



**LOGISTICS & SUPPLY
CHAIN INDUSTRY AGENDA
COUNCIL**

**FINAL REPORT
2010-2011**

World Economic Forum

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Message from the Forum

The World Economic Forum's Global Agenda Councils and Industry Agenda Councils are unique multistakeholder groups that convene relevant thought leaders from academia, government, business and other fields to capture the best knowledge on key issues and integrate them into global collaboration and decision-making processes.

For 2010-2011, the Forum's Logistics & Supply Chain Industry Agenda Council discussed many issues facing the logistics industry and global supply chains. Council Members also participated in cross-Council discussions on trade, climate change, catastrophic risk and consumer trends. This was conducted through bi-monthly conference calls and at the three-day Summit on the Global Agenda in Dubai in November 2010.

Alan McKinnon, Chair of the Logistics & Supply Chain Industry Agenda Council, participated in the Forum's Annual Meeting in Davos 2011 and presented the Council's output to the Governors of the Forum's Logistics & Transport Industry Community.

This report includes a summary of the Council's key insights and recommendations as well as contributions from various Council Members on some of the topics that the Logistics & Supply Chain Industry Agenda Council discussed throughout the 2010-2011 term. One of the main focuses of the Council's discussions during the year was on supply chain risk, especially in the wake of massive disruptions to transport networks and supply chains due to natural disasters. This includes not only the earthquake and tsunami that hit Japan in March 2011, but also the volcanic ash cloud in Europe and such terror threats as parcel bombs in Yemen and piracy off the coast of Somalia.

Learning from the example of the Forum's successful Logistics Emergency Teams, the Council recommended building a similar network of key supply chain decision-makers in the public and private sectors to improve risk preparedness, mitigation and response. During the Annual Meeting 2011, the Governors of the Logistics & Transport Industry Community mandated such a project to improve assessment, preparation and communication on systemic risks to supply chains and transport. The initiative is developing a common understanding of the risks and building a network of key decision-makers in stakeholder organizations to serve as a more effective response mechanism.

Council Members are also engaged in various other Forum initiatives, including consignment-level carbon reporting, enabling trade, humanitarian logistics and anti-corruption work.

On behalf of the World Economic Forum, we would like to thank the Council Members for their contribution to the work of the Logistics & Supply Chain Industry Agenda Council and look forward to another productive year.

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Introduction

In 2010 the World Economic Forum established the Logistics & Supply Chain Industry Agenda Council to examine major global challenges facing this sector and offer advice to companies and governments on how they should be addressed. In this report, Council Members outline some of the key challenges and opportunities that have been identified. While these are personal statements, they generally reflect the views of the Council as a whole. The contributions fall under five broad headings.

Exposure of global supply chains to systemic risk. The scale of the potential disruption to international trade has been clearly demonstrated over the past year by the effects of the Icelandic ash cloud and terrorist attacks on the air freight system. In recognition of the vulnerability of global logistics systems, the Forum has made supply chain risk a major focus of its Risk Response Network. Discussions held on this subject at the World Economic Forum Global Risks Meeting in New York in April 2011 highlighted the need for closer communication and cooperation between key players in the global supply network.

Climate change. At a time when globalization is relentlessly increasing the dependence of the global economy on freight transport, companies are coming under increasing pressure to reduce carbon emissions from their logistics operations. In few fields are the goals of economic development and environmental sustainability in such direct conflict as in logistics. Two of the papers in this report, however, present optimistic views of the potential for decarbonizing logistics from both macro- and micro-level perspectives.

International trade. Trends in international trade show an increase in the vulnerability and carbon-intensity of logistics, which are the subject of two other papers on changing trade patterns and the need for logistics systems, particularly in emerging markets, to be realigned and upgraded to accommodate them. One considers how companies may have to reconfigure their global supply chains in response to future changes in the relative costs of production around the world.

Supply chain collaboration. To achieve a quantum improvement in the economic and environmental performance of their logistics systems, companies will have to be prepared to collaborate to a much greater degree than at present. One paper in the report outlines the new business models and mindset that this will require, while the other argues that cloud computing offers the means of establishing new collaborative platforms across which supply chain data can be exchanged and logistical processes managed.

Supply chain talent. This theme arguably is the one which underpins all the others. For the logistics sector to meet the formidable challenges it now faces and implement the measures outlined in this report, it will need to recruit a new generation of high-calibre staff and upgrade the skills of its existing workforce. This will require a fundamental change in the widespread public perception of logistics as being a low-level “trucks and sheds” activity. Logistics business, governments and individual supply chain professionals need to do more to raise the profile of this activity and give people a greater sense of its complexity, sophistication and importance.

Alan McKinnon

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Key Council Insights and Recommendations

Key Council insights

Deficiencies in transport and logistics

infrastructure are inhibiting the growth of trade and need to be given greater attention in international discussions on trade enablement. While many key terminals and corridors are congested, excess capacity is being provided in sub-optimal locations as many countries and regions aspire to become logistics hubs.

Lack of hinterland infrastructure is constraining the development of some ports and airports, jeopardizing their longer term financial viability. There could be greater international coordination between governments, infrastructure providers and logistics operators to share information and coordinate planning, ensuring that bottlenecks are relieved, transport assets are well utilized and the freight modal split is optimized. The pricing of infrastructure could be used more effectively both to manage the available capacity and to incentivize greater private sector investment. The wider costs and benefits of rescheduling freight deliveries into off-peak periods also need to be more fully explored.

Intercompany collaboration and information

sharing remain major sources of supply chain improvement. This is being facilitated by technological advances, such as cloud computing, but still requires changes in corporate mindsets and procedures, and recognition by government competition agencies that these collaborative initiatives are beneficial and should be approved. The role of third-party logistics providers (3PLs) in the facilitation and implementation of these initiatives needs to be more clearly defined and reflected in performance measurement systems.

Globalization and increasing supply chain complexity are exposing logistics networks to much greater **risk of disruption**. This has been clearly demonstrated by the vulnerability of air freight-based operations to volcanic ash cloud. Preparation and coordination among stakeholders need to improve to deal with such systemic supply chain dislocation.

Another form of supply chain risk that merits greater priority is the inflow of counterfeit and contaminated products. **Illicit trade** is rapidly expanding, essentially defrauding companies and consumers, and often posing health and safety risks. This subject is currently under-researched and many 3PLs are not sufficiently sensitized to the issue and methods of addressing it.

