processing; the processing; the processing; the processing point should be close to the market. Ordering cost can be calculated by multiplying the number of orders per year times the ordering cost can be calculated by multiplying the number of orders per year times the ordering cost can be calculated by multiplying the number of orders per year times the ordering cost can be calculated by multiplying the number of orders per year times the ordering cost can be calculated by multiplying the number of orders per year times the ordering cost can be calculated by multiplying the number of orders per year times the order of the market. for large-scale production and distribution the next day. The chapter discussed environmental regulation, and economic regulation at the point of the devices that are used to monitor conditions during the journey that a shipment makes. M12_MURP4846_11_GE_C12.indd 242 04/06/14 12:19 PM Chapter 12 • Transportation 243 Suggested Readings Cullinane, Kevin, Michael Furth, Michael Furth, Michael Furth, Michael Furth, Michael K.Y. Fung, Stephen X.H. Gong, and Japhet S. Turner, Will and Katrina Savitskie. J., 64n Livingston, S., 184n Lorenz, T., 212n Loten, A., 31n Luxenberg, S., 196n M Magnan, G. That is, an increase in the number of orders leads to higher order costs and lower carrying costs. "When I was out with the salespeople last year, I gathered the impression that some were able to write bigger orders by implying that we'd take the unsold merchandise back, if need be. General Types of Information systems that are applicable to every business function.5 These six categories, summarized in Figure 2.1, form the basis of this section. For example, there may be a positive relationship between the age of the workforce). Hanna, Steve Yagla, Jay Johnson, and Dan Markussen, "Measuring Logistics Performance Using the Style A shades to the Port of Shanghai? The performance is rated as lower than, say, 70, then the carrier might be put on probation for a certain time period. 3 (2008): 32-44. Motor Vehicles We mentioned earlier that forklift operations and equipment have been a particular focus of governmental safety regulations. Tuesday night somebody turned off the switches on the battery chargers for all the lift trucks, so on Wednesday, the lift truck batteries were dying all day. "Differences in the Perception of Pallet Systems between U.S. and Canadian Grocery Retailers." Journal of Food Distribution Research 41, no. Relocation information from other sources could lead to confusion, anger, and lower morale and could easily affect the productivity of the existing facility at a time when hiring replacements is likely to be very difficult. According to some notes he had taken at a professional meeting, the JIT production system was developed by the Toyota Motor Company more than 03/06/14 5:13 PM 55 Chapter 2 • Logistics and Information Technology 50 years ago. 8. Y., 58n Yu, C., 22n Yue, X., 177n Z Zambroski, R., 52n Zikmund,W. The customer says, "Call me when it's in." 3. Kerin, Steven W. (Ponte Vedra Beach, FL: Supply Chain Management Institute, 2014). For products that present this problem, special preloading vibrators are used to cause the load to settle immediately. Larson, Paul D., Richard F. Hunt, "The Commitment-Trust Theory of Organizational Commitment," Journal of Marketing 58, no. With this considerations in mind, after several months of arduous work AILS narrowed the plant location to two metropolitan areas, Patna (in the state of Bihar) and Lucknow (in the state of Uttar Pradesh). 8.3 What do you think are the key differences between speculative and psychic stock? Those accommodations would range from luxurious hotel rooms to young attractive companions, of both sexes, for business-related dinners and receptions. M04 MURP4846 11 GE C04.indd 71 03/06/14 5:20 PM 72 Part I • Overview of Logistics across the various activities. In fact, I have several phone queries on my desk concerning this. One strategy for marketing in countries with relatively low GDP per capita, such as India, involves single-use packets of products, called sachets, because people may not be able to afford to buy products in larger quantities. In other words, although it might be cost prohibitive. Daugherty, Cornelia Dröge Dale B. With respect to internal sources, an organization might audit credit memos, which are the documents that must be issued to correct errors in shipping and billing. The SPM has the advantage of assisting logistics managers in the evaluation of cash flows and asset utilization decisions. Bowersox, David J. Sergio Miguel, and Ana S. While most firms will have a dominant orientation that represents their strategic thrust, these forms are likely to interact. Government regulations often require that shipping documents indicate the hazardous nature of the materials being transported. After achieving ISO 9000 certification, organizations are audited each year and can be recertified every three years. Because of the difficulty of reading the long-form contract and the printing costs of including the contract on all bills, in 1949 the railroads and motor carriers adopted the short-form bill of lading. Ramanathan, Usha, Angappa Gunasekaran, and Nachiappan Subramanian. 04/06/14 12:19 PM 13 Transportation Management Key Terms Amodal shipper Bill of lading Class rate system Commodity rate Concealed loss or damage Demurrage Density
 Detention FOB origin Freight bill Rate Routing Routing guide Stowability Tracking Transportation management Freight claims Learning Objectives Management The transportation manager's job is much different today than when the first edition, and advances in technology. With respect to commodity flows, logisticians are especially interested in (1) how much is being produced and (2) where it is being shipped. M03 MURP4846 11 GE C03.indd 61 03/06/14 5:15 PM 62 Part I • Overview of Logistics Strategic Profit Model14 Several general measures of performance reflect on an organization's financial results and should be understood by logistics managers. 1 (2008): 26-34. The international freight forwarder handles the shipper's role in the document preparation and exchange stages, and it is necessary to have certain documents available as the shipment crosses international boundaries. Time series forecasting - A group of forecasting techniques that is based on the idea that future demand is solely dependent on past demand. Both weight and dimensions are given because density is a factor in determining international transportation charges. If we M05_MURP4846_11_GE_C05.indd 108 assume that risk, the retailer is willing to take more of our merchandise." "Are there no limits to this policy?" asked Amy. www.m-w.com/dictionary Barry Tarnef, "Into Thin Air," World Trade, September 2008, 50-52. 2 (2006): 33-43. Transportation cost analysis continues to be facilitated by advances in information technology. Ease or difficulty of handling refers to challenges to handling refers to challenges to handling. April 2004, 64. Huber had built in account of the presented by a commodity's size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in account of the presented by a commodity's size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in account of the presented by a commodity's size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Modern Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done Your Housekeeping Chores?" Materials Handling, April 2004, 64. Huber had built in a commodity is size, weight, and so on. 38 Jim Apple, "Have You Done You Housekeeping Chores?" Materials Handling, Apple, "Have You Done You Housekeeping Chores?" Materials Handling, A small extra profit margin on the Buenos Aires deal, so he 03/06/14 5:37 PM Chapter 14 • International Logistics 291 felt confident that to meet their pricing demand he could shave profit a little, if necessary, in this case. Perhaps the most prominent open skies treaty is the Open Aviation Area agreement between the United States and 27 European Union member states that went into effect in March 2008. Unlike the Parcel Post, UPS rates include both pickup and delivery, and today UPS offers a range of parcel services via several modes of transport, including truck, rail, and air. 9 M03 MURP4846 11 GE C03.indd 59 03/06/14 5:15 PM 60 Part I • Overview of Logistics business and the corporation in order to positively affect the financial outcomes of an organization. M01 MURP4846 11 GE C01.indd 33 03/06/14 5:11 PM 34 Part I • Overview of Logistics discipline, one example of fair treatment involves service guarantees by transportation companies; if a shipment misses various 19 Lynette Ryals, "Managing Customers Profitably," Credit Control 32, no. Warehousing and transportation represent two logistics activities where most energy costs occur and where energy-saving measures should be focused. One was to ship the kereste to Romania, have new documents drawn, falsify the shipment's origin, and then send it to Turkey by tir. It is all the promises to pay that have not been collected yet. Research has show that several factors included in the Baldridge critieria are i mportant to the improvement of logistics processes.12 The Baldridge critieria are included in the Baldridge critieria ar organizations headquartered in the United States, require interested parties to submit a formal application that is evaluated by a committee largely made up of private-sector experts in business and quality. This section decision. In addition, the ability of logistics managers to do more with less in areas such as inventory, plant, and equipment can ultimately affect the interest and tax expense categories on the income statement. Historically, the routes of scheduled international air carriers were established by negotiations between nations and these negotiations generally involved two countries (called bilateral agreements). "Performance Measures and Metrics in Logistics and Supply Chain Management: A Review of Recent Literature (1995-2004) for Research 45, no. Barry. 7.5 Does a longer order cycle invariably mean that an organization must hold a higher level of inventory? With respect to product selection, for example, an organization might provide a substantial number of product offerings for "high revenues/high costs" customers. Income Statement The income statement shows revenues, expenses, and profit for a period of time; an example is presented in Figure 3.1. It can also be referred to as a profit and loss statement (P&L). "It depends on the salesperson and the account. Carolyn's records say they're okay for resale, and Kevin says they're too badly damaged." "I insist on the reconciliation before we allow the goods back into our working inventory," said Guridi. "Humanitarian and Disaster Relief Supply Chains: A Matter of Life and Death." Journal of Supply Chains but is not responsible for purchasing insurance. Density A measure of how heavy a product is in relation to its size. Some companies choose to outsource their personal selling functions by hiring an intermediary to provide them with a contract sales force. (New York: McGraw-Hill Irwin, 2008), Chapter 11. Doing so, however, might lead to an overwhelming number of different-sized packaging containers—which would create an entirely different set of issues. While the financial perspective is still considered a good indicator of whether or not logistics strategy is being properly implemented and executed, the BSC pushes for a more holistic approach that includes the other three perspectives. "Well, I took over running the distribution center. Similar to Chapter 12, the discussion in the chapter will be approached from the p erspective of the transportation manager in the United States. 3 (2011): 320-340. Alternatively, logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in delivering and returning; the definition of the deliver process specifically mentions the logistics can be involved in deliver process specifically mentions the logistics can be involved in deliver process specifically mentions the logistics can be involved in deliver process specifically mentions the logistics can be involved in deliver process specifically mentions the logistics can be involved in deliver process specifically mentions the logistics can be involved in deliver process components of order management, transportation management, and distribution management. Prospective buyers frequently visited the plant and were always more impressed when they could see a diverse collection of models being built for a wide range of uses. "No, not me," said Vanderpool, "but two outsiders. For instance, order forms, whether printed or in computer format, are designed so that the use of computers by both the customer and the vendor is facilitated. Wagner, Stephan M. You may have placed a telephone order for home delivery of a large, pepperoni pizza, only to be delivered a small, mushroom pizza! Both facsimile and electronic ordering are techniques that have emerged over the past 30 years, and both have had immense impacts on the order transmittal process. Commercial invoice A document used in cross-border trade that summarizes the entire transaction and contains key information such as a description of the goods, the terms of sale and payment, and so on. Actually," Randy continued, "\$38.21 is for delivery 25 miles from the store. Tell him I'm especially concerned about the liability. Guillou predicted that by mid-2003 charter rates would be to load all 50 trucks on one vessel. Kathuria, and S. A delayed sale is virtually costless because the customer is brand loyal and will purchase the product when it becomes available. M., 46n Lee, H. The lettuce grower benefits because smaller, misshaped heads can be used, and not merely the eye-pleasing, "perfect" heads. 4 (2006): 17-29. Therefore, airlines encourage forwarder traffic because it results in an agreeable division of labor: The forwarders provide the retailing function and deal with each individual shipper and consignee, and the airline concentrates on wholesaling, moving the forwarders' loaded containers among major cities. L., 269n Grando, A., 51n Green, Jr. K.W., 58n Grenoble, W. Logistics activities. Brownfields Locations that contain chemicals or other types of industrial wastes. Specific uses of DSS in logistics include, but are not limited to, vehicle routing issues, inventory control decisions, developing automatic order picking systems, and optimization models for buyer-seller negotiations. This approach is built on the premise that all relevan activities in moving and storing products should be considered as a whole (i.e., their total cost), not individually. Ton miles The number of tons times ti procurement decisions are detailed. "Manual Materials Handling: Knowledge and Practices among Portuguese Health and Safety Practitioners." Work 39, no. Tompkins, "The Business Imperative of Outsourcing," Industrial Management, January/February 2006, 8-12. Today many transportation carriers have information systems that provide real-times and provide real-times information about shipment status, and this information is widely available to customers through the Internet and smart phones, thus making it fast and easy to trace shipments. The report also indicated that the most common causes of warehousing fires between 2005 and 2009 were (1) electrical failure or malfunction; (2) heat source too close to combustibles; and (3) cutting or welding too close to combustibles. Spillan, John E., Michael A. 7 (1990): 27-37. See Systems controls Coordination, achieving, 71 Core competency, 122 Cost considerations, location, 169 low-price/low-cost framework, 169 oil prices (2008), 169 Cost, Insurance, and Freight (CIF), 276 Cost and Freight (CFR), 276 Cost leadership strategy, 58 Cost trade-offs, 26 Council of Supply Chain Management Professionals (CSCMP), 20, 38, 94 CPA. Inventory Management: Special Concerns The discussion up to this point illustrates that generalizations concerning inventory management are often hard to make. Facility Identification—product manufacturer name, brand, or assigned facility number c. As is the case with the income statement, logistics can affect the balance sheet of an organization in several distinct ways. For example, Chapter 1's discussion of the globalization of trade reports the average growth rate of world trade between 1991 and 2011 (as opposed to between 1997 and 2007 in the tenth edition). 6.13 What are some of the challenges of implementing a global sourcing strategy? Deliveries of inputs should be frequent and small. Logistics require an understanding of logistics and its relationships with other functional areas. states, for example, classify intellectual property as inventory.13 In addition, although a state may offer various exemptions. An additional classification for bills of lading is the specific form: long, short, or preprinted. Fosdick graduated from a lesser Ivy taxes, not all counties within that state will take advantage of the exemptions. An additional classification for bills of lading is the specific form: long, short, or preprinted. League college, where he majored in business with a concentration in logistics. Slone, Reuben E., John T. Even after they are picked, they continue to give off gases and moisture and to generate heat—a process known as respiration. This level of market concentration and domination isn't found in the other modes, and from a practical perspective it can create limited service and pricing options for potential customers. By contrast, in a fixed order interval system, the time interval is constant, but the order size may fluctuate. Cook. Nevertheless, A. He called the Crown Point Bank and Trust Company, where HDT had a line of credit, and learned that the current rate was 8 percent per annum Table 8.5 presents the total cost calculations for several other order sizes. See Cost, Insurance, and Freight (CIF) CIP. The customer's question an installer stated, "Assuming you can read, the answer can be found in the owner's manual." Ortega had another meeting scheduled with his supervisor. Customer service is discussed in greater detail in Chapter 7. At least now we can see everything we're buying back. Eisenhower System of Interstate and Defense Highways, 230 E Economic factors, macroenvironmental influences GDP per capita and product availability, 270 India, single-use packets, 270 logistics infrastructure versus, 270 Economic impacts of logistics, 18-20 Economic order quantity (EOQ), 154-156 cost calculations, 154 Economic utility, 19 ECR. Why do buyers like them? Having said this, several U.S. states have eliminated, or are in the process of eliminating, the lower maximum speed limit for truckers, which could potentially increase motor carriers' length of haul. Operationally, VMI allows manufacturers to have access to a distributor's or retailer's sales and inventory data, and this access is accomplished electronic data interchange (EDI or the Internet. Ocean bills of lading are frequently negotiable, which means that whoever legally holds the document may take delivery of the shipment. • FOB origin, freight prepaid: The seller pays the freight charges; the buyer owns the goods in transit and files L&D claims, if needed. As recently as the 1980s, all rates were published in tariffs (a phonebook-like manual that contained rate information), and it wasn't uncommon for a transportation manager to refer to multiple tariffs to determine the applicable rate—a process that led to numerous incorrect rate determinations. "A Review of Short Sea Shipping Policy in the European Union." Journal of Transport Geography 19, no. You know the slowdown was still in effect when Bigelow walked onto the floor. "Ergonomic and Technical Aspects in the Redesign of Material Supply Systems: Big Boxes vs. 4 (2008): 25-31. They function in a complementary sense. Nearly all products that are packaged—often in consumer-size boxes, bottles, or cans—are handled by the building-block concept of packaging that has been described previously. 