

GLOBALLY LOCAL: THE **NEW FACE** OF RIGHT-SHORING

Changing consumer demand shortens the supply chain

OVERVIEW

There's a quiet revolution going on in supply chains today. Global corporations are finding that manufacturing 10,000 miles away from their customers may no longer be the best decision. For a growing number of products, the risks – in terms of cost, lead times, responsiveness and customer service – outweigh the benefits. Being closer to customers is now a better strategy.

Companies, as a result, are reengineering their production and supply networks – moving away from the highly extended supply chains of the 1990s and early 2000s to “globally local” supply chains. This means sourcing and manufacturing closer to customer demand. The shift to globally local supply operations – which many call “right-shoring” – offers powerful benefits. These include:

- Reduced lead times for both raw materials and finished goods
- Lower inventory costs
- Better service for customers
- Improved agility
- Faster recovery time after supply chain disruptions
- Reduced risk relating to currency/exchange rate fluctuations
- Reduced carbon footprint
- Improved bottom line

Manufacturers and retailers considering right-shoring must evaluate the impact that a re-distributed supply chain may have on their ability to serve customers and remain competitive.

In this white paper, we explore right-shoring as it is evolving today in North America, and look at what it means for supply chain operations across geographies and industries, including the high tech and automotive sectors.



WHAT'S DRIVING RIGHT-SHORING?

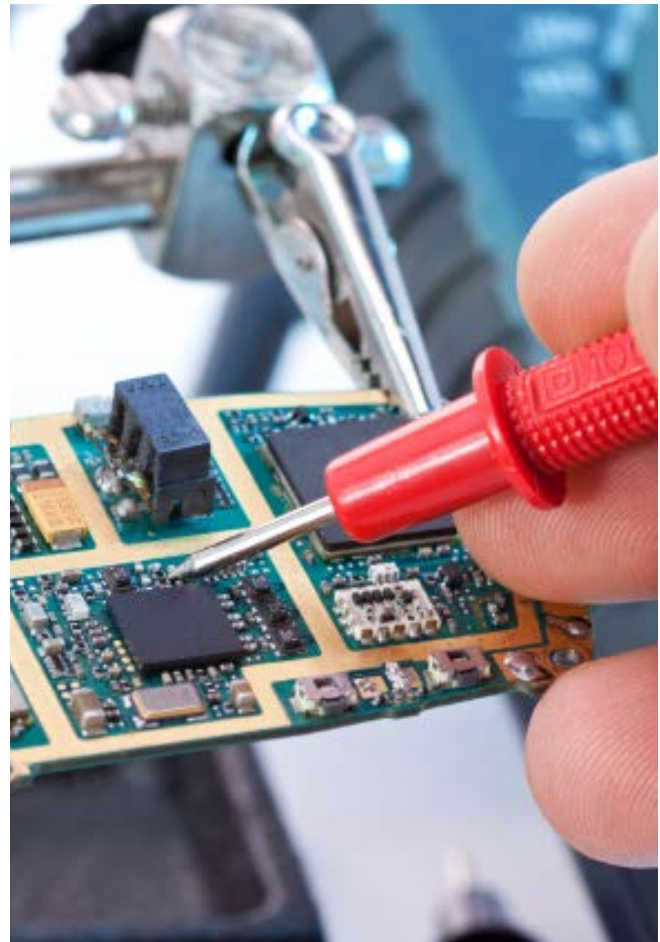
There are a number of reasons why companies are re-thinking their manufacturing and supply operations, and adopting globally local supply strategies. Foremost is the fact that, after more than a decade of long-distance offshoring, companies have realized that locating production 10,000 miles away from their markets has hurt their ability to meet customers' expectations. By moving production closer to the customer, manufacturers can meet the demand for new products and rapid delivery times.

"A number of companies," reports a recent Accenture study, "have also found that managing supply operations that are separated far from where demand occurs has weakened their overall operational planning, forecasting and general flexibility, while driving up costs with the need for complex network management. In some cases, this situation has limited the companies' competitive advantage, causing limitations on growth and revenue."

WHY RIGHT-SHORE?

- Get closer to customers
- Accelerate response time
- Improve flexibility and agility
- Reduce supply chain risk
- Reduce complexity
- Better manage total costs

Perhaps the biggest challenge faced by manufacturers and retailers today is responding quickly to drastically fluctuating customer demand. Consumers have always been demanding, but technological advancements in recent years have shortened product lifecycles. This is true for technology-intensive products such as mobile phones, computers, cars and electronic gadgets as well as apparel, sports equipment and fashion accessories – the products most often manufactured offshore.



