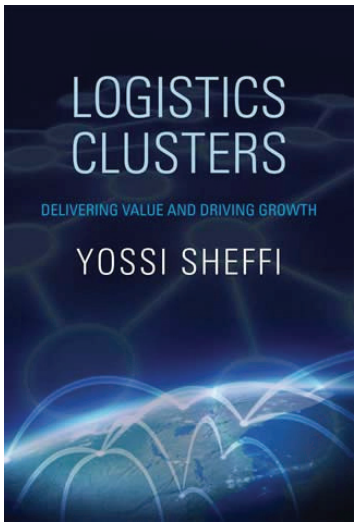
BOOK REVIEW

LOGISTICS CLUSTERS. DELIVERING VALUE AND DRIVING GROWTH

Zoltan Kato*
Academia de Studii Economice din Bucureşti, România

We live in a world where the exchange of goods, information and money is achieved through complex logistic processes.

The questions that the author tries to answer in his book are: What is a logistics cluster? Where are these logistics clusters formed, and where are they located? What is the difference in dynamics of the logistics clusters compared to other clusters or industrial parks? What kind of jobs exist in logistics clusters, and why the logistics clusters should be promoted and supported by authorities? How good and how reliable are these jobs? What is the environmental impact of logistics clusters? What is the role of authorities in creating successful logistics clusters and what benefits can be expected from them?



The book is composed of 10 chapters that describe the formation, development, peak, and decline of logistics clusters. Logistics clusters are formed by the agglomeration in a small geographic area, of entities characterized by logistics-intensive processes. These entities are usually providers of logistics services, logistics operations of industrial producers and those of other entities with multiple logistics operations.

Chapter 1 - **"Of Fish and Blouses and the Future of Regional Economies"-** presents the story of two companies: Inditex (parent company of the retailer ZARA) and Caladero (the largest retailer of frozen foods from Spain). Both companies are residents of Saragosa's PLAZA logistics park (Zaragoza Logistics Platform). The chapter also presents the formation of Saragosa's logistics park, the largest logistics park in Europe, with an area of 1,200 ha, which along with seven other specialized logistics parks form the logistics cluster of the region Aragon.

In chapter 2 - **"The Art and Technology of Economic Clustering",** the author makes a tour of the clusters of Florence (an area packed full with artistic aspirations), and those from Silicon Valley (having been recognized as being almost synonymous with technologic innovation). Thus, similar experiences separated half a millennium in time, may show how

* Author's contact: e-mail: kato_zoltan@yahoo.co.uk

the concentration of resources, knowledge, innovation, and culture, can lead to a "boom" in various industries, art, as well as in technology. Subsequently, relationships between companies that make up the clusters are presented, which can be vertical (as trading partners), and horizontal (firms from the same industrial category; e.g. Californian film studios). Also included are common features of clusters. These originally formed, and tend to continue to form, around the geographic perimeter which provides the concentration of resources, information, technologies, and knowledge, needed for development, thereby attracting economic benefits to nearby companies that belong to the same industry. Urban areas can be considered clusters of human activities that lead to superior economic performance, and the advantages of industrial clusters may be represented by confidence among residents, tacit knowledge sharing, collaborative environment, support for research and educational institutions, and the availability of supply sources. Nonetheless, governmental institutions should take into account that clusters' formation is not a panacea, which after providing a few basic ingredients, leads to the growth of clusters by themselves, thereby ensuring the development of a region.

In chapter 3 - **"The Geography of Logistic Clusters",** by providing the example of four major logistic clusters (Rotterdam, Singapore, Panama and Memphis), we find out when and why they were formed, fulfilling the two basic functions of logistics, transport and storage. Logistics clusters have contributed to the increase of the overall efficiency of transport and storage systems, and therefore to the outsourcing and globalization of international trade, which increased the global trade flows, thereby making logistics clusters larger and more efficient. Meanwhile, clarification is provided for terms such as cluster, center, hub, used by authors from different areas with intense logistics activities. For instance, U.S.A. and China employ the term "logistics parks", Denmark "transport centers", Spain "logistics platforms", Germany "freight villages" ("GVZ" or Güterverkehrszentren in German), India "distri parks", while other parts of world use "logistics centers".

