

Viewpoint on Manufacturing:

In the new Reality, maybe you should not Offshore, but Reshore

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Your “Handyman” for Manufacturing Operations.

Reshoring ... What is it?

For the past couple of decades, it has been good for the bottom line to source materials, components and products from offshore suppliers. Most recently China has been the supplier of choice due to its low labor rates. Reshoring is to once again source domestically those materials, components and products that in the past have been sourced outside the United States.

What is the new Reality?

Over the past decade, the economics of sourcing offshore have been steadily changing. For those who have used Chinese companies as a supplier, they have noticed that wages have been increasing at about 17% annually. Also the exchange rate for the Chinese Renminbi (RMB) has been slowly increasing since about 2005. It now costs about 16¢ whereas in 2004 the RMB was selling for about 12¢, a 30% increase! Moreover, as the trade negotiations between the U.S. and China progress, the cost of the Remimbi may yet increase more. The net effect is that the FOB price of items sourced to Chinese companies has increased and will likely continue to increase.

While China is not the only country in Southeast Asia being used as an offshore supplier, the other countries with low labor rates such as Viet Nam, Cambodia, Indonesia and Thailand cannot match what China has in terms of infrastructure, skilled labor force and supply networks. Thus, it is unlikely that these other countries could absorb a large percentage of the output currently sourced to Chinese companies. In the meantime, wages are rising in these countries too; therefore, though some companies will be able to re-source to these other countries, it may not be an option in all industries.

Another aspect of the new Reality is that the buying power of the U.S. Dollar has steadily fallen over the past decade. From a peak of 1.18 Euros per U.S. Dollar in 2000, a dollar can now only buy about 0.77 Euros. In similar manner, in 1991 the U.S. Dollar could purchase 131 Japanese Yen and now it can only purchase about 77 Yen. As a result the cost of imports from almost any country in the world has increased.

The final piece is that the productivity of the U.S. worker has been growing steadily at 2% to 3% per year. Industry is also experiencing the effect of the Baby Boomers. They are leaving the workforce at end-of-career high wages and being replaced by younger workers at lower starting wages. The net effect is that the American worker is becoming more competitively priced.

But ... FOB Price is not everything!

The FOB price of good purchased in Asia is only part of the cost. The material has to be shipped. In July 2008 marine fuel prices in the transpacific freight market reached a record

level of \$767 per ton – up nearly 260% from \$296 per ton at the beginning of 2007. Since that time bunker prices have fallen just as sharply, and then risen again to reach \$702 per ton in April 2011. These costs are reflected in higher shipping costs. A similar pattern has occurred for material air shipped also. So not only does it cost more to buy the material offshore, it costs more to bring it to the states.

In addition to transportation costs, there are other costs to consider. There are import duties that are between 2½ % and 8% depending on the category of the import. There are broker fees and customs fees upon each shipment. There can be export processing fees depending upon the export location. These additional duties and fees add to the cost of importing items from offshore.

These cost adders are often considered when an offshore sourcing decision is made, but should be reviewed to assure the costs have not changed substantially since the original decision to source offshore was made.

Then there are other costs of doing business offshore

There are other costs that may not get factored into a sourcing decision such as travel costs and inventory costs.

The travel to setup and maintain an offshore supplier can easily be overlooked because travel is often an overhead expense. This is the cost of trips to visit a number of suppliers to assess their capabilities and to establish a working relationship. Then there are probably also one or two trips annually to maintain that relationship, to review performance or to resolve problems. In some cases a local representative will be employed to represent the American firm's interests in the foreign country. These setup and maintenance costs should be part of the sourcing decision review.

Another hidden cost is the cost of financing larger inventories. These larger inventories come about for a couple of reasons. First, if sea transport is used. The transit time can be up to 6 or 8 weeks door to door. Moreover, it is less expensive to ship a full container than in smaller lots. That can result in a significant in-transit inventory. Moreover, that large inventory must now be warehoused domestically. This inventory again must be financed before is used, the storage space must be paid for and the material insured. Compared to a Just-In-Time supply strategy that can be implemented with domestic suppliers, these inventory costs can be substantial.

And there are the risks in doing business offshore

There are risks that may have been factored into a sourcing decision but, if not, need to be considered.

It is an key objective of Lean Manufacturing to minimize the inventory between operations. Whenever there is a large inventory developed between supply and use, there is the risk that there may be a hidden problem with the inventory, a defect not found until the material is used. The costs of rectifying that problem can be substantial. The material may need to be scrapped or repaired. Either way this can be a significant cost. This same issue can arise if it is necessary to make a design change that would necessitate obsoleting or reworking the inventory. Thus having a large inventory is not only a cost issue, but also a cost risk.

A related area of risk is the volatility in the demand for your product in the marketplace. If there is an un-forecast increase or decrease in the market demand, it can be a problem. In one

case you are left with a significant inventory. In the other case you may not be able to quickly supply the additional demand due to the shipping transit time, or you may need to use more expensive air freight. Therefore, the risk of changes in market demand is also a risk that needs to be part of a sourcing decision review.

One should also consider the risk of separating the design engineering and production parts of the business. Awareness by Design Engineering of the production processes and problems often results in design changes to make the product easier to manufacture and less costly. Opportunities to make such money saving changes may be missed due to the difficulties of communicating with the offshore supplier due both language differences and in time differences. Evaluating this risk is very subjective, but also needs to be part of a sourcing decision review.

Finally, there are the risks related to the pirating of your Intellectual Property. In particular, it is well known that enforcement of Intellectual Property Rights is a problem in China. Not only is it difficult to obtain patents in China, but it is also difficult to enforce them. Just as important is the fact that ideas for new or improved products can often originate from a close association with production. Even if there is not an Intellectual Property issue, these present a risk that a competitive product may be developed by the supplier.

Total Cost of Ownership Estimator™

To help companies assess the total cost of sourcing offshore versus domestically, the Reshoring Initiative (www.reshorennow.org) makes freely available through their website the TCO Estimator™. The user provides the inputs to the estimator based upon their product and assessments of risk. The TCO Estimator™ uses these inputs along with tables of costs for duties and shipping costs to provide a cost comparison between sourcing offshore and sourcing domestically. What is often shown is that even though there is a significant difference between FOB prices once the shipping, inventory and risk costs are factored in the cost advantage to sourcing offshore is significantly different. As one final output, the TCO Estimator™ projects these cost differences into the future using a user supplied rate of inflation for labor costs and currency exchange rates.

This TCO Estimator™ will be a handy tool for companies that recognize the new Reality and want to re-evaluate their prior decisions to source offshore. It will also be a valuable tool for companies that are considering sourcing offshore for the first time.

The Bottom Line

Over the past decade, not only has the price of materials, components and products sourced offshore increased, but the costs of shipping them to the U.S. have increased. There are other costs associated with travel, inventory and risk that should be part of a decision to source offshore, but these may not have been part of sourcing decisions in the past when the price difference between domestic and offshore suppliers was so dramatic. In this new Reality, it may be time to review prior sourcing decisions to make sure that they still are right for the business when all the costs are considered.

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