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Why contract manufacturing in the U.S. makes sense

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Outsourcing manufacturing production of electronic equipment to the Far East has become a reflex action on the part of many U.S.-based original equipment manufacturers (OEMs) who are apparently bedazzled by the region's low labor rates.

Hidden and not-so-hidden increased logistics and other costs, however, usually nullify labor savings, thus resulting in higher total supply chain expenses after the decision to off-shore production.

There is more to outsourcing to the far east than meets the eye

There is a pell-mell rush by OEMs of consumer electronics, computing equipment, medical devices, telecommunications gear, and other electronic products, to outsource production to contract manufacturers in the Far East. Approximately 50 percent of a worldwide market of nearly \$200 billion for electronic manufacturing is based in the region, with the Chinese Dragon accounting for approximately 75 percent of the Asian market. In the ordinary course of business the OEM is driven by a need to establish the lowest possible cost for the manufacture of a given product while retaining design and other valuable intellectual property. Moving production to the Far East, however, does not necessarily translate into lower total cost once the analysis moves beyond direct labor.

Cheap labor is not the answer

All good things must come to an end. Cheap Asian labor, too, will come to an end. China, in particular, is witnessing a severe case of wage inflation in technical and professional jobs. China's cost advantages versus those of advanced western economies, especially the United States, still exist but the gap is closing fast. Double-digit growth in wages is now the norm and there appears to be no end to the spiral. The upshot for companies considering off-shoring production is not just the obvious cost escalation of wages but the fact that wage inflation has now led to an increased level of job-hopping and therefore worker turnover never before seen in China. China's economy, the world's fastest growing major economy, is growing at 8 percent per year, the manufacturing sector in excess of 10 percent. As a result, there is emerging a serious shortage of skilled manufacturing, quality control, and middle management workers. This is precisely the profile of the worker that is needed in factories turning out high-technology products for American companies.

Transportation, logistics and cycle time considerations go beyond the obvious

A 7,000-mile, multimode journey to the United States from the Far East takes time – lots of time. And, if there is any truth to the aphorism that "time is money" then the journey should be an expensive one. In a recent survey, approximately 50 percent of respondents suggested that manufacturing orders sourced in China took more than 60 days to be received stateside. Not surprisingly, the vast majority of these respondents also reported the highest logistics costs. Never mind that crude oil climbs to \$100 a barrel. Today, the cost of having product stuck in a supply chain for weeks, if not months, has as much to do with the fact that the product has to pass through so many hands – manufacturers, forwarders, customs officials, regulators, shippers, ports, etc. – as with the actual cost of transportation.

The long cycle time inherent in off-shore production has other, more insidious, consequences that will drive higher operating costs. These surround the OEMs ability to forecast the right

quantities of product to deal with the vicissitudes of a labyrinthine supply line. Is it reasonable to assume that a forecast can accurately lock in demand months in advance? Does the OEM instinctively over order or over stock in response to the long cycle time? Are scheduled ocean freight shipments frequently supplemented with expensive air freight for sorely needed product? What is the cost of distributing the product in the United States to the end-customer once it is inbound from off-shore factories? How does the supply chain respond to unexpected changes in demand? What is the role of the contract manufacturer in the service and warranty of the manufactured product? Even OEMs with high-volume, low-mix product manufacturing needs will find the cost of their supply chain to the Far East to be saturated with substantial non-manufacturing cost inefficiencies.

Social, legal and cultural barriers can pose major costs to the OEM

If the hard costs of transportation and logistics are not immediately obvious, the softer costs of doing business are totally hidden from view. For example, what is the cost to the OEM of having intellectual property pirated? What is the cost of a business opportunity lost to graft, and corruption? China is not yet a country of laws as a large portion of the gross domestic product is lost under the table. The upshot of this is that the OEM will encounter additional costs beyond those inherent in its conventional supply chain.

China operates a top-down, command economy – despite the country's rhetoric to embrace free market mechanisms – much as it has for decades. One does business in China against a backdrop of opaque rules and regulations. Many of these rules transcend the official judicial framework. It is a serious concern to the West that more and more non-market solutions will be sought by China to deal with everything from national insecurities to energy and commodity shortages. Clearly, these issues are more ominous than having to communicate with a source of supply 12 time zones away, or of having to slog through almost impenetrable language barriers. They are no less real, however, and should be seriously evaluated before committing to off-shore production.

It's the supply chain, stupid!

Sourcing product, if only gemstones, along the Silk Road has always made for a complicated, risky and unpredictable supply chain. Today, the complexities of outsourcing production, especially of electronic equipment, to the Far East trump the advantages of cheap labor. A hasty decision to off-shore production ignores the consequences to the business model that logically should factor in increased coordination overhead to keep the pulse of a dizzyingly complex supply chain, increased domestic distribution costs, added transportation costs including frequent air shipments to expedite deliveries, added inventory buffers to offset the sheer unpredictability of demand forecasting several months into the future, and the risk of loss of intellectual property. Unless the OEM covets the huge and rapidly expanding domestic Far East market and is prepared to pay a huge admission price to get in, there is ample reason to pause before committing production off-shore. For products consumed in this country, OEM's should be asking the question: "Why not outsource production to U.S. based contract manufacturers?"

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