In Chapter 4 - **"Operational Advantages",** are presented two categories of operational advantages that logistics clusters can offer: they can create lower costs and better services through their structure and transportation technology, and due to the nearby location of distribution operations, they can enhance each other's performance, as a result of resource sharing and availability of a larger range of warehouse space.

Chapter 5 - **"Adding Value"** revealed the main advantages for performing value-added activities, the simplest of which being the assembly operations, packaging, labeling, and preparing goods for retail sale. The logistics cluster permits a delay for the delivery of products closer to the time when the products are sold, through storage of the products, and provides a cost-effective opportunity for the process of personalization prior to shipping. The distribution centers support the retail operations by receiving the products in bulk from manufacturers, sorting, and then redistributing the products in smaller quantities in retail stores. Sometimes, the last stages of the manufacturing process can take place in a distribution center, which represents a more advanced type of delayed customization (e.g., customization for the country of destination). The recapture of electronic products sold as new and then refused/returned by refurbishing them and using them as such, leads to the recovery of their value.

In chapter 6 - **"Infrastructure"** the author describes the physical, financial, informational, and energy infrastructure, necessary for running a logistics cluster.

Physical infrastructure: within the global logistics clusters, the predominant investments are for transportation, buildings, land improvements, roads, ports, airports, and their management, as well as for the control infrastructure. Although apparently some natural resources such as rivers, harbors and oceans, are considered "given", even these natural assets require investments for the administration of large volumes of freight and heavy conveyances.

Financial infrastructure: Each delivery of products or services may involve several financial transactions, in addition to the payment between parties for possession of the product or receipt of the service. Additional transactions include tax and accounting operations, various other payments, accounting for reimbursement of taxes and payments of countervailing duties, deductions for incomplete or damaged goods, etc. Many of these financial transactions involve foreign exchange transactions, exercising financial options, complex accounting and other nontrivial financial activities.

Information infrastructure: A chain of information tracks each physical supply chain. Specifications, orders, required delivery dates, and various normative details move upstream along the supply chain, from retailers to distributors, from producers to suppliers. Once the products are shipped, the information about what was shipped, who is carrying, etc. is sent downstream. Shipping companies provide information about current locations and transport conditions at each stage of the journey. Even after shipment is delivered, the flow of information continues, pertaining to conditions of delivery, payment, and insurance payments conditions, etc.

Energy infrastructure consists of ensuring the amount of energy, mainly in the form of fossil fuel, for transportation purposes.

Chapter 7 - **"The Strong Role of Government"** shows us the role of governmental authorities in creating logistics assets such as logistics parks, intermodal terminals, and warehouses. The creation of asset-based logistics requires significant physical assets, many of which require funding from government or from authorities, which are subjected to government regulations.

Thus, logistics clusters are based on: 1) public investments in the transportation infrastructure, such as public roads, ports, airports, and railways; 2) authorities/governments control the land use, which is important for urban planning, zoning regulations, and building permits, which in turn influence directly the creation of private logistics assets; 3) governments provide direct or indirect incentives to encourage the development of new and private investments intended to bring "good jobs" in specific areas; 4) governments can provide "soft" public goods, such as educational institutions and other incentives, for workforce development; 5) governments control the trade through regulations, tax policies, immigration rules, environmental policies, and other levers that can make a site more or less friendly for logistics operations.

Chapter 8 - **"Education and Human Capital"** deals with logistics professions, which cover a wide range of specialties and skill levels. To ensure the labor force, many logistics clusters attract, develop, and make partnerships with institutions of vocational, postsecondary, and graduate education.