In many parts of the world there is a **shortage of staff with logistics and supply chain skills**, which appears to be constraining the development of the sector. It

is often difficult to attract high-caliber individuals into logistics and supply chain management, partly because of its image and relative standing in business circles. There is a need to rebrand the field for career purposes, promote relevant educational and training programmes, and improve the international alignment of accreditation schemes for logistics and supply chain qualifications. The logistics industry could establish closer partnerships with academia and government to help address the current talent shortage.

Council Recommendations

- *Enabling trade:* The Council recommends improving dialogue between business leaders (large logistics companies and shippers) and trade ministers at regional trade agreement (RTA) negotiations to discuss actions to enable trade. Dialogue facilitated by targeted data could help raise broader awareness. Logistics indicators should be included in RTAs and in trade ministers' key performance indicators (KPIs).
- *Supply chain risk response mechanism:* In light of global supply chain disruptions due to extreme weather events, terrorism and other factors, the Council recommends developing a response mechanism, using the Logistics Emergency Teams model as an example. The Forum can play a role in building the network of relevant stakeholders, aggregating knowledge on best practices and systemic supply chain risk management tools, and convening workshops to "stress-test" networks and strengthen response capabilities. Based on the Council's recommendation, a supply chain and transport risk initiative has been launched within the Forum's Risk Response Network.
- *Supply chain talent:* Globally, there is a shortage of staff with the necessary skills to undertake logistics and supply chain tasks at all levels in the employment hierarchy, from operative to senior executive. The Council recommends that efforts be undertaken to assess the nature and scale of this problem and explore options for addressing it.
- *Sustainability and supply chain demand:* The community has undertaken significant work on supply chain decarbonization and consignment-level carbon reporting. The Council recommends a review of this work and outreach activity. One possible area for future research might be an assessment of the change in the shape of logistics structures due to physical adaptation to climate change, the decarbonization of other sectors of the economy and other macro changes

Responding to Systemic Supply Chain Disruptions

Recent events have highlighted how vulnerable our global supply chains are to disruptions. Natural disasters, such as earthquakes, hurricanes and floods, often have tragic consequences, including considerable impacts on supply chains. The effects of the 2011 Japanese earthquake and tsunami, for example, were felt by a multitude of companies around the world as a result of disruption to supply arrangements.

However, what is not always recognized is that much of the risk to supply chain continuity is often created by decisions that are taken by managers on the design of the supply chain itself. One could label such risks as systemic because they lie within the supply chain itself rather than in the wider business environment. Hence, it can be argued that the shape of the supply chain risk profile is largely determined by managerial decisions and actions and not just by the exposure to external risk sources.

Why are modern supply chains seemingly more vulnerable to disruption than ever before? There are many reasons, but some of the main sources of supply chain risk are:

- **Trend towards “lean” supply chains and just-in-time practices.** Many companies have actively sought to improve the efficiency of their supply chains by introducing just-in-time arrangements and have sought to make their operations leaner. This approach, while undoubtedly of merit in stable market conditions, may become less viable as volatility in the business environment increases.
- **Globalization of supply chains.** There has been a dramatic shift away from the predominantly “local-for-local” manufacturing and marketing strategies of the past. Today, as a result of offshore sourcing, manufacturing and assembly, supply chains extend from one side of the globe to the other. As a consequence, there can be an exposure to geopolitical risk as well as exchange rate changes and longer, more variable lead times.
- **Focused factories and centralized distribution.** Many companies have rationalized their production facilities and centralized their distribution. Thus, instead of many smaller and often local factories and warehouses serving local markets, those companies now seek to serve global markets from fewer but bigger facilities. As a result, the risk to the system as a whole increases if one of those facilities becomes inoperable.

As a result of these and other trends, today’s supply chains have undoubtedly become more complex. Complexity, properly defined, is not just about how complicated these networks are but rather how interconnected they are. The typical supply chain today will often have more nodes and links than in the past. This makes the task of controlling the network more difficult. For example, when Henry Ford’s Ford Motor Company produced the Model T in the early 1900s, the company owned most of the end-to-end supply chain, including steel mills, rubber plantations and component manufacturing factories. Today, Ford is a totally different business reliant on thousands of independent suppliers and partners located in many countries. As a result, the potential for unexpected events to impact any of the myriad nodes and links in the system, and hence disrupt its continuity, is increased.

What actions can companies take to mitigate the potential for disruptions to their supply chains in today’s highly interconnected world?

The first requirement is for a much higher level of supply chain understanding. In other words, do we understand the full extent of our supply/demand network? Because the potential for disruption may lie several stages away from the operations under our control (e.g. at the second or third tier in our supply chains), we need to recognize the dependencies that exist beyond our immediate customers and suppliers.

Detailed supply chain mapping is an essential first step in identifying the potential pinch points and critical paths that can add to supply chain vulnerability.

The second step is to create a more collaborative way of working with supply chain partners so that these potential vulnerabilities can be mitigated.

There is now a growing recognition of the need for a higher level of transparency and information sharing across the supply/demand network.

Tools such as event management systems are gradually being adopted, enabling organizations to have a greater awareness of potential problems before they become crises. The signs are that we are slowly putting aside the arms-length, often adversarial, approach to working with upstream and downstream partners in the supply chain. There is growing evidence that those companies who are best able to react rapidly to supply chain disruptions are also those who have a more collaborative approach to relationship management.

Perhaps most important of all, a vital prerequisite for supply chain risk mitigation is a strong commitment to improving supply chain agility. Agility in the context of supply chain management reflects the ability of the network to respond rapidly to unexpected events. It follows that organizations that have developed agile capabilities are likely to be able to bounce back more quickly if their supply chains are disrupted. In other words, they are resilient.

Agile organizations tend to have some common characteristics. First, they seek to establish high levels of collaboration with other members of their supply/demand network. The ability to access capacity and/or resources from other members of the network can often enhance resilience. Such arrangements, for example, have helped many Japanese companies recover more quickly from the impact of the 2011 earthquake.

Second, these companies constantly seek out opportunities for removing unnecessary complexity from their supply chains. They actively search for ways to reduce lead times through business process re-engineering and to break down organizational silos that impede cross-boundary working.

Finally, when making changes to their supply chain arrangements these organizations do not see cost reduction as the main priority. Rather, they invest in agility and responsiveness. They do this because they know that in a volatile and uncertain world the ability to respond rapidly as circumstances change is the ultimate source of competitive advantage.

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Decarbonizing Global Logistics: The Challenges Ahead

The World Economic Forum and Accenture have estimated that logistics accounts for around 5.5% of global greenhouse gas (GHG) emissions, roughly 90% of which come from freight transport and the rest from “logistics buildings”. This may seem a rather low percentage considering the vital role that logistics plays in sustaining life and maintaining living standards around the world. It is, however, likely to rise significantly over the next few decades unless strenuous efforts are made to decarbonize logistical activities.

