

A New Accounting Focus Supports JIT/Lean Goals

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Manufacturers throughout the world are faced with stiffer competition and prospects of slower economic growth. Such companies, anticipating difficulty with growth, must adopt cost reduction strategies if they wish to maintain and increase profits. One strategy that can yield returns in competitiveness is Just-In-Time/Lean manufacturing, with its relentless concentration on eliminating waste and producing high-quality goods at the lowest possible price.

Clearly, many of the standard cost-accounting procedures that are appropriate in traditional manufacturing environments are not appropriate in JIT/Lean environments. With JIT/Lean manufacturing, direct labor becomes a much lower percentage of total cost, cycle times are shorter and suppliers are treated as partners.

Cost Accounting the Old Way

To understand how cost accounting must change for a JIT/Lean environment, we must begin with a brief review of the assumptions behind the traditional method. In most standard cost accounting systems, total product costs are calculated by identifying the costs at each level of the bill of material. The basic formula is:

$$\textit{Material} + \textit{Labor} + \textit{Overhead} = \textit{Total Cost}$$

Let's look at how we traditionally arrive at each component in this equation.

Material

Material cost is what is paid to suppliers for raw materials or component parts. Every part has a number and a planned cost a cost that is predetermined and intended to represent an ideal or standard. This cost is established during the year and used regardless of what actually happens. The deviations from this standard cost are reflected as variances.

For example, a purchased component may have a standard cost of \$5. Actual cost during the year may fluctuate between \$4.80 and \$5.30. The cost used for decision-making throughout the year is \$5 and the differences \$.20 less early in the year and \$.30 more later in the year are recorded as variances. These usually are reported every month, but are not normally directly traceable to individual products.

Direct Labor

Direct labor cost is the amount of direct labor required to produce products or add value to raw materials. Standard direct labor is the amount of planned direct labor required based on estimates or standards. Again, variances are calculated to account for differences between actual and planned direct labor.

Overhead

Overhead is costs incurred that cannot be directly linked to a specific product. Examples of overhead include facilities, indirect labor, supervision, material handling, management personnel and utilities. These costs are spread over all of the products that are manufactured as indirect costs. Detailed data is not normally collected on these costs because the expense to collect the data would be too high. So overhead is generally figured as an amount assigned to a product as a percentage of direct labor.

Total cost

Total cost is determined by adding up material, labor and overhead costs for each level of the bill of material until the final product cost is determined.

The Old Way Meets JIT/Lean

Obviously, there are some inaccuracies built into the traditional cost management system. These inaccuracies are in the fundamental assumptions as well as in the detailed data. They present serious problems when applied to JIT/Lean. Here's why - direct labor rates are too high for JIT. Not many years ago, direct labor was a large part of the cost of a product-as much as 30 to 60 percent of total cost. Material costs were low, and overhead was much lower. Today, a high-tech manufacturer may experience direct labor costs as low as 2% to 5% of the cost of product, and overhead of 40% to 60% of cost of product. These ratios are as high as 5 to 1, with overhead being as much as 500% of direct labor.

Using the old accounting system in a JIT/Lean environment, overhead costs normally can't be traced directly to the product. This means that a major portion of product cost in JIT manufacturing is not traceable, and, therefore, not controllable.

When traditional cost-accounting methods are applied to JIT/Lean, unnecessary activities can't be isolated as costs. The standard system doesn't concern itself much with eliminating waste. While it does chase the cost of direct labor to four decimal places, it overlooks cost-added activities like storing inventory, inspection and material handling, because it does not recognize these as costs.

Overproduction is not penalized with standard cost-accounting procedures. In fact, it is encouraged, because when overhead is assigned as a percentage of direct labor, overproduction absorbs overhead. The result is unneeded inventory - for which the traditional system pats the company on the back as having produced profitably.

Quality costs are not reported and properly identified by the old system either. (Excess inventory and work-in-process hide the quality problems in the product or process.) Nor is investment in new manufacturing equipment and processes supported with traditional methods of cost accounting. Instead, many companies attempt to justify new technology with savings on direct labor (now a very small portion of the cost of product) or with increases in pieces per hour and lower associated overhead (a questionable number, at best).

Essential non-financial cost improvement cost factors are ignored with the old system as well. It has no way to adequately evaluate important measures like quality, throughput and flexibility.

With JIT/Lean, many old concerns are swept away in the pursuit of waste elimination and value-added manufacturing activities. But new cost accounting concerns emerge. Although an exact new "system" for JIT/Lean cost accounting has not yet been developed and agreed upon by the accounting profession, it is safe to say that, in many ways, accounting techniques emerging in successful JIT/Lean companies promise to turn the old system on its head.

Cost Drivers and Overhead

Overhead costs, so important for waste elimination are converted and kept as direct costs so that they can be isolated and targeted for reduction and direct labor, increasingly a smaller component of cost, is often converted to a percentage of overhead! This represents a 180-degree change in thought about direct labor and overhead. Another cost-accounting difference with JIT/Lean involves isolating the factors that drive costs. These factors, or cost drivers (which vary from business to business), are activities or conditions that directly influence operational performance and the cost structure of the business. Cost drivers can include inventory, plant layout, engineering change orders, forecast accuracy, setups and rework, to name just a few.

JIT/Lean companies seek to develop actual cost information for each cost driver, which allows a clear understanding of what drives costs in their businesses and how these costs may be reduced.

Another change stemming from JIT/Lean cost accounting is a movement to consider machine depreciation as a direct cost across the productive life of the asset, rather than for a predetermined number of years. This is due to productive maintenance techniques. In short, cost management, as the other business disciplines within a JIT/Lean environment, exist in a mode of continuous change and improvement.

Aligning Accounting with JIT/Lean Goals

If your company is on the road to JIT/Lean, that never-ending journey of continuous improvement, you can begin preparing your cost management system by taking the following steps:

1. Reduce the elements defined as overhead costs by reassigning as many as possible as direct costs. Eliminate the use of direct labor as the basis for assigning overhead. Use another basis, such as direct material cost.
2. Identify and allocate all of your significant cost drivers. Integrate as many of these as possible into your current cost management system.
3. As JIT elements are implemented, adjust your costs to reflect associated cost improvements.
4. Provide education on JIT/Lean and the continuous improvement process to your finance and cost management people to prepare them for designing your future cost management system.
5. Simplify and integrate cost management and operational management into a single management system. Because the transition to JIT/Lean cost management is a challenging one, it requires adopting a new total cost perspective, a new way of seeing how money flows in your business.

To make the transition, you must establish benchmarks indicating what your company is doing now. What is the basis of your cost system? Do you use a standard cost system, an actual cost system, or something in between? For a selected product in your company, what is the breakdown of material, labor and overhead? Which areas should you focus on managing more closely?

You must then begin developing a new vision. How do you currently allocate overhead? What are the major contributors to your overhead? How many can you eliminate? How many of what remains can you convert to direct costs? What are the cost drivers in your company?

Now you are on your way toward the JIT/Lean accounting mind-set. Just follow where these questions lead you and let your creativity flow.