Increasing threats from competitors are adding to companies' concerns. With manufacturing taking place 10,000 miles away from the consumer, the reaction time to counter any competitive moves has increased significantly.

"When you have a push system based on a 14- to 30-day forecast, it's really tough to shut that supply chain off," observes Ted Nikolai, president for the automotive, engineering, manufacturing, chemical and energy industries (AEMCE) at DHL Supply Chain. "If product is on the water 30 days out, but that shipment is based on a marketplace that is no longer relevant, then you have a problem. You need to get supply closer to the assembly plant so you can adapt your product to meet changes in demand."

Other important forces are driving the right-shoring trend. These include:

- **WAGE PARITY**– Labor costs in China are rising by 20 percent a year on average. At the same time, the global recession has created high unemployment in the United States, thereby putting downward pressure on U.S. wages. These opposing forces narrow the wage differential between China and the United States. Recent studies suggest that, when all other costs are factored in, wages in China will reach parity with North American wages within a few years. Mexico and China have already reached wage parity, making Mexico an attractive manufacturing location.

This movement toward parity is also fueled by improvements in the U.S. manufacturing base, a more favorable labor climate in the United States, and in particular, the declining value of the U.S. dollar against Asian currencies.

- **FUEL PRICE VOLATILITY**– Offshoring was built on the back of low fuel prices and plentiful supply, and on an assumption that this status quo would continue for the foreseeable future. But when the price of crude oil soared from \$28/barrel in 2003 to \$147/barrel in 2008, this assumption fell apart. Oil prices have declined since then, but companies learned a painful lesson. And as a result, they started taking steps to shorten their supply lines to hedge against future oil price spikes.

At the same time, the growing emphasis on “green” – carbon neutral/zero waste business – is driving companies toward more sustainable supply chains. This trend, which is gaining momentum rapidly, is accelerating right-shoring.

- **SUPPLY CHAIN DISRUPTION**– Companies are concerned about the fragility of their supply chains, which may be disrupted by anything from natural disasters and political upheaval, to protectionist measures. Supply chain risk management, therefore, has become a chief concern for senior management. Right-shoring is seen as a way to reduce the risk and impact of disruption.

Lack of adequate infrastructure in China, particularly in the interior, together with the country’s geographic size, make it difficult to move goods in a timely and efficient manner. While not a disruption per se, this difficulty does extend and complicate the supply chain, thus injecting more risk.

GEOGRAPHIC SNAPSHOT: MEXICO AND RIGHT-SHORING

“The geographic proximity of Mexico vs. China in serving the Americas market is an advantage that will never be eliminated,” says Ricardo Mirensky, business development director for cross-border solutions at DHL Supply Chain.

“Speed to market is a lot faster,” Mirensky continues. “Intellectual property theft, while a risk in Mexico and other Latin American countries, is less of a challenge than in Asia.”

And while Mexico has made headlines with regard to the upswing in drug-related criminal activities and violence, this problem has not affected industrial assets or manufacturing capacity in that country. Macro-economic indicators remain strong. The availability of trained labor is better in Latin America and, specifically, in Mexico, according to Mirensky. Also, the cultural, language, travel time and time zone differences between Mexico and the U.S. are less than China, thereby making it easier to facilitate business.

Mirensky discusses several key topics relating to right-shoring and Mexico.

Time to market. “Naturally, the longer your transit time, the more inventory you have tied up in transit. The only way to reduce transit time in an extended supply chain is to switch to airfreight – and that can be expensive. So when you make the supply chain longer, you increase your inventory cost and add risk, complexity and time.”

Inventory. With interest rates so low, the financial burden of carrying inventory is not as great as it used to be. But it represents a risk regarding supply chain disruption. “When you source in Asia for the Americas’ market, you need to hold inventory to cover transit times as well as supply disruption,” Mirensky notes. “The possibility of a lengthy disruption from China is much higher than from Mexico. If you have a truckload of product manufactured in Mexico, you may lose one to two days if your truck is delayed at customs, and your exposure is for a limited number of units. If you’re moving multiple containers by ocean from Asia, you increase the possibility of disruption for a lot more product. To avoid resulting stock outs, therefore, you must carry considerably more buffer stock.”

Cross-border issues. Issues still exist in the Mexico-U.S. border crossing – including congestion delays, customs issues and shipment hand-off complexities. “Loads must change hands in order to cross the border, which can make shipment tracking difficult,” Mirensky explains. “Using a logistics provider that can provide a single point of contact for managing this freight – and which has effective partnerships with multiple vendors with transparency into their operations – makes life a lot simpler for manufacturers.”