The World Economic Forum and Accenture have estimated that logistics account for 5.5% of global greenhouse gas emissions.

Logistics’ share of total GHG emissions is likely to increase for several reasons; the overall demand for logistics services is expanding. There has traditionally been a close link between the level of logistical activity and economic growth. In some developed countries, such as the United Kingdom and Denmark, the positive correlation between freight traffic and GDP appears to have disappeared over the past decade. However, in many other nations the volume of freight movement is growing at least as fast as the economy as a whole.

Globalization has also led to a significant increase in the average transport distance of goods. Ironically, climate change adaptation and mitigation strategies may well reinforce the upward trend in logistical activity. For instance, the important shift to renewable forms of energy as well as enhanced coastal and flood protection will entail the movement of vast quantities of construction materials. Overall, the freight transport intensity of the global economy is likely to continue increasing.

The proportion of GHGs emitted by logistics is also likely to increase as it will be relatively difficult to wean off fossil fuels. Many other sectors are powered by electricity and will benefit from the decarbonization of electricity generation. While some logistics operations, such as urban van deliveries, electrified rail freight services, terminal handling and warehousing can run directly or indirectly (via batteries) on low-carbon electricity, many others, such as shipping, long-haul trucks and aircraft will have to continue relying on liquid, carbon-based fuel. Some of this fuel may be produced from plants and waste material and hence, on a life cycle basis, emit less GHG per litre consumed than fossil fuel. But it is likely that large quantities of fossil fuel will still be required to move freight two or three decades from now.

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If the repowering of logistics with alternative forms of low-carbon electricity is unable to offset the underlying growth in demand for logistics services, its total carbon footprint may grow in absolute terms unless other means can be found to reduce it. Against a global target of cutting total GHG emissions by 50% by 2050 and an EU objective of cutting by 80-95% by that date, public policy-makers are unlikely to grant the logistics sector the right to enlarge its carbon footprint. On the contrary, they have high expectations of this sector. For instance, the European Commission’s recently published white paper on transport stated the goal of achieving near zero-emission urban logistics by 2030. So what other decarbonization options are available?

One of the most radical proposals is to reverse the processes that historically have been driving freight traffic growth. The wider sourcing and marketing of products, for example, generates more freight movement per tonne of product produced and consumed. The centralization of production and warehousing to take advantage of economies of scale and lower inventory has had a similar effect. In theory, therefore, returning to more localized trading and decentralized logistics would reduce the demand for freight movement and related energy consumption and emissions. It would also, however, impede economic development, particularly in emerging markets, and not necessarily yield a net reduction in GHG emissions. After all, reducing the average distance that goods move may cut freight-related emissions, but freight transport represents only a small proportion of total life cycle emissions.

Production operations are typically responsible for a much greater proportion of total GHG emissions. The carbon-intensity of production is therefore a much more important determinant of a product’s life cycle emissions than the distance it is transported. The environmental benefits of decentralization can be challenged on similar grounds. Any carbon savings in the transport operation have to be weighed against the higher emissions from larger numbers of smaller, less energy-efficient facilities. So before heading down the localization-decentralization path, we need to conduct a more holistic analysis in which the carbon trade-offs between freight transport, warehousing and production are explicitly modelled.

The trend-reversal approach to decarbonization could also target just-in-time replenishment (JIT). JIT is a megatrend that has transformed production systems and supply chains over the past 30-40 years. It has long been accused of achieving inventory savings at the expense of poor vehicle utilization, higher traffic levels and greater emissions. In a low-carbon world, it may be necessary to redress this balance and give

high vehicle fill priority over lower stock levels. If only it were so simple. Portraying JIT just as a way of cutting inventory under-estimates the pervasive effect it has had on business practice, reducing waste and raising productivity. Any CO₂ increases from a reduction in vehicle loading can be more than offset by improvements in the energy efficiency of other business processes managed on a JIT basis. Again, rather than focus on transport-related CO₂ emissions we need to investigate the wider carbon implications of any relaxation of the JIT regime.

Given the difficulty of altering well-established business trends and practices, and uncertainty about the resulting environmental effects, a technological approach seems more appealing. Indeed a World Economic Forum/ Accenture study rated clean vehicle technology the highest of a set of 13 supply chain decarbonization measures. Past advances in vehicle technology have, after all, made logistics much “greener” today than it was 25 years ago. The prevailing view of future low-carbon technologies in the freight and warehousing sectors is optimistic. Fuel efficiency improvements of 20-30% are forecast for long-haul trucks, 35-45% reductions in the CO₂-intensity of new aircraft projected from engine and fuselage redesign by 2020, and a new generation of super-eco container ships envisaged post-2030 emitting 70% less CO₂ per container than the average vessel afloat today.

The diffusion and commercialization of transport innovation can be a slow process, particularly where it involves the fundamental redesign of a vehicle, vessel or aircraft. The replacement cycles for ships, planes and railway locomotives typically extend over 25 years or more – a long time relative to the 40 years over which we have to cut total GHG emissions by 50% to avoid catastrophic global warming. Compressing these cycles would carry a high economic cost and significantly increase carbon emissions from vehicle production and dismantling operations. Retrofitting energy saving devices to existing vehicles and vessels offers a quicker, more incremental and often more cost-effective pathway to low-carbon logistics.

Over the next few decades new technology will decarbonize some transport modes more rapidly, and to a greater extent, than others. This is an important point for those advocating freight modal shifts as the primary means of decarbonizing logistics. Much-quoted figures showing that the carbon intensity of mode X is Y percent lower than that of mode Z need to be kept under constant review. They should also be very carefully interpreted. The amount of CO₂ emitted per tonne/km by a particular mode is very sensitive to the averaging

of load factors, fuel efficiency and the carbon content of energy used. Published statistics also give only a partial view of a mode’s overall carbon impact because they exclude emissions from the construction, maintenance and dismantling of its vehicles and infrastructure. Future formulation of public policy and business strategy on decarbonization should be based on a more comprehensive assessment of the carbon footprints of individual transport modes and intermodal combinations.

Full exploitation of the carbon benefits of new technologies will require a change in the behaviour of managers and operatives.

There has been a long history in logistics of new software, IT systems and physical devices being poorly implemented and some of their economic and environmental potential being squandered. This is well illustrated by computerized vehicle routing software which, in many companies, could offer greater gains in delivery efficiency if ordering and working practices were made more flexible.

