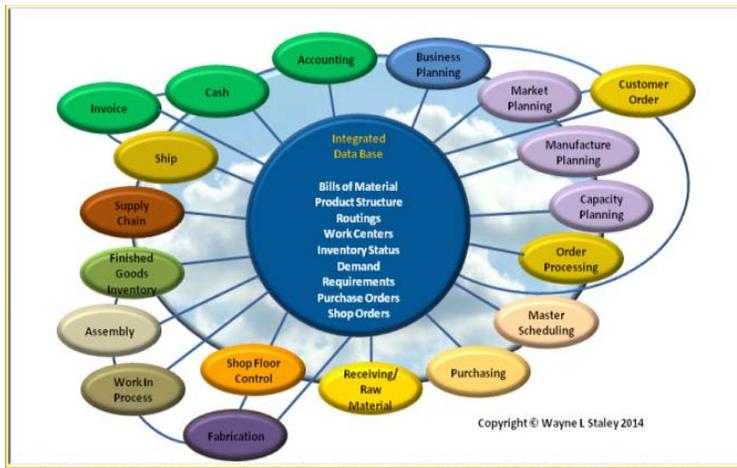




The Focused Fire Newsletter - Copyright © Affinity Systems LLC, May, 2016 Issue 37



## Shop Floor-ERP

Enterprise Resource Planning (ERP), forged in the fires of necessity, addressed the needs of the vertically integrated manufacturing system. By every measurement, ERP is a blue-collar engineering driven system developed to make the right product right, in the right quantity, at the right time, and meet the needs of the customer.

In a world once ruled by expediting and reaction, ERP brought order by establishing mathematical relationships between the elements of supply and demand. It is a simple relational calculation.

Independent factors include finished goods products and parts sold "independently." Dependent factors are the raw materials, parts, subassemblies, and components required to build or assemble the independent product.

1. Multiply independent demand X dependent resources = gross requirements
2. Gross requirements - inventory on hand equals net requirements or the quantity to produce or buy.
3. Based on the results, net requirements are calculated against open shop and purchase orders, and orders are canceled or new ones placed in relation to need date.

For calculations to be effective, the input data elements must be highly accurate. These include demand, inventory, bills-of-material, routings, shop orders, lead-time offsets, and purchase orders. Errors tend to have a multiplier effect, and introduce uncertainty throughout the planning function.

ERP systems functionality expanded from its simple core to include shipping, distribution, transportation, sales, and financial information. A horizontal fulfillment system, dependent as much on logistics as production, replaced the vertically integrated industrial manufacturing model. Today, ERP systems incorporate supply-chain management systems and frequently Customer Relationship Planning.

ERP, now the corporate database, resides in the white-collar structure. ERPs intended purpose, to plan and manage resources, subordinated to glamorous objectives like analytics. I recently attended a presentation by a leading ERP software supplier, who did not even mention operations. A disconnect exists between reliable operation's information and derivative, accurate, management analytics.

Before taking the virtual tour, we need to put ERP back where it belongs, at the heart of the resources and operation's management discussion.



Start the ERP systems evaluation on the shop floor. Involve the associates.

#### **Associates**

- Do the operators like the production planning and control system?
- If not, why not and what are they missing?
- Is the shop constantly breaking into setups to "get out hot orders"?
- Is the system easy to use?
- Are there separate production schedules - hot lists?
- Do the associates get all of the information they need?
- Do interactive communications channels exist for problem resolution and are they easy to use?

## ERP System

- Determine if all ERP modules are operational, and if not, why not?
- Analyze system inputs, define problems, and use sampling logic to determine exactly what is wrong. Check all types of documents released to the shop floor for accuracy.
- Bills of material – Find out if the shop can make the product using the B/M, print, and process. Audit the B/M for accurate part numbers, description, and quantity per assembly, current revision dates, and lead-time offsets. If they are not 98 % accurate, there is a problem with the planning function. If, for example, the B/M is 96 % accurate and the inventory is 96 percent, there is a potential 8 % error factor in the system, enough to distort planning, production, and customer priorities.
- Check the prints against the B/M. Are they the same? Is the revision number correct? If not, the shop is producing something different from the B/M. This may result in scrap, rework, or inventory obsolescence. Worse, field failures may result.
- Check the routings against the process. Are the offsets correct? Are the sequences accurate? Do they match the process? If not, the shop schedule is improperly sequenced, omitting operations, or miscalculating costs. Is the information on these files accurate? If not, the shop schedules are incorrect and bad data pollutes the financial system.
- Track selected shop floor and inventory transactions through the system. Are they properly processed?
- How long does it take to move product through the distribution system? Is it competitive and acceptable?
- Is product piled up in shipping, or does it quickly move from production to transportation?

## Production

- Are machines idle?
- Are people working?
- Is work stacked up at operations?
- Is production performance to schedule acceptable?
- Does material move smoothly through production?
- Are there surplus red-tags?
- Is production performance to schedule acceptable?

- Does quality meet standards?

### **Inventory**

- Is shop inventory correctly managed?
- Is inventory turnover ratio appropriate?
- Is the inventory composed of the right product?
- Is vendor performance acceptable?
- Do materials and production meet quality specifications?
- Are there shop orders at operations- paper or electronic?

### **Performance measurements**

- Are lead-times competitive?
- Is cycle time competitive?
- Do customers get product when needed?
- Is delivery performance measured and at acceptable levels?
- Can the system provide "emergency" product to customers?

By now, you will know if the system is broken, but must dig much deeper to find all of the reasons.

If your ERP system is failing, start the search for solutions. Use a structured process. Perform due diligence by defining the gaps between strategic business objects, current and future state. Develop tactics to achieve the plan. Buy and install a system predicated on making operations productive. Otherwise, why spend the money?

### **Wayne L Staley**

Affinity Systems LLC

[wstaley@affintysystemsllc.com](mailto:wstaley@affintysystemsllc.com)

**Building the SMART Enterprise**

**ERP Lessons  
Learned**

# **Structured Process**

**Strategy**

+

**Business Assessment**

+

**Gap Analysis**

+

**Future State**

+

**Software Selection**

+

**Implementation**

**Wayne L. Staley**