THE NEW SUPPLY CHAIN STRATEGY

In response to these and related forces, companies are reconfiguring their networks to match regional supply operations to regional demand. In terms of supply chain configuration, this means relocating production and distribution operations closer to large customer demand centers. This regionalization strategy enables shorter order cycle time, faster delivery, and the ability to offer product arrays and SKU portfolios uniquely tailored to each market.

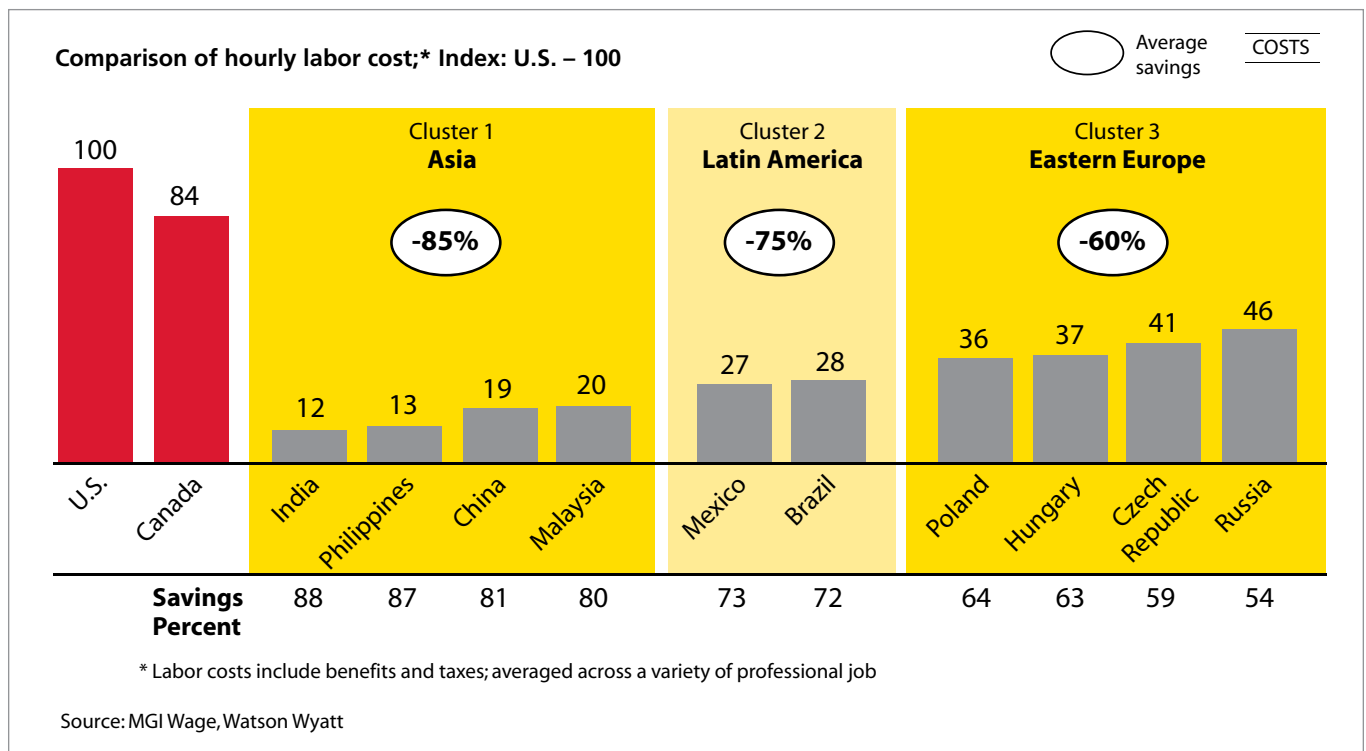
SHIFT TO MEXICO

In order to capitalize on being closer to the customer, many firms are migrating operations from an all-Asia model to include other regions, such as Mexico and South America. Right-shoring some production to Mexico and/or South America delivers important benefits: it enables companies to better serve rapid growth markets (Brazil, Mexico, etc.) by virtue of closer proximity and, at the same time, provides a cost-effective solution for serving the large, U.S.-based demand.

In a recent analysis of North American automotive suppliers by McKinsey & Company, Mexico surfaced as a prime right-shoring location based on labor costs and availability. The report notes that “Latin America (including Mexico) provides an average hourly labor cost savings of about 75 percent, while more distant Asia offers 85 percent savings and Eastern Europe only 60 percent, on average” (Figure 1). As noted, Asia’s slight advantage in wages is offset by other costs of doing business there, including transportation.

