Logistics / Supply Chain Management

Industry Overview and Statistical Profile



September 2005



Industry Industrie Canada Canada



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Background

Productivity is about far more than old-fashioned concepts of a plant's unit-per-labour costs. As competition becomes more global, innovation is moving from a firm-to-firm level to a supply chain versus supply chain perspective. Incremental competitiveness advantage is now achieved when all the supply chain players are synchronized and collaborating together.

Supply chain management (SCM) encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, SCM integrates supply and demand management within and across companies.

Logistics management is that part of SCM 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.

Logistics management activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution: strategic, operational and tactical. Logistics management is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance and information technology¹.

1 - Industrial Structure

Logistics is becoming a key process innovation enabler across all sectors and a strategic competitive advantage tool. Logistics activities are done both in-house by ; users include all manufacturers, wholesalers and retailers representing 29% of total GDP, or by service providers. The Canadian industry generates \$50 billion revenues and \$75 billion in additional activity is done in-house across sectors². The Canadian industry generates exports of \$7.6B representing 12% of total service exports. Most common outsourced activities are outbound and inbound transportation, freight forwarding and customs brokerage and clearance. Most common in-house activities are inventory management, supply chain customer service, order management and order fulfillment³.



Chart A - In-house and Outsourced Supply Chain Activities in Canada (2005)³

II - The Canadian Logistics Industry

The Canadian logistics service sector can be segmented into three sub categories:

- Asset-Based Transportation Services
- Asset-Based Non-Transportation Services
- Non-Asset Based Logistics Services

Each of these sub categories has a different level of value added, potential for exports as well as impact on other sectors of the economy.

The Asset-Based Transportation Services

The asset-based transportation services sub sector is composed of transportation service providers focussing on transport of goods only. Logistics users generally outsourced transportation: 73% of Canadian firms outsourced their inbound transportation and 68% outsourced their outbound transportation³. Transportation accounts for 85% of the logistics industry revenues estimated at 50B\$ and trucking is the key sub-sector with 42% of the whole logistics industry and 75% of the transportation sector². The sub-sector is stable and starting to have some differentiation factors due to just in time (JIT), Smart Border and enhanced client demands regarding technology integration.

The Asset-based Non-Transportation Services / Third Party Logistics (3PL)

3PL service providers carries out physical logistics operations and manages systems to track shipments on behalf of the client. The value added 3PL company provides additional services including managing complex operational handling (comanufacturing and co-packing), managing administrative operations (billing ordering), managing information management systems (tracking-tracing), custom broker services, international freight forwarding and providing logistics and SCM consulting.

The industry is growing through the strategic buy out of portions of companies which are divesting their logistics related operations, which are not their core business. These new investments result in new companies which often have ready-made longterm service contracts, infrastructure, technology, workforce and collective agreements.

The 3PL sub-sector is a value added sector with 14 % of total industry revenues and 5 % of the employment of the global logistics industry². The 3PL market expected growth is 10-15% annually over the next five years in North America⁵.

Most common services provided by 3PL in Canada are warehousing, in and outbound transportation, consulting services, shipment consolidation, cross docking and carrier selection. Very few 3PL provide all value added services such as customs brokerage, 4PL and fleet management services³.



Chart B – Services Provided by 3PL in Canada (2005)³

The Non-Asset Based Logistics Services

Companies in this sector are characterized by the quasi-absence of their own physical facilities. Companies integrate the services of different sub-contracting companies (transport, storage, operations...) and coordinate and control them through management of the associated information flows.

Players in sub sector include: the 4PL (virtual 3PL), management consulting in supply chain and logistics, fleet management, supply chain and logistics information systems, shipment consolidators, carriers selection and logistics procurement services, rate negotiation, inventory management applications, distribution control, freight forwarding and customs clearance and brokerage.

An emerging sub sector is the 5PL firm attributed to logistics service providers who plan, organize and implement logistics solutions on behalf of a contracting party (mainly information systems) by exploiting the appropriate technologies (conceptual level).

Expected growth for the next five years is expected to be from 10-15% annually⁵. The sector employs around 60 000 employees that are highly qualified personnel (industrial engineers, certified customs and freight professionals, ICT specialists...) versus more operational occupations in the asset based services⁶.

This sub sector is the most complex and the most value added of all sub sectors. 76% of Canadian firms outsourced their customs clearance activities, 78% their customs brokerage, 65% their freight forwarding. Furthermore, 46% of medium and large Canadian firms do use logistics consulting service and the 4PL and 5PL market are emerging with a penetration rate of 20%³.