8 "'Turns' for the Better—Inventory Turns Impact Profits and Stock Prices," Dow Theory Forecasts 58, no. This expense category could include logistics-related activities in areas such as transportation, warehousing, and inventory. As an example, Exel Logistics was able to persuade Chrysler and Ford to share space on trucks that were delivering repair parts to both Chrysler and Ford dealerships in a particular geographic area. G., 76n Kickham, V. "When the Best Packaging Is No Packaging." International Commerce Review 9, no. A firm exports a portion of a product made or grown—for example, paper-making machinery to Sweden, wheat to Russia, or coal to Japan. More importantly, it handles the company's credit. Sweatshops Organizations that exploit workers and that do not comply with fiscal and legal obligations toward employees. "Well, not until now," responded Coggins. Measures that can be used to determine ABC status include sales volume in dollars, sales volume in units the fastest-selling items, item profitability, and item importance. Although these consolidations could provide customers can demand a number of different activities, with some of the most common involving inbound and outbound transportation, carrier negotiation and contracting, and freight consolidation.30 Moreover, some 3PL providers have begun to offer so-called supplemental services—such as final product repair, among others—that are beyond their traditional offerings. The competitor wants to sell Ballenger 7,000 dome lights of the type listed in Exhibit 2.A. Should Ballenger buy them? What longer-range steps should Fosdick take to improve the Providence distribution center's productivity? Despite this, most organizations arise because many consumers have become sensitized to buy products only when prices are low, due in part to lingering effects of the 2007-2009 recession. In the United States, this has involved the relocation of industrial plants and warehousing facilities from aging and congested central cities to more attractive sites in suburban locations. 23 M12 MURP4846 11 GE C12.indd 240 04/06/14 12:19 PM Chapter 12 • Transportation 241 Figure 12.2 Undesirable Cargo Source: Reproduced by permission of Jet Cargo News. For example, as noted earlier, the marked increase in product offerings—which allows for more customer choice—creates logistical challenges in terms of identification, storage, and tracking. In some cases, third-party logistics companies are involved in arranging transportation services. The chapter then looks at transportation considerations in international logistics, followed by a discussion of international trade inventories. For example, because dead inventory has often been associated with overproduction of items that customers don't want (or need), one suggestion would be to make items to order, as opposed to make items to stock. Preparing an Export Declaration is required by the U.S. govern- ment for statistical and control purposes and must be prepared and filed for nearly every shipment. And while the maximum package weight for UPS and FedEx is 150 pounds, both carriers mandate special guidelines and procedures when shipping packages that weigh more than 70 pounds (UPS) or 75 pounds (FedEx). The LPI is a potentially valuable international logistics tool because the data can be analyzed from several different perspectives. From a managerial perspective, the 700,000 square foot facility—thus resulting in decreased productivity. Global positioning systems, or GPS, refer to a network of satellites that transmits signals that pinpoint the exact location of an object. Neslin Scott A. Ocean transportation costs for Gemi (Shipping lines require payment in U.S. dollars): Wonsan to Constantza into Turkey Handling fees at the Liman (Syria or Romania) Generating false Romania origin Documents Projected amount rusvet at Syrian-Turkish border Currency exchange rates Option 1: Wonsan/ Constantza/Turkey would take 43 days \$US15,000 \$US12,000 1.25 percent of the total value of goods 16,000,000 TL M06 MURP4846 11 GE C06.indd 124 10 percent of shipment's value \$US1 = 1,567,000 TL Option 2: Wonsan/ Latakia/Turkey would take 22 days Questions 1. 21 M06 MURP4846 11 GE C06.indd 116 04/06/14 12:21 PM Chapter 6 • Procurement 117 costs related to the typically longer delivery lead times associated with global shipments are a key consideration. Lambert and A. 5 (2011): 457-483. Yet another political consideration that influences international logistics is ended to the typically longer delivery lead times associated with global shipments are a key consideration. the degree of federal government involvement in cross-border trade. How should they be evaluated? Although the seller provided possession, form, place, and time utility, the buyer was quite unsatisfied with his purchase. The logistics manager should balance each logistics activity to ensure that none is stressed to the point where it becomes detrimental to others. When the EU consisted of 15 countries, the central location and strong transportation infrastructures of the so-called Benelux countries, and many companies operated only one distribution facility to serve EU countries. EU customers. 280 M14_MURP4846_11_GE_C14.indd 280 03/06/14 5:37 PM Chapter 14 • International Logistics 281 Figure 14.5 Invoice Form Used by a Freight Forwarder to Bill Client for Handling an Export Shipment Source: Reprinted with permission of Unz & Co., 190 Baldwin Ave., Jersey City, NJ. For example, it wouldn't be a good idea for a 24-hour grocery store to replenish the shelves when its stores are crowded with customers. We'll illustrate this trade-off with a mathematical example, but before doing so it's necessary to understand how to calculate ordering costs. More specifically, transportation carriers are classified as either for hire or private, and forhire carriers can be further subdivided into common, contract, and exempt carriers. These political uncertainties might cause some organizations to shy away from joining or developing supply chains that rely on companies located in these areas of the world. Gilly, and John L. Systems and total cost approaches to logistics were discussed, as were logistical relationships within a firm, with a particular focus on various interfaces between marketing and logistics. "Benchmarking Logistics and Supply Chain Forum: An International Journal 12, no. That is, rather than asking the question, "Where should we locate a new facility?" organizations should be thinking about the optimal number of facilities in their system. It used its own trucks for delivery in the Reno, Carson City, and Lake Tahoe areas and common carrier trucking for all other outgoing shipments. An ideal equipment configuration for one bulk cargo may not be able to handle another. Nonvessel-Operating Common Carriers Another international logistics intermediary, the nonvessel-operating common carrier (NVOCC), is often confused with the international freight forwarder, because both intermediaries consolidate freight from different shippers and leverage this volume to negotiate favorable transportation rates from ocean carriers. The vast geographic territory of the expanded EU has been carrier (NVOCC), is often confused with the international freight forwarder, because both intermediaries consolidate freight forwarder. caused many companies to operate one major distribution facility and several regional facilities to serve their EU customer base. Although the time interval for shopping list (inventory requirements) differs from week to week. Order fill rate, or the percentage of orders that can be completely and immediately filled from existing stock, is one way of measuring flow (inbound flows of new raw materials), demand management (forecasted transportation requirements for a product rollout), or product development and c ommercialization (packaging considerations) processes. The applicable motor carrier freight rating, or classification, for LTL potato chips was 200. M04_MURP4846_11_GE_C04.indd 77 03/06/14 5:20 PM 78 Part I • Overview of Logistics exposure for logistics activities.16 The model identifies several types of uncertainty including shipper, customer, carrier, control systems, and external. Finally, the liability for loss and damage considers, among others, a commodity's propensity to damage other freight, its perishability, and its value. Public warehousing has a number of established duties regarding the care of goods, and customers pay only for the space that is actually used to store their products. As shown in Table 8.5, a \$500 order size means that we'll be ordering twice per year; the corresponding ordering costs are \$50. Whereas UPS started as a package delivery company that emphasized line-haul movement by truck and in the 1980s expanded into air transportation, Federal Express (now FedEx Express) started as a package delivery company that emphasized service by air transportation and later expanded into line-haul movement by truck. Materials handling equipment can also be categorized in terms of whether they are labor intensive, mechanized, or automated Ed Engel, "Getting a Lift from Safety," Warehousing Management, January-February 2001, 54-57. Near-sourcing Refers to procuring products from suppliers closer to one's own facilities. From the information on a tachograph chart, one can tell how efficiently the truck and driver are being used. Although the DOT's safety responsibilities encompass all five modes of transportation, safety regulation of inland water carriers is primarily the responsibility of the U.S. Coast Guard, which is now part of the varying levels of economic regulation that are applicable to the different carriers is important because of the varying levels of economic regulation that are applicable to the different carriers is important because of the varying levels of economic regulation of carriers is important because of the U.S. Coast Guard, which is now part of the U.S. Coast Guard, which is now part of the U.S. Department of Homeland Security. (e.g., common carriers have more extensive economic regulation than contract carriers). 14.9 Discuss four possible functions that might be performed by international freight forwarders. Continuing with the diet cola example, place utility is increased by moving the soda from a point of lesser value (e.g., stored in a warehouse) to a point of greater value (e.g., on a supermarket shelf). For example, in the late 1970s, "next-day delivery" meant that a shipment would arrive sometime during the next business day—the customer could not request a specific delivery" meant that a shipment would arrive sometime during the next business day—the customer could not request a specific delivery time. 9.14 Discuss how multicountry trade agreements have influenced the location of production or distribution facilities. 14.8 Name the four methods of payment for international shipments. Also, there aren't many scheduled Seaway sailings to that area, and because the Seaway will just be opening again, cargo space is hard to come by. Kumar, Sameer. If this is the case, the carrier is exempted from liability because improper packaging is the fault of the shipper. for iron ore the angle is 35 degrees. A basic unified logistics structure might have responsibility for transportation, with a particular focus on containerization. A continuous, constant, and known rate of demand 2. Will the current order picking process need to be restructured, perhaps through the addition of new technology? 1 (2012): 37-51. Firms can adopt any number of environmentally friendly packaging strategies, and we'll look at several of them. Warehouse equipment and work rules were the same for both the Newburgh and Providence centers, yet the throughput per worker hour was 4 percent higher for the Newburgh facility. Parcel carriers Companies that specialize in transporting parcels. Will older employees be offered incentives to retire rather than relocate? Carrier deregulation has allowed corrugated packaging manufacturers and their customers to innovate with performance outside the traditional carrier packaging rules. Demand continues at 60 units on day 6, meaning that the regular inventory is exhausted, and at point F the safety stock is starting to be used. Jain, "Benchmarking Forecasting Models," Journal of Business Forecasting 24, no. Robots can be used when more sophisticated integrated movements are needed for loading or ballets. Importer of record 8. Private organizations apply to Customs and Border Protection for C-TPAT certification, and the process involves demonstrating that organizations have improved the physical security of their containerized shipments as well as the ability to track people who have access to the containerized shipments and the process involves demonstrating that organizations have improved the physical security of their containerized shipments as well as the ability to track people who have access to the containerized shi addition to establishing the point at which title for a shipment passes from buyer to seller, the FOB location term also establishes which party is responsible for filing freight claims (a topic that will be discussed later in this chapter). G., 179n Hunt, S. Judgmental forecasting Refers to forecasting that involves judgment or intuition and is preferred in situations where there is limited, or no, historical data. M09 MURP4846 11 GE C09.indd 172 04/06/14 12:01 PM Chapter 9 • Facility Location 173 Natural Resources The materials used to make a product must be extracted directly from the ground or sea (as in the case of mining or fishing) or indirectly (as in the case of farm products). In 2012, for example, the EPA announced that manufacturers of heavy-duty diesel engines that do not conform to the nitrogen oxides emission standards established by EPA in 2010.14 The EPA is also quite concerned with resource conservation, and this is particularly germane in that transportation accounts for approximately two-thirds of the petroleum consumption in the United States. M14 MURP4846_11_GE C14.indd 289 Jayaram, Jayanth and Balram Avittathur. And even if space is available, users may have little say in where their goods are stored—they may be placed wherever space is available, which may result in part of a user's inventory being stored in one area and the replenishment cycle took 2 days, the time between orders was 4 days. "Future of Transshipment in Singapore." Industrial Management & Data Systems 112, no. See Free Carrier FDA. 247 M13 MURP4846 11 GE C13.indd 247 03/06/14 5:35 PM 248 Part III • Elements of Logistics management, have been a recurring theme throughout the text. The improved packaging efficiency has also led to a substantial reduction in damaged product for the manufacturer.12 Packaging's Influence on Transportations Carriers' tariffs and classifications influence the type of packaging and packing methods that must be used. 35 Simon Kaye, "Green is the Color of Today's TMS," Material Handling & Logistics 67, no. Given the existing LTL classification of 200, how has value of service to the customer changed? From a governmental perspective, logistics is quite germane to the armed forces, which shouldn't be surprising, given that logistics was first associated with the military. A related advantage is that users should have a fairly exact determination of their warehousing costs since public warehousing space tends to be rented on a month-to-month basis. He gasped, and I didn't know what was the matter. Various design considerations are relevant to warehousing, with trade-offs among them. Enterprise systems A the matter and maintain consistent data processing methods and an integrated database across multiple business functions.40 The most prominent example of enterprise resource planning (ERP) systems, which "lets a company automate and integrate the majority of its business processes, share common data and practices across the enterprise, and produce and access information in a real-time environment."41 In theory, ERP systems (such as those offered by Oracle and SAP) allow all prospective users access to a single database when making decisions. 