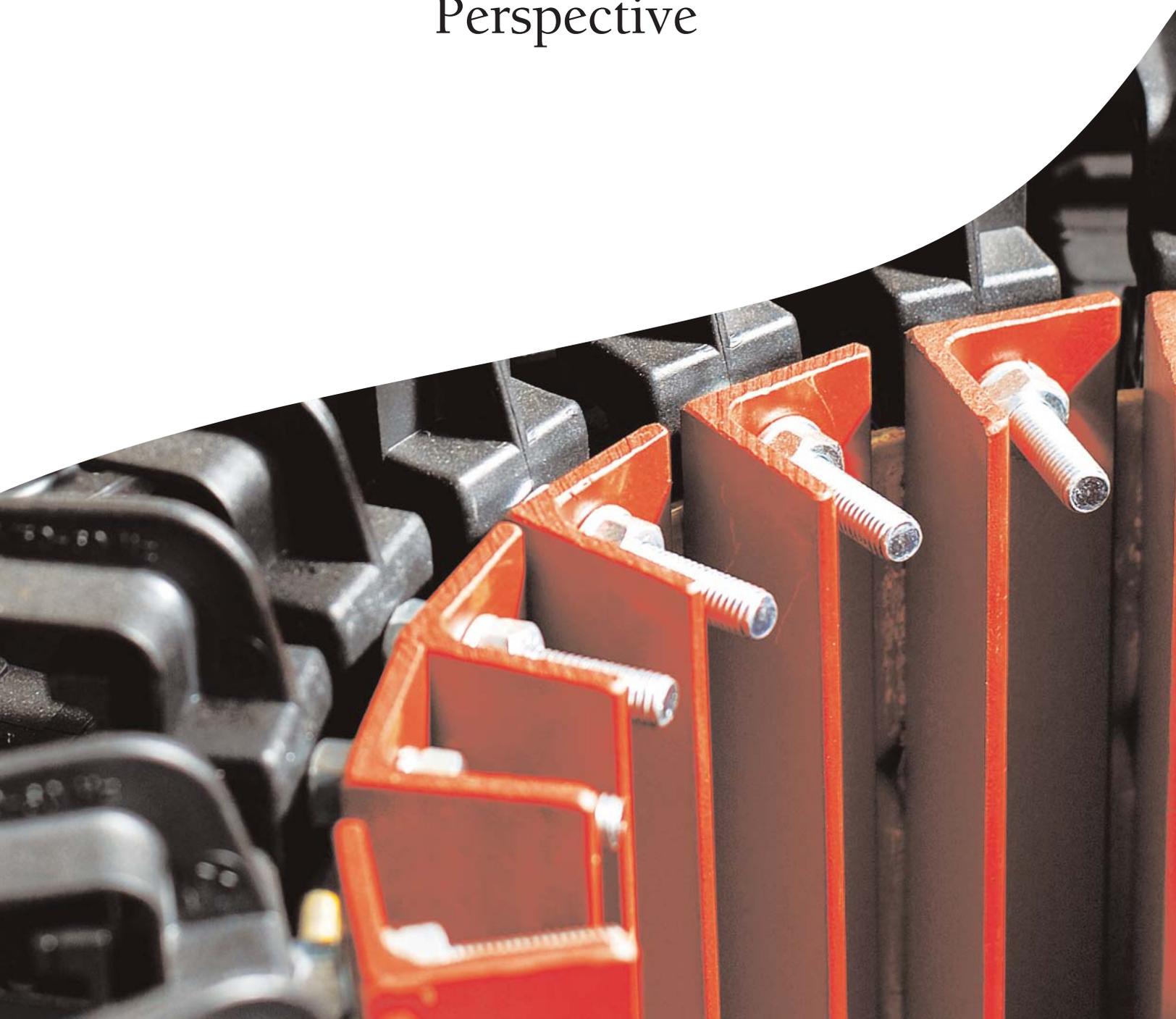


# Outsourcing to China and India: A North American Perspective





# Executive Overview

The quest to produce or provide a product at the lowest possible price, while simultaneously maintaining product quality and integrity, has driven many North American enterprises overseas, particularly to Asia. While outsourcing overseas is not a new phenomenon, it has now become possible to analyze and qualify the processes that have made these offshore ventures successful and profitable.

This study aims to identify the specific impacts to the physical distribution supply chain of North American businesses when outsourcing to China and India. By interviewing high-level executives from North American companies currently operating in China and/or India, this document provides a “lessons learned” guide focusing on the current state of operations, risk mitigation and predictions for future developments.

Outsourcing manufacturing to China to reduce costs in the supply chain is by no means a new development. In fact, there are companies in North America that have been successfully offshoring to China for as long as 40 years. Their unique challenges have evolved as the capabilities within China have matured.

By comparison, the outsourcing of manufacturing to India is relatively new, gaining a foothold within the past seven years. While India has become a master in the area of information technology outsourcing, the supply chain processes related to manufacturing outsourcing continue to be a challenge and obstacle for many North American companies.

The growth of manufacturing outsourcing in China is having an impact on the physical distribution components of the supply chain. One

primary concern relates to the logistics infrastructure within China, which is considerably less developed when moving away from the economic hubs, which are primarily in the coastal provinces.

There is a growing need for a broader physical infrastructure, as well as more well-educated, skilled human resources in areas outside the current business hubs, which suffer from overcrowding, traffic congestion, air pollution and rising costs, particularly for skilled labor and raw materials. Many companies have learned to leverage their own size across China and have established partnerships to ease some of the impacts of these issues.

Many companies that have been in China for some time have seen significant rewards for their investments, and therefore a high percentage of their overall profits is dependent on successful offshoring in China. In turn, these companies are associating a greater and greater significance to guaranteed and uninterrupted product flow. Add to that the recent headlines regarding quality and safety concerns for North American products manufactured in China, and the need for risk mitigation is quite high.

