

## **Emerging trends in US Logistics and their impact on the Australian logistics marketplace**

As part of the Logistics Association of Australia (LAA) Logistics Development Award, I recently attended the U.S. Council of Supply Chain Management Professionals (CSCMP) annual conference in Philadelphia USA. During the conference, much discussion by participants, various industry research papers and a number of seminars revolved around the issue of emerging US logistics trends and their future impact on the US logistics industry. After CSCMP, I traveled throughout the USA, interviewing a number of major importers, transport companies, transport brokers, shipping lines and US government agencies to further discuss these emerging US Logistics trends.

The purpose of this article is to examine these emerging logistics trends and examine their effect or otherwise on the Australian logistics market in coming years. Unfortunately, due to space constraints, I have been unable to include any analysis of the bulk commodity logistics market or a detailed examination of supply chain activities relating to areas such sales and operational planning and demand forecasting.

By logistics segment, the major US Logistics trends in the last 2 years have been:

### **Road**

- Trucking costs up 8.6% in 2006 mainly due to fuel levies and surcharges. On some trade lanes fuel surcharges now account for 20– 25% of the total charges payable by shippers (NTML Detroit).
- Excess capacity in trucks (not trailers) in many trade lanes, partly due to carriers purchasing new trucks prior to the cut off for new Environment Protection Agency (EPA) engine efficiency rating standards in 2006.
- Trucking rates generally stagnant or, in the case of major routes, being cut due to over capacity of vehicles.
- 20,000 industry shortage in long distance truck drivers. This had also lead to existing drivers chasing increased wages by moving to new employers and large numbers of drivers with non English speaking backgrounds now being employed.
- Major retailers like Wal Mart insisting on multiple, small, daily deliveries to retail stores is increasing trucking activity and costs.

### **Warehousing/ Inventory/ Distribution**

- US inventory holdings of 1.9 trillion in 2006 (an all time high). The ratio of inventory to sales stocks had been declining since 1992 however this ratio is now beginning to reverse. Companies have begun holding increasing buffer stocks of inventory, seeking to maintain deliveries in the face of transport delays and segments of the US distribution system being at full capacity.
- Large retailers like Wal Mart, COSTCO, Best Buy etc., in an effort to increase profitability, have been pushing inventory back onto suppliers, requesting that greater stock levels be held by suppliers and the stock be held closer to the retailers stores themselves This has lead to an exponential growth in small regional DC's and an increase in multiple daily deliveries to store.

## Rail

- Despite rail being viewed with trepidation by most US shippers and carriers due to bottlenecks, slow network speeds and poor service levels, inter modal loadings were up 5% over 2005 and revenue has increased 28% since 2004 (Credit Author).
- Inter modal rail operators increased rates due to higher demand.

## Sea/ US Ports

- Increasing sea freight rates due to strong demand for Chinese imports. Carriers have taken this opportunity to increase rates.
- Port congestion, (particularly LA), due to the high level of imports and centrality to US distribution system. Due to congestion, alternative ports of entry have developed. Ports such as Baltimore, Boston and smaller Mexican ports
- Importers have also begun to use US east coast ports for imports from Asia.
- In an attempt to capitalize on the congestion on the road and improve market share, carriers (notably APL) have sought to change the market dynamic by introducing the 53 foot sea containers which will fit onto the back of a standard US road trailer chassis.

## The emerging influence of green and sustainable supply chain theories and practices

- The climate change debate is as strong, if not stronger, in the US than in Australia and significant US state and federal environmental acts or regulations are already in place.
- The influence of green and sustainable supply chain theory and practices is now being felt in mainstream US logistic activities.
- Corporate USA is being driven by marketing imperatives to be seen by consumers as environmentally responsible corporate citizens.
- Design for Environment (DFE) - the design of products and supply chains with environmental issues at the fore, including total recycling of all product parts, design of product parts to aid easy dismantling on recycling and selection of vendor down to raw material level with supplier's environmental impact being one of the primary purchasing selection criteria.

## Leading edge supply chain and logistic theories and practices.

- Disruptive Demographics - the effect that an older population demographic can have on consumer buying patterns and distribution activities.