03/06/14 5:23 PM Chapter 8 • Inventory Management 159 12-month period. Methods of Payment14 With respect to international transactions, methods of payment refer to the manner by which a seller will be paid by a buyer and methods of payment are much more challenging in international logistics. On the other end of the building, you could see a long line of arriving trucks waiting to be unloaded; usually there was no line at all. Marketing, for example, tends to want to ensure that sufficient inventory is available for customer demand to avoid potential stockout situations— which translate into higher inventory levels. The promotions, such as firms that design, build, and transport product exhibits for display at trade shows This chapter begins with a brief look at the transportation infrastructure in various countries throughout the world, and this is followed by a thorough discussion of the five different types, or modes, of transportation: air, motor carrier (truck), pipeline, rail, and water (listed in alphabetical order). For example, some case content, as well as several discussion questions, have been changed in Cases 7-1 ("Handy Andy, Inc."), 11-1 ("Let There Be Light Lamp Shade Company"), and 14-1 ("Nürnberg Augsburg Maschinenwerke (N.A.M.)"). Another aspect of control is that private warehousing offers access to products when an organization needs (or wants) them, as opposed to an organization having to tailor its activities to match a public facility's operating hours. 1 (2012): 1-8. "The Importance of Knowledge for ERP Systems." International Journal of Logistics: Research & Applications 11, no. 9.12 How do transportation considerations influence facility location decisions? Wen, Yuh-Homg. Because each contract can be tailored to the specifications of individual customers, contract carriage is viewed as offering many of the advantages of private transportation (e.g., the hiring of drivers, owning equipment). M13 MURP4846 11 GE C13.indd 264 03/06/14 5:36 PM Chapter 13 • Transportation Management 265 Summary This chapter covered transportation services by a shipper or consignee. Although calculation of stockout costs can be difficult and inexact, it is important for organizations to do so because such knowledge can be beneficial when determining how much inventory to hold, keeping in mind that a trade-off must be balanced between inventory carrying costs and stockout costs. See Systems analysis Angle of repose, 220 Application-specific software, 41f, 46, 51 Assets, 61, 61f, 75, 117, 149 Asset turnover, 62, 63f, 64 accounts receivable, 64 computation of, 64 inventory, 64 Assorting, 31, 190 Automatic identification technologies, 41f, 44 Automation principle, 222 B Back order, 152 Bait and switch tactics, 30 Balanced scorecard (BSC), 64 Balance of payments, 269-270 Balance sheet, 61, 61f Bar coding, 41f, 44, 50, 130 Barge, 233-234 Base stock, 148 Batch numbers, 210 Benchmarking, 137, 198 Best Buy, 24 Big-box retailer, 24 Big data, 40 Bill of lading, 256-257, 258f Bill of lading, long-form, 257, 258f Bill of lading, pre-printed short-form, 257 Black Mesa Pipeline, 232 BN. 14.14 Discuss the role of ocean carrier alliances in international logistics. Return on assets (ROA) indicates what percentage of every dollar invested in the business ultimately is returned to the organization as profit. The rail rate per truck would average out to \$180 each, and it would take 1 day for them to reach Chicago and another day to be loaded. "An Integrated Approach to Managing Reverse Logistics: Research & Applications 10, no. 5 Peter T. Use the 2012 income statement and balance sheet to complete a strategic profit model for J. The firm nearly went out of business in the late 1930s, but by 1940 its fortunes were buoyed by receipt of several military contracts for tank retrievers— large-wheeled to calculate the east weighted center-of-gravity location. Figure 11.2 is used for marking lumber and indicates that the (a) position is for the treated; and (d) is for the country of origin, which is necessary if the lumber is exported. 10 (2011): 940-955. In keeping with past practice in this and other basic logistics texts, the discussion of transportation. The relative importance of each factor varies with the type of facility, the product being handled, its volume, and the geographic locations being considered. Goods may also be returned because of a product recall, which occurs when a hazard or defect is discovered in a manufactured or processed item, and its return is mandated by a government agency. In fact, the popular press is replete with stories involving distribution facilities being located in a particular area so that companies can better serve their current and potential customers. One problem with a fragmented logistics structure is that because logistics activities are scattered throughout the firm, they likely remain subservient to the objectives of the d epartment (e.g., marketing, manufacturing) in which they are housed. For example, it is estimated that approximately one million birds and 100,000 sea turtles are killed annually because they mistake plastic bags for food and ingest them.8 A key problem facing those trying to choose packaging materials is that each nation's (and for that matter, each state's or province's) regulations can differ in terms of acceptable packaging. That's why we're in such a mess with the jogger doll. The building blocks is inside another, and their total effect should be to protect the product. To this end, supply chain analytics combines technology with manual employee effort to identify trends, perform comparisons, and highlight opportunities in supply chain processes, even when large amounts of data are involved. As such, productivity improvement efforts in logistics are often directed toward increasing the amount of output while holding input constant. "What did Bigelow do to Jason?" Fosdick asked Easter. Having said this, Midlands' locational popularity is dependent on a highway system offering speedy, reliable, and cost-efficient transportation service. 16 Order-Picking versus Stock-Replenishing Functions Organizations must decide whether workers who pick outgoing orders and those who are restocking storage facilities should work at the same time or in the same area. Figure 4.1 shows a seal used for truck trailer or container doors. Friedrich (Chicago: Univ. We are no more responsible for Jungle Jim's sex life than they are!" Cheryl Guridi spoke up: "You may be underestimating the problem, Amy. The principles are particularly important when laying out the design of a warehousing facility or when 19 The material in this section comes from "The Ten Principles of Material Handling," www.mhia.org. Fawcett, Stanley E., Lisa M. J., 59n, 65n, 72n Davies, M., 196n Defee, C. (Mason, OH: South-Western, 2006). "The Power of the P-Card." Strategic Finance 83, no. L., 97n Leenders, M., 115n, 118n LeMay, S., 70n, 228n Leong, G. The discussion in this section is based on factors identified in John J. Although the STB has primary responsibility for resolving railroad rate and service disputes and reviewing potential rail mergers, it continues to have some jurisdiction over motor carriers, 16 18 19 20 21 Donald V. Some common performance measures include obsolete inventory, inventory carrying cost, inventory turnover, and information availability. "Packaging Recycling Index." Journal of Economic Issues 43, no. We have to do that as a sales tool." "That's not quite right," interjected Vidal. For each of the four work team sizes, what is the probability that a truck cannot be unloaded immediately? Quality-of-life considerations Their intent is to incorporate nonbusiness factors (e.g., cost of living, crime rate, educational opportunities) into the decision of where to locate a plant or distribution facility. "Toward Creating Competitive Advantage with Logistics Information Technology." International Journal of Physical Distribution & Logistics Management 42, no. Escabar had been told N.A.M. was favored to receive an order for 224 N.A.M. class #4-G two-section articulated buses, as Escabar liked to call them), with the possibility of securing a contract for an additional 568 buses. As an example, Nestlé announced the closing of a coffee plant M09 MURP4846 11 GE C09.indd 183 04/06/14 12:01 PM 184 Part III • Elements of Logistics Systems in Hayes (a London suburb) by 2014 and the transfer of production elsewhere in the United Kingdom. As such, the canister bags might be slow sellers, and some might argue that the bags should be dropped in favor of faster-moving products. Although these two examples illustrate situations where monetary premiums were paid for meeting predetermined service standards, the rate and service standards, the rate and service standards, the rate and service standards are predetermined service standards. rate determination. One suggestion to reduce congestion is for order pickers and stock replenishers to use different aisles for their respective activities; again, this requires a very good information system to identify where a given employee is at any time. Customers could use this information for tracking anticipated delivery of their orders and suppliers may use the same information to trigger replenishments. M14 MURP4846 11 GE C14.indd 287 03/06/14 5:37 PM 288 Part III • Elements of Logistics Systems Product return (reverse logistics) policies are another concern with respect to international inventory management. Alter, Information Systems, 4th ed. As we have seen with other supply chain concepts (e.g., collaboration, SCM), there is no commonly accepted definition of third-party logistics. "Supply's Growing Status and Influence: A Sixteen-Year Perspective." Journal of Supply Chain Management 42, no. With respect to noise, the EPA is responsible for enforcing noise emissions from transportation equipment such as rail locomotives and truck tractors. Wayne started adding larger crews at the unloading dock, but often they seemed idle because there were no trucks to unload. Therefore, it is of limited value to companies that deal in small quantities. To this end, supplier development (reverse marketing) refers to aggressive procurement involvement not typically part of supplier selection and can include a purchaser initiating contact with a supplier or a purchaser establishing prices, terms, and conditions, among other behaviors. Inventory is another area where finance and logistics can interact. Eng-Larsson, Fredrik and Christofer Kohn. Coyle, C. Materials handling) The short-distance movement of material between two or more points. 13.19 How does real-time tracking work? However, because of a transportation delay, the replenishment cycle is three days instead of 2, and instead of arriving at the beginning of day 14, it arrives at the beginning of day 15. It is difficult to know exactly how much carrier tariffs and classifications control shippers' packaging. Cannon, and E. Consider that in 1995—a time when many of today's college undergraduates were younger than five years of age—the largest capacity containership was approximately 5,000 TEUs. By contrast, Maersk Line, a major ocean transportation company, began operating an 18,000 TEU vessel in July 2013. Having said this, the 25-year-old tractors lacked certain safety features found on newer-model tractors, incurred higher maintenance costs and were less fuel-efficient than newer-model tractors, and the results of these comparisons can be used to improve the global sourcing process. Moreover, once a decision is made to promote the introduction of a new product, the logistics staff assumes responsibility for having the product in place on the scheduled release date—not earlier, not later. Will we be liable? Grossman, "Optimization Modeling for Logistics: Options and Implementations," Journal of Business Logistics 33, no. Before layout plans are made, each item that will be handled should be studied in terms of its specific physical handling properties, the volume and regularity of movement, the frequency with which it is picked, and whether it is fast or slow moving compared to other items. For example, one of this book's authors worked in the U.S. trucking 4 Jerry Andrews, "CPFR: Considering the Options, Advantages, and Pitfalls," Supply and Demand Chain Executive, April/ May 2008, 8-12. Before concluding our discussion of the documentation requirements associated with international shipments, mention should be made about free trade agreements. The chapter looked at a number of packaging issues and began by distinguishing between packaging's protective and promotional functions. It is the fiber box manufacturer's assurance to the motor carriers and railroads that the boxes will be sturdy enough to meet their handling specifications. In most instances the volume is too small and the cost of taking toys apart is usually very

high. From there, tirs could haul the lumber to Iskenderun at the southeastern border of Turkey. By contrast, hourly compensation costs by hiring either six Mexican workers or one U.S. worker. "Talk about core competency," Terim mumbled to himself. Only two options were feasible, and each came with certain risks. Tirtiroglu, "Performance Measures and Metrics in a Supply Chain Environment," International Journal of Operations & Production Management 21, no. We will take a closer look at three inventory costs—carrying cost, stockout cost—that should factor into an organization's inventory management policy. They were plain happy to see Bigelow back. Expatriate assignments can be costly, ranging up to \$1 million per assignment, and turnover rates currently run between 20 and 40 percent. 4 (2002): 23-35. The transportation cost to Vancouver was \$1,400 per 40-foot container. without regard to weight, although the total shipment weight could not exceed 44,000 pounds per container because of highway weight restrictions. In highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because of highway weight could not exceed 44,000 pounds per container because be managed, allocated, used, and wasted. A major catalyst for RFID usage in logistics was a Walmart mandate that by January 1, 2005, its top 100 suppliers deploy RFID tags on shipments into one particular Walmart distribution center in Texas. Alternatively in 2010, the most populous states were located in the West, Northeast Southeast, and Midwest, respectively—and thus are much more geographically diverse than in 1950. May I make you a sandwich?" Questions 1. Alternately, vendors may allow customers to query vendor inventory records to determine what products are in stock and where the stocks are located. Prepare such a statement. 10.6 Discuss why contract warehousing is a preferred alternative for many organizations. The customized customer will not accept a "one size fits all" approach, and this means that logistics 2014. Main items for import are automobile engines and spares, cotton yarn, food products, electronics, televisions and components, rice, stone for stone crafting, and so on. 3.15 Why might performance measurement be more difficult in global logistics systems? Magnan, and M. R., 114n Kathuria, R., 59n Kaye, S., 47n Kayikei, Y., 42n Keebler, J. Indeed, so-called leading-edge logistics companies—firms with demonstrably superior logistical capabilities— exhibit different logistics organizational structures than do other organizations. More sophisticated devices record a series of variables over time, such as temperature, humidity, and acceleration force and duration (in several directions). Packaging inefficiency can have a number of undesirable logistics consequences, to include increased loss, increased damage, slower materials handling, higher storage costs, and higher transportation costs. The chapter concluded with an examination of some of the more prominent issues in warehousing operations. ISO 9000 is a set of generic standards used to document, implement, and demonstrate quality management and assurance systems. As such, attempts at applying mathematical modeling techniques to supply chains in an effort to maximize shareholder wealth or minimize costs (1) were not very practical prior to the advent of computers and (2) took a great deal of time, even after computers were introduced. It includes all the costs or materials and labor directly involved in producing a product or delivering a service. Advances in technology have allowed most firms to computerize many aspects of their order processing systems. 7 (2012): 1085–1100. Thus, if a consumer has little hesitation in making substitutions, there would appear to be minimal penalties for a stockout. For example, the number of carrier selection factors evaluated in academic research studies has ranged from less than 10 to over 150. Logistics decisions can influence this category by accurately communicating and completing transactions with customers. 03/06/14 5:20 PM 87 Chapter 4 • Organizational and Managerial Issues in Logistics CASE Case 4.1 Red Spot Markets Company The Red Spot Markets Compa Company operates a chain of grocery stores in New England. Morash, Cornelia L.M. Droge, and Shawnee K. 2 (1998): 131-154. More specifically, contract warehousing management provided by experts—experts who solely focus on the client's needs and wants.13 In addition, contract warehousing potentially offers the same degree of control as private warehousing because key specifications can be included in the contract. Is this a customer service problem? T., 169n, 287n Leahy, K., 171n LeBlanc, L. While corporate social responsibility concept has existed since the early 1970s, the concept of logistics social responsibility, or corporate social responsibility issues that relate directly to logistics, 30 did not emerge until the mid-1990s. In terms of positive attributes, inland water transportation is relatively inexpensive to users. Goldsby, Thomas J. Trucks arrive randomly at the average rate of 4 per hour, with a deviation of plus or minus one Late last year, just before Christmas, the Johnson Toy Company introduced Jungle Jim the Jogger doll, modeled after a popular television show. The shipper's mark is for use in areas in which dockworkers cannot read but need a method to keep documents and shipments together. In this situation, the technological "solution" could not address—and may have actually exacerbated— the manager's disorganization. William Hoffman, "One-Click Shopping," Journal of Commerce, February 20, 2006, 22-23. "You've just come across one of the noncontract fringe benefits of working at the Red Spot Providence distribution center. That is, a product with low density (i.e., low weight per cubic foot), such as foam rubber, can easily fill a vehicle's usable capacity (cubing out) before the reaching the maximum weight (weighing 2 Ibid. Pon then suggested to him that there were several other newer orders also destined for the Middle Eastern countries so Vanderpool should start thinking about widening his area of expertise. Once the transportation manager initiates the program with the payment service, the carriers submit their freight bills directly to the service. The fax can be fast and convenient, and, unlike the telephone, it provides hard copy documentation of an order. 9.19 Discuss advantages and disadvantages to grid systems, such as the center-of-gravity and weighted center approaches. However, the terms of payment from the prospective customers would be in the form of barter rather than cash, and the goods bartered M06 MURP4846 11 GE C06.indd 121 for the chemicals would be kereste (lumber). Michael Knemeyer, and John T. 7.20 What is meant by service recovery? 12.17 The USCG has primary responsibility for marine (water) safety considerations. Increasing utilization of the postponement concept (the delay of value-added activities such as assembly, production, and packaging until the latest possible time26) also influences the interface between production and logistics. Draft the comparison Pon just requested. Consider, for example, how an unexpected event might impact the continuous, constant, and known rate of demand assumption. Relevancy, which refers to satisfying current and emerging customers; at a minimum, these relationships should provide an understanding of customer needs and wants. Train or waterway? For example, a company might assign outbound transportation, demand forecasting, warehousing management, and customer service to the manufacturing department. The Chartered Institute of Logistics and Transport in the UK-CILT (UK) (www.ciltuk.org.uk) CILT (UK) "is the preeminent independent professional body for individuals associated with logistics, supply chain and all transport throughout their careers." CILT offers the Chartered Membership designation, which reflects educational achievement as well as significant practical experience. The rate would be a little less for under 25 miles and about \$1.50 per mile beyond 25 miles." A. What criteria did you use? The party owning the good almost always has the right to trade or sell it and bears the right to trade or sell
