Comparison of Production Costs Management Systems

Choice of a Production Cost Control Method:

Job (Project) Costing vs Standard Costing

The owner / manager of a new business often manufactures only to order, and most of the time each order is unique. It is this flexibility that allows him to fit into the market of his choice. He generally knows well its costs and can quickly establish sales prices. Since he knows what is going on in the factory, he does not feel the urgent need to have a system for reviewing costs incurred versus estimated costs.

The business grows and the owner hires assistants to free him from certain tasks. New responsibilities and new business opportunities are taking him further and further away from the day-to-day management. Soon estimates are delegated to someone he trust and production management is now easier without him, with employees reaching a level of experience that allows them to work with more autonomy.

A trigger occurs which forces the owner to realize that his comfort was quite illusory.

He must now react. Typically the reaction will be to require the review of all quotes or estimates and the implementation of a cost accumulation system per order that will allow him to see if the cost estimate has been respected: The company acquires therefore its first cost control system.

Years go by and the business grows. We have already realized that knowing the real profitability of an order once it has been delivered can only be useful for the next similar order. And this, only on the condition that the employees remember the reasons behind the over-consumption of materials or labor. But the pace of production is high, the employees are now sharing two shifts and no one really remembers what happened in the production of the order in question; Besides, wasn't that the order that we had to interrupt during production because the planning director had misjudged the quantities of material required?

We then realize that we have in our hands tons of reports that are expensive to produce and that are not geared towards solving the problems that they know how to identify.

It gets complicated. The management, now confident in the growth of the company decided to seize some opportunities to purchase raw materials in quantities much larger than necessary to meet the demand created by the orders in progress. Sellers now use these costs (often the lowest!) to establish their quotes. But we have not yet acquired an inventory management system and the cost price controller does not know which cost to assign to which order. We establish internal rules to try to overcome this situation…

It gets even more complicated. A nice order has just come in, but in order to use the stock of raw materials in hand, a sub-product will have to be created that will have to be stock while awaiting demand (annual cycle). Yes, but because the cost of the order depends on the value assigned to the sub-product, it is imperative that this cost be determined accurately. However, in general, this sub-product is made with much less expensive raw material. We establish other internal rules to remedy this situation…

Soon, there is so much arbitrariness attached to the interpretation of order cost ratios that other internal rules have to be established to interpret them!

Are you in this situation?

Are you going to be soon?

If so, the cost per order management no longer meets your needs. But well-managed businesses in your situation have turned to another way of looking at controlling production costs: Cost Management by using the Standard Cost Method.

This method allows you to look at cost control based on functional responsibilities rather than on individual orders. We will come back to its operation later, but let's see its characteristics here and compare them to those of cost management per order as described above.

The following table compares the two methods:

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Criteria	Cost per Order	Standard Cost
Desirable Context of Use:	Simple Manufacturing: • Make-to-Order • Turnover Mainly Composed of a Small Number of Larger Orders • Purchases Related to the Order • Sequential Production and No Intermediate Stocks • No Sub-Products	More Complex Manufacturing: • Make-to-Order or Make-to-Stock • Turnover Consisting of a Greater Number of Orders • Specific or Non-Specific Purchases • Sequential or Step-by-Step Production and Creation of Intermediate Stocks • Easily Processes Sub-Products
Cost of Raw Materials Based On:	Supplier Invoice Costs It is in Practice Impossible to Relate With any Precision the Related Costs Charged by Other Intermediaries	Supplier Cost + Estimated Cost of Related Costs: • Transport • Customs + Brokerage • Warehousing