However, China has shown a willingness to address these issues head-on both financially and with government oversight. China has made major investments in the past 10 years, has changed laws and has encouraged a business culture that will continue to foster growth. These are all positive signs for companies either considering China for the first time or hoping to grow their current investments.

In India, two primary concerns arise time and again—infrastructure and taxation. North American companies

outsourcing to India struggle with the movement of goods between states due to India's unique state-to-state taxation regulations. In addition, significant investments need to be made to the internal infrastructure in order to streamline supply chain logistics.

India holds excellent potential as a low-cost player, but state-to-state road infrastructure and restrictive taxes for interstate movement of goods currently limit how much a North American company can accomplish there. For India to achieve supremacy in manufacturing outsourcing similar to its achievements in the field of information technology (IT), and to keep pace with countries like Vietnam and Thailand, it will have to make substantive improvements in infrastructure and the ability to move product state-to-state without significant financial penalty.

When the VAT (value added tax) replaces the multitude of state and central government taxes as expected, the efficiency of supply chain logistics will be significantly improved in India. Such changes will encourage growth for manufacturing outsourcing and for third-party logistics providers, both sectors that have enormous potential for growth.

This study is a summary of detailed personal accounts of the physical distribution aspects of the supply chain in China and India, provided by executives from 12 North American companies currently outsourcing in these regions. Together, the interviewees provide an outline of the current state of their distribution operations and processes, the lessons they've learned and the risks they face, and, lastly, the trends they are observing that will create future changes to the outsourcing model.

# Objectives and Methodology

This study, conducted by ProLogis and Capgemini, taps the extensive expertise of major North American enterprises that are currently operating in China, India or both. The objective of this study is to shed light on the specific impacts to the physical distribution supply chain of maintaining an operational presence in China and/or India, two fast-growing and quickly evolving regions for outsourcing.

This study is intended to augment, with more in-depth detail, the global study entitled “Offshoring Evolution: Changing Trends in India and China Across Industries.” The global study was conducted electronically during the spring of 2007 with 331 participants and provided the following conclusions:

- Offshoring to China and India has had limited short-term impact on Western operations.

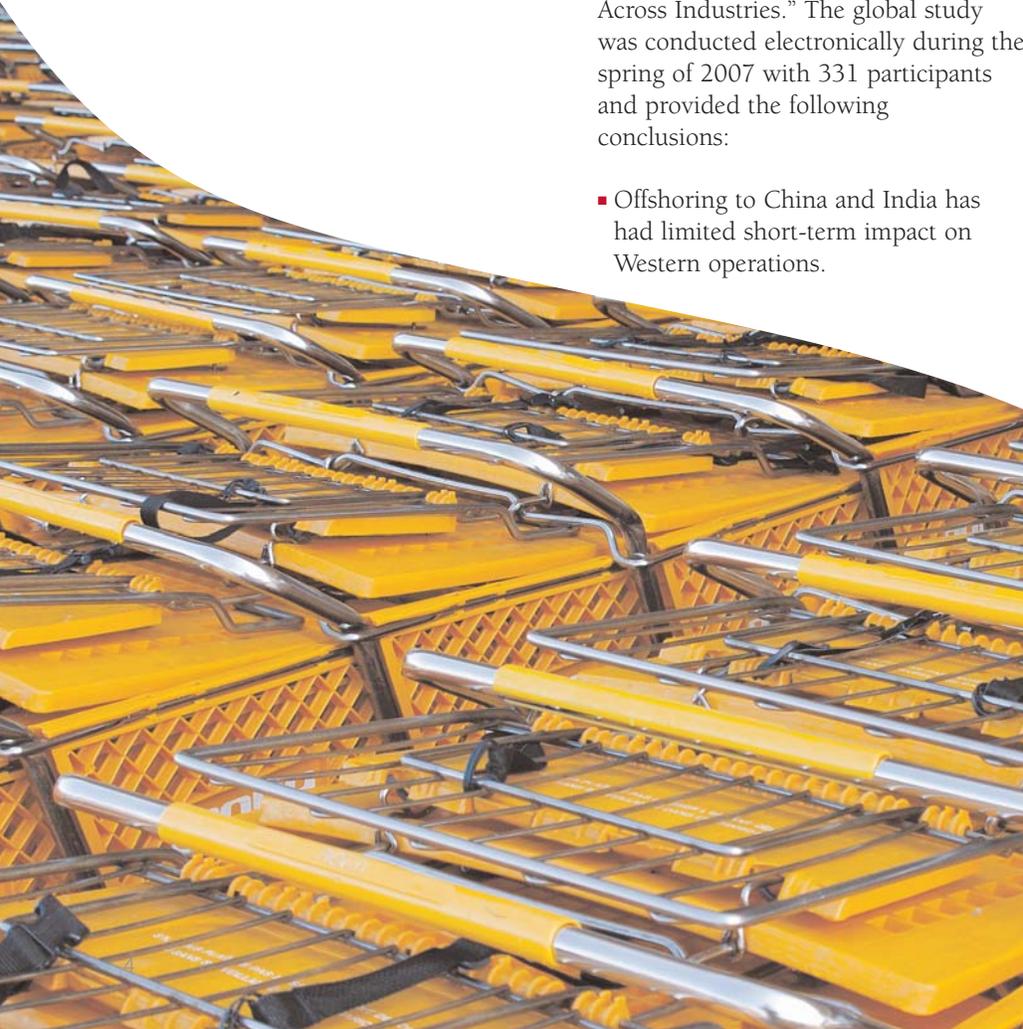
- Companies are more reliant on expatriates for managing Chinese operations compared to Indian operations.
- India is diversifying scope from IT and BPO activities to manufacturing activities.
- Offshoring in India and China is highly concentrated in a small number of cities.
- When offshoring to China and India, companies experience similar difficulties with regard to local rules, regulations, culture and language barriers.
- Companies are more successful offshoring in China than in India.