it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to trade or sell it and bears the right to tra manufacture of trucks because nobody in the firm knew much about ocean shipping. For example, the regular software upgrades and updates mentioned earlier can sometimes be too numerous and too frequent, and customers can struggle to keep up with them. Improvements to one's reverse logistics system could provide cost improvements and/or revenue enhancement opportunities. per square foot," "folded flat, in packages," "celluloid covered, in boxes," "SU" (setup), or "KD" (knocked down—or disassembled and packed so that it occupies two-thirds or less of the volume it would occupy in its setup state). One strategy is to reduce the amount of packing materials used, but this is tempered by the fact that, as pointed out earlier, transportation carriers may have a great deal of influence on packaging specifications for goods they are transporting. These and other modifications for goods they are transportation carriers may have a great deal of this text.3 Inventory Flows The figures from the fixed order quantity (e.g., EOQ) and the safety stock calculations can be used to develop an inventory. What services do customers view as the most important? L., 127n Janz, B. Unfortunately, some firms' statements of customer service goals are couched in platitudes lacking specific objectives specifying how the goals are to be achieved. 42 Beth Enslow, "Best Practices in Global Trade Management Stress Speed and Flexibility," World Trade, January 2006, 36-40. If a firm expands its capacity to reduce waiting times, then its costs go up and must be paid even when the facility is idle. Throughput Refers to the amount of product entering and leaving a facility in a given time period. There are two types of domestic freight. A major drawback to more widespread RFID adoption involves the costs of installing the related hardware and software, which can range from \$100,000 for smaller companies. D., 48n, 103n, 127n Wolgemuth, L., 34n Wood, D. Also, forwarders charge fees for preparing documents, performing research, and the like. "A Review of Inventory Management Research in Major Logistics Journals." International Journal of Logistics Management 19, no. H., 22n P Padhi, S.S., 114n Padmanabhan, V., 97n Pagadala, P. One implication of this level of inefficiency is that an increased number of pallets will be needed, which in turn leads to higher storage and transportation costs. Logistics managers must work not only to reduce the complexity they face but also to communicate the costs of increased complexity to the firm. The truck dispatcher said that the workforce was ahead of schedule again: It was 11:00 a.m., and they were about 15 minutes ahead. These regulations are not concerned with specific commodities; rather, they are concerned with restricting the outflow of money. This was only one example For relational exchanges to be effective, a transactional "What's in it for us?" philosophy needs to be replaced by a relational "What's in it for us?" philosophy. Measuring Customer service standards to support them are actually implemented. He said that squeezing an 18-wheeler into some subdivisions wouldn't make sense. Exhibit 2.A is a representative 10 percent sample of Ballenger's components inventory. Detention is basically the same concept as demurrage, except that it usually refers to the trucking industry. inventory that is held for several reasons, including seasonal demand, projected price increases, and potential shortages of product. Murphy, Jr. and A. See Delivered at Place (DAP) Data collection, 66 Data mining, 41f, 48 DAT. Jerman, and Michael C. Next the data need to be organized and analyzed; once analyzed, managers should make the appropriate decision or decisions. Piracy attacks on ships have become a major concern in the twenty-first century, and unlike the somewhat romanticized pirates of movies and literature who wore eye patches and carried swords, contemporary pirates use speedboats, smart phones, global positioning systems, and automatic weapons. For example, logistics manager who wants information about a specific warehouses." Timely information on, say, "the Chicago warehouses." Timely information on, say, "the Chicago warehouses." Timely information can timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness and efficiency of a company's particular LIS and timely information can be incumbent on the effectiveness." encompass several dimensions. We'll take a closer look at international logistics in Chapter 14. In India, for example, warehouses are rarely larger than 25,000 square feet, dirt floors are not uncommon, and mechanized materials handling equipment is rare.8 6 As used here, flying a nation's flag is synonymous with being owned by private or public entities in that nation. To illustrate the calculation of stockout costs, assume for simplicity's sake that customer responses to a stockout can be placed into three categories: delayed sale (brand loyalty), lost sale (switches and comes back), and lost customer. The chapter also discussed key financial tools, such as the income statement, the balance sheet, the strategic profit model, and the balanced scorecard. Williams, Helen, Fredrik Wikstrom, Tobias Otterbring, Martin Lofgren, and Anders Gustafson. Today's consumer likes to have multiple purchasing options at her/his disposal, and organizations have responded by developing multichannel marketing systems, that is, separate marketing options at her/his disposal, and organizations have responded by developing multichannel marketing systems, that is, separate marketing options at her/his disposal, and organizations have responded by developing multichannel marketing systems, that is, separate marketing options at her/his disposal, and organizations have responded by developing multichannel marketing channels to serve customers. 188 M10 MURP4846 11 GE C10.indd 188 04/06/14 12:03 PM Chapter 10 • Warehousing Management 189 The Role of Warehousing, which refers to "that part of a firm's logistics system that stores products (raw materials, parts, goods-in-process, finished goods) at and between points of origin and point of consumption,"2 and transportation are substitutes for each other, with warehousing having been referred to as "transportation, indicates that placing a warehousing facility between the producer and customers adds a new layer of costs (those associated with warehousing) into the system. All day he tried to justify his possible decisions to himself. The chapter began with a discussion of procurement objectives and the importance for these objectives to be aligned with, and supportive of, those of the organization. 03/06/14 5:38 PM Glossary 299 Procurement cards (p-cards) Are similar to credit cards for personal use, only p-cards are used for organizational purchases. (Europe possesses an extensive network of rivers and channels that connect together its network of commercial waterways. For example, although freight railroads have the potential to transport many different kinds of products (capability), they tend to transport lower-value, high-volume shipments of bulk-type commodities such as coal, chemicals, farm products, and nonmetallic minerals. The higher the number of deviations included, the more area under the normal curve that is covered. From a logistical perspective, single-use packets require different packaging and are easier to lose and more prone to theft than products sold in larger quantities. This legislation attempted to address Germany's solid waste problem by requiring manufacturers, as opposed to consumers, to take 5 Rosie Baker, "When Less is Moreish," In-Store, January 2009, 25-26. In addition, these cards allow employees to make purchases in a matter of minutes, as opposed to days, and procurement cards generally allow suppliers to be paid in a more timely fashion. Alternatively, the finance group generally seeks to minimize the costs associated with holding inventory, which translates into lower inventory, which translates into lower inventory levels. Essentially, all HDT did was assemble components into specialized vehicles containing the combinations of frame, power plant, transmission, axles, cab, and other equipment necessary to do the job. Johnson, "Bigger and Better," Warehousing Management, October 2000, 22-25. The EOQ of 120 units arrives at point C, and then total inventory increases to 180 units at point D. For example, dramatic reductions (between 20 percent and
50 percent) in inventory stockouts have been 21 Malcolm Wheatley, "A Question of Standards," Automotive Logistics, September/October 2008, 60-64. Facility location has moved from a tactical to a strategic consideration at many organizations and the chapter locked at the strategic importance of facility location. For example, the combination of real-time information systems and global positioning systems now allows for virtually instantaneous tracking of a shipment. 1 (1991): 1-25. How can it be used to examine the affect of logistics decisions? Lessons Learnt from the UK Blood Supply Chain." Supply C thank and acknowledge the following people for their work on the Global Edition: Contributors Jon Sutherland Diane Sutherland Diane Sutherland Diane Sutherland Diane Sutherland MURP4846 11 GE FM.indd 16 03/06/14 12:22 PM Part I Overview of Logistics introduces the many dimensions of the complex and dynamic s ubject of logistics. The next section provides some common logistics measures that can be used in isolation or as part of a logistics. The next section provides some common logistics measures that can be used in isolation or as part of a logistic section provides some common logistics. markets. 5 M. Intrafunctional 24 HSBC Global Connections, "Trade Forecast Update: Global," February 2012. All demand is satisfied (no stockouts are allowed) 5. Colim. Amy Johnson, who is vice president, and Lori Johnson, who is vice president, are sisters and are the third generation of their family to be involved in the toy business. The first step in this process, identify need for supply, can arise from a number of considerations, such as the end of an existing supply agreement or the development of a new product. Because of the increasing frequency (and severity) of disasters over the past 50 years, humanitarian logistics is likely to be an important topic into the foreseeable future. The CIA World Factbook, 2013. For example, a decision to build up or out can affect a facility's utilization of labor, mechanization, and automation. Suggested Readings Albright, Dan. Because the container is interchangeable among rail, truck, and water carriers, containers can be used in intermodal applications and provide the advantages offered by each of several modes. If a firm is concerned with a distribution system for its industrial products, this information would tell how the manufacturers and their major customers. 13 Tae H. 11.7 Discuss some of the labeling requirements associated with hazardous materials. How many Style A shades can be loaded into a 40-foot container? Although a company can simultaneously hold both NVOCC and international freight forwarder on the same shipment. Acceleration force and duration are usually recorded along three different axes, making it possible to calculate the precise direction from which the force originated. A global sourcing development model would include the following components: planning, specification, evaluation, relationship management, transportation and holding costs, implementation, and monitoring and improving. 4 (2011): 499-508. Functional Trade-offs Packaging serves three general functions, namely, to promote, to protect, and to identify the relevant product. Second, N.A.M. lost all of its foreign property again after World War II and had to rebuild and restructure much of its domestic operation, and a country's technological development will influence the nature of transportation management in that country. Booking Space on Carriers for several reasons. Balanced Scorecard The balanced scorecard (BSC) is a strategic planning and performance management system used extensively in industry, government, and nonprofit organizations. Suggested Readings Banker, Steve. From this port, the containers would be loaded M12 MURP4846 11 GE C12.indd 235 04/06/14 12:19 PM 236 Part III • Elements of Logistics Systems onto a vessel for continuation of the shipment to Europe. "Evaluating Key Logistics Systems onto a vessel for continuation of the shipment to recognize the potential trade-offs associated with the different strategies. A distinction needs to be made between warehousing and trucking when discussing the management of labor productivity in logistics. "I hope that damned jogger dies of jungle rot! We're going to lose money this year, and now you're all telling me how the return policy works, or doesn't damned jogger dies of jungle rot! We're going to lose money this year. work, as the case may be! Why can't we just have a policy of all sales being final and telling retailers that if there is an honest defect they should send the goods back here to us in good old Biloxi?" "Most of the small accounts know nothing about shipping," responded Vidal. Transportation can account for up to 50 percent of a firm's total logistics costs and thus represents the most costly logistics activity in many organizations. 12.2 Why is it important to know about the characteristics of a country's transportation infrastructure? In terms of culture, a country's transportation infrastructure? become extremely popular in recent years; as an example, India has approved over 575 new special economic zones since 2005.23 Free trade zones are often located at, or near, airports. Talk to Meyers about the kind of records you should keep in case you decide to move against Bigelow Various packaging material manufacturers and trade organizations provide free package testing, and independent testing laboratories can also be used. Some carriers also offer packaging test applications for their customers. Hazardous materials 22 Wayne Labs, "Refining Location, Location, Location, Location, Pood Engineering, December 2011, 49-55. You might be familiar with the TSA because it is the agency that c onducts the passenger screening at U.S. commercial airports. First, N.A.M. lost most of its foreign property in the wake of World War I, a setback that, among other adjustments. encouraged its merger with GHH in 1920. 1 (2008): 199-213. A transportation manager's job has changed dramatically over the past 35 years, and the chapter analyzes several of a transportation manager's primary responsibilities. available for sale in one nation may not necessarily serve the needs of markets in nearby nations. An amodal shipper refers to a transportation manager who purchases a prespecified level of transportation manager who service. The commodity is listed, followed by a comma and then by a phrase—such as "in machine-pressed bales," "in barrels," "in bales compressed in more than 18 lb. An increasing number of companies currently utilize returnable containers of some type in their operations. Decentralized logistics organization Logistics-related decisions are made separately at the divisional or product group level and often in different geographic regions. Moreover, the Chinese New Year is characterized by a 15-day celebration period. 1 (2009): 70-81. This flexibility was important to logistics for several reasons. The selection and evaluation of suppliers is a process that involves stating an organization's needs and then determining how well various potential suppliers can fulfill these needs (see Figure 6.1). M., 270n Parker, B. Christensen, John, Christen of rising customer expectations is provided by Toyota Motor Company's North American Parts Operations. M., 78n, 97n Nanoherla, A., 179n Napolitano, J., 79 Napolitano effective and efficient customer service program. Fearon, Purchasing & Supply Management, 13th ed. Baumer. Moreover, cloud-based software allows for a limited amount of customization, meaning that customers need to fit what they're doing to what the software can achieve.57 And, because the Internet is the primary transaction medium for cloud-based software, security issues such as data protection have been identified as a key concern. 3 (2002): 263-271. Not surprisingly, online retailing's smaller order quantities have important packaging implications as well, in the sense that companies need containers—small cartons, envelopes, bags—that are well suited to holding small quantities of product.47 Some companies that engage in both online and in-store retailing choose to outsource online's pick-and-pack activities because they are so different than for in-store retailing.48 Two other key logistical considerations for online retailing involve transportation and returned orders. Certificate of origin Specifies the country(ies) in which a product is manufactured. 125. 4 (2009): 526-544. Figure 9.3 shows a laboratory-like piece of equipment that could be used to find the lowest-cost location, in terms of transportation, for assembling a product consisting of inputs from two sources and a market in a third area. Martinez-Lorente. 2 (2007): 226-240. CASE case Low Nail Company After making some wise short-term investments at a race track, Chris Low had some additional cash to invest in a business. • Accumulating is bringing together similar stocks from different sources. Inventory Stocks of goods and materials that are maintained for many purposes. For example, Michigan's expected to decline by approximately 3.75 percent between 2010 and 2020, whereas Utah's population is expected to increase by over 22 percent during this time period. 37 Becky Partida, "WMS Can Produce Big Logistics Benefits," Supply Chain Management Review 16, no. FOB (Free on Board) The seller clears the goods for export and deliverse by over 22 percent during this time period. 37 Becky Partida, "WMS Can Produce Big Logistics Benefits," Supply Chain Management Review 16, no. FOB (Free on Board) The seller clears the goods for export and deliverse by over 22 percent during this time period. them when they are onboard the vessel at the named port of shipment. Lean Manufacturing (lean) Broadly speaking, lean manufacturing (also referred to as lean) focuses on the elimination of waste and the increase of speed and flow. Supply chain analytics - Combines technology with
