MEXICO & CHINA

Do Your Homework Before Choosing Your Location

By Doreen Huro Michelini, C.P.M.

Labor in China is cheap! There's no argument with these words. In fact, depending on the location in China, labor can be as low as .60 per hour including benefits. But before you run off and start sourcing your product or opening up your manufacturing site, you need to be aware of the actual costs of doing business in China as opposed to Mexico.

The most obvious cost of doing business involves the cost and frequency of travel. Airfares can reach as much as $2,000 for coach class depending on where the flight originates. It is also important to recognize that success in China will involve more than an annual visit. The more work you send over and the complexity of your projects directly correlates to the number of trips that will be needed. For most managers this may mean being away from their offices for weeks at a time and like most of these managers, their work will continue to pile up on their desks until they return. Due to the distance and cost of travel it is advisable to optimize your time and get as much internal work completed and as many supplier visits possible into each trip

In comparison, Mexico is close in proximity to almost any city in the US and can be reached in a matter of hours. It is possible to fly, or in the cases of many southwestern states drive, and complete you business in a few days rather than weeks. This alone should make Mexico attractive to most over burdened executives.

The time difference is another area to be taken into consideration. Granted, it's difficult to assign a dollar value to having your managers available 24/7, but scheduling of this type can result in burnout and high turnover. It is also important to be cognizant that if you experience quality issues, a staff member will need to be available during the night to work out the issues with their Chinese counterparts. Mexico, on the other hand, shares the same time zones with many US states and when problems arise, they can be taken care of during normal business hours.

Product destination needs to be considered when costing out a product. If the material is being shipped to North America you need to include freight, duty and broker fees as part of the equation. When shipping via ocean freight you not only have to look at weight, but the size of your shipment. The best advice is to get a good freight forwarder who can give you accurate costs not only on the freight but the cost of origin handling charges, documentation fees, custom filing fees and destination handling fees. When totaled, this can add an additional five hundred dollars to each shipping container. And remember, you must add the cost of moving your product from port to its final destination. The more product you ship at one time the better your freight costs will be when averaged.

It is much easier to transfer material across the border from Mexico to the US. Over the years, many improvements have been made to speed up the border crossing process. Most shipments can be cleared in a matter of hours. Large trucking companies have affiliates or partners on both sides of the border. Moving material across to the US is a simple task involving the exchange of the Mexican truck cab for the US without having to unload and re-load the shipment into different trailers.

Duty also needs to be added into the cost of your product. In many cases, duty from China to the US is approximately 3.2%, but this can change depending on the product classification. Due to NAFTA, duty on material produced in Mexico and shipped to the US is zero.

Now that we have looked at the obvious costs of freight, broker fees and duty, let's examine those situations that can unknowingly add costs:

Material Availability – Not all materials available in North America can be easily procured in China. Many raw materials are not produced or warehoused in China and must be imported adding freight and duty. In some cases the price of material sold to China is inflated. Even if the material is available, you need to make certain it is held to the same quality standard as the material sold in North America. China, in some cases, has different standards and many times will produce materials to the low limits of the specifications.

Luckily these problems do not exist in Mexico. Materials that cannot be locally procured can easily be sent from the US with shorter shipping lead times. Many companies have set up warehouses and service centers along the border to stock materials for their US customers manufacturing in Mexico.

Secondary Operations – Many of the secondary services taken for grated in North America are not readily available in China. In the case of metal products, some common metal finishes are not obtainable. If your the first in the area to have this requirement your going to have a difficult time convincing the local plater there will be sufficient business to warrant him putting in a new line. It's the same scenario for plastic resins. Although all the large resin suppliers have warehousing, if the material is not used in the area they can require you to commit to annual usage that may far exceed your needs.

Most services provided in the US can be found in Mexico. Again, if for any reason the secondary is not available, the product can be moved quickly back to the US for processing.

Utilities - Electricity rates in China may be lower than in Mexico, but they are as reliable. Until the Chinese government can get the new power plants running, weekly blackouts will continue. This can interrupt your schedules and affect your ability to ship to your customers on time. Phone service in China is also less expensive than it is in Mexico, but again not always reliable. This can directly affect your ability to ship if you need to transmit paperwork over the phone lines to your China office.

Labor – Everyone loses sight of what really makes China a good deal, which is cheap manual labor. The more the part needs to be touched, the better your savings will be. Material that is produced by presses and automation will have less manual labor and in many cases may not result in significant savings. One shoud carefully review the processes involved in production and then make a decision regading China. In many cases you may find Mexico's pricing to be just as competitive as China's.