The global study is available for download at [www.prologis.com](http://www.prologis.com) and [www.us.capgemini.com](http://www.us.capgemini.com).

This North American study was conducted during the summer and fall of 2007. ProLogis and Capgemini selected 12 influential North American businesses that outsource services in China, India or both and have manufacturing operations, major suppliers or distribution operations in those countries.

Interviewees were selected from a broad range of industries and represent varying degrees of longevity in these regions. For additional details, see Figure 1 for study participants and Figures 2 and 3 for years outsourcing in China or India and size of the participating businesses.

Extensive one-on-one interviews were conducted at the senior level within



these organizations, with interviewees ranging from the Senior Vice President of Manufacturing, Vice President of Global Distribution, Vice President of Global Manufacturing, President of International Operations and Director of Asia/Pacific Operations.

In addition to insight into their current state of operations, interviewees were asked to share their best practices, lessons learned and the unique risks posed by outsourcing to China or India. Lastly, the study explores the opinions of these key decision makers on current trends that are developing, as well as their predictions on future impacts to the physical distribution supply chain when outsourcing in China and India.

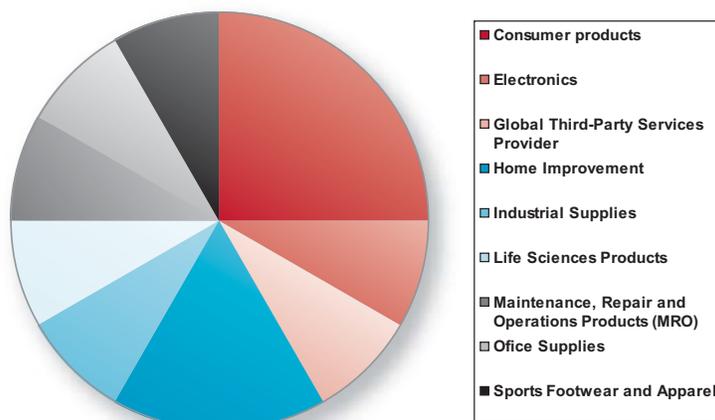
Regarding the current state of operations, interviewees were specifically asked to provide a detailed description of their current supply chain model and product flows within China or India. They also outlined their key export and import cities and explained the decision making processes within the entire supply chain organization, both in China or India and in North America. Answers are intended to provide a model for the real-world impacts on distribution operations when outsourcing to China and India.

After describing the current state of supply chain operations, each company was asked to share its best practices, highlighting the most important lessons learned in the course of developing their business in China or India. Interviewees not only discussed

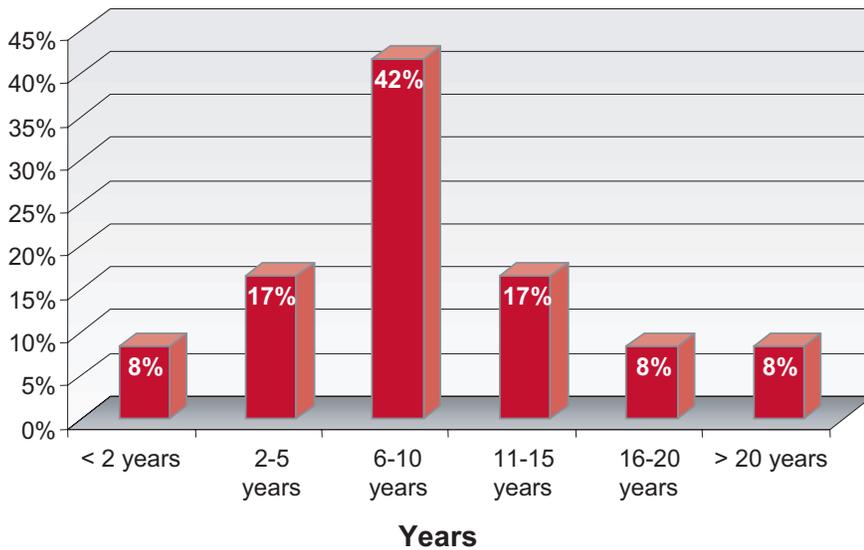
operational learnings as they relate to impacts on the physical supply chain, but also explored the broader business lessons that have impacted the success of their enterprises in China and India. Interviewees were also asked to discuss how and why they formed strategic partnerships overseas, and, lastly, to articulate the risks they've encountered when outsourcing in China or India.

Lastly, each executive was asked to discuss current trends developing in China and India, and explain their unique predictions for future operations overseas. More specifically, questions focused on the company's future plans for expanding their outsourcing activities in China or India, and whether there are other countries that they feel are emerging as viable competitors. Interviewees were also asked to illustrate trends they see developing in the near horizon and to make predictions about the more

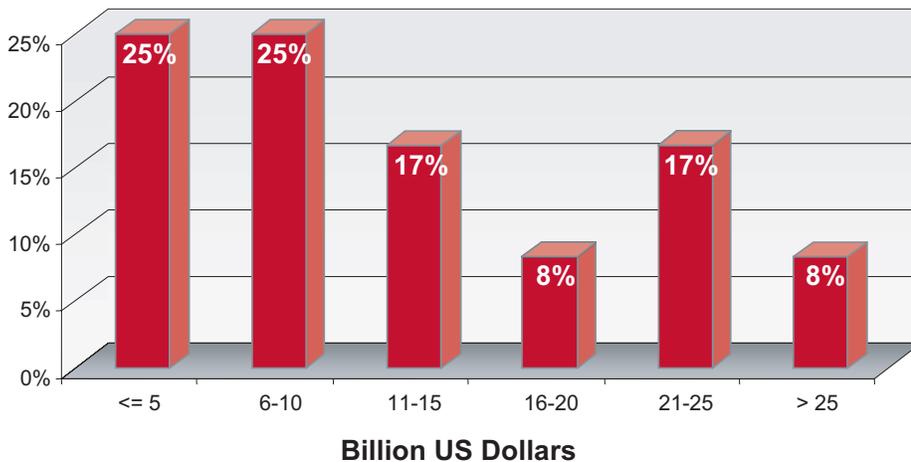
**Figure 1. Industries of participating companies**



**Figure 2. Years of experience in India and China of participating companies**



**Figure 3. Revenues of participating companies**



distant future of offshoring to China and/or India.