The McKinsey report further identifies several other labor advantages for Mexico. The Mexican workforce ranks among the top three countries worldwide in terms of hours worked per year. At 2,281 hours worked per year, Mexico scored just behind India and the Philippines – and more than 400 hours per year ahead of its rivals in the Americas – the United States and Brazil. Additionally, McKinsey points out that “Mexico has a large talent pool of engineers, generalist managers, and finance and accounting specialists.”

Figure 1: COST-REDUCTION POTENTIAL BY TARGET COUNTRY CAN BE CLUSTERED INTO THREE GROUPS



BALANCING THE SUPPLY CHAIN

Moving facilities to Mexico, or any near-shoring location, means global businesses must rebalance their supply networks to create the agility and responsiveness they seek, while at the same time managing total costs. This means companies need to be able to “flip the switch” to turn on/off assets, capacity, services, facilities and suppliers when/as needed. Supply chain network efficiency replaces traditional economies of scale and scope, with networks based on a concept called

“contingent scale.” Contingent scale is the ability of the enterprise to rapidly size its assets and services up or down as required by extreme demand fluctuations. These resizing capabilities are executed through flexible contracts with external providers.¹

Thus, the new right-shoring strategy is based on building globally local networks that are enabled by a highly flexible portfolio of assets, services and service providers.

SECTOR SNAPSHOT: HIGH TECH

With many product life cycles measured in mere months, the high tech sector is embracing right-shoring. “We definitely see a pull towards near-shoring for the Americas market, and the momentum has really picked up,” says Luis Erana, president of the technology industry at DHL Supply Chain. “A number of key high tech customers have recently completed major reviews of how their supply chains are structured, with an eye toward making them more efficient globally. They are investing heavily in the Americas region, particularly in Brazil and Mexico. In the EMS (electronics manufacturing services) sector, for instance, big players that moved production from Mexico to Asia are bringing some back, building new facilities in Mexico. High tech sector growth in that country is very robust, as a result.

“Mexico learned its lesson when the country lost manufacturing to Asia,” Erana notes. “So there has been tremendous investment in educating and certifying labor to ensure quality and supply. Mexico also has very good government programs and incentives aimed at bringing manufacturing back.”

There are two key factors fueling this move toward right-shoring in high tech.

- *The need for speed.* Tech firms need to introduce products at an increasingly faster pace, and they need to be able to service the distribution channels for these products. “If you’re doing everything out of Asia, you can’t meet this need for speed – unless you fly everything to the U.S. (Americas) market,” says Erana.
- *Cost and quality parity.* The total cost and quality available in nearshore markets like Mexico are highly attractive – to the point of parity with Asia. Long transit times, higher oil prices and rising labor costs in China are driving the balance toward equilibrium.

Mexico has become a postponement hub for high tech production, as well as a refurbishing hub for post-consumer products. “Companies may still produce basic product in Asia, but now use Mexico for final assembly and configuration, kitting, packaging and other value-added activities,” Erana explains. “They’re looking for fulfillment, assembly and merge-in-transit centers that can provide these services closer to the point of demand. This can save money invested in inventory, production time, and, at the same time, improve service and speed to market significantly.”

Technology companies need logistics partners that can support these requirements. And to further trim their total costs, a growing number of manufacturers seek out multi-customer 3PL facilities in which they can easily expand or reduce their footprint, and support their postponement processes. The costs are spread across multiple customers with similar service requirements, thereby reducing individual client costs.

Right-shoring is not an “all or nothing” approach in high tech, Erana points out. “Companies are not simply producing every product in every location. Instead, they’re opting for specialized sites to produce and handle certain products and components.”

¹ Lisa H. Harrington, Sandor Boyson, Thomas M. Corsi, *X-SCM: The New Science of X-treme Supply Chain Management*, Routledge, 2010, p. 5.

RIGHT-SHORING DECISION-MAKING: KEY ISSUES

Evaluating the opportunity for right-shoring involves assessing a variety of complex factors. Among the most important are:

- Total landed cost transparency
- Type of product
- Stockout risk
- One-time costs and risks of moving production
- Border crossing complexities

TOTAL LANDED COST TRANSPARENCY

Companies need to consider the “true” total cost picture for their sourcing options in light of more demanding service requirements and the agility required to meet them.

“Companies talk about having a total cost model,” observes the Accenture report, “but most of those

models are just an arbitrage play on three things: transportation, labor and exchange rate. But what happens when you have customers that want more unique products on short cycle times, with multiple reorder points? That requires a different kind of network, with intermediate warehouses and real-time visibility. So the need to manage a more complex network grows, as do your costs.”