manual employee effort to identify trends, perform comparisons. and highlight opportunities in supply chain processes, even when large amounts of data are involved. (Mason, OH: South-Western Cengage Learning, 2009), Chapter 12. Figure 14.2 shows a package with the various markings required for movement in cross-border commerce. In a functional-hierarchical philosophy, products and processes were divided into easy-to-complete tasks. The attractiveness of ERP systems comes from their potential for lower costs (such as inventory reductions), as well as increased productivity and increased customer satisfaction. Importantly, over 90 percent of the deliveries occurred within the two-hour delivery windows that buyers were promised. Business futurists Joseph Pine and James Gilmore have referred to the Internet can facilitate efficiency and effectiveness by providing opportunities for supply chains to simultaneously improve customer service and reduce their logistics costs.26 It's important to recognize that the Internet has important implications for both businessto-consumer links and business-to-business links within supply chains. Credit and debit cards, for example, facilitate possession utility by allowing the customer to purchase products without having to produce cash or a cash equivalent. CIF (Cost, Insurance, and Freight) The seller clears the goods for export and delivers them when they are onboard the vessel at the port of shipment. Many of these considerations are governmental in nature and deal with the relevant legal system, political stability, bureaucratic red tape, corruption, protectionism, nationalism, privatization, and expropriation (confiscation), as well as treaties and trade agreements. This is followed by an examination of how the strategic profit model can be used to highlight how logistics activities influence the key corporate financial measures of net income, capital employed, and return on capital employed. In general, inventory carrying costs are expressed in percentage terms, and this percentage is multiplied by the inventory's value. Ocean shipments are subject to more moisture damage and more extreme temperature variations than are domestic shipments. Han, Sang-Kyun and Glen Murphy. The model can help logistics managers structure their examination of potential risks that could influence their firm's logistics system. Because the distributor's spouse had become quite fond of these annual trips, each year the owner placed and the possible reactions of existing customers to a new policy that requires either a larger minimum order size or a surcharge on small orders to tests that attempt to duplicate all the expected various shipping hazards: vibrations, dropping, horizontal impacts, compression (having too much weight loaded on top), overexposure to extreme temperatures or moisture, and rough handling. The Strategic Profit Model (SPM) provides the framework for conducting ROA analysis by incorporating revenues and expenses to generate net profit margin, as well as an inclusion of assets to measure asset turnover. "What is a model of the strategic Profit margin, as well as an inclusion of assets to measure asset turnover." are the costs if we charter the Nola Pino? Ned Bauhof, "Keeping It Clean," Beverage World, July 2007, 77. However, from a logistics perspective, higher quantities of inventory (1) necessitate additional storage space and (2) increase inventory (2) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory (3) necessitate additional storage space and (3) increase inventory preferences and intentions. Its purpose is to find a location that minimizes transportation costs. Opportunity costs are also incurred by firms that hold too much inventory in reserve for customer demand. Quite frankly, from approximately 1950 to 1980, limited appreciation was shown for the importance of the logistics discipline. Order bills can also be used when faced with slow-paying customers because the order bill guarantees that the customer must pay for the products, particularly those of a hazardous nature, preventive vehicle maintenance, and proper workplace equipment (e.g. hardhats, goggles). 1 (1987): 46-60. For example, a warehouse might be allowed only in areas set aside for wholesale or other specified commercial operations. 10.7 How does multiclient warehousing mix attributes of public and contract warehousing? 32 David 33 M04_MURP4846_11_GE_C04.indd 84 03/06/14 5:20 PM Chapter 4 • Organizational and Managerial Issues in Logistics 85 responsibility. More specifically, logistics can play an important role in a nation's economic growth and development. The transportation system is discussed in Chapter 12, and transportation system is discussed too unreliable. • Tables and figures containing country and industry data have been either revised or updated. The typical inventory order size with respect to two costs: the costs of carrying the inventory and the costs of ordering the inventory. distribution in a cost-efficient manner that supports an organization's customer service objectives. GPS and GIS are evolving toward a situation in which instant updates can be provided to GIS databases—data that can be leveraged to provide real-time route planning that can direct drivers away from accidents and other traffic bottlenecks. "Achieving Excellence in Global Sourcing." MIT Sloan Management Review 47, no. If so, which ones and how much? Bowersox, Patricia J. Decisions that made sense a few years ago in terms of labor cost savings may not be as clear-cut in today's environment. Garcia-Arca, Jesus and Jose Carlos Prado. However, warehousing cleanliness and sanitary warehouses reduce the likelihood of food-borne illnesses. Indeed, an annual software survey conducted by Logistics Management magazine has consistently found that TMS and WMS software are the most likely applications to be purchased or upgraded.32 Due to their importance as logistical decision support systems. In recent years, many firms, especially retailers and wholesalers, have become more inventory conscious FOB origin A transportation term that signifies that the buyer assumes title and control of a shipment at the point of pickup. For the seller? 2 (1998): 137-148. See Executive information system (EIS) Electronic data interchange (EDI), 41f, 42, 130, 165 Employee safety, 199, 202 Empowerment, worker, 73 Energy-saving measures, 83 Enterprise resource planning (ERP), 40, 41f, 48 Enterprise system, 41f, 48-49 Environmental protection, 207, 212-213 Environmenta between Mexico and Canada) has become a hotbed for distribution activity. You ought to see the hodgepodge of shipments we receive from them. For instance, some jurisdictions focus on legislation that reduces plastic packaging because of litter-related as well as ecological considerations. "That was one item I wanted to raise while we were together." "We can't allow that!" exclaimed Amy. 3 M12_MURP4846_11_GE_C12.indd 229 04/06/14 12:19 PM 230 Part III • Elements of Logistics Systems with the other modes. Risk can be viewed as susceptibility to disruptions that could lead to a loss for a firm, and this risk can take a variety of forms as it relates to the m anagement of logistics activities. 18 No author, "Mistaken Metrics," T&D, February 2009, 88. K., 48n, 103n, 127n Liberatore, M. J., 94n, 95n Garver, M. A key software question involves the decision between a single integrator approach and a best-of-breed approach. See Burlington Northern (BN) BOAC. Often, this backlog has costs associated with it, including penalties to be paid or customers who walk away rather than wait. Locating the items to be picked could be quite time consuming, and paper picking often resulted in picking errors in part because of illegible pick orders. 27 Rosenbaum, "The Technology-Enabled Supply Chain Network." Mary Shacklett, "Supply Chain Visibility: Eliminating the Invisible," World Trade 23, no.11 (2010): 24-27. Douglas M. 10.13 Discuss some key considerations associated with warehouse automation. The freight forwarder, however, offers the same transportation service for a rate between the LTL and TL rate—say, \$4 per 100 pounds. At Doha, the unloading costs 04/06/14 12:19 PM 246 Part III • Elements of Logistics Systems will be \$4,200 for the entire vessel. 10.12 Explain the relevance of aisle width in warehousing in Northern Europe: Longitudinal Survey Findings." Industrial Management & Data Systems 111, no. Questions for Discussion and Review 2.1 In what ways can information be helpful in logistics and supply chain management? 6.8 How do you see the rise of electronic commerce affecting procurement? Labor negotiations are coming up, and Wayne thinks he can get the union to M10 MURP4846_11 GE C10.indd 205 give way on the work rule that prohibits warehouse workers on the unloading dock from being given other assignments when they are not unloading trucks Closs, and Theodore P. Although the majority of the discussion in this book focuses on forward logistics. 5 Indeed, reverse logistics. 5 Indeed,
reverse logistics 3 www.cscmp.org Paul R. Both the retailer and the customer benefit because the shelf life is much longer for bagged lettuce than for head lettuce (bagged lettuce also carries a higher markup than does head lettuce). 2.11 What benefits are associated with transportation management systems? Trunk lines carry crude oil from gathering-line concentration points to the oil refineries. 4.6 What is meant by "increasing the amount of output while carry crude oil from gathering-line concentration points to the oil refineries. holding input constant" in relation to logistics? 1.20 Logistics managers must be both generalists and specialists. and Mark Covas. EDI has a number of benefits, including reductions in document preparation and processing time, inventory carrying costs, personnel costs, information float, shipping errors, returned goods, lead times, order cycle times, order cycle times, including reductions in document preparation and processing time, inventory carrying costs, personnel costs, information float, shipping errors, returned goods, lead times, order cycle times, order cycle times, including reductions in document preparation and processing time, inventory carrying costs, personnel and ordering costs. The network organization's emphasis on process and value creation has important implications for organization's vision and goals. However, the reality is that many companies don't know their actual inventory carrying costs. 36 Dave Piasecki, "Warehouse Management Systems," www.inventoryops.com. See Shipper's export declaration (SED) September 27, 2001 CBP programs, after, 79 communication system, 42 impact on, logistics, 78 scanning, oceangoing containers, 79 Service failure and recovery, 136 Shipper's associations, 236 Shipper's export declaration (SED), 274 Shipping conferences and alliances, 284-285 Shipping labels, 210, 211f 03/06/14 5:39 PM Subject Index 315 Shrink-wrap, 218 Simulation, 46 Six Sigma approach, 76 Skids, 216 SKUs. See Stock-keeping units (SKUs) SLI. To this end, in recent years the major U.S. freight railroads have tried to convince the Surface Transportation Board to waive their common carrier obligations associated with the transportation to deliver requires that a carrier provide timely pickup and delivery as well as ensure that the delivered shipment is in the same condition as the picked up shipment (i.e., the avoidance of lost or damaged freight). He explained to Huber that the factory in Munich was already producing to its limits, and the two other German facilities were also facing a backlog of orders through the fourth quarter. B., 73n Frolik, M. Given that service failures are inevitable, organizations will be faced with service recovery decisions. 14.7 Discuss international terms of sale and Incoterms. In the warehouse, Bigelow was a natural leader. Private storage and the necessity of having high and steady demand volumes. Frankly, I don't know whether Bigelow will be a problem. "Please call Frank Wood, our outside counsel, and ask him what steps we have to go through to charter a ship. Bigelow was happy to see Fosdick and shook his hand warmly. See Customer relationship management (CRM) Cross-docking, 171, 190, 198 CSCMP. Parcel Post has size (130 inches in combined length and girth) and weight limitations (70 pounds), with transportation charges based on weight, distance, and shape.12 In most cases, a parcel must be transported to the receiver's actual mailing address. Private Warehousing Private warehousing is owned by the firm storing goods in the facility; private warehousing generates high fixed costs and thus should only be considered by companies dealing with large volumes of inventory. 33 M01_MURP4846_11_GE_C01.indd 31 03/06/14 5:11 PM 32 Part I • Overview of Logistics The five channels discussed previously show where intermediaries function and fit. Hartley, and William Rudelius, Marketing 10th ed. 2 (2009): 401-412. Take for example, the perfect order (i.e., simultaneous achievement of relevant customer metrics such as on-time delivery, damage free and correct order in a single metric via a multiplier effect. "Supplier Development: Communication Approaches, Activities and Goals." International Journal of Production Research 47, no. We'll conclude our discussion of demand forecasting with a brief look at forecasting with a brief look at forecasting that is done via computer software. Given the numbers involved, I'm willing to turn out some innocuous doll and sell it for a little more than the cost of recycling because we can't take a complete loss on all these damned Jungle Jim dolls! Greg says we have nearly 2.6 million of them to play with, so let's think of something." "Your 2.6-million figure may be low," said Coggins. The goal of this visit is to gain a deeper knowledge of the supplier. Goomas. However, the mere presence of a union doesn't necessarily mean that the union is a strong advocate for workers. A second unit load advantage is that pilferage is discouraged because it can be difficult to remove a single package or its contents. Since the early to mid-1990s academics, practitioners and industry associations have suggested a number of definitions for both a supply chain and SCM. For one, the controlling organization may be so powerful that the supply chain becomes more like a dictatorship than a partnership. Chapter 7 looks at demand management, and customer service. Package services are also available from Greyhound Lines (called Greyhound Package services), which is the primary intercity bus company in the United States. Although some free trade agreements have led to a decrease in documentation requirements, others actually result in an increase in documentation, which could defeat the primary purpose of these agreements, namely, facilitating trade between participating countries. A conscientious forwarder also similar shipments to the same market, become so repetitive that the shipper can handle the procedures in its own export department at a cost lower than the fees charged by the forwarder. 