ProLogis and Capgemini wish to thank the executives in the participating companies for their generous gifts of time, expertise and invaluable insight.

**Definition of Outsourcing**

Outsourcing involves the transfer of the management and/or day-to-day execution of an entire business function to an external service provider. When a company chooses to offshore this outsourcing, they move any number of key business processes to a lower-cost overseas location. These offshored businesses processes can include: manufacturing, assembly and product movement from source to customer (via truck, rail, ocean and air). Offshoring may also include all aspects of a product’s production, intra-country movement, temporary warehousing or distribution and export handling.

Third-party offshoring is the relocation of business processes from within the client company to an outside vendor operating at the new, lower-cost location. This vendor then completes these outsourced services for the client company in the future.

Any decision to offshore must include a quantitative analysis of the net total landed cost when the outsourcing involves the production and movement of products.

# Current Economic Situation in China and India

In the past two decades, North American enterprises have gone from viewing India and China as largely raw material suppliers to key players in the production and services industries. In addition, as the investments from North American companies have grown in China and India, so too has the consumer marketplace grown in these countries.

## Economic Overview of China

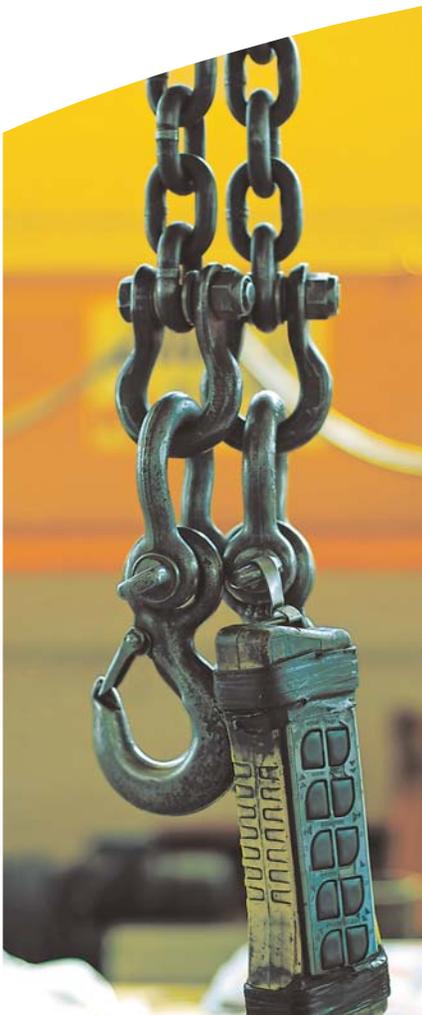
Over the past 30 years, China has reformed its financial market, opening its economy to foreign investors. Today, only around 33% of the economy is state-owned. China joined the World Trade Organization in 2001, allowing them to become a significant player in the global economy. While manufacturing output continues to shrink in most wealthy Western countries, China has doubled its share of global manufacturing output.

China has become a primary source for affordable labor throughout the Western world, working to quickly upgrade its technological abilities in order to compete internationally. China's Gross Domestic Product (GDP) has been growing about 10% annually since 2003, and growth is expected continue but at a slower rate. In terms of population, China currently has nearly 1.3 billion people, with a rapidly expanding consumer population of around 100 million. This consuming class is growing at nearly 10% each year, making China one of the fastest-growing consumer markets in the world. In fact, one the world's largest

consumer products companies has transitioned away from using China merely as a low-cost production location. Instead, all of their products manufactured in China are now sold in China, and North American products are sourced from other low-cost locations.

However, despite this impressive growth, there are several factors that may hamper growth in coming years. First, most industrial development is centered in China's eastern coastal regions, and wages are rapidly increasing in these urban hubs. China has now outstripped the Philippines and Indonesia in terms of average manufacturing wages. In addition, although the manufacturing costs are lower in the central regions, the infrastructure is not sufficiently developed to allow North American countries to take advantage of these significant savings.

An additional factor that may slow growth is growing economic protectionism. Both the United States and Europe are monitoring China's willingness to comply with its World Trade Organization obligations, which will negatively affect trade if China doesn't comply at the required levels. In fact, China's trade surplus with the United States climbed to \$233 billion in 2006, making up nearly 30% of America's total deficit. In addition, China's trade surplus increased by 88% in the first four months of 2007 when compared with the same period in 2006. This situation has led to a growing protectionism movement in the U.S., with the U.S. asking China to substantially increase the value of the Chinese currency, the Renminbi.



“We believe the economy in China is close to hyperventilating, and we must mitigate our risk.”

Home Improvement Products  
Manufacturer

Companies considering offshoring to China must weigh these economic concerns against the potential that lies not only in the lower production costs, but also in the ever-expanding consumer marketplace. When assessing risk mitigation opportunities and comparing China to the rest of the low-cost Asian countries, China remains a very desirable location with vast opportunity both for product export and for domestic sales growth.

### **Economic Overview of India**

Rapid development of three new industries, information technology, business process operations (BPO) and telecommunications, has significantly affected the Indian economy. In fact, the services industry has become the country's largest sector, overcoming more traditional sectors like agriculture and industry. Overall, agriculture's contribution to the gross domestic product (GDP) is declining while industry's contribution is stable. Overall, the GDP in India has grown around 8% since 2004 and economists expect similar growth in coming years.