Chapter 9 - **"Regional impact"** deals with the approaches that many governments employ to attract investments in specific industries, therefore recognizing the synergistic value of

clusters in creating competitive advantage. Beyond the obvious resulting economic growth and their impact on job creation, logistics clusters provide a diversified economic base and even an economic justice element. While the creation of logistics clusters requires investments in infrastructure, often times these investments provide positive economic returns to the government, which are materialized in the creation of new and better paid jobs. The massive investments in workforce development provide a way to increase social mobility. Within logistics clusters new businesses are born and grow, which bring additional capabilities or offer new services, thereby creating opportunities for small firms, such as brokerage firms, which synchronize and manage logistics activities between transportation operators, suppliers, customers, service providers, and government agencies. Logistics clusters fund the construction of business incubators through "nurseries" for innovative start-ups. They diversify the local economy and because of this, they lead to a greater resistance to economic downturns.

Chapter 10 - **"Logistics Clusters Evolution"** is a reflection and an attempt to analyze the factors that affect the dynamics of the logistics clusters, which may lead to the formation of new clusters (in emerging markets), continuous change of the existing ones, and potential decline of others (new transport routes bypassing the old ones, changes in government support, continuous change of risks which affect the cluster - the high price of energy/fuel, protectionist anti-trade policies and regulations, such as quotas, import duties, and local laws that create barriers to world trade, and so on). This chapter summarizes the six factors found to associate with the successful logistics clusters: favorable geographical location, developed infrastructure, an effective and supporting government, education institutions, research and innovation, spirit of cooperation and unity of purpose on the part of those involved, value-added services used to alter, modify, enhance, or make repairs of goods.

In this book Dr. Sheff has demonstrated that logistics clusters offer more than an industrial center, because they benefit from transportation economies, which can provide many more benefits to a region. In turn, they may attract new businesses, generate new jobs, and further stimulate the area. Dr. Sheff explains the theory behind logistic clusters, with a perfect blend of examples from around the world.

The variety of issues addressed in the work of Professor Sheff reveals the complexity of the domain. The issues presented and analyzed are explained through practical examples, thus making the book a useful tool when researching the logistics clusters by both specialists and practitioners in the field, and students. I believe that "Logistics Clusters: Delivering Value and Driving Growth" is a book that makes an important contribution to the development of logistics and to the enrichment of knowledge in the field, thereby being a notable milestone in the literature, which provides usefulness and true value to the student readers, researchers, or practitioners.

The work as a whole arouses interest in topical issues addressed by concrete examples from the international reality. It also could be used as a starting point for interesting research topics in industrial clusters/logistics in our country.

In conclusion, I recommend the book as a useful acquisition for any researcher, department, or library specialized in social sciences. I invite you to read and reflect.

About the author

Dr. Yossi Sheffi obtained his "Bachelor of Science" from Israel Institute of Technology (Technion) in Israel in 1975, "Scientiæ Magister" from Massachusetts Institute of Technology (MIT) in 1977, and his PhD from MIT in 1978. He now lives in Boston, Massachusetts. He has led the Division of Systems Engineering at MIT. He is also director of the MIT Center for Transportation and Logistics, an expert in optimization systems, risk analysis, and supply chain management, which are subjects in which he teaches and performs research at MIT. He is author of dozens of scientific publications and three books: a manual for theoptimization of transportation, a business best-seller "The Resilient Enterprise: Overcoming Vulnerability for Competitive Advantage" (MIT Press, October 2005), and the recently published "Logistics Clusters: Delivering Value and Driving Growth".

Under his leadership, the MIT Center for Transportation and Logistics has launched several new education and research programs. He is the program director for the Master in Engineering Logistics (mlog) degree, which he founded and launched in 1998. In 2003 he launched the MIT-Zaragoza program, built a logistics university in Spain based on the unique concept in international academia, the partnership between government and industry.

Outside the University Professor Sheff advises worldwide governments and leaders of manufacturing, retail, and transportation companies. He is also an active entrepreneur who founded five successful companies.