It is at this operational level where, arguably, we should be concentrating our logistics decarbonization efforts for the next few years. Here lies much of the “low-hanging fruit” in measures that can be quickly and easily implemented and simultaneously cut carbon and cost. Top of the list is training in eco-driving principles, predominantly but not exclusively in the road freight sector, reinforced by telematic monitoring of drivers’ fuel efficiency performance. Then comes improved vehicle maintenance, better loading, night-time delivery and so on, each trimming the carbon footprint by a few percent but collectively reducing the carbon intensity of logistics by a significant margin.

These best practice measures, however, are unlikely to reduce it enough to offset the strong underlying growth in demand for logistics services mentioned at the start. They, nevertheless, create a carbon reduction culture in the logistics management and workforce by offering quick wins and help to get logistics onto a downward emissions trajectory.

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Observations on Managing Carbon Emissions in the Ports and Maritime Sectors



In line with most global businesses, the shipping and ports sector is already experiencing significant exposure to the risks posed by climate change. Companies in the maritime sector are responding to these risks proactively and some beyond their obligations.

Organizations that do not take action quickly may become less competitive as shippers seek partners that can clearly demonstrate sustainable credentials in the logistics supply chain.

DP World, the international terminal operator, understands that carbon footprint issues within individual facilities and along the transport and logistics supply chain are complex. Our main focus in the last two years has been to approach our energy monitoring, data collection procedures and carbon accounting protocols in a more robust manner.

Drivers

2011 has been a critical year for climate change action, particularly with the International Maritime Organization (IMO) under pressure to deliver firm mechanisms to implement emission reductions from shipping. Supply chain pressure is also ramping up and could become the key driver for effective carbon management in the coming years. As consumers become more aware of the adverse impacts of greenhouse gas (GHG) emissions, businesses will have to take responsibility in catalysing step changes in emissions reduction while demanding transparency on all sustainability issues throughout the supply chain. Approximately 90% of the world's goods are moved by ship and handled by container terminals, so continual improvement in the sector is integral to the global supply chain.

Carbon Management Techniques

DP World – through its environmental strategy, carbon reduction targets and leadership from its board of directors – is furthering the carbon and sustainability agenda. This self-drive is complemented by external

forces, in particular through legislation (e.g. carbon reporting in Australia) and environmental and social reporting requirements by financial institutions.

Since 2008, DP World has had an environmental strategy in place, which places a strong emphasis on measurement. A quantified baseline is absolutely critical in being able to select the most appropriate low-carbon technology solutions. This is a difficult task for shipping, ports and logistics companies, all of which have complex structures and sources of carbon emissions from different – but interlinked – business activities. This is further complicated by the complexities of apportioning the emissions to discrete customer shipments, consignments or containers. Measuring carbon emissions according to a defined methodology (e.g. the GHG Protocol Corporate Standard) is a second step in enabling a detailed understanding of where carbon emissions are occurring across different operational activities. This information can then be used for reporting externally (e.g. the Carbon Disclosure Project) and developing a targeted carbon reduction strategy.

DP World was the first international terminal operator to purchase a tailored online Carbon Tool to collate and analyses its GHG emissions. Data collection is decentralised, simplifying the process whilst engaging employees. Once data is processed by the Carbon Tool, the solution can then be used to analyse where emissions are occurring across an organisation or supply chain, with carbon reduction projects identified and progress monitored over time.

Reduction Strategies

In the maritime sector there are many opportunities for carbon reduction, from sophisticated navigation and tracking systems to mechanical and retrofit solutions to reduce fossil fuel consumption.

These can result in big wins to companies. A large proportion of supply chain emissions (approximately 80%) typically come from the movement of freight during the deep sea shipping leg. For shipping lines, gains here represent not only operational costs savings but also competitive opportunities as carbon becomes a key procurement consideration among retailers and shippers.

At marine terminals and ports there are also good opportunities for reductions. Examples vary from switch-off energy awareness campaigns and larger-scale retrofitting projects on large mobile equipment fleets to investment in renewable energy, such as

installing photovoltaic/solar cells and wind turbines. Furthermore, terminal operators can change their purchasing strategies to add only lower-carbon technology solutions (e.g. electrically-driven Automatic Stacking Cranes and eco-friendly rubber-tired gantry cranes) so that carbon efficiency becomes part of a company's DNA – its way of doing business.

One other area where GHG emissions can be avoided and reduced is through best practice logistical planning. This can be within a terminal, where the layout is modified so containers and cargo have to be moved less or in the wider logistics supply chain to avoid road or rail miles. For example, there is a shift in Europe towards building logistics centres adjacent to new container terminals. This is the port-centric model, which removes the need for freight to be transported to warehouses for distribution and means trucks are removed from the roads.

Conclusion

Currently, most GHG reduction strategies are small scale and are initiated by individual organizations. To initiate greater improvements, increased collaboration between shipping lines, terminal operators, port authorities and logistics companies, will be essential. Through increased collaboration between stakeholders, more ambitious and effective reduction projects, including synchronized logistics movements and larger-scale renewable energy projects, will need to be implemented. It is important to quantify the situation before and after the project so that the actual cost, carbon and time savings can be identified for sharing and replication.

Progress towards the long-term aim of a lower carbon maritime sector will not occur overnight. It will be the result of both big and small steps taken by every company, every facility and individual at DP World. We do recognize that as a global terminal operator, we play an important role in the supply chain that we all rely on. The simple message for every participant in the supply chain is that until we are both measuring and reporting our consumption and carbon emissions in a thorough and transparent manner, we cannot expect our partners and customers to believe we are serious about playing any part in tackling climate change.

It is vital that we continue to manage our environmental impacts, avoid and eliminate unnecessary energy use, raise awareness of our footprint and invest in best practices in striving for continual improvement. That is the message being reiterated to staff and teams within DP World.

Through collaboration, sharing ideas and promoting better ways of transporting and handling containers, we can gradually take carbon out of the supply chain and make a significant difference.

We, after all, believe that environmental awareness and continual performance improvement should be part of all aspects of our lives. Hence, we must strive to influence our partners and customers, and ensure the well being of not only our own families, but also the communities in which we operate. We take this duty and responsibility towards future generations very seriously.

Mohammed Sharaf

Chief Executive Officer, DP World, United Arab Emirates

Emerging Markets, Trade Facilitation and Trade Logistics

The Emerging Markets Club

According to the OECD, emerging markets contribute to nearly half of the world's GDP.

And according to *The Economist*, more than 20,000 multinational corporations operate in emerging economies, with Western multinational corporations expecting to find 70% of their future growth there; 40% of it in China and India alone. Indeed, emerging markets have one thing in common: a remarkable growth in their economies.