Many organizations realized that exchange rates, increased transportation costs, and rising labor costs have negatively impacted what they once thought were good sourcing decisions. “As they saw those costs increase and their ‘savings’ evaporate,” the Accenture report explains, “they also realized they were incurring all these other (unanticipated) costs.”



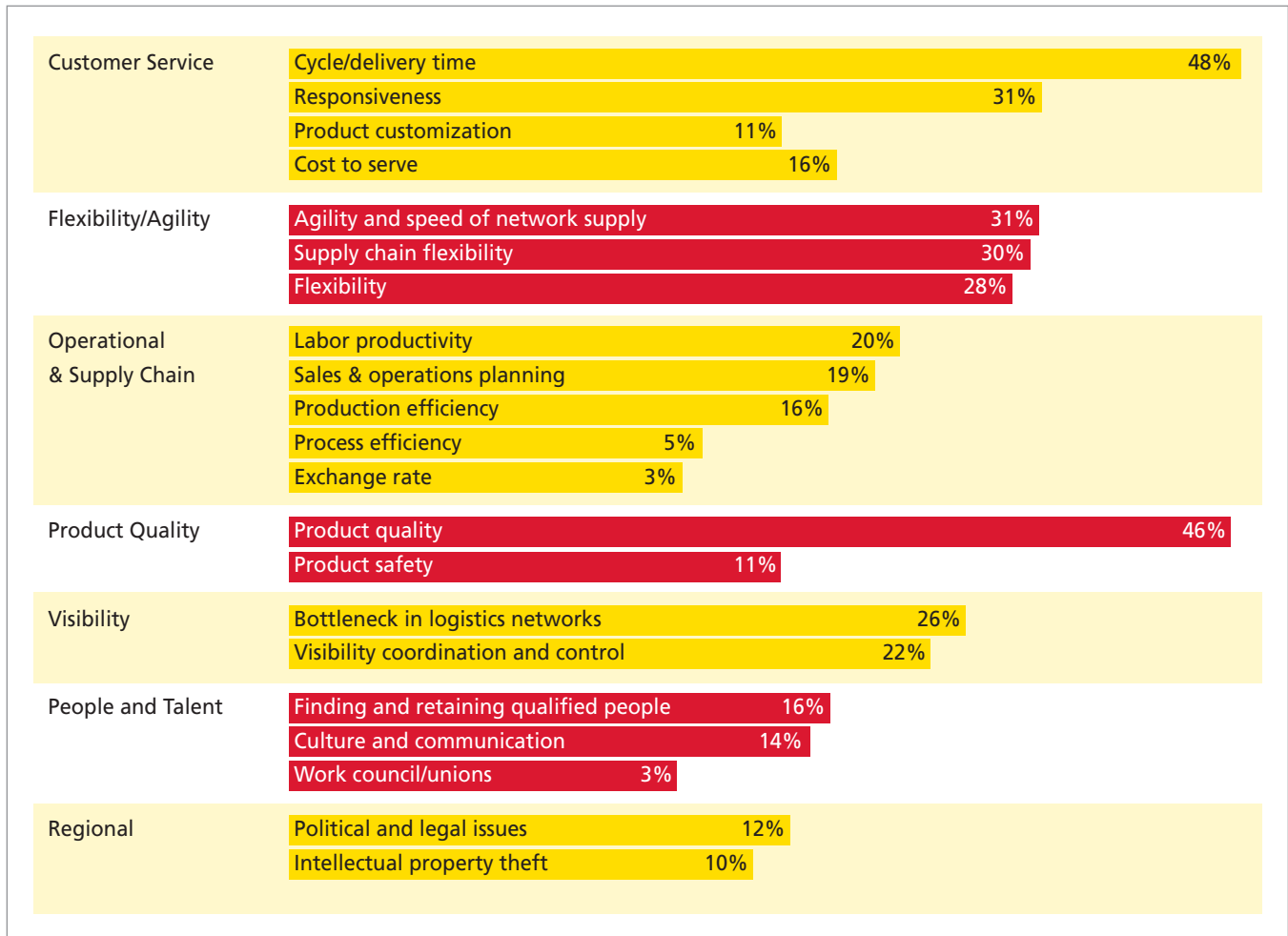
A total landed cost calculation is a more holistic cost capture approach, which includes variables ranging from customer service and supply chain flexibility to political and legal factors. Direct costs are easy to calculate – labor rates, transportation costs, customs fees, etc. Indirect costs take more work, but are equally important to capture and assess. These indirect costs result from issues such as those identified in Figure 2.