In terms of foreign investment, India's Foreign Direct Investment (FDI) levels are low, particularly as compared to those in China. In 2005, India's FDI was \$7 billion, compared to more than \$70 billion in China. However, analysts expect India's government to continue to seek new ways to encourage and increase FDI in coming years, particularly in manufacturing centers.

While international companies largely see India as a low-cost offshoring location, the fast-growing consumer market in India is changing that. While the total population of India is close to 1.1 billion people, the consuming class

is about 50 million (compared to 360 million in Europe and 280 million in the U.S.) and is expected to grow at a rate of 7.5% annually. This rapidly expanding consumer base will provide additional encouragement to international companies looking to develop outsourcing operations in India.

However, there are economic and political factors that may hinder this expected growth. Poor infrastructure may delay foreign manufacturing investments, and India continues to limit foreign ownership. While overall the government seems to be looking more favorably on foreign investment in the past few years, restrictions still remain on some of the fastest-growing industries, such as automotive manufacturing and pharmaceutical production. However, when compared to many of the other low-cost countries in Asia, India, like China, has many positive attributes, including the rapidly growing purchasing power of the consuming class.

### **Current State in China**

Of the 12 companies participating in this study, several have been in China for many years, and have seen their businesses change and mature as they've mastered the culture's learning curve. Other companies are fairly new to China, and have been motivated to offshore there in large part to secure low-cost private label products. Together, these businesses represent a broad gamut of experiential learning.

The majority of study participants described shared planning responsibilities between U.S. and Chinese operations. Almost all of the companies interviewed allow the final execution of weekly and daily planning

to be performed at the local level, ideally by well-trained Chinese nationals and/or third-party logistics providers. However, broader annual and quarterly forecasting and planning has been retained at a centralized location, usually in North America.

Broader cultural issues also play a key role in successful offshoring to China. Many companies attribute their efforts to understand and respect the local culture to an increase in successful performance. More specifically, interviewees shared that the sooner their staff became localized, and particularly when the Chinese nationals were bilingual and educated about American business practices, the sooner performance improved.

While cost savings are a primary motivating factor when outsourcing to China, most companies also cited concerns for maintaining control over product quality when outsourcing. Interviewees indicated that quality concerns rank higher than cost savings in their operational planning and selection of partners in China.

In terms of physical distribution, once manufacturing is complete, most product flows out of China through Hong Kong, Tianjin, Shenzhen and Shanghai. The majority of study participants use ocean transport, with exceptions made for customers who use lean manufacturing models or who have rush orders. Another challenge for physical distribution is the lack of official or unofficial industry standards related to key aspects of product movement, including standards for pallet loading, dock heights and truck size.

While some participants currently handle product consolidation while in

China, many others mentioned that, as their business has matured in China, their need to streamline and invest in containerization and consolidation has grown and continues to change. In addition, several respondents mentioned the need for greater end-to-end visibility in the U.S., in China and with large customers, allowing them to shorten the overall cycle time and better manage production planning.

Products typically enter the U.S. through the West coast ports of Los Angeles, Seattle and San Francisco, where deconsolidation often occurs before shipments move on to regional and then to local distribution centers. Several respondents shared challenges related to container handling once shipments arrive within the domestic network.

The new Chinese policy related to foreign business owners, and the establishment of Wholly Owned Foreign Enterprise (WOFE) status, is changing the way new and existing companies are doing business in China. Several of our study participants with more history in China have been changing their business model from Joint Ventures to Wholly Owned Foreign Enterprises. As a WOFE, a North American company eliminates the need for a foreign business partner and often gains significant tax incentives when located within a Free Trade Zone.

Not only is China a favored low-cost country for outsourcing, it also has a rapidly expanding consumer market. Many of our interviewees mentioned that, as the Chinese market for their product grows, they are in turn stepping up production in China to meet domestic demands.

“As a third-party provider, getting products in and out is just plain painful in India.”

**Global Third-Party Services Provider**

“We went through a lot of calamity, but clarity equals market knowledge.”

Global Third-Party Services Provider

The following are the key lessons learned from current operations for success in China:

- Invest in local people who understand both Chinese and North American ways of doing business
- Inspect products frequently for quality assurance
- Run the operations locally by quickly transitioning to a Chinese-national managed team
- Understand and respect the culture.

### Learnings and Risks in China

The primary learnings from outsourcing to China focus largely on issues of dialogue, regarding government regulations nationally and regionally, as well as the need for detailed product specifications. Transportation and the supporting infrastructure were also frequently cited concerns by many participating companies.

More specifically, many study participants expressed a direct correlation to their success in China and their reliance on crucial local relationships, whether established through joint ventures, local offices or their Chinese national employees. One key learning was the necessity of developing a real understanding of the local culture and investing significant time in building strong relationships.

In addition, participants felt that as American expatriates in China were replaced with bilingual Chinese national employees, success grew rapidly. If these local employees were trained in or already had a strong understanding of U.S. business practices, gains were even more significant. North American operations

also rely heavily on frequent, in-depth communications with their Chinese counterparts.

By using local resources, study participants were also able to achieve a deeper understanding of and respect for the culture of the Chinese business people. This is sometimes difficult for U.S. companies to achieve. For example, in China, a signed contract is not necessarily the final agreement, but is merely the beginning of the negotiations and relationship. Gaining this comfort with the local culture takes time and investment, but again, acquiring resources with skills and knowledge in each country's approach helps to accelerate the process.

Many companies learned difficult lessons about surface transportation across China. They had to include longer time buffers for product movement from west to east in China and have had to rely on creative local resources to overcome some of the challenges in moving product (e.g., engaging Chinese Army trucks). In addition, the small size of trucks (20 feet or less) and campus layouts of many small buildings require detailed logistics planning and management. These logistical challenges will continue until China completes the many infrastructure projects they have planned.