However, these markets are not a single homogenous group. They develop differently, have different infrastructural, socio-economic and regulatory challenges, face different environmental and geographical constraints, and, to a certain extent, afford different opportunities for business. We argue that the lack of adequate development in the areas of trade facilitation and trade logistics can curtail the growth for these markets and the world.

The general consensus is that most of the world's economic growth for this decade and the next will centre on developing economies, led largely by China and India. These emerging markets not only have large pools of relatively cheap labour needed for low-end production and assembling, but also form a significant percentage (about 35%) of the global population of over 2.4 billion people with disposable income to spend (found mostly in urban cities).

For China, consumer-based components (consumer products, food and beverages) have contributed the most in sales in 2009. To ensure this growth, China has a strategic interest in securing reliable supplies of major commodities from resource-rich countries such as Australia, Ghana and Brazil. Sales in automotives, another indicator of consumer demand, have picked up in China and India, and this will continue to do so in tandem with higher social status aspirations.

India is predicted to be the largest automotive market by 2040 while China is now the world's largest automotive market, exceeding the US by 3 million units as of 2009; China is forecast to exceed the US in GDP growth by 2050. India has an expanding middle class currently at 250 million, for which goods such as Levi's jeans are now a status symbol. India already hosts seven of the world's top 15 technology outsourcing companies, such as Infosys and Wipro, and the GDP per capita will quadruple from 2007 to 2020. Indeed, India's population will overtake that of China by 2035; China-India trade is growing and is likely to reach US\$ 60 billion this year.

Clearly, consumer spending power will shift from the developed countries to the emerging markets, particularly in China and India.

But the effect is not uniform as they have large domestic markets or regions with substantial numbers of economically less wealthy people who are usually away from the key cities of the emerging markets. This increases the cost of domestic logistics and transport.

Growth for Emerging Markets

These markets, having seen the rapid rise of successful small countries such as Singapore, are keen to join the "bandwagon" of rapid growth and industrialization, so as to move up the ladder of higher value add. Indeed, many such countries recognize the need to focus on building critical basic logistics infrastructure such as airports, highways and shipping ports to ensure that the conduits of commerce and trade remain connected, seamless and unblocked.

They are also acutely aware of the need to enlist external aid to help erect these key infrastructures through either financial or technical assistance. This, however, cannot ensure a sustained growth path for such economies. To dovetail with the globally connected world of commerce and to sit squarely on the platform of an extended supply chain visibility, there are other soft infrastructure that needs to be in place to ensure smooth connectivity for trade (through trade facilitation) and logistics, and hence economic growth. This second level of infrastructure development comes in the form of information and communications technology where some developing economies, by current default, can afford to leapfrog on legacy technologies and embrace new generation applications, including Web 2.0 and cloud computing, to drive their engines of growth.

In the arena of trade logistics, the presence of robust soft infrastructure and stable government regulations that facilitate the key network components of a global marketplace is critical. Some of the network components specific to logistics and trade pertain to the efficient and transparent customs clearance processes for good supply chain connectivity across and within borders. For Asia-Pacific Economic Cooperation (APEC) countries, institutional capacity building is providing the best framework for supply connectivity within the group's 21 countries, where at least half of the MSCI list of emerging markets is also members of APEC.

Further, for countries that make up the Association of Southeast Asian Nations (ASEAN), the game plan is to strategize the logistics services sector to foster the quick establishment of an ASEAN Economic Community by 2015, where again half of its members belong to the

emerging markets club. ASEAN, like APEC, recognizes that good supply chain connectivity and trade facilitation are critical to a region's economic growth.

Emerging Market Challenges

On balance, however, the current logistics inefficiencies of operating in the emerging markets persist. These inefficiencies can pose severe operational challenges to a company's logistics plan in an emerging market. First, companies operating in emerging markets – seen as potential growth markets for finished goods – need to deal with a fragmented distribution supply chain and weak trade facilitation. As a response, business is forced to build redundancy in their supply chain through more buffer or pipeline inventory, additional storage facilities, higher component prices or getting the consumer to pay for the delays in transit. This production surplus clearly does not help the consumer.

Second, there are inefficiencies leading to a rise in the direct cost of doing business and managing logistics (such costs as a percentage of GDP can be as high as 22%). Numerous reports from independent sources such as the World Bank and McKinsey Quarterly have estimated that the total cost of logistics, including transportation, in an emerging market as compared to that of a mature market is almost double. The reasons attributed are the lower total productivity of labour and capital, and the lower quality and utilization of the existing infrastructure. This is a structural problem which all emerging markets suffer from due to lower training levels of the workforce and the false lull of abundant cheap labour albeit poorer technical quality. Similarly, the indirect cost of doing business in emerging markets is also high and this is due to the poor reliability in logistics and transport, such as inconsistent delivery lead times and informal logistics facilitation at the border and across the border to ensure the uninterrupted transport of goods. There is also the usual problem of inefficiency of cross border clearance processes (i.e. speed, simplicity and predictability of formalities) by border control agencies. Long waiting times at certain choke points is an undesired trade barrier.

Third, the choice of modality differs due to terrain and geography. Take the case of China and India. India has the second largest road network in the world (though China is fast catching up). Thus, domestic transport in India is predominantly by road, with about 3 million kilometers of the system paved. China, however, has slightly more than a 1 million kilometers of roads, which are newer, better and wider, passable for larger trucks and other vehicles. An UNCTAD study has estimated that a 10% reduction in transportation cost would raise international and domestic trade by 20%. Clearly, we need to reduce the trade distance.

Business and logistics service providers have been lobbying collectively for emerging market host governments to lower the high cost of domestic distribution due to longer waiting times, more touch points and greater bureaucracy with limited success.

A Tripartite Prescription

The pain points of any emerging market aspiring to reach developed market status can only be removed on a tripartite basis through the collective and collaborative efforts of government, domestic business and foreign players. Governments, to ensure a faster acceleration on the economic growth curve, must simplify their regulatory environment as much as possible, reduce the number of touch points needed to process a document for the production and transit of goods for export-import purposes. The country's regulatory requirements must be consistent, greatly simplified and harmonized to make it less burdensome and more transparent for business, and be more assistive especially in opening new businesses.

The legal and law enforcement systems must be strengthened and made as transparent as possible to reduce the dependence on informal logistics facilitation at the border, which can contribute to a significant amount of the logistics cost of doing business. Domestic business must adopt international best practices in logistics systems and be open to competition from foreign companies. This will help to lift the game for all concerned. Foreign players, be they multinational companies or third-party logistics providers, must be prepared to transfer some of the cutting-edge technology and share their technology adoption roadmap with their domestic partners as well as bring the skills of local communities to international standards and pay market rates to the domestic workforce.