“Every country has hidden costs related to the maze of legal, cultural and logistical details essential to operations,” says Mirensky. “Assessing these costs requires an experienced partner with local expertise.”

Indirect logistics costs can represent a major portion of a product’s total logistics costs. For example, a recent Exel analysis shows that indirect costs such as obsolescence and lost sales (e.g., from stock outs) represent 89 percent of the logistics costs of a shirt. Direct logistics costs such as transportation, warehousing and IT were a small part of the expense.

And for companies sourcing commodities/raw materials across an extended supply chain, volatility in price and quality – together with the extended time frames inherent in long distances – also increase indirect cost risk.

Figure 2: Issues North American manufacturers face from offshored manufacturing and supply operations



Source: Accenture, 2010

Without a complete understanding – and control – of total landed costs, companies experience “value erosion” that undermines their strategy for offshoring. Companies can attain a 50 percent savings in production costs by offshoring to low-cost countries. However, according to Exel’s analysis, once essential logistics costs are added – both direct and indirect – the net savings are reduced to about 20 percent. But if the complexities of international global supply chain management are not managed properly, companies add a “red zone” of cost that erodes the value of the offshore strategy.

TYPE OF PRODUCT

While some products may still be well-suited for offshore production, others are ideal for right-shoring. These products typically have some or all of the following characteristics:

- *Complex design.* Products with complex design may require closer collaboration with the manufacturer or company’s headquarters. Easier access to the supplier location – even simply being in the same time zone – may be a significant business advantage.
 - *Short product life cycles and lead times.* Closer proximity to the point of manufacture can speed delivery times and responsiveness to the point that it may offset the cost advantage of an offshore operation. It also accelerates time to market, which is vitally important for products with short life cycles.
 - *Highly variable/unpredictable demand.* The more unpredictable the demand, the greater the need to move production closer to the point of consumption. This helps reduce or eliminate the increasingly high cost of stock outs.
 - *Protection of intellectual property.* Pirating is one of the byproducts of offshoring. Closer proximity of right-shoring can increase management oversight and help protect intellectual property.
- *Large size/weight.* A product’s size and weight is a major factor in shipping costs. With unpredictable fuel prices, it may be cost-effective to right-shore production of larger products, ranging from servers and copiers to TVs and auto components.
 - *Proximity of raw materials.* Given unpredictable transportation costs, it may be cost-effective to bring production closer to the source of raw materials rather than continuing to ship great distances.

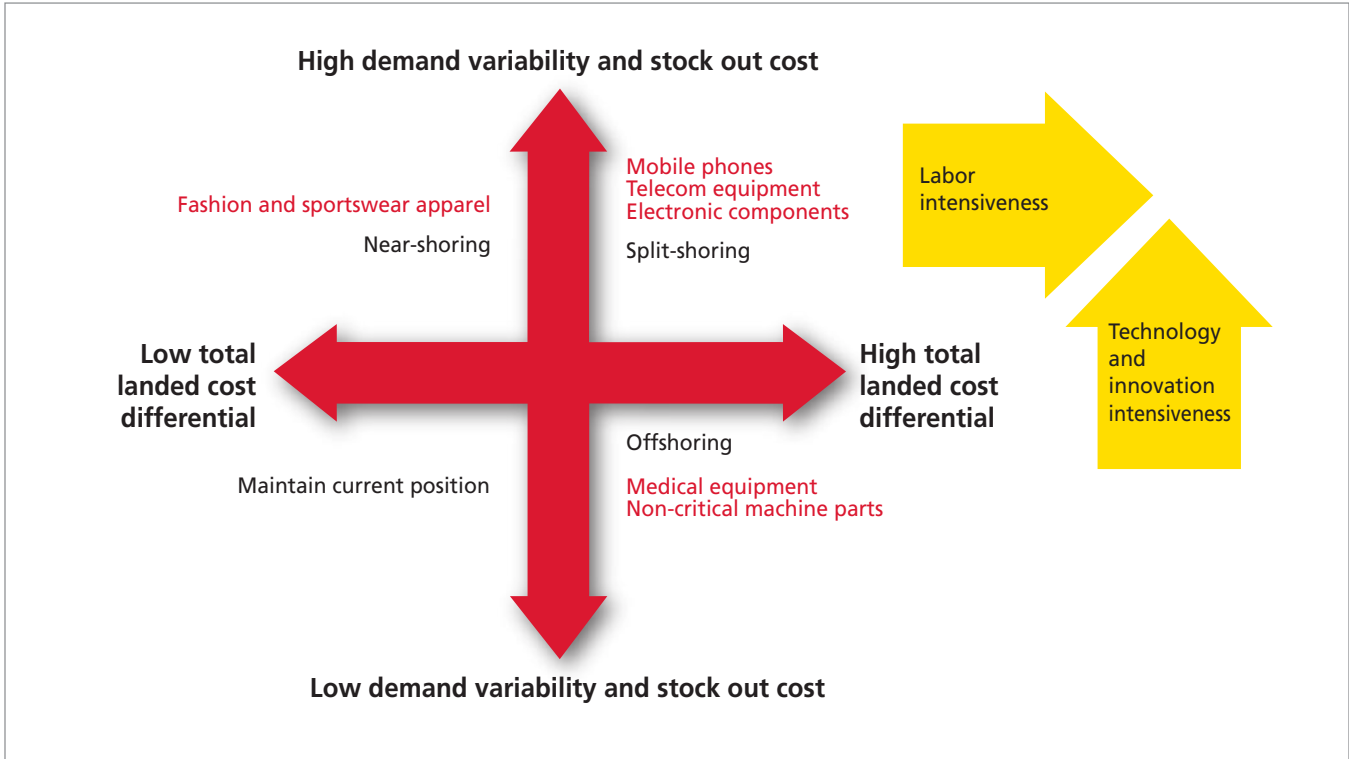
Products better suited to traditional offshore manufacturing are standardized, low-complexity items. These are typically mature products requiring a large amount of low-skill labor.