Returning to issues of quality and product safety, respondents expressed the need for constant due diligence on quality compliance. Particularly when just beginning offshoring operations in China, participants feel it's easier and less risky to only outsource simpler products, to limit the total number of SKUs at first, and to invest in clear direct instruction on product specifications.



Recent headlines of poor product quality or defective products have demonstrated that failing to meet customer requirements can quickly diminish market share and eliminate profit. To overcome this, many interviewees highly recommended frequent product inspections. Interestingly, study interviews were conducted in advance of recent headlines regarding Chinese product quality, showing the respondents' deep understanding of the real issues surrounding outsourcing to China.

In terms of risks, study participants frequently mentioned concerns about inflation, particularly as it relates to the costs of labor and raw materials. Concerns also arise related to the logistics infrastructure and availability of well-educated human resources when moving inland beyond the eastern provinces. Other ongoing risks are piracy and communication difficulties.

An emerging risk among several companies with a more established, long-term presence in China is their dependence on outsourcing for profitability. With growing profitability from China-produced or supplied products, so grows the dependence on, and risk associated with, physical, political and economic stability in the region. Any event that might close, or even temporarily disrupt production will then have a significant impact on that company's profitability, stock prices and entire economic sector.

Study participants cited the need to invest time and energy up front on in-depth benchmarking of costs. By completing a detailed evaluation of the total landed cost of doing business in China, and by taking advantage of WOFE status and VAT taxes,

companies can take full advantage of the low-cost production possible when outsourcing to China.

### Trends in China

Inflationary control, infrastructure investment and educational opportunities will be crucial for China to maintain its market share of the offshoring business. The companies participating in this study are already looking to countries like Vietnam, Thailand and throughout Latin America as a way to mitigate their risks and shorten the supply chain cycle time.

Overall, interviewees foresee additional investments in China's infrastructure, particularly in preparation for the 2008 Beijing Olympic Games. However, there are significant concerns about what will happen to the economy after the Olympics, as some previous Olympic host countries have experienced a "post-Olympics bubble," and as the potential for an inflationary environment exists, which could lead to an overall increase in the cost of doing business there.

As stated earlier, China does have solid plans for investing and improving the overall infrastructure. In order for businesses to be able to move away from the congestion of the large cities, substantial upgrades need to be made to water supply and wastewater treatment, overall pollution, energy output and consumption and burdensome government regulations.

In addition, there is a real need for increased investment in infrastructure, particularly in China's interior. Respondents do note that once investments are made to the physical infrastructure, China is doing more to

“We found out the 3PL company moving our product from one manufacturing site to another site within central China was outsourcing the actual transportation to the Chinese Army. This was unusual but it did provide excellent security.”

**Consumer Products Manufacturer**

“We see the infrastructure for transportation in China changing dramatically with investment by the government, which finally see it as a weakness. The government also now sees the value in safeguarding our investment by restricting the overloading of trucks to protect the new roads being built.”

Consumer Products Manufacturer

protect its investment, limiting loads on new roads, which should allow companies to improve their distribution model. As China moves towards more sophisticated distribution models, this will in turn support the nationalization of trucking standards, which are just now being formed with new regulations and guidelines.

Concerns also exist about the enormous disparity between the quality of labor in the eastern provinces versus central and western China. Study participants frequently noted the significant gap between the availability (and rising cost) of highly-skilled labor in the major cities, and lack of skills (and lower costs) of labor in the interior provinces. Participants see a need for China to increase investment in education throughout the country to level these concerns.

From a raw materials perspective, China is one of the largest producers of iron, steel, aluminum and other metals used in many everyday products. Price increases, which are inevitable, will have a ripple effect across China-produced products. An additional concern voiced by study participants is a rapid increase in the total landed cost of outsourcing to China, which will be impacted by both the valuation of the dollar and the rate of cost increases in China. Therefore, many companies currently outsourcing significantly in China will likely mitigate this risk by investing in other stable, low-cost countries.

In addition, as quality controls and marketplace production capabilities improve, and as the domestic market continues to expand in China, study participants believe that North American companies will soon have the opportunity to outsource a greater

variety of more complex products successfully. Lastly, interviewees see a rise in the number of North American businesses who will switch to a Wholly Owned Foreign Enterprise (WOFE) model in China. In fact, over 75% of companies currently establishing outsourcing operations in China are doing so under the WOFE model versus a Joint Venture.

### Current State in India

Several notes of clarification are necessary related to India. First, not all of the 12 North American companies participating in this study have a presence in India. Therefore, the perspectives presented below are drawn from a smaller sample of responses.

In addition, it's important to note that, historically, one of the central obstacles when outsourcing in India has been taxation. Corporate taxation is high compared to Europe and the U.S.—the basic rate is about 35%. There is also an additional tax, determined by each state, for interstate product export. However, the additional cost these taxes add, and the effect they have on interstate business and product movement, is beginning to lessen, as 21 of the 29 Indian states have begun or have completed the process of implementing the Value Added Tax. One interviewee learned that until the new VAT regulations were established, they could best serve the domestic Indian consumer by using domestic wholesalers and letting the wholesalers deal with the tax issues, thus avoiding the challenges and effort in dealing with the current state of taxation.

In terms of overall business structure, several businesses interviewed started in India as “joint interest” companies,

over which they gradually took sole control. In addition, because logistics and outsourcing within India can be a challenge, participants mentioned handling their own manufacturing operations in India rather than outsourcing them. Production planning is also frequently handled in the United States, and then communicated to operation centers in India, as domestic logistics in India can be difficult.

Overall, the largest issue North American companies currently face in India is the effect the current tax structure (described above) has on their distribution plans. In order to comply with tax laws, all companies found it necessary to alter their distribution models. For example, if exporting, a company might consolidate their operations into a state that also had an ocean port, so that all of the activities were contained within the same state. Or, if producing product for domestic sales, they would need redundant or duplicate operations in the states in which they wanted to sell products. This decision required them to only focus on the states where they could be profitable as a stand-alone operation.