In short, the fastest way to assist in the growth of an emerging market is to invest in the country as a long-term partner, and be prepared to face the intense competitive pressures of serving the mass market in the emerging economies such as those experienced in China and India.

Moving Forward

It is to be expected, given their rate of economic development, that emerging markets need international standard trade logistics processes. Even in India, there is a challenge finding local logistics services provider partners to build dedicated logistics facilities to standards required by multinationals. In all emerging markets, growth is fast but the change needed to match and propel growth, be it for export market internationally or for the large domestic market, needs to be faster.

The winners in this trade logistics game will be those who recognize the fact that emerging markets in different geographies exhibit different growth behaviour, have different strengths, expect different interactions, and need different forms of assistance and trade facilitation. While the emerging markets appear both as favourable offshore-sourcing locations and as key centres of demand within their global supply operations, in many cases, these countries present supply chain challenges in terms of logistics, cost and reliability.

Multinationals and third-party logistics providers should play to the existing strengths and unique operating conditions of these emerging markets. They must be willing to invest in and understand the logic and behaviour of consumers in these diverse markets, with the help of renowned supply chain management solutions providers, to redesign and adapt their supply chain configurations so as to cope with local country characteristics. Business should put in place extended value chain capabilities to connect and integrate the manufacturers and distributors in a collaborative manner. Failing to engage emerging markets correctly, either for their relative cost or comparative advantages in production or the presence of raw materials and the increasingly affluent domestic sector, will curtail the path to globalization for all concerned.

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Wage Increases in China: Should Multinationals Rethink Their Manufacturing and Sourcing Strategies?

For decades, we have enjoyed a relatively stable supply chain environment, cheap oil, low cost labour in Asia and high demand in developed economies. Supply chains were built on relatively simple equations, balancing the trade-offs between transport cost, inventory holding cost and labour costs. However, the world is changing faster than ever and volatility is now the “new norm”, which is challenging many global supply chains around the world. The possibility of oil prices above US\$ 150 per barrel, demand increases in Asia or pace of wage increases in China are all hard to predict and all rank among these potentially transformative changes to supply chains.

The best companies must sense shifting sands well before those changes transform the landscape, and they must respond quickly and creatively to the shifts.

Supply chains must be more dynamic to meet these changes and decision-makers must be more informed than ever to allow them to optimize. In this paper, we will look at just one of these drivers – China’s wage inflation – and explore some recent research conducted by Accenture.

China’s economic growth has intensified competition for skilled labour within China among multinational and local companies doing business there. As a result, wage levels have risen, particularly in China’s urban areas. Wage rates in China have historically been about 7% of those in developed markets (Figure 1). This year, however, 13 provinces in China, prompted by their respective governments, have raised the minimum wage level by an average of 20%. Some major manufacturers doing business in China have raised wages to address problems of increasing employee turnover and even suicides.

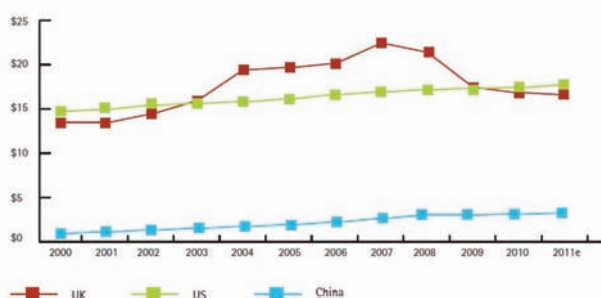


Figure 1 . Average hourly wage, developed economies vs. China (in US dollars per hour) - Accenture Analysis of ILO data. Data for 2010 estimated from official monthly statistics reports, forecast for 2011 based on internal ARIMA regression model.

At Foxconn, based in the Guangdong Province, for example, turnover soared from 8.3% in 2001 to 14% in 2009. In just two months during 2010, as many as 10 employees took their own lives. In response, Foxconn has raised the monthly salary level for factory workers from RMB 900 (US\$ 140) to RMB 2,000 (US\$ 310). Honda has also offered salary increases of 24-32% to its Chinese workers. Hewitt Associates LLC reported an average salary raise by multinationals in China of 8.4% in 2009.

These developments, combined with the government’s drive to reduce the country’s dependence on exports, raise several questions: Will wage inflation threaten China’s competitive position as a low-cost manufacturing destination? And will it have major implications for multinationals’ manufacturing and sourcing strategies? A recent study conducted by Accenture suggests, not surprisingly, that wage increase in China is expected to impact manufacturing costs and the impact will vary across industries and product categories. Most notably, evidence suggests that the impact of volatility in labour costs on end price or margin of companies with a strong manufacturing base in China is significant, but the impact on sourcing decisions is likely to be minimal, given that effects on margins will likely be negated by efficiency improvements.

Consider the following highlights:

- Assuming a minimum wage increase of 30%, margins for companies with a strong manufacturing base in China (that is, 30-100% production in China) are expected to decrease just 1-5%. This is because labour costs represent a small portion of the multinational corporation price for these firms. Such companies may offset the impact on margins by increasing their productivity, reducing costs and improving their supply chain processes.
- Although China’s wages have grown faster than in many other low-cost countries (LCCs), and are expected to be more than twice the wages in Vietnam, its hourly wage rates are still far more competitive than those in the developed world, especially in industries that require unskilled labour, such as apparel. In fact, the absolute wage differential between China and developed countries is continuing to widen, and China’s wage level in the apparel industry represents less than 9% of the overall average wage in the UK or the US, owing to historically lower base-wage levels in China.

- The price increase will remain minimal, with no significant impact on consumer demand. With the growing purchasing power of domestic Chinese consumers, the additional demand is expected to fuel price increases in the long term. However, such a trend may have a negative impact on margins for export goods that are manufactured in China.

Simply put, wage increases in China will drive positive change for multinational corporations, but should not trigger a reactive panic among these companies.

For some multinationals that currently outsource largely to manufacturers in China, LCCs such as Vietnam, Thailand, Malaysia and Indonesia may become increasingly attractive as alternative sources for global production. However, multinationals considering these sources could face challenges such as less developed infrastructure in ports, roads and facilities, shortages of skilled workers, and political instability. Multinationals with their own manufacturing facilities based in China may continue to locate more production facilities in China's interior and western regions, where wage rates are still lower than those in the eastern coastal cities.