In some cases, companies may use a blended approach of manufacturing offshore and completing final product customization close to the point of consumption. For example, the final assembly of a mobile phone’s battery, circuits, camera and outer case – manufactured in a low-cost country – can be completed close to the customer. This “split-shoring” helps to shorten the time to respond to market changes and simplifies customization to meet changing consumer demands.²



² Amit Gupta and Ganesan Ramachandran, *Achieving High Performance with Customer-Centric Manufacturing*, Accenture, 2008, p. 7

Figure 3: Model for manufacturing strategy



Source: Accenture, 2008

STOCK OUT RISK

Comparing a product’s total landed cost differential (meaning the comparative cost to produce in one region or another) to the cost of a stock out is another factor that affects “shoring” decisions. As the stock out cost rises (e.g., cost of lost sales, loss of market share, cost of customer dissatisfaction/defection), manufacturing should move closer to the customer to minimize the negative impact of supply lag times. On the other hand, a low cost for a stock out allows for longer lead times in getting products to customer hubs.

Thus, if the stock out cost is low and the total landed cost differential is low, making a change – whatever the current strategy – is an unnecessary cost. Figure 3 presents a model for considering the best strategy for manufacturing a given product. This approach compares total landed cost differential to demand variability and stock out cost.

Besides the two axes on Figure 3, two other macro factors with strong correlation to each other influence the manufacturing strategy. Increasing labor intensiveness pushes the strategy toward the right-sided quadrants and increasing technology and innovation intensiveness push the strategy toward the top quadrants. Several products are placed within the chart (in red) to illustrate the overall impact of all four factors.

BENEFITS OF RIGHT-SHORING

ONE-TIME COSTS AND RISK ASSESSMENT

The right-shoring analysis must include one-time costs associated with making any major network strategy change. The company must establish a new manufacturing facility in the right-shore location, and may need to factor in the cost of shutting down an offshore location.

Equally important, the company must assess risks involved in the right-shoring strategy. Is there a readily available workforce with the appropriate skills? What are the security and safety risks? Is the political situation in the new location stable? Finally, what will be involved in replicating the supply chain? This analysis must include each component and ensure every detail is covered. Fortunately, this process is becoming less complex as more suppliers and logistics service providers operate globally and are able to expand in existing right-shore locations.

BORDER-CROSSING COMPLEXITIES

Finally, working across borders is always a challenge, and it is essential to understand each country's "pain points" in evaluating right-shoring vs. offshoring. Companies must ensure resources are in place to:

- Understand local trade practices and import/export regulations
- Provide fully equipped on-the-ground local resources to solve problems
- Manage legal, cultural and logistical details
- Minimize investment and hidden costs in the foreign supply chain infrastructure
- Secure visibility in the supply chain
- Understand how key product development characteristics impact the supply costs and related sourcing strategies

SECTOR SNAPSHOT: AUTOMOTIVE

Mexico's automotive industry is a major beneficiary of the right-shoring trend. It's booming. In 2011, Mexico exported two million cars and light trucks. By 2015, that number is expected to reach three million. "Right now, billions of dollars in investment is pouring into the Mexican auto industry," reports Ted Nikolai, DHL Supply Chain.

