

Critical Elements for Quality Planning in your Supply Chain: Ten Things to Think about Before Outsourcing Your Product

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Widgets and More!

You are the CEO of the *Widgets and More!* company. You need to cut costs and increase profits. Your Vice President of Procurement comes to the rescue with a supplier that can produce a product you are currently manufacturing, WDG1, at a lower cost. The labor rate is much lower than what you are paying. Procurement assures you this company can produce the same thing, at the same quality level, and deliver it on-time. After reviewing the numbers, you agree to outsource production but on a trial basis.

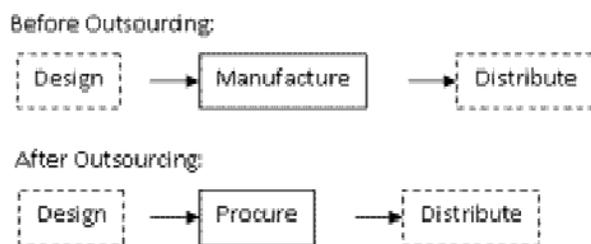
A few months go by and everything seems to be going fine. The company you outsourced to lowered their price even more and seem to be delivering what you want in a timely manner. You decide to cut costs more by completely outsourcing all WDG1s. You decide to sell the machines used to produce this product and lay off the workers plus support staff in the production area.

A few more months go by. In a meeting with your staff you overhear the Customer Support Center Director complaining that she needs to hire more staff. WDG1 complaints have skyrocketed and no one seems to be addressing the problem. She confronts the Vice President of Procurement and demands he address the problem. He complains that he doesn't have the staff to deal with the issues because they are looking for new suppliers. The supplier has raised the price of WDG1s because another customer, a very large US retailer, demanded a price cut. The Director of Sales pipes is complaining the supplier is behind schedule and their quality is not up to par. Retailers are complaining because customers are returning many WDG1s. You start the meeting and ask what is going on with WDG1 production. Everyone starts in. You ask the Director of Manufacturing when she can start producing WDG1s again to fill in until Procurement finds another supplier. She reminds you that all the equipment and people are gone. Profits are down, the outsourced savings have evaporated, and you no longer have any capacity to produce product. Your pager goes off and displays a message from your secretary. Your biggest customer is canceling all future orders for WDG1 because they are going to buy them from your supplier directly to save money. What went wrong?

Outsourcing Product

Outsourcing or “going factoryless” is a very popular trend. Although outsourcing can be

advantageous in terms of cost and capacity, there can be long-term consequences. While there are many facets of a company that can be outsourced (HR, IT, Distribution...), this paper only addresses outsourcing product (manufacturing).



The biggest mistake most companies' make when deciding to outsource is viewing production as a cost center, not as a process. Often leaders view outsourcing product as a cost savings tool, not a critical business decision affecting the SIPOC chain (Supplier, Inputs, Process, Outputs, Customer chain). All the expectations and communication to the manufacturing plant now need to be replicated for each outsourced supplier. Unlike internal manufacturing, suppliers need signed contracts detailing price plus service, quality, and delivery requirements. Data needs and product traceability requirements also have to be communicated to suppliers.



Top Ten Considerations

Outsourcing product should not be a quick decision based on labor cost alone. There are many things to consider in the process before deciding to outsource:

1. Design process—Who is responsible for your design process? How well does it work? How do you know? Is your current manufacturing plant fixing problems caused by the design process? A big problem with outsourcing is that you find out how many things your manufacturing facility was fixing and not communicating back upstream to your designers. Once you outsource you may find that your design process was causing much of the rework and additional cost of your manufacturing process. If the company you outsourced to finds issues with your designs, they may do one of the following:
 - Manufacture to the design (even if they know there is a problem)
 - Stop work and wait for a revision
 - Revise your design without your knowledge (no feedback upstream)
 - Fine you for supplying a poor design
 - Refuse to manufacture your product.
 - Expectations and communication with the supplier are key components in getting what you want produced the way you intended.
2. Specifications - Who creates your specifications? What language are they in (English, Spanish, Chinese...)? How are they communicated (by e-mail, web, snail mail, courier...)? What cultural aspects will affect the things you take for granted? Assuming everyone worldwide

will understand your words can be a mistake. For example, if your specification for a doll includes 2 eyes and you are having these dolls painted in China, what will the eyes look like—the operator's or what you have assumed? While your internal manufacturing plant might understand the expectations, without pictures or prototypes for suppliers you are at the mercy of their interpretation. Different cultures have very different assumptions.