In general, what can manufacturers do to mitigate the effects of wage inflation in China? Our research suggests four strategic options:

1. Focus on operational excellence. To offset the impact of increased labour costs in China, multinationals need to aspire to higher levels of operational excellence. Namely, they must foster collaboration between their functional areas as well as enhance their productivity, efficiency and process optimization.
2. Expand across West China and ASEAN. Multinationals with their own manufacturing operations in China can also take a "Chinaplus" model approach, locating more plants in western China as well as in ASEAN member countries. This approach can help lower cost structure and increase flexibility across the region to support future profitable growth. In addition, these companies can shift their production and supply efforts closer to markets with higher demand potential.
3. Optimize across the globe. Instead of taking the drastic step of moving all their production bases outside of China, multinationals can create centres of excellence. These centres can help optimize a company's manufacturing footprint globally and focus on a Total Cost to Serve model. With an

optimized global manufacturing footprint, companies can flexibly shift production activities among different facilities as needed to keep costs low and to serve their most demanding markets quickly.

4. Labour cost is only one of the major volatile indices that continue to put pressure on multinationals operating margins. As consumer demand continues to grow, multinationals and local manufacturers alike will need to refine their operational excellence and manufacturing strategies to stay ahead of the curve. China specifically, and Asia more generally, will continue to shape the world economic landscape as a leading source of goods and services. For this reason, it is essential that manufacturers strengthen their footprint in this region to maintain their competitive position on the global stage.
5. Grow the local market. With strong demand growth in business and consumer sectors, China remains to be an increasingly important end user market for multinationals. To seize advantage of the opportunities presented by this trend, multinationals with manufacturing operations in China can reconfigure their supply chain management strategies to distribute and sell products to Chinese customers. That will entail making changes such as strengthening capacities in outbound transportation, storage and distribution.

Volatility is the new normal in supply chain and logistics. We need to be more dynamic, more savvy and more informed than ever before to optimize and mitigate risk.

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The full report can be accessed at <http://www.accenture.com/us-en/Pages/insight-wages-increases-china.aspx>

Supply Chain Collaboration: The New Competitive Parity?

There has been much said in recent years with regard to value creation opportunities available through supply chain collaboration. While easily pontificated and occasionally explored, true market-level collaboration has yet to find its way to the forefront of most supply chain business models.

Our historical model of proprietary control over our supply chain processes relegates us to the upside limits of internal optimization. With vendors and service providers also looking to control their own destiny based on what they own, our collective ability to shape the components into an outcome where the whole is greater than the sum of the parts is virtually non-existent.

As supply chain professionals, why should we care to collaborate? For decades our drive to optimize what we control in support of our company's objectives has been considered good enough, leading edge and best in class. Why should we consider a change in our overall strategy now?

Global impacts affecting our supply chain people and processes are rapidly occurring. Shifting population growth, volatile costs for fuel, forecasted global inflation, driver shortages, manufacturing and sourcing shifts, capacity constraints (real and planned), environmental impacts, shortage of supply chain talent and increasing legislative impacts are all real concerns with real consequences against our supply chain as a cost effective enabling capability.

The ability to control and/or mitigate these impacts will require a new approach, one that reaches beyond internal optimization, positioning our companies to compete at the point of demand and utilizing supply chain parity across a leveraged playing field with partners, and in some cases, competitors.

What is to be gained in driving a paradigm shift from the competitive advantage of yesterday to competitive parity tomorrow? The benefits of optimizing your supply chain in combination with the capacity, volume and processes of others around you include bottom line savings, cost avoidance opportunities and improved talent management. Included in these value drivers are: reduction of empty miles; improved utilization of assets; increased backhaul revenue; increased capacity; improved fixed versus variable costs; improved security capability; leveraged management; and increased flexibility/adaptability in driving the quality, speed and cost attributes of integrated supply chain end-to-end processes.

While potential benefits resulting from collaboration are easily quantifiable, the challenges of getting to the collaboration table are extreme, time-consuming and often times frustratingly slow.

This is particularly true if one of the interested parties is perceived as a significant power at the table with much to gain in having control of the collaboration process in and of itself. Mistrust and suspicion are often prevalent and one or both can certainly be non-starters.

Despite the challenges, the potential benefits are worth the effort. Supply chain leaders must approach the opportunity with a new mental framework embracing the art of the possible in owning the process without owning the work. The transparency is critical and must be the foundation for the fair and equitable leveraging of benefits for all parties. The use of an independent "opportunity broker" or third-party provider is an option in bringing parties to the table and getting the dialogue started.

Start small in demonstrating the value while building trusted relationships. While it will not be easy, our ability to discover and deliver untapped benefits through collaboration will be critical in positioning our supply chain for what we know is coming and in preparing to respond to what is not yet known.

The time for consternation and procrastination is over. As the world around us continues to transform at an incredible pace, supply chain leaders must also transform in embracing the new reality and the next evolution of opportunity.

It will be the supply chain leaders who can break through the barriers to effective collaboration benefits that will best position their company for success in the new and ever changing world order.

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Supply Chain Collaboration Platforms

Global Supply Chains and the Need for Collaboration

The rise of globalization along with global sourcing and global markets has made global supply chains ever longer, more complex and harder to manage. Now, even local events can have an immediate impact on a company's global supply chain. A natural disaster in Japan, a conflict in North Africa or political unrest in the Middle East – the need to quickly retool and reconfigure global supply chains is bigger than ever.

As we push on into the 21st century, supply chain agility will increasingly rely on interconnectedness and collaboration because companies no longer operate as single entities, but as highly connected business networks.

The world of global supply chains and logistics is defined by intercompany collaboration and information sharing.

The Challenge of Collaboration

But collaboration is not easy as it relies not just on the will to do so, but also a fast, current flow of information between business partners up and down a supply chain. The tricky part comes when you try to get access to that 80% of crucial supply chain data that is locked up in the proprietary IT systems of companies you are doing business with, however briefly.

The business software systems that companies have been buying for the past 35 years were designed to do essentially one thing: automate the processes within the four walls of a single company. They were not designed to handle the processes that occur daily between companies. This is especially problematic for companies conducting business on a global scale today since global trade involves significantly more process complexity than “local sourcing” practices.

To be competitive and efficient, companies – even the smallest companies – must be ready to source and conduct business globally.

Smart systems that can handle intercompany data exchange are absolutely crucial to the smooth functioning of these businesses and their dynamic trading communities. There have been several approaches to managing intercompany data exchange and collaboration over the years, but they all had crucial weaknesses:

- EDI: Only works in pockets (key transaction) because it is too expensive, inflexible and does not support collaborative processes (only transactional processes).
- Hub-and-Spoke “collaboration web portal”: In this approach, a single company owns and runs a web-based portal that each business partner has to integrate with to collaborate. This approach is not scalable. For example, a 3PL doing business with hundreds of companies would have to log into hundreds such portals.