There are two clear markets in Canada. The traditional market; custom brokerage and freight forwarding is becoming more strategic since September 11, 2001 with new consulting services being offered in global security, web-based document exchange requirements, and Smart Border Certification processes.

The emerging market; the 5PL and the consulting services market is focusing on large corporations demanding implementation of supply chain processes and technology across their supplier networks. Large 3PL and couriers and messengers are also starting to be active in mergers and acquisition in the specialized services market with the aim of offering global solutions to their new logistics clients.

III – Logistics and SCM Performance Indicators

Supply chain costs are key to all sectors competitiveness. In consumer product goods (CPG), they represent 32% of total manufacturing costs in Canada versus 23% in U.S.⁴ The logistics costs decreased by 41%, as percentage of GDP, from 1982 to 2003 in the U.S. Over the same period, a key innovative sub sector was inventory management which experienced a 62% decrease in cost due to process and technology innovation diffusion⁵.





In terms of highly qualified personnel (HQP), the activity employs 620 225 logisticians, excluding truck drivers, in-house and in the industry⁶. The overall mix of type and nature of roles and required skills sets is changing with more emphasis on strategic business managers that can work at the executive level and supply chain specialists, including planners and analysts³. With that new value added and complex supply chain models, more than 75% of Canadian corporations across all sectors are having difficulty recruiting HQP logisticians⁷.





IV - Key Business Drivers

The most common business drivers currently impacting the supply chain and logistics operations include increasing complexity, financial /cost pressure, speed and quality expectations as well as information technology³.



Chart E - Canadian Logistics and Supply Chain Business Drivers (2005)³

Linked to those general business drivers, international trade supply chain business drivers are key to competitiveness of Canadian firms. The top 3 challenges for North American Exporters are logistics based, finding new buyers is ranked 4^{th8}.

Chart F - Greatest Challenges Facing North American Exporters (2003)⁸



The fallout from September 11, 2001 has resulted in a crisis for Canadian industries in moving goods across the border to the United States (U.S.). and a new element of

the North American supply chain integration model. Canada and the U.S. have the world's largest and most comprehensive trading relationship. No two countries trade as much on an annual or daily basis; 86% of Canada's merchandise exports are destined to the United States and approximately US \$475 billion of goods cross each year between the two countries⁹.

According to the Canadian Supply Chain Efficiency Smart Border Study, efficient border crossing was rated as very important by over 70% of Canadian firms. Border delays have had an impact on delivery times, with only 18% of Canadian firms reported that they were not being affected by border delays versus 82% who have experienced increased wait times and thus increased delivery times. Value added supply chain integration technology is expected to enhance smart border solutions via global visibility applications in the near future¹⁰.

Technology and the resulting information management requirements are also identified as key business drivers currently impacting the logistics function and expected to maintain a presence in the future.



Chart G - Canadian Supply Chain Technology Drivers in the Next Five Years (2005)³

As foundation technologies such as radio frequency identification (RFID), global data synchronization and collaboration and basic computing evolve, new businesses practices are emerging that fundamentally change the way supply chain respond efficiently to consumers. It is estimated that North American SMEs that will deploy supply chain integration and supplier relationship management (SRM) technology are expected to enjoy a 5% to 25% decrease in SCM cost and a 15% to 40% increase in quality and time-to-market over competitors that fail to make these investments through 2010¹¹.

One of the prerequisites of a successful SCM project is the level of technology adoption by all supply chain partners. In 2004, 54 percent of Canadian corporations did not have a SCM solution in place, nor did they have plans to implement one¹².



Chart H - SCM Technology Solution Market Penetration in Canada (2004)¹²

For those who have SCM technology, only 40 percent of their solutions connect to both suppliers and buyers, 37 percent connect to suppliers only and 22 percent connect companies to buyers only¹².

IV - Conclusion

After analyzing the findings of the "Logistics / Supply Chain Management: Industrial Intelligence Profile", it becomes increasingly apparent that competition is more global and that innovation is moving from a firm-to-firm level to a supply chain versus supply chain perspective. Logistics and SCM is thus becoming a key industrial sector as well as an enabler for innovation, competitiveness and commercialisation of technology and processes across all industrial sectors.

Industry Canada is working with the industry and national associations to develop action plans and information products that respond to the Canadian specific needs. Recent initiatives include notably the Lean Logistics Technology Roadmap, the Canadian Supply Chain Efficiency Smart Border Study and the Strategic HR Study of the Canadian Supply Chain Sector.

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