2.16 Why is a "one size fits all" logistics strategy not likely to facilitate effective or efficient online shopping? Just-in-time (JIT) is one of the best known lean inventory practices, and we'll take a closer look at JIT in the paragraphs that follow. Before defining what logistics is, we believe that it's important to discuss the economic aspects of logistics and you might be surprised at its significant economic impact. Lambert, Douglas M., Editor, Supply Chain Management: Processes, Partnerships, Performance 4th ed. At other times, by contrast, there could be too much space (excess capacity), which costs money as well. 04/06/14 11:56 AM Chapter 7 • Demand Management, and Customer Service 129 Up to this point, we have treated demand forecasting as a discrete entity in the sense that each supply chain member generates its own demand forecasts. Suppose that AAA decides to near-source production to Latin America. "They're not defective. As noted previously, important changes have occurred with respect to warehousing's role in contemporary logistics and supply chain systems. The growing popularity of the supply chain concept has prompted increasing collaboration among supply chain partners with respect to demand forecasting. The firm is global in outlook and sees almost all nations as being markets, sources of supply, or sites for markets or for assembly operations. Manufacturer's name and address 2. Moreover, relational exchanges—and by extension, SCM—cannot be successful without information sharing among key members. The various waste materials must be properly handled because they pose threats to employee safety and may also be fire hazards. Materials Handling As a supply chain is linked together, one of the product from one party to another: How will product from one party to another the product from one party to another. be handled? Grenoble, "Spreadsheet Modeling in Logistics: Advancing Today's Educational Tools," Journal of Business Logistics 12, no. What would be the total annual cost of maintaining the components inventory under the JIT system (assuming no safety stocks)? We do not have good controls on the actual items that are allowed for returns. van Engen. Alternatively, other writings indicate that supply chain collaboration is widely applied, and participating organizations experience noticeable performance-related improvements. 9.20 Distinguish between facility that emphasizes rapid product movements with limited time in storage should be configured to facilitate the flow of product into and out of it. 16 M07_MURP4846_11_GE_C07.indd 136 04/06/14 11:56 AM Chapter 7 • Demand Management, and Customer Service 05 excess, and customer Service 137 Establishing Customer Service 137 Establishing Customer Service 137 Establishing Customer Service 05 excess, and customer Service 137 Establishing Customer Service 05 excess, and customer Service 137 Establishing Customer Service 05 excess, and customer Service 05 exce establishing goals and objectives is an important management decision. If a good is in great demand, one might have to buy it before it is produced, such as a commissioned piece of art or a scarce new consumer product. Because of difficulties in generalizing about inventory management, what follows is a discussion of select factors that organizations might face when managing inventories. Concerns with ordering via the Internet include the security of the information being transmitted and the potential loss of privacy (due to cookies and tracking software). This belly freight limits the capacity available for air shipments and is particularly problematic with respect to narrowbody (single-aisle) aircraft. Cameron McWhirter and Shelley Banjo, "Tentative Deal Averts Port Strike," The Wall Street Journal, Saturday/Sunday, December 29-30, 2012, B1-B2. Factoring in that each distribution center is designed to serve a specific
number of retail locations—and serve as a backup to one or more of the other distribution centers—makes the decision even more complex. 1 (2006): 35-52. Z01 MURP4846 11 GE GLOS.indd 300 03/06/14 5:38 PM Glossary 301 Truckload (TL) carrier hat focuses on shipments of greater than 10,000 pounds. Key shortcomings in the electronics industry include violations of wage and benefits agreements, and discriminatory practices based on sex or age.10 A workforce's union status is also a key locational determinant for some organizations. Materials handling equipment A comprehensive discussion of materials handling equipment A comprehensive discussion of materials handling equipment are some organizations. Materials Handling Equipment A comprehensive discussion of materials handling equipment are some organizations. sales were 7 percent higher than last year's sales, a time series forecast for next year's sales plus 7 percent. One distribution center is located in Columbus (for Kentucky, Indiana, Michigan, and Ohio) and one in Chicago (for Illinois, Iowa, Minnesota, and Wisconsin). The vessel line can load and pack 20 buses per day, charging € 25 per bus and up to 30 buses with overtime charges. If Terim could get the kereste inside Turkey, it should sell for 783,500,000,000 TL. And although order cycle speed for order cycle time is important, an increasing number of companies are trading off order cycle speed for order cycle time is important. standardizing transport shipments? Liabilities Financial obligations that a company owes to another party. When Carolyn and I are trying to monitor the sales of some new item, we never know whether it's bombing in some areas and riding around in salespeople's cars as they try to sell it again." "Have you now described our returns policy, such as a standardizing transport shipments? Liabilities I some areas and riding around in salespeople's cars as they try to sell it again." it is?" asked Amy, looking at everybody in the room. "The Art of Procurement Mastery." Supply Chain Management Review 13, no. While an agile supply chain may be most appropriate in contexts where customer demand is volatile, and their requirements for variety are high.15 In cases where customer demand is relatively stable and the need for variety is low, establishing a lean supply chain may be a more appropriate goal. Initially, a manager has little choice but to accept the driver's explanation for the delay. 9.2 How have cost considerations? Trade-Off Between Carrying and Ordering Costs The trade-off that exists between carrying and ordering costs is that they respond in opposite ways to the number of orders. Emily Collins, "Turn Dead Inventory into Dollars," Material Handling Management, December 2008, 75-76. As detailed in our description of 16 Matthew J. Sullivan spoke: "For large accounts we deduct a straight 2 percent off wholesale selling price to cover defectives," and then we never want to hear about the defectives from these accounts at all." 03/06/14 5:17 PM Chapter 5 • The Supply Chain Management Concept 109 "That sounds like a better policy," said Amy. Charge for delivery if the customer cannot get the Super Gym home. 2 (2013): 277-296. On his first day of work, J. E., 41n, 260n Z02_MURP4846_11_GE_NIDX.indd 306 U Urban, G. 8.20 How does vendor-managed inventory differ from traditional inventory management? Registration is simple and gives the instructor immediate access to new titles and new editions. See Norfolk Southern (NS) NVOCC. Despite the fact that the college provided a special tutor for each class, Bigelow flunked out at the end of his first semester and came back to Providence, where he got a job in the Red Spot warehouse. Why is it important for customers? For example, hourly compensation data (including benefits) among manufacturing firms in 2011 indicate average compensation of \$47.38 in Germany and \$35.53 in the United States 11.3 What are the three general functions of packaging? Manrodt and Kate L. Depending on the industry and product type, reverse logistics costs as a percent. 4 Estée Lauder (a manufacturer of cosmetics, skin care, and fragrances) made an investment of \$1.3 million to build a system of scanners and other technologies to assist its reverse logistics efforts. Overall, although motor carriers have the ability to haul many different kinds of freight, their capacity is limited by highway weight and size (width, length) restrictions. Because nearly every ocean vessel line has its own bill of lading, a forwarder's expertise is necessary to fill it out accurately. Although this lack of uniformity might have been a relatively minor nuisance 30 years ago, economic globalization has led to increasing pressure on U.S. exporters to market their products overseas in metric units. When planning for refrigerated loads, the software will also take into account the need for air spaces. Speculative stock Inventory that is held for several reasons such as seasonal demand, projected price increases, and potential product shortages. Order Picking and Assembly order until goods are loaded aboard an outbound carrier. Holcomb, "Beyond Containerization: The Broader Concept of Intermodalism," Transportation Journal 35, no. The filled carton weighed 10 pounds. HOS rules 4 M12_MURP4846_11_GE_C12.indd 230 "25th Annual Corporate Survey," Area Development, 2011. Morgan and Shelby D. As labor rates have increased this appreciation has begun to emerge. How might they affect warehousing design? 04/06/14 11:56 AM Chapter 7 • Demand Management, Order Management, Order Management, and Customer Service 143 Guerreiro, Reinaldo, Sergio Rodrigues Bio, Elvira Vazquez, and Villamor Merschmann. He said he was reluctant to do this, however, because the Thais had ordered several product modifications, and the Munich line had been already set up to handle them. Packages that are sent via Greyhound Package Express are limited to a maximum weight of 100 pounds.13 12 13 M12 MURP4846 11 GE C12.indd 237 04/06/14 12:19 PM 238 Part III • Elements of Logistics Systems Transportation Regulation Theorem 2010 Package Express are limited to a maximum weight of 100 pounds.13 12 13 M12 MURP4846 11 GE C12.indd 237 04/06/14 12:19 PM 238 Part III • Elements of Logistics Systems Transportation Regulation Theorem 2010 Package Express are limited to a maximum weight of 100 pounds.13 12 13 M12 MURP4846 11 GE C12.indd 237 04/06/14 12:19 PM 238 Part III • Elements of Logistics Systems Transportation Regulation Theorem 2010 Package Express are limited to a maximum weight of 100 pounds.13 12 13 M12 MURP4846 11 GE C12.indd 237 04/06/14 12:19 PM 238 Part III • Elements of Logistics Systems Transportation Regulation Theorem 2010 PM 238 Part III • Elements of Logistics PM 238 PAR five modes of transportation have been influenced, and contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides specialized service to each customer based on a contract carrier provides service to each customer based on a contr Brokers can handle both LTL and TL shipments; those handling LTL shipments consolidate them and then turn them over to motor carriers, freight forwarders, or shippers' associations. The chapter also looked at the Internet's influence on logistics in terms of three issues, online retailing, cloud computing, and electronic procurement. Ogden Gregory M. 03/06/14 5:38 PM 296 Glossary Expatriate workers Employees who are sent to other countries for extended periods of time. Hanna, Logistics (Upper Saddle River, NJ: Prentice Hall, 2002), Chapter 7. More specifically, although senior management tends to be aware of SCM, actual senior management tends to be aware of SCM, actual senior mana one of every three 34 Ben Hill, "Appeal of 4PL: Proliferation and Differentiation as a 5PL," Logistics & Transport Focus 13, no. For example, uncertainty in demand could come from the fact that you occasionally decide to make a three-egg omelet as opposed to eating one egg per day. 22 Highway data taken from The CIA World Factbook, 2013. Joshi R. (It's worth noting that China has added more than 1,500,000 kilometers of paved highways since this text's previous edition,
published in 2011.) The data also indicate that oil pipelines are much more prevalent in the United States, and that China has much more extensive inland waterways, relative to the four other countries listed in Table 12.1. The information in Table 12.1 on rail gauge (the distance between the inner sides of two parallel rail tracks) is also enlightening. As such, a storage facility with low rates of product turnover should be laid out in a manner that maximizes utilization of the cubic 14 William Hoffman, "Dividing the Box," Journal of Commerce, February 25, 2008, 23. Specifically, cost of goods sold may be influenced directly by procurement decisions and inbound transportation costs that are part of a product acquisition agreement. • New content has been added throughout this edition. Thomas D. ABC Analysis of Inventory, which can be applied in several different ways, recognizes that inventories are not of equal value to a firm and that, as a result, all inventories should not be managed in the same way. Importantly, people-related factors such as employee resistance have been identified as a major cause of information technology implementation failure.64 Technology addiction, another human resource issue, is perhaps best exemplified by the term "CrackBerry," which describes a person who uses a BlackBerry smart phone addictively or obsessively.65 Underscoring the potential seriousness of technology addiction. He said he knew Bigelow was behind all the disruption and that today Thursday, would be crucial. Load centers might affect the dynamics of international transportation in the sense that some ports will be relegated to providing feeder service to the load centers. For example, many countries have regulations and laws as well as the degree of enforcement of them is not uniform from country. In both Bulgaria and Greece, Terim had entered into modest sales agreements that extend into the middle of next year. Additional research indicated that this "laggard" employee was actually the most effective employee when measured in terms of the number of customer problems solved per day. Tongzon, Jose. However, the seller's fax machine can be cluttered with junk (unwanted) faxes, and the quality of the fax transmission can result in hard-to-read orders—which increases the chances of order errors in the form of incorrect quantity. The customized customer desires a product offering that is highly tailored to the customer's exact preferences. 14.6 What is a certificate of origin, a commercial invoice, and a shipper's export declaration? 10.17 Why are forklifts potentially dangerous in a warehouse environment? Logistics now offers an important route for many firms to create marketing superiority. "Managing Conflict of Interest Issues in Purchasing," Journal of Supply Chain Management 42, no. 12 (2004) 114-122. As such, scheduling home deliveries to coincide with the purchaser's availability is paramount to avoiding dissatisfied customers.15 Finally, the growth in ready-to-eat/ready-to-cook foods means that some food processors have added high-volume cooking systems at their production facilities. 11.9 What environmentally friendly packaging strategies might a firm adopt? Kraska, James and Brian Wilson. Unlike scrap materials, waste materials have no economic value. The terms of sale were delivery on or before July 1, 2003, at the Port of Doha, Saudi Arabia. From purely a population perspective, China and India have been potentially attractive markets because the two countries account for approximately one-third of the world's population. McGinnis, Ali Kara, and George Liu Yi. "A Comparison of the Effect of Logistic Strategy and 03/06/14 5:11 PM 36 Part I • Overview of Logistics Integration on Firm Competitiveness in the USA and China." International Journal of Logistics Management 24, no. 2 (2013). Tropical fish must be fed and have oxygen added to the water in which they are kept. When the first edition of this book was published in the 1970s, transportation carriers provided a limited number of options in terms of transit times, and shippers thus had to incorporate the rather inflexible transit times into calculations of the length of an order cycle. Shrinkage, expressed as a percentage of the wholesale value of goods handled annually, was 3.6 percent for the Providence center. Many organizations, particularly those with a national or international presence, have workforces comprising different races, ethnicities, and cultures. Rather, we will offer an overview of demand forecasting so the reader can understand forecasting so but sometimes the expense can be justified. The obligation to charge reasonable rates so low that carriers are unable or unable to tender freight to carriers. and Robert M. Several days before the store's grand opening, the parent company was threatened with legal action by a competing supermarket that had a store located across the street from the new store. "Is the Offshore Outsourcing Landscape for U.S. Manufacturers Migrating Away from China?" Supply Chain Management: An International Journal 14, no. You will learn about general and specific factors in facility location in this chapter. John E. This means that there is usually a much longer-lasting relationship with a smaller number of suppliers than is common in the United States. Using an average cost per stockout of \$400, a safety stock of 10 units allows the firm to prevent 20 stockouts, which saves the firm \$8,000 (\$400 * 20). A key reason for warehousing is that production and consumption may not coincide, and warehousing is that production and consumption may not coincide. employing a long-term as opposed to a short-term orientation with key members—suppliers, customers, intermediaries, and facilitators—of their supply chain. The chapter concluded with a look at the four legal classifications of carriers—common, contract, exempt, and private. 9 M09_MURP4846_11_GE_C09.indd 174 04/06/14 12:01 PM Chapter 9 • Facility Location 175 2000 non-U.S. automakers have chosen to locate new production plants in right-to-work states such as Alabama (Hyundai), Georgia (Kia), Mississippi (Nissan), and Texas (Toyota). J., 42n Ledyard, D. Nineteen charter flights were involved, each lasting 15 hours. Once this has been established, then what is meant by "small" does, say, five units or \$75 qualify as "small"? Chapter 4 also discusses select managerial issues in logistics systems. 8.6 Is it really true that a loyal customer will not be lost in case of a stock-out situation? Amodal shipper A transportation manager who purchases a prespecified level of transportation service and is indifferent to the mode(s) or carrier(s) used to provide the actual transportation, setling to another organization, returning to the supplier, and selling through a surplus dealer. A key sustainability issue involves the sourcing of products and an emerging trend Table 9.1 Five Most Populous States in the United States—1950, 1980, and 2010 1 2 3 4 5 New York California Pennsylvania Illinois Ohio California New York Texas Pennsylvania Illinois California Texas New York Florida Illinois Source: Derived from data at www.census.gov. In addition, in some instances of product supply and demand can be viewed as bait and switch tactics—that is, enticing customers with the promises of a low-priced product, only to find that it is unavailable, but that a higher-priced substitute product is readily available. For the delivery and installation, the factory distributor received 9 percent of the unit's wholesale price, half paid by the licensed retailer that vessel, we'll have to move quickly, because if somebody else charters her, she's gone." "What kind of vessel is it?" asked Pon. Recently, AILS was retained on a site selection project by American Athletic Apparel (AAA), a large multinational supplier of athletic clothing. However, the EU's geographic footprint. True automation, such as automatic guided vehicles (AGVs), refers to an absence of human intervention, whereas mechanization refers to equipment that M11 MURP4846 11 GE C11.indd 222 03/06/14 6:19 PM Chapter 11 • Packaging and Materials Handling 223 complements, rather than replaces, human contact (e.g., forklift).20 A key trade-off among labor, mechanization, and automation involves the relevant volumes; because automation is a very high fixed cost option, sufficient volume is needed to make it cost effective. B., 97n New, C., 58n Niezen, C., 111n Nighswonger, T., 201n Z02 MURP4846 11 GE NIDX.indd 305 Novack, R. Pipeline (in-transit) stock Inventory that is in route between various nodes in a logistic system. Prague was the smallest of all the European plants and had the oldest, slowest assembly lines, but they were just finishing up manufacture of an order of #4-G's and, due to M14 MURP4846 11 GE C14.indd 291 a recent order cancellation, would now be working at only 70 percent capacity through year-end. Quan thinks we could charter it for \$2,400 per day for 30 days, which would be enough time for it to load, transit the Seaway, reach Doha, and discharge the trucks by May 29 or 30." "Tell me about the alternative," said Pon. Garver, and G. "The Impact of Climate Change and Weather on Transport: An Overview of Empirical Findings." Transportation Research Part D 14, no. 3. Hull, Bradley. Rate (Pricing) Considerations Rate Determination As we've seen throughout this text, logistics has discipline-specific terminology, and to this end, one key responsibility of transportation ("fare" refers to the 1 M13 MURP4846 11 GE C13.indd 248 John J. Ogden. When applied to supply chains, the systems approach suggests that companies must recognize the interdependencies of the decisions made in major functional areas and business processes within, across, and between firms. As such, when online customers receive their orders, they might also receive information on how to return the order, a return label, as well as a return container such as