Neither approach creates a comprehensive value chain view. As a result, supply chain visibility and collaboration remains one of the largest unmet needs and value opportunities in supply chain management.

Cloud Computing

But there is some good news. And that is cloud computing, which is changing the rules in IT.

Cloud breaks the traditional IT model of investing in and managing software and systems directly in or very close to the place where physical business is being done.

It does this by putting software and systems on the Internet. Companies access the services remotely and pay for them as a service as they go based on what they use and when they use it. In that way, cloud computing translates into much better IT economics.

Cloud-based Supply Chain Collaboration Platforms

When it comes to supply chains, however, where the focus is on intercompany coordination and collaboration among hundreds of companies on a global scale, cloud computing becomes more than just “very good” IT economics; it becomes the means by which entirely new information sharing models suddenly become possible.

In the same way that social networks like LinkedIn or Facebook inverted the traditional models of personal contact systems by giving each person in a network just one profile page to which all friends would point (and thus allow everyone in the network to be updated immediately the moment that single page is changed), next-generation collaboration platforms are designed to support trading partner networks that must operate on a daily basis around “single page” instances of common supply chain objects like purchase orders, shipments, SKUs, milestone events, or commodity codes and city names.

Imagine the power of an information model that allows an object to be updated once, in one place, for everyone who needs and is authorized to know about that object to get the full news immediately. With the data available on the network, companies can run “what if” scenarios and make informed choices about changes on the basis

of landed costs, customs issues, delivery times and local markets. Then they can manage their business-to-business relationships crucial to executing those decisions through a web-based supply chain “control tower”.

A Supply Chain Control Tower

This control tower automates and monitors hundreds of interbusiness operational processes in trade and logistics – from purchase-to-pay to origin operations and shipment planning, to destination operations and customer order fulfillment. The technology is radically different from traditional business software systems in that it combines web-based software applications designed for business-to-business collaboration with technology to launch and manage private, permissions-based “virtual” trading communities across an in-place electronically integrated partner data grid. Neutral, robust, secure and hosted in the cloud, they are the “single version of truth” system that enables, for the first time ever, massively scalable information sharing across a diverse and distributed trade community.

Such cloud-based platforms give companies a rapid, low-cost way to automate and manage hundreds of intercompany supply chain processes on a global scale – which then drives new levels of operational efficiency and business agility. The supply chain is not a chain after all, it is a network. It is important to note that cloud-based platforms do not replace the enterprise software systems that companies have been investing in for the past three decades, they connect to these systems and they extend them.

The Community Effect

No technology platform, however perfect, is enough to deliver breakthrough results on its own though. A platform needs content, and a community to drive the content. Community gives a platform its real value.

Like the social networks of the consumer world that have become so pervasive, the success of business networks relies on the success of the communities they serve.

These networks are not just technology platforms; they are dynamic ecosystems – constantly evolving and improving themselves for the benefit of all. The shared platform means that lessons learned, such as improvements to data quality, are instantly shared across the entire community.

Cloud Supply Chain Platforms Live Today
Most importantly, cloud-based supply chain collaboration platforms are not theoretical concepts.

They are being used today by some of the largest and most successful companies in the world, including Nestlé, Caterpillar, Sears, Procter & Gamble, DHL, The Home Depot, ZARA (Inditex), Weyerhaeuser, Xerox and many other leading companies.

Andy Stinnes

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Supply Chain Talent: Why an Initiative to Focus on the Development of Supply Chain Talent Is Needed

With around a quarter of logistics costs dedicated to personnel, it is evident that the supply chain industry is very much a people-centred business.

However, in the drive to develop new technologies, invest in physical infrastructure assets and adopt new supply chain management techniques, this element of the logistics sector has sometimes been ignored. It is clear that this situation cannot continue as the logistics and supply chain sector is facing many labour-related challenges.

In emerging markets there is a shortage of appropriate manpower related to the rapid growth of the sector. These shortages occur at all levels of recruitment, from warehouse operatives to senior management. This results in a continual turnover of good talent between logistics companies.

In developed markets, there seems to be a job shortage with a lack of appropriate positions at certain levels. In the US, there are specific longer term structural problems, for example, in recruiting new truck drivers, and this has had an inflationary impact on costs.

In general it can be stated that the logistics sector has always struggled to attract the brightest talent due to two main factors:

1. **The sector has an image problem. It is associated with trucks and warehousing and is seen as very low value adding.**

This is despite the development of numerous value adding logistics activities that increasingly demand a broader skill set. The overall image of the sector deters graduates whose perception of the industry is one based on the execution activities rather than looking at the supply chain management discipline.

2. **The sector is generally low margin.** This means that many companies cannot afford to pay competitive rates for the best graduates who, for example, often enter other parts of the service sector such as banking and accounting.

The brightest graduates are more attracted to sectors where they perceive they can expect:

- Greater levels of intellectual challenge; few people understand that logistics and supply chain involves more than operational functions
- Higher levels of remuneration and bonuses
- More pleasant working conditions

- Less male-dominated working environment (due to the sector's image as being male-oriented and physically arduous, the industry has had only limited success in recruiting women)

The skills shortage impacts on the industry at multiple levels:

- A shortage of warehouse and transport operatives in certain parts of the world reduces efficiency and increases costs
- A shortage of higher level positions and/or applicants reduces the ability of the supply side of the industry to add value

Addressing this latter point in more detail, the challenge will be to make the logistics sector an attractive alternative for graduates. It has been suggested that creating a new job title "Supply Chain Engineer" would help. However, the changes need to be more than superficial. All good company rebranding that have an image problem need firstly to involve changes to the organizations themselves.

This goes to the root of the problem. As logistics companies are seen as low value adding, many logistics service users (i.e. manufacturers and retailers) do not trust them to provide more sophisticated supply chain re-engineering solutions. Because of this, logistics providers are not able to enhance their profitability, and as a result find it difficult to break out of this vicious cycle.

Even when an investment is made in talent, timelines on the return on investment can be unrealistic. Higher cost labour positions are often cut during downturns. As for most logistics companies, the solutions part of the business is secondary to their execution functions, especially if they are not bringing in new business. Contrast this with consultants, for example, where removing intellectual capital from their business would be value destroying.

Without attracting new talent, the logistics industry will find it hard to address major issues, such as sustainability or supply chain risk, which will require sophisticated thinking and solutions.

The industry needs to take a long hard look at how new talent is introduced to the industry, how that talent is retained and, perhaps most important of all, how it will make the best use of its existing talent.

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