3. Production Material - What materials are used? Is the same thing available to the supplier or will material need to be shipped in? How will material be stored and for how long? Material available in one country may not be the same as the material in another country. Water is a great example. Industrial water in the US is very clean compared to water in China. The mineral content can be very different as well and this can cause problems with adhesives. Metals such as steel may also have different properties somewhere else. Climate conditions might affect materials such as paint and adhesive.
4. Process capability and capacity—Who determines what the process is capable of producing? How consistent is the process, especially if it involves hand application or assembly? Are you willing to work with suppliers on continuous improvement and capacity issues? Are you a major customer or a minor player for this supplier? Although we can forecast and schedule for internal needs, provide engineering resources for capability improvements, and buy capital equipment to increase capacity, for outsourced product these issues are often left to the supplier to deal with and you might be one of many customers clamoring for changes. Increasing capacity for a supplier might mean working their employees longer hours and for days on end. Capacity issues can drive suppliers to produce your product in sweatshop conditions. Before you outsource, you need to make sure you have a comprehensive supplier certification/decertification process as well as a code of conduct policy and auditing process. Code of conduct policies have guidelines for working hours, wages and overtime pay, minimum age of workers, benefits and the elements of a safe working environment. Not only does your supplier need to follow guidelines, but anyone they subcontract to needs to be in compliance. Unauthorized subcontracting by a supplier to a substandard supplier can cause great harm to your company's image. The last thing you want is your brand name on the front page of the newspaper associated with a sweatshop!
5. Customs and Country of origin—Where will your product be produced? Will it be produced in multiple parts in multiple countries? Will your customers be concerned about where the product is produced? Where your product is “produced” or the country of origin can affect the rate of duty, the entitlement for special programs, admissibility, quota, anti-dumping or countervailing duties, procurement by government agencies and marking requirements. Even if only pieces are made in other countries, customs is involved. Country of origin marking must follow Custom's rules: an article that consists in whole or in part of materials from more than one country is a product of the country in which it has been substantially transformed into a new and different article of commerce with a name, character, and use distinct from that of the article or articles from which it was so transformed. Country of origin can also impact your marketing and promotion of product. Customers often rely on country of origin to determine the “quality” of the product. For example, a watch made in Switzerland will be perceived by some customers as superior in quality to a watch made in Taiwan, even if there are no differences in material or quality of workmanship.
6. Verification/inspection/auditing of processes and product—Who is going to verify that what you ordered is what you received? Who, if anyone, does the inspection of your product and where will this be accomplished? Who is going to audit your suppliers and to what standards? What laboratories will be used to test your product and are they local to you or

your suppliers? Who will be producing your product and are they treating their employees fairly? Verification, inspection, and testing are required for some types of product due to safety and regulatory requirements. You have to determine where your product can be tested and who will do the testing. Lab calibration and test result reproducibility need to be addressed with any outside lab testing. With internal production you have control over who inspects, how they are trained, and where the inspection takes place. When you outsource, you need to find out how the supplier is going to verify the product, how their people will be trained, and where the inspection will take place. Sending an inspector out to a supplier can reduce cost but the inspector might feel obligated to accept product, be pressured, or bribed. You also have to determine what to do with product that does not conform to your specifications. If you inspect and find defects, you have to decide how to sort and repair. The cost of sending defective product back to a supplier might outweigh the cost of the product. Supplier audits and code of conduct compliance audits need to be periodically performed. Auditing will help you understand your supplier, their workplace and working conditions, their history, and their stability.

7. Shipping—How are you going to move product from your suppliers to you or your distributor? How long will this take normally? How long will shipping take and how much will it cost for expedited shipments? Will Customs be involved? How reliable is transport from your suppliers to you? The West Coast dock strike was eye-opening to those who rely on product being shipped from China. Alternatives to shipping by boat are very expensive and can quickly become bogged down if everyone needs to use an alternative. Expedited product by air can outstrip a month's worth of labor savings. Typically suppliers quotes are based on shipping the cheapest way, which generally is by boat. Transporting by boat in containers means larger quantities, which ultimately means you need more storage space once you receive the product. Also, with all the terrorist activity, shipping companies are being pressured to make sure their containers are secure. The cost of this security will be passed on to the buyer.
8. Support personnel—Who is going to provide support to your outsourced supplier? What hours are they going to work? What language will they speak? How quickly do problems need to be resolved? Someone needs to be available to suppliers for questions and clarification. Language barriers and time zone differences can pose challenges to buying organizations. Just remember that if no one is available to help the supplier, the supplier will work with the information that they have or they will delay production. Not only is support for suppliers essential, but training on quality, continuous improvement, six sigma, and other items are very beneficial. The more suppliers you have the harder it is to provide the support.
9. Total cost—How much does the product cost? What does this price include? How much does it really cost me to produce internally? What about support cost, design cost, tariff costs, shipping costs, inspection costs...? How long is the price good for (beware of introductory pricing)? Now that we have covered a variety of different issues to think about before outsourcing, the ultimate driver to outsource production comes down to cost. The problem is that most manufacturers do not know the “real” product cost so when they outsource to a supplier, the cost savings don't always add up. Trips to China to deal with production issues can deplete cost savings quickly. Over time the total cost of producing the item externally might be more than it cost to produce internally. Total cost requires you to look at all the aspects of producing the product and makes some assumptions about risk. Risk involves looking into the customer/supplier relationship and thinking about best and worst case scenarios.

10. Middle man—Finally, the biggest issue with outsourcing is that you now become the middle man and a cost center for your customers. If you don't provide something other than product, the customer may eliminate you (the middle man) and go directly to your supplier. If you think your customer will stay with you because you provide quality product, on-time, and at a reasonable cost, think again. Some large companies are exceptional at finding out who your suppliers are and working direct deals with them.

Outsourcing can be positive and can help businesses focus on key processes. Outsourcing can also be detrimental to the long-term viability of a company if not viewed as a key business decision. The decision to outsource should not be taken lightly! There are some keys to effective outsourcing:

- Supplier selection process. The process should include criteria for suppliers, assessment of supplier capability, requirements, and measures of performance.
- Supplier certification program. A good supplier certification program will assess performance, provide feedback, and recognize appropriately. It should also support supplier development and training.
- Communicate, communicate, and communicate! Suppliers need to understand and agree to specifications. They need to know what is going to happen if you find product-related and nonproduct-related problems. Creating an open dialogue with suppliers from the start will help your outsourcing venture be successful!