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Logistics competitiveness in a megapolitan network of cities: A theoretical approach and some application in the Central Region of México

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Abstract

The paper provides a theoretical framework in order: i) to discuss the concepts on logistics competitiveness of a city, ii) to evaluate the logistics competitiveness inside a “megapolitan” network of cities, and iii) to improve public policies and strategies for the competitive logistical territorial management in the Central Region of Mexico (CRM) and to facilitate physical distribution of goods to a market of over 35 million inhabitants (in multiple cities forming the CRM).

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1. Introduction

The main background of this research is the following: i) an extensive review of literature on urban logistics competitiveness theory; ii) a large study on Strategic Logistics Nodes (SLN) and logistics platforms in the CRM (Antún *et al.*, 2009; 2010), and another study confined to the Metropolitan Zone of Mexico City (MZMC) and its first urban expansion ring (Lozano *et al.*, 2006); and iii) the analysis of trends on physical distribution of goods in the CRM.

This paper is based on a PhD Thesis (Alarcon, 2011) and a research carried out by the Transport and Territorial Systems Group of the Institute of Engineering of the National Autonomous University of

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Mexico (UNAM), by request from the Ministry of Economy of the Mexican Federal Government and the Committee for the Central Region Development (FIDCENTRO) (Antón *et al.*; 2009).

The paper contains two main parts. The first one is dedicated to the logistics competitiveness theories: the logistics competitiveness is described as a factor for the companies' competitiveness, then the territorial competitiveness is described in the context of the grown theories; later, the territorial competitiveness from a logistical perspective is presented, and the territorial logistical competitiveness is described.

The second part of the paper is focused on the strategic logistical nodes (SLN); they are presented as a strategy for the territorial logistics management; a methodological base for the identification of SLN is proposed; a base for the identification of SLN in the Central Region is presented, and the identification of outstanding logistical nodes, strategic logistical nodes, and type and profile of equipment and logistical infrastructure, in the Central Region, is presented. Finally, conclusion and references are included.

2. Logistics competitiveness, a factor for the companies' competitiveness

The competitiveness of a company mainly depends on the advantages linked to lower costs and the factors for making differences versus its competitors. The generation of competitive sustainable advantages is based on the structure and segmentation of the company, the competitive scope of the companies on similar segments, the management and coordination of activities through chains of value, and strategies for innovation. Instead of contesting on comparative advantages, the companies have to contest on competitive advantages (Porter, 1990); the latter advantages correspond to the capability of supplying products and services in a more effective and efficient way than the competitors do, in order to get a sustainable success in the market (Berroeta *et al.*, 1999).

An industry is formed of a set of companies with similar economical activities (Porter, 1990). Key elements for the competitive performance of the companies can be identified with base on the industry's structure and characteristics. The belonging to a competitive industry does not guarantee that a company will be successful in the market, but the company's competitive strategies do. The chain of value is also linked to the generation of competitive advantages (Porter 1997). The operation of any company includes interdependent primary and secondary activities, which contribute to the product final value; hence the strategies for management and coordination of the company operation must be integral at internal and external levels. The competitive sustainability of a company depends on the implementation of innovation strategies, developing more competitive advantages in a shorter time that its competitors can do. The innovation doesn't only respond to the possibility of changing, but rather to the speed for such change. The introduction of operative, organizational and technological innovations increases the company's productivity and competitiveness. Logistics has become a fundamental factor for the generation of competitive advantages and creation of value, through the planning, implementation and control of processes linked to physical flows, and the integration of processes along the supply chain.

The competitive advantages associated to the logistics of a company are based on the same premises about costs and differentiation elements.

On one hand, the efficient management of the key and supporting logistical processes allows reduce the costs related to the goods flow through the supply chain, the production and physical distribution costs, and especially the storage, inventories and transportation costs (Antón, 1994).

On the other hand, the capacity for putting a product in the place and at the time where a demand exists, satisfying the clients' requirements before its competitors can do (levels of service), is an important differing element for a company. The management and execution of the activities, which form the internal and external operation of a company, contribute to the final value of the product; in logistical terms, the management of the goods physical movements generates opportunities for the creation of

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