Safety Stock – Setting aside manufacturing delays, which could happen anywhere, shipping delays can wreak havoc on the desired constant, smooth flow of material. Weather, labor strikes and the occasional sunken ship can cause major interruptions in your schedule. It is imperative to plan for these disruptions by having safety stock in place which should equal the number of parts needed if you should have to start from the beginning of your lead-time. Being forced to ship material airfreight will quickly erode your margins and are costs that cannot be recouped from your customers. Safety Stock not only ties up money on your shelves, but you have the added liabilities of engineering changes and/or obsolescence.

When manufacturing or procuring in Mexico, you still will need to have material in place for those "just in case" scenario's, but due to a shorter shipping lead-time, your money does not have to be tied up in high levels of safety stock and inventory.

Case Study - This is an actual case study of an electrical product that targeted for manufacture in China (see Exhibit A). A cost analysis was performed and it was determined that it was actually more advantageous to manufacture this product in Mexico as opposed to China. The screws would have been locally sourced in China for less than the cost of the US supplier. The cost of labor to assemble the unit would have been a third of the cost of labor in Mexico. However, raw material for the metal stamping and plastic molding was not available in China. These materials are required under UL guidelines and therefore would have to be imported; the added shipping, freight, and duty costs resulted in a total production price tag 25 percent higher in China than in Mexico.

	MEXICO	CHINA
Metal Stamping * **	0.09	0.15
Plastic Molding * **	0.04	0.06
Screws	0.05	0.03
Assembly Labor	0.03	0.01
Freight to USA	0.012	0.035
Duty	0	0.008
TOTAL COST	0.222	0.293

*Includes material and labor
**Material not available in China and needed to be imported

EXHIBIT A

Next we looked at the cost of maintaining safety stock (Exhibit B). Annual usage of this part was 1,000,000 or 19,000 per week. Taking into consideration the time to ship material to China, manufacture the parts, and then ship the product back to the US, total production time would have been 16 weeks. Because there are a host variables than affect delivery, it would be necessary to maintain safety stock close to, if not exactly the 16 week usage number. In practice, that number could be cut in half once a good flow of material was established, but the cost would still be ever present. In comparison, Mexico's close proximity to the sources of materials resulted in a skeleton inventory and lower cost.

CHINA	
Material lead-time to China	8 - 10 weeks
Production lead-time	1 week
Shipping lead-time	4 - 5 weeks
TOTAL LEAD-TIME	16 WEEKS

16 weeks of inventory = 304,000
304,000 @ .293 each = $89,072

MEXICO	
Material lead-time to Mexico	3 - 5 weeks
Production lead-time	1 week
Shipping lead-time	1 week
TOTAL LEAD-TIME	7 WEEKS

7 weeks of inventory = 133,000
133,000 @ .222 = $29,526

EXHIBIT B

When deciding to procure or manufacture in either Mexico or China, it is important to thoroughly examine all the costs associated with the product. Admittedly, you cannot capture all the costs such as late night phone calls and travel, but those directly affecting the product need to be considered before making your decision. Your final number should include the total cost of material and secondaries, shipping, shipping fees, duty and any costs directly affecting your cost of sourcing the product from China. Even if you cannot add the cost of phone calls, visits, late nights and safety stock you need to be aware of them when making your decision. In cases of high manual labor you may find China the best place for your business, but you need to do your homework to assure you have all your costs in place to make a good business decision.

QUICK CHECKLIST FOR MANUFACTURING IN CHINA

1. Evaluate the Product – Review the product to determine if the labor talent is available. Are the raw materials locally available? Are there any secondary services needed and are they locally available?

2. Determine the Labor Content – China's draw is its low labor cost. It's important to realize that if your product has no "human touch", it may not have the savings your expecting. Product produced by machines can be very competitive to costs in the US or Mexico. Evaluate your product to determine its labor content.

3. Management – To be successful you must have the support of top management. Procuring or manufacturing in China takes many man-hours and if your top executives are not supportive you may not have the talent or resources to support your project.

4. Product Destination – What is the final destination of the product? If it needs to travel long distances or is heavy or bulky, you will be adding additional costs. Duty is determined by part classification and can range from 3.2% in the US to 33% in Mexico.

5. Quality – If your experiencing quality issues on your product in the US, you will carry those same quality issues to China. They will not magically disappear. Do not move product with inherent quality issues. This will put a strain on your US staff and can add the cost of several trips to resolve the issues.

6. Customers – If the product you are manufacturing is for a specific customer it is important they are agreeable to this arrangement. Anything can be copied, but it is wise to safeguard your information by removing customer names from prints. Avoid moving patented processes that cannot be detected in the end product but can be copied off the shop floor. MN

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