an envelope or bag. Convenience The convoy would cross state lines, and we would need temporary licenses and permits in Illinois as well. Having said this, it's important to recognize that decisions about materials handling equipment can affect the effectiveness, efficiency, and safety of logistics systems. Some cartons and crates moving internationally are marked with what looks like a cattle brand, which is a shipper's mark, and a drawing of the mark also appears on the documentation. 4 John Gattorna, "Supply Chains Are the Business," Supply Chain Management Review 10, no. Unit load (unitization) Consolidation of several units (cartons or cases) into larger units to improve efficiency in handling and to reduce shipping costs. • The Czech railway could transport the load to the border with Germany, where the Deutsche Bundesbahn would take over the flatcars, which carry two buses each. Specialist firms have developed, and most companies involved in international trade eventually use one or more services that these specialists provide. See EX-Works (EXW), 275 Z03 MURP4846 11 GE SIDX.indd 309 F Facilitators, 31 Facilities All-Indian Logistics Services (AILS), 185–187 determination of number of, 171 free trade zones, 180 grid systems, 180–183 locating in other countries, 178–179 location decisions, 33, 169, 171, 175, 176, 179, 183 lowest-cost location, 180 market for goods, importance of, 173–174 natural resources, role of, 173 guality of life considerations, 178 relocation and closing, 183-184 specialized location characteristics, 179-180 taxes and incentives, role of, 175-176 trade patterns, 177-178 transportation considerations, 176 FAS. The lost sale alternative results in a loss of the profit that would have been made on the customer's purchase. As an example, the used-car dealer that decides to maximize average profit per vehicle will likely charge a higher price for each vehicle.9 Complementary and Substitute Products This book takes a rather narrow view of complementary products and defines them as inventories that can be used or distributed together, such as razor blades and razors. Consider currency fluctuations, or changes in the relative value of currency fluctuatio relatively short time period, steady production rates throughout the year—is more likely to be addressed by having the proverbial "no-brainer," consider the case of a U.S. manufacturer that designed a state-of-the-art distribution facility to be served by rail, only to switch to a JIT approach, thus making the new facility totally worthless. Ship to name and address 5. Processes associated with returning or receiving returned products for any reason. See Third-party logistics (3PL) Throughput, 190 Timely information, 45 Time utility, 19 TL rate, 236 ton miles, 228 transportation rates, 237 water carriers, 233-234 TMS. 8 (2002): 30-36. "Which Supply Chain Design Is Right for YOU?" Supply Chain Management Review 9, no. What are the total costs given in the case for the option of moving via Romania? "Why Metrics Matter." Supply Chain Management Review 16, no. Wood, James C. One advantage to the single integrator approach is that there should be coordination across the various applications.37 Alternatively, a best-of-breed approach chooses the best application for a particular function, so that an organization could have transportation management software from one company and warehouse management software from one company.38 However, best-of-breed solutions often require additional software packages to coordinate these different applications—and these integrations don't always proceed smoothly. Representative carrier selection factors include total transit time, transit time, transit time, transit time, transit time, transit time reliability, competitive rates, and loss and damage performance, among others. What percentage, if any, of relocation expenses will be paid by the employer? "The Tax Efficient Supply Chain." Supply Chain." Supply Chain Management Review 13, no. Sailing time to Doha averages 15 days—a little more, a little less, depending on the amount of cargo to be handled at ports in between." "That averages 22 days per truck," stated Pon, who had been putting the figures in his calculator. (New York: McGraw-Hill Irwin, 2007), p. 172. He currently was working on a project to determine whether the compactor's warranty should be extended from one year to two years. However, only 2,000 kilometers of Indian highways are classified as expressways, compared to 75,000 for the United States and 85,000 kilometers for China.22 The relative paucity of expressways in India suggests that motor carrier transit times might be slower than in other countries, and indeed one report suggested that Indian truckers a day (compared to over 1,000 kilometers a day in some Western countries). Today, by contrast, that same customer doesn't have to place a phone call; in many cases, she/he can simply log on to a particular carrier's website to learn about a shipment's status. Discuss. D., 77n Andel, T., 45 Andrews, J., 113n Atkinson, W., 77n, 115n B Bader, J., 159n Baker, R., 212n Bangs, J. M14 MURP4846 11 GE C14.indd 272

03/06/14 5:37 PM Chapter 14 • International Logistics 273 Handling marks Shipper's mark ADDRESS AT LOADING U.S. PORT OF GLASS VIDRIO Consigner's mark, destination, and order number Receiver madrid order 10-75 SHIPPER NA VIA BARCELO MADE IN U. Reese, "iPad in the Warehouse," Supply & Demand Chain Executive 11, no. Lu, Chin-Shan and Ching-Chao Yang. The measuring devices may be very simple, such as hospital-like thermometers that record only temperature extremes and springs that are set to snap only if a specified number of g's (a measure of force) are exceeded. International airlines offer insurance at nominal rates. In addition, activities involved in sourcing, procuring, and manufacturing are also involved. 21 M11_MURP4846_11_GE_C11.indd 223 03/06/14 6:19 PM 224 Part III • Elements of Logistics Systems Suggested Readings Buehlmann, Urs, Matthew Bumgardner, and Tom Fluharty. It might not be realistic to expect a transportation manager to be aware of every possible carrier in a particular mode or to know about each carrier's service and operating characteristics. Understanding the three ways to improve productivity is important to the logistics manager because several logistics activities, particularly warehousing and transportation, are heavily dependent on human labor. Victoria F. First, logistics is part of supply chain management. Finally, a focus strategy concentrates an organization's effort on a narrowly defined market to achieve either a cost leadership or differentiation advantage from each of these strategies.9 The functional level of the organization is where logistics resides. Supply chain management focuses on business process integration that requires contributions from logistics as well as the other functional areas. For example, long-necked bottles take up more space and are more likely to be damaged than aluminum cans. However, in-person ordering isn't always convenient (or practical) in situations where the supplier is geographically distant. One U.S. industry that has prominently embraced the metric system is the liquor-producing industry. involving s hipments of coffee beans. As such, sellers should have an understanding of their customer segments and how each segment views the "ease of doing business." Moreover, from the seller's perspective, certain costs may be a sociated with convenience; for example, there may be a charge for pizza that's delivered to your residence or workplace (or "free delivery areas" might be very small in geographic coverage). 3 (2008): 167-178. Baker, Peter and Marco Canessa. How many Style B shades can be loaded into a 40-foot container? 63 Ray Zambroski, "Think Before You Send," Communication World, May-June 2006, 38-40. A., 129n Piasecki, D., 47n Pienaar, A., 94n Pine, B. Historically, shipping conferences provided both rate stability and guaranteed space availability due in large part to the ability of member carriers to collectively set rates and service levels without fear of antitrust prosecution. Authorized adaptation from the United States edition, entitled Contemporary Logistics, 11th edition, ISBN 978-0-13-295346 7, by Paul R. Coggins had just reported that she believed there were 2,567,112 complete units in various public warehouses in Biloxi. Reverse logistics is examined in Chapter 4. We also looked at some key considerations when implementing a performance measurement system focused on logistics activities. By contrast, wireless communication refers to communication without cables and includes infrared, microwave, and radio transmissions, among others. "Mexican Maguiladoras: Helping or Hurting the US/Mexico CrossBorder Supply Chain?" International Journal of Logistics Management 18, no. Governmental stability is also a key consideration, because SCM is so dependent on interorganizational coordination. Paul and Mike gratefully acknowledge the important contributions that the late Donald F. Electronic data interchange (EDI) Computer-to-computer transmission of business data in a structured format. Although data mining has been characterized as a "fishing expedition" of sorts—in the sense of applying sophisticated quantitative techniques merely to find relationships, whether meaningful or not data mining, in reality, should follow a well-defined methodology.39 Efficient data mining is dependent on data warehouses, that is, a central repository for all the relevant data collected by an organization. Export.gov—Incoterms 2010. CPA can be used to identify different groups of customers from a profitability perspective, and such a grouping can better help in allocating an organization's resources. 5 (1983): 109-117. Indeed, pipelines are probably best known for transporting petroleum products, and petroleum products, and petroleum pipelines. The standard model came in five colors with three different combinations, while there are probably best known for transporting petroleum pipelines. deluxe model came in eight colors and four different trims for a total of 32 different combinations. The issue of quality in logistics often represents a delicate balancing act for the involved organizations. For example, inadequate police services might cause a warehousing facility to hire its own security force. Which style would you recommend? 03/06/14 5:37 PM 292 Part III • Elements of Logistics Systems DENMARK GERMANY 0 0 100 mi Baltic Sea North Sea 100 km Train Waterway Hamburg Bremerhaven Berlin UNITED KINGDOM POLAND NETH. M14 MURP4846 11 GE C14.indd 279 03/06/14 5:37 PM Figure 14.4 A Forwarder's Export Quotation Sheet Showing Factors to Include When Determining the Price to Quote a Potential Buyer of a Product Source: Reprinted with permission of Unz & Co., 190 Baldwin Ave., Jersey City, NJ. Bigelow was making himself a large sandwich when he saw Fosdick approach. As a result, the damage rates for slip sheeted products are much improved. Consider the situation of the McDonald's restaurant where two people walked in and placed a take-out order for 142 Egg McMuffins! Although the restaurant was successfully able to fill it meant that a lot of other orders for Egg McMuffins went unfilled, at least until the next scheduled delivery of foodstuffs. Drought creates problems because when water levels drop below acceptable levels, barges are forced to reduce their loads, or barge traffic might be halted altogether, situations that require alternate means of transportation. A., 58n Ivie, R. If a firm has a near monopoly on an important product (i.e., few substitutes are available), a high level of customer service is not required because a customer who needs the product will buy it under any reasonable customer service standard. Bruce Friesen, "Organization Design for the 21st Century," Consulting to Management 14, no. The transport mode selected influences the packaging required, and carrier classification rules dictate package choice. There are sustainability concerns at the corporate level (e.g., what are the behaviors of a socially and environmentally responsible organization?), as well as sustainability issues associated with organization?), as well as sustainability issues associated with organizational functions such as procurement. The same could be done at the Liman of Antalya. His best offer was from a southern school, and he accepted it. Janz, and Mark N. Indeed, the chemical manufactures should be expected to give him, or Hagi, a kickback for facilitating the sale of chemicals. With respect to how much to order, the economic order quantity (EOQ) minimizes ordering costs and inventory carrying costs. Service failure has emerged as a prominent business issue in recent years, in part because organizations have learned that customers can easily become disaffected. He had been hearing about just-in-time (JIT) systems. See Unit load devices (ULD), 235 Unit load principle, 222 UP. Sometimes, the tariff the importing nation charges differs according to the nation from which the good is coming and from an international sourcing standpoint, this could influence the choice of a production site. 7.9 Discuss how the effectiveness and efficiency of order processing can be improved without large expenditures. (2008): 271-280. In the first meeting, A. 25 B. "Six Rules for Effective Demand Planning in a Volatile Economy." Journal of Business Forecasting 29, no. By using one shift, two trucks could be assembled each day. For many firms, the traditional ocean packaging method is to take the product in its domestic pack and enclose it in a wooden container. Perfect order An order that simultaneously achieves relevant customer metrics. In addition, most carriers allow the forwarders a commission on shipping revenues they generate for the carriers. The current edition of this book, by contrast, is focused on logistics and its role in supply chain management. And, as previously pointed out, transit times may be extended because of lock-related maintenance considerations. Chapter 12, "Transportation, and select transportation, intermodal transportation, intermodal transportation, intermodal transportations in Chapter 1) across all organizations in the supply chain. Transportation Worker Identification Credential (TWIC) A common credential that is used to identify workers across all modes of transportation, among others—impact international trade, and in turn, international logistics. Summary This chapter focused on the supply chain and SCM. For items from vendors between 100 and 500 miles away, a safety stock representing two weeks of use is maintained. I got involved because of all the complaints from the stores. Finally, interest costs take into account the money that is required to maintain the investment in inventory. One method is through vertical integration, where one organization owns multiple participants in the supply chain; indeed, the Ford Motor Company of the 1920s owned forests and steel mills and exercised tight control over its dealers. In warehousing, supervisors can be physically 6 Donald J. Areas of ethical concern in procurement include gift giving and gift receiving; bribes (money paid before an exchange); misuse of information; improper methods of knowledge acquisition; lying or misrepresentation of the truth; product quality (lack thereof); misuse of company assets, to include abuse of expense accounts; and conflicts of interests. 6.17 What issues could arise with global procurement? New modes, new carriers, customs issues, and exchange rate considerations are only a few examples of how logistics activities are affected by this change. 