Application Whitepaper:

What is an “accounting-centric” manufacturing system?

MISys Small Business Manufacturing has been referred to as an “accounting-centric” manufacturing system. In this document we will discuss the significance of such a title, and the benefits gained by implementing such a manufacturing system.

Since the development of computerized business management systems, accounting applications such as general ledger, accounts receivable, accounts payable, and payroll have been the first applications a small business computerizes. The processing involved in these applications is relatively simple, and accurate inputs and therefore outputs normally exist.

Because manufacturing is much more difficult to computerize, accounting systems typically avoid the complexities of manufacturing: multi-level bills of material, long procurement cycles, and complex assembly processes.

Nevertheless, purchasing and production activities may have the most pronounced impact on the profitability of any manufacturing company. Therefore accurate tracking of the accounting implications of these and other manufacturing activities is crucial to the success of a small (or large) company.

An “accounting-centric” manufacturing system is one which performs all the functions needed to manage inventory control, purchasing, and production activities -- yet is intensely aware of the accounting implications of each process and can accurately incorporate these activities into the business management control system at large.

In a typical manufacturing company, the following processes must be reflected in the company’s financial statement:

Inventory Control

In a manufacturing environment, an asset of hundreds or thousands of raw material items, as well as sub-assemblies and finished goods, must be maintained. In even a small manufacturing firm, this asset may total millions of dollars so accurate reporting of all inventory receipts and disbursements is crucial to the management of the business.

Cost savings resulting from even modest (15-30%) reductions in inventory holding costs can easily justify the acquisition and implementation of a manufacturing system.

Physical Inventory

Periodic physical inventory counts require adjustments to the inventory asset. An accounting-centric manufacturing system creates write-off (and sometime write-up) transactions that result from such adjustments.

Cost Adjustments

Adjusting the cost of an item in any inventory control system requires the creation of accounting transactions which reflect changes to the value of the asset. However, in a manufacturing system, cost adjustment becomes much more complex due to the existence of multi-level bills of material. A change to the cost of a single item at the lowest level of assembly must be reflected up through the entire product structure. In manufacturing this is called “cost roll-up.” Theoretically, it is possible that an adjustment in the cost of just one item would require a corresponding adjustment of every other item in the inventory. Therefore cost adjustments to just a few items can produce hundreds or thousands of transaction in the manufacturing ledger.

Purchasing

While there is no accounting implication to the release of a purchase order, a receipt of material increases the manufacturing inventory asset

and, at the same time, represents a liability to pay a vendor invoice. In a manufacturing system (any many other inventory management systems) there can always be a discrepancy between the contracted (purchase order) price and the invoice price. Usually, the price of material being received on a purchase order is not known and the vendor invoice may not be presented until weeks or months after the material has shipped.

In a manufacturing business management system, it is common to analyze “purchase cost variance,” that is, the difference between the contracted and the invoiced cost of the inventory asset. Doing so requires the integration of purchasing transactions with accounts payable transactions in the company’s general ledger. When the purchase receipt liability account used by the manufacturing system and the payable expense account used by the accounts payable system are properly aligned, purchase cost variance can be analyzed in the general ledger.

Production

In a manufacturing environment, production activities consume raw materials and create finished goods. A manufacturing system with the ability to perform what is commonly called “back-flushing” is able to automatically dispense an appropriate number of the components parts called for in the item’s bill of material and, at the same time, increase the inventory of the assembled item. Because hundreds of items may be involved, the “accounting-centric” manufacturing system will create a corresponding number of accounting transactions in the manufacturing ledger. If the manufacturing system has the ability to automatically build sub-assemblies (auto-build), then the number of items affected by a simple “assemble” process could easily grow by an order of magnitude – and the number of accounting transactions with it.

Because production can touch the largest number of items in a manufacturing control system, it is critically important that inventory adjustments resulting from production activities be accurately carried into the company’s general ledger.

MISys Small Business Manufacturing has its heritage in an industrial-strength accounting system. Therefore, every aspect of the design considers the impact any manufacturing process may have on the company’s financial statement.

MISys SBM’s inventory control, physical inventory, cost adjustment, purchasing, and production processes all produce accounting transactions which are maintained internally until the Period End process is run. This process finalizes the manufacturing ledger and transfers it to the company’s general ledger where it is incorporated into the financial statement.

In MISys SBM the Period End process can be run as often as necessary, daily if desired. Normally this process is run once per month because most companies produce a monthly financial statement.