Recurring themes in the current state of operations in India also centered on weaknesses in the infrastructure away from the main enterprise centers and port cities. Both the interstate tax laws and the overall poor state of the infrastructure make the movement of product within India difficult. In fact, one North American third-party logistics provider cited the enormous challenge of trying to get products from the various facilities to India's port cities as an impediment to growth. A significant disparity exists in the quality and extent of the highway system from

state to state, varying based on the overall median income of each state.

While India does have an extensive rail system, it has been designed largely for the movement of people, not freight, resulting in smaller rail equipment than that found in North America. This again puts pressure on the trucking industry and the supporting road infrastructure. Currently the trucking industry is willing, but road conditions and access limit their capabilities.

Interviewees also focused on the challenges of understanding and working within government regulations. However, study participants generally feel that India is making strides in terms of improvements to the infrastructure and the enactment of more foreign company-friendly laws.

Overall, outsourcing to India comes with a unique set of challenges that impact physical supply chain operations and processes, centering around two primary issues: interstate tax costs and complications with and limitations of the infrastructure. Keys to success in India, then, focus on mitigating these obstacles—developing a strong understanding of state-level taxes, keeping facilities smaller and decentralized in order to produce and ship from the same state and understanding and working around the limited infrastructure. Companies also highlighted the importance of providing detailed product specifications and clearly indicating what can and cannot be improved or altered.

The following are the key lessons learned from current operations for success in India:



“The national highways form only 2 percent of the entire road network in India but handle over 40 percent of the national road freight traffic, putting enormous pressure on the highway infrastructure. Also, on average a commercial vehicle in India runs at a speed of 20 miles per hour compared to over 60 mph in the mature logistics markets of Western Europe and the United States.”

Datamonitor, February 2007

- Develop a strong understanding of state-level taxes
- Provide very detailed product specifications with modification restrictions
- Produce and ship from the same state
- Know the infrastructure limits (highway and rail) and their impacts.

### Learnings and Risks in India

Risks associated with outsourcing to India focus on two primary issues—infrastructure and taxation. The logistics infrastructure for freight is a perpetual obstacle, and state-to-state tax complexities, while gradually improving, still impact the physical distribution supply chain on a daily basis and significantly influence the distribution model.

For companies outsourcing in India, many of the lessons learned deal with issues of labor and relationship. As in China, respondents found that employees' value to the business increased significantly if they invested in them, grooming them in both American and international business methodologies. Respondents also found that the time and energy investments necessary to establish and improve regular, in-depth communication were well worth it, and that they benefited significantly from working to build mutual understanding.

Additionally, there are concerns about the availability of skilled labor, particularly in smaller, mainly northern towns. Interviewees also found that where highly-skilled labor is readily available, largely in the major metropolitan areas, costs for this qualified labor are increasing at a steady rate.

Most companies doing business in India have found customs and duties processes complex and unclear. Major challenges exist in terms of handling central taxes, understanding state guidelines and taxes, and maximizing the limited logistics infrastructure. Respondents mentioned the need to establish relationships with local resources well versed in the local and state regulations who can help create positive partnerships and supply ready information. All companies mentioned the total cost impacts of needing to maintain numerous smaller facilities throughout the country in light of the taxation complications.

In spite of infrastructure and taxation complications, study participants do expect India to mature in its support of companies who want to do business there. However, until changes to infrastructure and state-to-state taxation take place, the overall total cost of doing business in India will remain a challenge. One recommendation for risk mitigation in India is a thorough total landed cost analysis before making a commitment to invest in India.

### Trends in India

From a manufacturing perspective, many companies still view India as an emerging country, as compared to a more mature country like China. However, based on the higher education levels in India and the ability to outsource more complex products, India still holds potential as a growing location for outsourcing and as a market for their products.

As study participants look to their future in India, the results are mixed. On one hand, the total landed cost of

doing business in India remains higher than in China, and they also expect to see costs grow at a slightly faster rate in India. In this respect, China still holds the advantage.

On the other hand, however, the technical talent in India is very strong and should stay that way for the foreseeable future. Companies report a significant educational advantage in the people they employ in India and expect this trend to continue.

Perhaps the most challenging factor for growth in offshoring to India is overall infrastructure. For India to realize its

potential as a low-cost manufacturing location, the government will need to increase its involvement. For example, the practice of roads that end at state borders needs to be corrected and brought under national control. As it stands now, India lacks the necessary logistics infrastructure to support significant domestic distribution and struggles with a huge variability in transportation equipment (many shapes, sizes and capabilities).

Companies currently in India see an easing of interstate complications as the VAT becomes more common throughout the country. Lastly, the potential exists for improved usage of domestic raw materials, including steel, assuming improvements are made to the interior infrastructure.

Overall, the search for a reliable, low-cost source country continues, with many study participants looking beyond China and India, particularly given the risks identified in the previous sections of this study. Looking ahead, study participants expect to explore other low-cost countries throughout Southeast Asia, in Eastern Europe (particularly for automobile component outsourcing) and in Mexico.



# Authors' Perspective

China and India are the two largest nations on the globe, with populations of 1.3 billion and 1.1 billion respectively. The focus of our interviews was to compare and contrast outsourcing to each country. We learned that these countries originally were seen as primary outsourcing suppliers of low-cost goods and services. However, this perspective is shifting, and China and India are emerging as developing new markets, with an ever-growing middle class consumer market that is an outgrowth of successful outsourcing.