## Collaborative Supply Chains

- Although primarily not a US initiative and concentrating more on the horizontal aspects of collaboration in the supply chain, the European Logistics Users Providers and Enablers Group (ELUG) is an excellent example of groups of shippers and logistic providers collaborating across supply chains, rather than directly competing through supply chains.
- Performance Based Logistics (PBL). Perhaps one of the most radical logistical ideas, PBL originated with the US military as a methodology to counter chronic cost overruns by major defence contractors. Essentially, PBL calls for contractors to provide logistic services, but the logistics contractor charges on a net cost basis with agreed profit share from the overall project paid to the logistic provider only as overall project profitability benchmarks are achieved.

#### Logistic/ supply chain planning tools, education and career development

- With total US business logistics costs increasing by 9.9% to USD1.31 trillion in 2006 from 2005 and total logistics costs having increased 64% in the past decade the need for logistic and supply chain planning tools to manage and control business costs and activities in the US market is paramount. One cannot fail to be impressed by the range and capabilities of Logistics planning tools available in the US market and in the efforts particularly by US retailers, in the optimization of distribution networks, both in terms of DC location and in selection of the correct carrier mix, but also as a fuel spend reduction strategy. A particularly good example of work in this area is the network optimization work by LogicTools on behalf of the US Limited Brands company.
- The importance of logistics and supply chain knowledge, education and innovation and the importance for this knowledge to be properly taught and disseminated is well recognized in the US industry along with the need for continual innovation in logistics and supply chain theory education.
- The large number of supply chain and logistics educational training courses along with research facilities and abilities.
- The desire to attract, retain and promote women in the industry. The US “Women in Logistics” initiative is to be commended.

#### **The applicability of these emerging trends in the Australian logistic marketplace**

As a logistics professional, it is impossible not to be awed by the sheer scale, complexity and professionalism of the US logistic marketplace. Beneath this however, lies a series of fundamental similarities (and some differences), between the two markets on which to project the applicability or otherwise of emerging US logistic trends onto the Australian logistic marketplace.

The similarity between US and Australian rail systems is striking -with the exception of bulk commodities, rail suffers from an almost universal negative image perception in that it is slow, prone to service failure and not responsive to customer needs. Whether these perceptions are valid or not is a separate topic in itself, but despite general acknowledgement that rail is the most cost effective and most energy efficient way to move goods, the rail system still has a way to go to convince potential customers that it offers a viable alternative to domestic trucking carriers, particularly in the FMCG area. Perhaps in a future lesson for the Australian rail system, the US rail network is dominated by two major providers (Burlington Northern and Union Pacific) and despite having one of the world's best inter modal rail system's in the 1970's and 80's, both service providers took advantage of the system running at full capacity to maximize profit by reducing spending on infrastructure. Over 20 years, this decline in infrastructure spending has slowed the system to the point where the logistic marketplace sees the rail network system as unreliable and overall non bulk rail volumes have declined. Consequently profitability in rail reduced and net investment by banks, investors etc., has slowed. Now, in an attempt to gain a share of the increasing volumes of containerized imports into the US, rail operators have commenced spending on rail infrastructure in order to increase capacity and reliability of the system. Interestingly, having achieved increased volumes in the last 3 years, both major rail service providers last year increased rates in an attempt to attract and retain investors into the rail market.

Despite the massive road congestion and the air pollution it causes (particularly in and around major cities), road has been the major beneficiary of US rail's continued failures along with the huge volume increase in imports from China and the move towards Just In Time (JIT) style retail distribution strategies. The US retail trend of pushing inventory holdings back onto suppliers and requiring smaller and more frequent deliveries is being followed by major retailers in Australia, however whether this will translate into the US experience of road carriers (including smaller regional carriers), extending their services into 3PL warehouse providers, offering order assembly/re palletizing and delivery to store services remains to be seen. A noticeable difference between the US and Australian road freight market, on the evidence I observed, is of the "all embracing" FMCG Australian transport service provider like Star Track/ TNT/ Toll/Linfox, possibly due to the number of small owner/operators competing in the US marketplace, attempting either to deal directly with major freight shippers or sub contract to major carriers. Most of these smaller companies specialize in a few major lanes and seek to work with customers and other carriers on that trade lane.