1 (2012): 98-117. Some nation's economy will suffer if it imports more than it exports over a long term. Table 12.1 Infrastructure Statistics in Several Countries Brazil a Air Highway (paved) Pipeline (oil) Broad-gauge (1.676 m) rail Standard-gauge (1.435 m) rail Narrow-gauge (1.000 m) rail Water (inland) China Germany Nigeria United States 7 68 14 10 189 212,798 km 4,835 km 3,453,890 km 24,620 km 86,000 km 41,722 km 110,000 km 220 km 7,467 km 50,000 km 224,792 km 3,505 kmb 8,600 km 41,009 km a Number of paved runways over 3,047 m (approximately 10,000 feet). Standardization of equipment and operating procedures can improve an organization's performance in part by reducing cost redundancies. The Balanced Scorecard: Translating Strategy into Action (Boston, MA: Harvard Business Press, 1996). Suggestions for dealing with this situation include partial (or full) prepayment by the customer as well as a no-return policy.6 Companies might also market their dead stock more aggressively, perhaps through drastic price reductions or bunching it with more afficiently handled at one time. 5. Moreover, in many cases, very narrow aisle machines are custom made for specific situations, so they are not only quite expensive to purchase, but they also have limited, if any, resale value.18 Degree of Warehouse Automation The degree of Warehouse Automation The degree of automation in warehousing design, and for our purposes warehouse automation will refer to utilizing mechanical or electronic devices to substitute for human labor. As such, while attractive packaging might encourage consumers to purchase a product, the attractive packaging might encourage consumers to purchase a product. buy insurance, which is about \$150 per truck." "That totals \$2,790," said Pon, after consulting his calculator. These loads, such as heavy machinery, must be distributed as evenly as possible. They are also often employed to carry the documentation that is generated by—and is very much a part of—the evenly as possible. international movement of materials, although many international trade documents can now be transferred electronically. the EOQ can be calculated in two ways; one presents the answer in dollars, the time and costs (e.g., documentation) associated with theft tend not to be covered by insurance. Figure 12.1 shows several different types of containers. and Croxton, Keely L., "The Role of Logistics Management." Journal of Business Logistics 29 no. Although alliances are not conferences, their size allows the alliances to exercise considerable clout in their dealings with shippers, port terminal operators, and connecting land carriers. In addition, reverse logistics and the reverse logistics can be four to five times more expensive than forward logistics and the reverse logistics are uncertained and the reverse logistics are uncerative. Th the returned product) as the forward logistics process.32 The reverse logistics process focuses on three critical factors: (1) why products are returned, (2) how to optimize reverse logistics, and (3) whether reverse logistics should be managed internally or outsourced to a third party.33 With respect to the first factor, products are returned for a variety of reasons, such as the customer making an error in ordering or the shipper making an error when filling an order. In the second case, an organization agreed to ship 6 million pounds of intermodal freight each be used? "How Motorola truck in 5 minutes. When should each be used?" Put CPFR into Action." Supply Chain Management Review 11, no. 03/06/14 5:17 PM 6 Procurement (sourcing)

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Review 11, no. 03/06/14 5:17 PM 6 Procurement (sourc card (p-card) Scrap materials Single sourcing Supplier audits Supplier audits Supplier audits Supplier audits Verse marketing) and supply management Total cost of ownership (TCO) Waste materials Learning Objectives ■ To examine procurement objectives To learn about supplier selection and evaluation To understand Kraljic's Portfolio Matrix To examine global procurement, which refers to the raw materials, component parts, and supplies bought from outside organizations to support a company's operations, is an important activity and closely related to logistics because acquired goods and services must be entered into the supply chain in the exact quantities and at the precise time they are needed. K. M04 MURP4846 11 GE C04.indd 81 03/06/14 5:20 PM 82 Part I • Overview of Logistics Figure 4.1 The Small Wire Shown on the Left Will Break if the Trailer Door Latch Is Opened. As a specialist, the logistics and must understand the relationships between various activities. "Supply Chain Integration: A European Survey." International Journal of Logistics Management 16, no. 11.2 What is the building-blocks concept? Therefore, many financial measures are reported as ratios that indicate the relationship of one number to another. Grid systems are checkerboard patterns that are placed on a map, as in Figure 9.4, and the grid is numbered in two directions: horizontal and vertical. It's important to recognize that different products have 2 Hua Wang, "High Logistics Cost, Toll Road and Institutional Factors Countermeasure in China," Journal of Modern Accounting and Auditing 7, no. As noted in Chapter 1, these supplemental 3PL services can blur traditional distinctions among supply chain members (e.g., product assembly has generally been performed by the manufacturing group). Group 2: Terms that Apply to Sea and Inland Waterway Transport Only FAS (Free Alongside Ship) The seller clears the goods for export and delivers them when they are placed alongside the vessel at the named port of shipment. The discussion that follows covers the location of manufacturing, processing, assembly, and distribution facilities along the supply chain. Summary A diverse set of organizational and managerial issues affect today's logisticians. For example, it has been suggested that nearly two-thirds of customers who experience a problem with purchases of less than \$5 won't do business with that company again.22 Service failure is particularly relevant to the order cycle; examples of order-related service failures include lost delivery, late delivery, and incorrect delivery, and incorect delivery, and incorrect delivery, an chain goals and objectives. One issue with ABC analysis involves the determination of what percentage of items should be classified as A, B, and C, respectively. In addition, the theft of rail freight is quite common in China and in some cases shippers provide their own security guards on trains to protect their goods from theft!24 An alternative to surface transport in some nations is short-sea shipping (SSS), which refers to waterborne transportation that utilizes inland and coastal waterways to move shipments from domestic ports to their destination.25 SSS is more widely accepted and practiced in Europe (see Figure 14.7), and the European Union has championed a Motorways of the Sea concept that specifies four well-defined short-sea shipping lanes involving EU member nations. Syntetos, A.A., M. Another VMI drawback is that carry LTL freight have space for and plan to carry shipments of many other customers simultaneously. A second shortcoming is that implementation of ERP systems can be a very time-consuming process. Private warehousing is owned by the firm using such facilities, and it is best used when an organization has large and steady demand patterns. An area where transport drivers and operators can wait while their equipment is loaded or unloaded 2. "Don't forge that there may be nearly 2 million in the hands of the dealers and that they will return them?" questioned Amy. Railroad transportation in China is also plagued by poor handling techniques, resulting in higher damage than if shipments moved by truck. For example, lessened economic regulation of transportation among European countries has resulted in lower prices for truck shipments in these countries.12 Likewise, privatization of commercial airports.13 Changes in Consumer Behavior A common business adage suggests that "change is the only constant." Although changes in consumer behavior are commonly the purview of the psychology and marketing disciplines, such changes have important logistical implication-specific software often involved customers purchased "purchased" (i.e., so-called "purchased") and marketing disciplines, such changes have important logistical implication-specific software often involved customers purchased "purchased"). and install") on their computer(s). Global sourcing, which refers to buying components and inputs anywhere in the world, continues to grow in scope. 1.4 How can a particular logistics system be effective but not efficient? Contemporary voice-based systems, by contrast, are less cumbersome for workers to use. In addition, although plastic pallets last longer, are cleaner, and are less likely to splinter than wooden pallets, plastic pallets tend to be a greater fire risk. Net profit margin measures the proportion of each sales dollar that is kept as profit, while asset turnover measures the efficiency of the capital employed to generate sales. First, the LPI can be analyzed for all countries according to the overall LPI score as well as according to scores on each of the six dimensions. Teo, Thompson S.H. and Kee-hung Lai. Lambert, Editor, Supply Chain Management: Processes, Partnerships, Performance, 4th ed. Terim's latest trip was to the Balkan nations of Bulgaria. Romania, and Greece. 6.3 How are procurement cards used in large organizations? One issue is that, unlike the United States where product is defective in some respect. Oversupply likely means higher-than-desired inventory costs, whereas undersupply can mean a dissatisfied—or even lost—customer. 10.19 Which two issues does warehouse security tend to focus on? As the packaged goods are moved from the end of the shipment, to the nation on the other end of the shipment. the effect is opposite because it must 4 Philip R. In most fixed order interval systems, by contrast, inventory levels are monitored much less frequently—often just before the scheduled order time. Today Terim's company has some connections by generating steady flows of commerce. In attempting to managers must first determine which data are relevant for their purposes. This chapter begins with a discussion of product characteristics and how they might affect packaging and materials handling. The "10 + 2" moniker refers to the fact that importers are required to file 10 pieces of information, and carriers two pieces of information, before cargo is loaded at non-U.S. water ports; Table 4.2 lists the "10 + 2" information requirements. 4 (2000): 23-26. P., 149n Alter, S., 40, 40n, 41f, 41n, 42n, 45n, 46n, 48n Alvarez-Gil, M. A 5-ounce paper tube of chips would wholesale (FOB plant) at 40 cents and retail for 59 cents. These ports would have to acquire and install the relevant scanning technology. For example, the orders associated with online shopping tend to be more plentiful and in much smaller quantities than those associated with in-store retailing. 1.9 Explain what is meant by optimal delivery times. (We refer to these shades as Style A.) The Style A lamp shades would cost \$4 each to manufacture and weighed 10 pounds. "Real-Time Performance Monitoring, Goal-Setting, and Feedback for Forklift Drivers in a Distribution Centre." Journal of Occupational and Organizational Psychology 82, no. Or, consider the concept of depreciation, which reduces the monetary value of inventory may be unchanged. However, the solution was not that easy. The seller's assessment of buyer risk can be based on previous experience with the buyer, references from other companies that trade with the buyer, and the buyer risk can be based on previous experience with the buyer. site because the operations may no longer be needed or can be absorbed by other facilities. Mentzer, and Theodore P. With respect to order scan be divided into categories, one for EDI orders. The need for additional distribution and production facilities often arises when an organization's service performance from existing facilities drops below "acceptable" levels. Next, logistics strategies are designed to ensure achievement of this vision and goals. Private warehousing facility that is owned by the firm using it. "Maritime Piracy in East Africa." Journal of International Affairs 62, no. 18 M01 MURP4846 11 GE C01.indd 18 03/06/14 5:11 PM Chapter 1 • An Overview of Logistics System in Relation to a Country's Gross Domestic Product Country United States South Africa India Thailand Brazil People's Republic of China Finland Vietnam Logistics as a Percentage of GDP 8.5 12.7 13.0 15.2 15.4 17.8 19.0 22.5 Sources: "South Africa: Logistics.pdf; "Heavy logistics costs weigh on China's economy: report—Xinhua,' English. Demand Forecasting Models2 The three basic types of forecasting models are (1) judgmental, (2) time series, and (3) cause and effect. On Mondays, the day that the warehouse was the busiest because it had to replenish the stores' weekend sales, Bigelow was groggy, tired, and irritable. Before concluding this brief discussion of activitybased costing, it's important to recognize that the cost drivers can vary from organization and should be driven by company-specific considerations such as organization and should be driver associated with order delivery. International Logistics International logistics, which refers to the logistics activities associated with goods that are sold across national boundaries, is much more costly and challenging than domestic logistics. A commonsense approach would be to fill an order from the facility location that is closest to the customer, with the idea that this should generate lower transportation costs as well as a shorter order cycle time. For example, goods moving by truck between the Lower 48 states and Alaska, through Canada, travel in bond, which means that the carrier handling them has a special legal obligation to keep them sealed and to make certain that they are not released for sale or use within the country through which they are traveling. He would need to know those costs before proceeding. Cargo preference Requires a certain percentage of traffic to move on a nation's flag vessels. For example, it might not be in a company's best interests to store very slow-moving inventories in all its warehousing facilities; doing so increases inventory carrying costs. Third, in an increasingly automated and computerized world, the relationships between customers and vendors can become dehumanized. To finalize both scheduling and pricing, he now needed to estimate the time it would take to fulfill the order, as well as the cost of transportation. 6 7 M08 MURP4846 11 GE C08.indd 159 03/06/14 5:23 PM 160 Part III • Elements of Logistics Systems By contrast, high turnover may signal a low level of inventories, which can increase the chance of product stockouts. Moreover, routine maintenance (another expense) should be performed on forklifts to keep them in optimal operating condition. Recently, an architectural firm that often contracted with Let There Be Light was commissioned to design several large public buildings in the People's Republic of China (China). First, supply chains are not a new concept in that most organizations traditionally have been dependent on suppliers, and organizations traditionally have served Supplier Organization Customer Figure 5a-Direct supply chain Supplier's supplier ... Supplier Customer ... Ultimate supplier ... Supplier Third-party logistics supplier Organization Customer Figure 5b-Extended supply chain Ultimate supplier ... Supplier Third-party logistics supplier Organization Customer Figure 5c-Ultimate supply chain Figure 5.1 Different Supply Chain Configurations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of meaningful and relevant metrics and it's possible for organizations should utilize a limited number of Positives and Pitfalls," Convenience Store Decisions, April 2012, 46-48. Berndsen decided to split the full order (224 buses) among the factories in Prague and the much larger plant in Munich. Unlike TL carriers operate through a system of terminals (a facility where freight is shifted between vehicles), and from each terminal small trucks go out to customers, delivering and picking up shipments. HDT officials had decided they could not grow and became satisfied with their niche in the very-heavytruck market. For example, a newly opened retail store may have some of its goods placed on consignment, meaning that the wholesaler, not the store, owns them. "A Framework for Purchasing Transport Services in Small and Medium Size Enterprises." International Journal of Physical Distribution & Logistics Management 38, no. For example, some companies may be uncomfortable with the concept of customer power in supply chains. Rate determination is essential to calculating the appropriate transportation cost, according to the following formula: Weight * rate = transportation charge Moreover, transportation rates are based on three primary factors—product, weight, and distance—which will be discussed next: • Relationships between different products, in terms of their handling characteristics, for example, the difference between carrying 2,000 pounds of ballpoint pens and 2,000 pounds of live chickens • Relationships between shipments of different weights, for example, shipments of 10 pounds each versus shipments of 10,000 pounds each versus shipments of 10,000 pounds each • Relationships between different distances the products are carried, for example, from Boston, Massachusetts, to Albany, New York, versus from Atlanta, Georgia, to Spokane, Washington Rate determination has to define all three relations in numeric form and then has to devise methods of tying those numbers into a rate for a specific shipment. 1 Procurement is also important because its costs often range between 60 and 80 percent of an organization's revenues. We have two alternatives." "What are they?" asked Pon. You should recognize that specialized storage requirements, such as refrigeration, result in higher storage costs. Order to cash cycle The length of time it takes an organization to receive payment for an order. 2 (2005): 17-25. Excess capacity Unused available space.

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