This growth stems from several factors. "The overall effort to right-shore production is having some impact," Nikolai says. "Exchange rates – particularly with Japan – are a factor, so the Japanese are trying to produce more cars in North America. Also, the natural disasters we saw over the last two to three years – including volcanic ash, the Fukushima tsunami, earth quakes, and flooding – affected production acutely. Manufacturers learned painful lessons about the risks inherent in long-distance supply chains."

As in the high tech sector, product life cycles are shrinking in automotive. "OEMs produce cars based on global platforms, so similar cars will be built around the world," explains Nikolai. "Platforms used to be good for seven or eight years. Now they're good for three or four years."

Automakers no longer carry the level of inventory they did in the past, putting additional pressure on the supply chain to perform. "In 2008-2009 when the auto industry experienced a major sales downturn, a lot of capacity left the market," the DHL Supply Chain executive says. "The automakers used to carry 120 days of sale in finished vehicles. Now they carry half that. No one has excess inventory, and I can't think of a reason why anyone would want to go back to carrying high inventories. This means everyone has to get better at supply chain execution."



BENEFITS OF RIGHT-SHORING

Right-shoring offers powerful advantages for companies in terms of both total cost management and customer responsiveness. Key benefits of bringing supply closer to demand include:

- *Reduced lead times.* Manufacturers must consider whether the cost benefits of offshoring outweigh the benefits of shorter lead times when suppliers are closer and can deliver products and materials more quickly.
- *Transportation cost savings.* Positioning inventory closer to the point of use reduces transportation costs, shortens lead times and eliminates the need for premium transportation. Companies can also operate an efficient closed loop transport network for return materials and shipping containers.
- *Lower inventories.* High inventory costs are perhaps the most significant hidden logistics expenses. With production in Asia or other overseas locations, companies typically carry relatively high levels of inventory near the target market to guard against supply chain disruptions such as storms at sea, strikes at ports, and other issues. This approach increases risks that the inventory will lose value if prices fall or the product loses popularity in the marketplace. In a challenging economy, lower inventories help companies reduce costs and adjust more efficiently to changes in customer demand.
- *Improved customer responsiveness.* With closer proximity to suppliers, manufacturers can respond more quickly to changing customer needs as well as marketplace trends.
- *Faster recovery time.* When supply chains are disrupted by natural disasters and other factors, a right-shoring strategy can result in faster recovery time to restore operations – and keep customers satisfied.

- *Greater sustainability.* With growing concerns about climate change among a wide range of stakeholders, from customers to government regulators, sustainability is a serious topic among senior management. By reducing fuel consumption, companies can save money while cutting CO² emissions.
- *Improved bottom line.* The above list of benefits can and do generate significant bottom line improvements and greater shareholder value.

PARTNERING WITH A THIRD-PARTY LOGISTICS PROVIDER

Some manufacturers are partnering with a third-party logistics company (3PL) to help evaluate and implement right-shoring decisions. Benefits of a 3PL partnership include:

- On-the-ground expertise to uncover all hidden costs and ensure accurate evaluation of total landed costs
- Ability to operate in multiple countries to facilitate the transition, which is typically organized in phases to ensure the supply chain continues to operate reliably
- Existing infrastructure such as warehousing and transportation to help save money in fixed up-front costs
- Expertise in rapidly deploying a predictable and controlled supply chain using proven IT systems and operational processes
- Existing local partnerships and relationships that can streamline the transition and ongoing operations
- Transparency of costs, proactive management of information and control over flow of materials
- State-of-the-art information systems that provide robust supply chain visibility and support efficient operations

CONCLUSION: A STRATEGY THAT PAYS OFF

The global business volatility of the past five years has made one thing perfectly clear. Companies must be agile in order to serve their customers, adapt quickly to market developments, and gain and keep market advantage. This requires highly integrated, regionally responsive supply chains engineered to deliver agility and support where, when and how they are needed.

Right-shoring is here to stay. “This globally local approach is all about getting closer to customers, and creating supply chain networks that make this new operating model pay off,” concludes Nikolai of DHL Supply Chain.

ABOUT DHL SUPPLY CHAIN

DHL Supply Chain is the global market leader in the logistics industry with more than 13 billion in annual revenues and a presence in more than 60 countries and territories, including Mexico, Brazil, Argentina and Chile in Latin America. A worldwide network of 120,000 associates and 2,400 warehouses and sites offers customers superior service quality and local knowledge. Innovative solutions create competitive advantage for customers and span the entire supply chain including supply chain management and consulting, warehousing and distribution, value-added services and managed transportation. DHL Supply Chain is a division of Deutsche Post DHL.

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