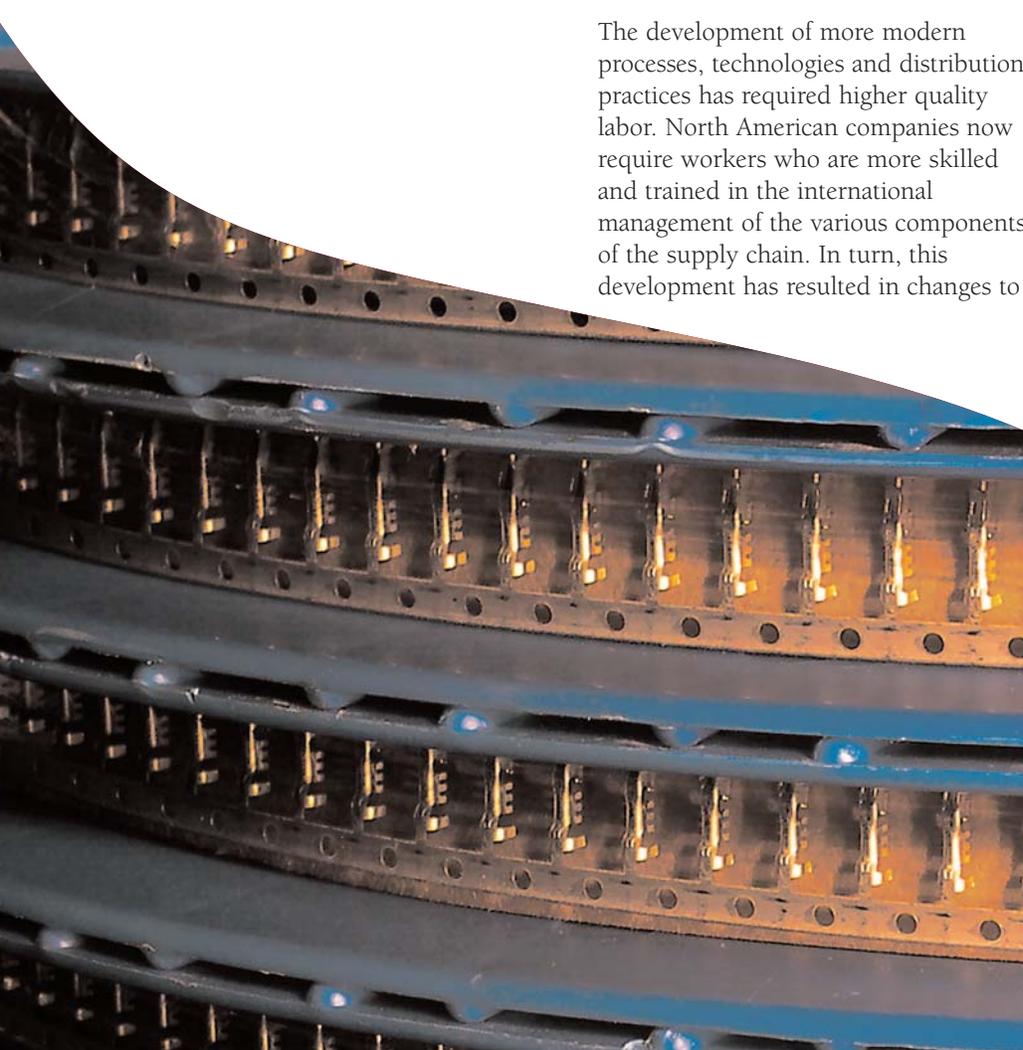
The development of more modern processes, technologies and distribution practices has required higher quality labor. North American companies now require workers who are more skilled and trained in the international management of the various components of the supply chain. In turn, this development has resulted in changes to

the way global corporations develop their people, product production and logistics.

The common theme in our interviews was the contrast between the respective governments. It is important to note that the central governmental in China has been quicker to react and promote pro-business policies, programs and public investment. By contrast, the strong democratic state government of India has provided inherent challenges to an efficient logistics channel as each state has unique rules, regulations and taxation policies for corporate recognition. In India, multiple plants and distribution facilities are required to comply with state regulations.

As China and India continue to mature as markets for North American offshoring, the physical supply chain correspondingly matures and improves. Companies outsourcing in China and India have learned to make low-risk investments in technology and infrastructure, observing the losses that come with overinvestment beyond what the overall current state of infrastructure and human resources can support. We feel that with proper due diligence and total landed cost analysis, there is ample opportunity for continued growth in China and India.

China has invested heavily in infrastructure, allowing for more efficient optimization of distribution. Larger, more modern buildings are replacing antiquated low-cost facilities as technology and Western practices are implemented for the higher throughput of goods. It was a common theme, in



concert with the comments on India's strong state government, that a national infrastructure program is required for the advancement of product outsourcing. The logistics challenges of India inhibit the potential growth in outsourcing that China has experienced over the past 10 years.

Truck transportation, a concern for both countries, is an industry that requires governance, improvement and modernization. Our respondents pointed to this industry component as lagging the modernization in manufacturing and distribution facilities. China is projected to respond more quickly as this industry has received governmental review and the implementation of regulations on truck weight restrictions has commenced.

Finally, the advancement of the modern supply chain has been developing over many years in Europe and the United States, leading to the evolutionary creation of new technology, manufacturing processes and logistics practices. India and China have the benefit of implementing new state-of-the-art components of the supply chain by studying and putting into place what has been proven. Our respondents voiced in concert the advancement of China and India, and more importantly, the positive rate of change and implementation in these two countries. They largely attributed this positive advancement to the role that centralized government has played in benefiting the rate of change and focus. With the advancement of outsourcing, the corresponding economic benefit has, and continues to,

develop a new consumerism in each country, advancing both India and China into the 21<sup>st</sup> century.

#### About the Authors

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies. Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of partnering called the Collaborative Business Experience. Capgemini reported 2007 global revenues of 8.7 billion euros and employs more than 83,000 people worldwide. More information is available at [www.us.capgemini.com](http://www.us.capgemini.com).

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“We feel the West expects China and India to catch up quickly to what it took us 100 years to develop, in terms of infrastructure, processes and standards.”

**Life Sciences Products Manufacturer**



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