		• Insurance
Sales Price Based On:	Estimated Purchase and Production Costs for the Order	Standard Cost of Raw Materials plus the Sum of Standard Costs of Necessary Operations
Management Reports Focused On:	Order Cost vs Estimated Cost	**Material:** Variance of the Purchase Cost vs Standard Cost Previously Established in Collaborationw With the Buyer **Other Resources:** By Department and Production Order: Variance Between the Current Costs of Each Production Order Compared to the Standard Costs for the Operations Carried Out. This Variance is Broken Between Controllable and Uncontrollable
Corrective Action:	On the Next Order From the Same Customer?	On the Operation That Resulted in a Controllable Variance and Indirectly on the Individual and His Department Officer
Integration With Financial Statements:	Gross Profit = Sum of the Contributions of Each Order Since in General the Analysis by Order is Done Independently of the Accounting System, the Results are Often Inconsistent	Gross Profit = Gross Profit Using Standard Cost as Cost of Sales Plus or Minus Sum of Period Variances
Inefficiencies Show Up in Financial Statements?	No	Yes: Periodc Variances. Big Red Flags!

Let's briefly see how the Standard Cost Method works. First of all, let us recall the goals of using the method:

- Identify profitability gaps as they occur; Relate them to the task rather than the customer or the order,
- Attribute these differences to a manager and to the profitability of a department,
- Simplify inventory valuation of Work-in-Progress and finished products.

Standard Cost Definition

It is a cost fixed in advance after analysis that the company attaches to each unit of resources used in the company for a given period.

How does this look in practice for each of the functions of the company?

Primary Function: Replenishment

Regularly, the buyer analyzes the markets and determines what the purchase prices should be including the related costs (Landed costs) for a fixed period to come (one year, one month or one week). These prices are reviewed with management and we then agree that they will become our new Standard Costs. From this date, the accounting system will evaluate the purchased parts inventories at this value and all the differences between the prices actually paid and these values will be automatically charged to the variance account of the purchasing department.

Review of these variances may reveal that:

1. The variance is due to an irreversible trend in the market and that Standard Costs should be reviewed immediately. Upon review of these Purchasing Costs, the system will <u>automatically</u> re-evaluate all products in process and finished products made up of this raw material. In doing so the system will generate a profit or a loss of re-evaluation.
2. The variance is due to a bad decision by the buyer: We correct, tomorrow everything will be back to normal!

Second Function: Production

The preliminary job of a production manager breaks down into two tasks:

1. Determine a Standard Cost for each of the resources at its disposal: In general, hourly costs will be established for labor by type of specialty and for the machinery usage. These costs can also be established on a basis other than the hourly rate.
2. Determine recipes that will specify the type and quantities of resources to be used for each of the business transformation operations. These recipes (**BOM – Bill of Materals**) will contain the raw material as well as the resources used. We thus find ourselves establishing a Standard Cost for the product coming out of this manufacturing step. (This will facilitate the assessment of current product stocks and open the door to an intermediate storage stage!)

The work will be done by issuing work orders copied from the **BOMs** and adjusted for the quantities to be produced. Once the work order is completed, a report is generated that explains the differences between the quantities of resources as determined by the **BOM** and the quantities of resources actually consumed.

Review of these variances may reveal that:

- Resource consumption went as planned.
- An over / under consumption has emerged in which case:

- o The variance is due to an uncontrollable factor (ie poorly adapted machine; inexperienced labor) indicating to us that we must review our BOM with an effect on the cost of the product manufactured as well as on the costs of all products using this item in their BOM.
- o Variance is controllable; Misuse of raw material and other resources and corrective action should be taken immediately. Tomorrow, everything will be back to normal!

Third (or first?) Function: Sales

The seller's job is facilitated by the fact that in general he can use the Standard Costs established by the buyer and the production manager to establish his selling price.. Since he works with a standard cost, his contribution margin (the difference between standard cost and selling price) is easily assessed and is not unfairly affected by the efficiencies or inefficiencies of purchasing or production managers..

I hope that these few lines have enabled you to understand the concepts behind the use of the Standard Cost Method. Although a little heavier to implement, it offers undeniable advantages in environments where a simpler costing system no longer meets the needs

The **_DCision ERP_** software supports both the Cost Management by Order (Job Costing) and the **Cost Management by Standard Cost.**