In this scenario, the average US Logistics manager working for a major importer/distributor deals directly with many small to medium line haul carriers/warehousing operations/customers in order to complete his or her distribution task. In addition, a far greater variety of distribution and cost options appear to be available to US freight shippers: Shipper owned vehicles, contractor vehicles, Full Truck Load (average 23% of distribution spend), Less than Truck Load (15%), Split service deliveries (shipping pallets to be delivered en route to a final destination – 13%), Freight prepaid, collect or cost share or Customer Pick Up (CPU), lead the US Logistics manager to develop a far greater knowledge of trade lane carrier options and cost structures than his or her

Australian counterpart. This scenario also gives rise to the need for companies to plan and manage their logistic activities and control their costs. Numerous technology driven solutions applications in transport management systems (TMS) warehouse management systems (WMS) sales forecasting/demand systems, network distribution optimization tools etc, are available to the US Logistics manager who, owing to market size, has access to logistic planning tools only available to the largest clients in the Australian market. Overall US company dollar expenditure on these planning tolls is rising at an average of 1.5% per annum.

Australia, until recently without an “umbrella” type international climate agreement such as Kyoto, and currently without a carbon trading emission scheme or a strong consistent clean air acts and regulations, has lagged behind the US in it’s approach to environmental issues, confining much of it’s activities so far to businesses trying to win consumer favor by marketing their “green” credentials. With the ratification of the Kyoto protocol, Australia commences the serious work of minimizing greenhouse gas emissions (GHG) and utilizing green and sustainable business practices to reduce its climatic impact. Based on US trends, the Australian logistics industry can expect to see increasing activity by various state and federal government agencies to control and limit GHG emissions and minimize fuel usage. An example of this is the US SmartWay program run by the US Federal Environment Protection Agency (EPA). Under this voluntary program, shippers, carriers and shipping lines receive an initial carbon footprint assessment from the EPA then seek to monitor, report and reduce usage through use of various fuel conservation techniques and technologies. Another expected “point of impact” will be in the improvement of air quality in and around port/transport facilities. Recent action by the Californian Air Resources Board (CARB) to limit the engine age of trucks entering the port of Los Angeles as a way of improving air quality can be expected to be followed here, however Australia should be wary of prescriptive schemes such as these as unless properly managed, can have the unintended side effect of actually increasing the number of trucks on the road.

Corporate Australian can be expected to follow the lead of corporate USA, and try to be seen by their customers as doing all they can to promote their environmental responsibility credentials. US retailers in particular have hit upon packaging reduction as one of the most effective ways to reduce their environmental impact. A corporate initiative launched by Wal Mart MD Lee Scott in 2006, targeted soap powder, detergent and toothpaste as “the low hanging fruit” of the packaging reduction area. Wal Mart requested soap powder suppliers to compress the powder granules therefore reducing the physical size of the product, to reduce the size of packaging required to supply, for example, 1kg of soap powder. A similar example was an annual reduction of 727 ocean shipping containers required to import toys from China after a request to the supplier to reduce the amount of packaging for the product. Suppliers such Hewlett Packard are particularly active in re usable and recyclable packaging.

Sustainable design and manufacturing strategies are particularly suited for use in Australia with its existing “clean and green” reputation. The work of US manufacturer Herman Miller whereby products are designed from inception to be dismantled for

recycling in under 30 seconds and the Australian Environmental Labeling Association (AELA) are great examples in this area.

The pioneering work of Australian Ms. Deborah Ellis from Carpenter Ellis in collaborative supply chains is an excellent example of how the collaborative supply chain model can be brought together and applied in Australia. The Hunter Valley Coal Chain Logistics Team (HVCCLT) should serve as an excellent example of how European and US collaborative supply chains can be applied in Australia. With its low population and high cost of distribution, Australia is uniquely placed to offer opportunities in collaborative supply chains, manufacturers shared distribution facilities and supply chain alignment.

Although of only marginal relevance to present day Australia, the effects of disruptive demographics will begin to be felt, particularly in the coastal “sea change” areas of Australia. US states such as Florida, with high proportions of elderly residents, now experience a general inability to source drivers and logistic personnel. As well, the population requires delivery of goods and services to their door rather than to a store location and in a packaging configuration that suits people who are unable to lift heavy items or manually handle items for normal domestic use.

Finally, I would like to thank the LAA for the fantastic opportunity that the Logistics Development Award afforded me. The LAA is doing a great job in helping the Australian logistics and supply chain industry educating Australian’s like myself in leading edge industry theories and practices and in disseminating this knowledge to fellow Australian logistic and supply chain professionals. Due to population size, Australia is unlikely to ever have the resources to compete with the US in terms of research and educational facilities, but awards such as the LAA development award go a long way towards helping to correct this difference between the US and Australian logistic and supply chain marketplaces.

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