REAL-LIFE CASE STUDIES AND LESSONS LEARNED—

# HOW NOT TO BOTCH A MANUFACTURING ERP SYSTEM

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# A Good, Well Designed ERP System Should Help Manage Inventory

*Case Study*

A bakery uses a batch production manufacturing method, which is called for when demand is not high enough to build a separate line for each product. Ingredients are scaled proportionately to fit a batch size.

This manufacturer's ERP system needs to give the option to allocate ingredients from raw inventory at the beginning of production, or incrementally as they are consumed. The bakery's orders often come up short because a key ingredient was unavailable due to excessive spoilage.

If you short the run, the ERP system should automatically return all unused allocated ingredients to raw inventory and record completed finished goods at the correct cost, right? Absolutely.

In this case, the manufacturer's leadership team assumed that the ERP system they selected automatically returned unused ingredients to raw inventory upon partial completion of a batch. As a user, the last thing you want to do is make manual inventory corrections, one ingredient at a time, as this is very time consuming.

*Lesson Learned*

Some manufacturers end up purchasing the wrong ERP system. Not every manufacturing ERP system works the same, and therefore one size does not fit all. In this case, the manufacturer's ERP system selection team should have had their ERP software vendor thoroughly demo the system and watched the inventory accounting that occurs when an order is shorted.



## Include the Right People In Your ERP System Selection Process

*Case Study*

The culture of one family-owned manufacturer has been very laid back, with an older work force of people approaching retirement. You have historically tracked production orders manually, and successfully met demand.

The production manager has everything in his head. He manually determines quantities that need to be made, does manufacturing resource planning (MRP) on paper, pulls materials as needed, and verbally schedules teams.

Now, the competitive environment has changed and the only way this company will stay in business is to increase production and lower costs.

The company's owners researched and purchased a manufacturing ERP system that automates production and measures productivity. They selected the right ERP system, but made a critical mistake: they did not include the production manager in the decision to purchase the ERP system.

The production manager's knowledge (remember, everything resides in his head) needs to be transferred to the new ERP system. This will help take the manufacturer from old fashioned, time consuming manual processes to efficient, more accurate automated processes.

Prior to beginning production with your new ERP system, you need to:

- Setup bills of material
- Setup work center routings
- Determine how to record direct labor costs or perform a time and motion study to get standard labor hours and costs
- Determine how to allocate indirect costs for each item assembly (for instance, determine overhead percentages or rates to include in cost, and how it will be calculated)

However, since the production manager was not included in discussions, the business owners failed to realize that he was unwilling to use the new ERP system. Because he wasn't included in any discussions up front, your ERP implementation specialist could not even begin to convince him to help with the setup of the system. Even though an appropriate new ERP system was purchased, it was useless when a key person within the company wasn't going to use it.

The end result? Your key "know-how" production manager never bought into the whole decision to purchase a new ERP system, let alone even developed one bill of materials (BOM) for material flow. Sadly, this company had to clean house to stay in business. A year later they began the ERP implementation.

*Lesson Learned*

The production manager, who had a wealth of knowledge about the company's processes, should have been consulted early on. Include the right people in the decision and planning process, from start to finish. Bonus lesson learned – sometimes the people who aren't normally involved in decisions are precisely the people who need to be involved in THIS decision.

## The System's Only as Good as the People Who Use It

*Case Study*

A manufacturer requiring very expensive drill bits and router blades knew they were spending a fortune on tooling. The person in charge of tooling had a habit of going through the tooling catalog and ordering a couple of everything.

A Kanban card system was developed to track tooling items. How did it work? Minimum stock levels were set for each tool. In the front of each tool bin a card was placed in that had the "tool item number," "reorder quantity," and "reorder at quantity." The card moved with the tool bin to trigger replenishment. When the quantity in the bin went down to the "reorder at quantity," perhaps one drill bit, they would pull the card and take it to purchasing.

The purchasing department would enter the tool item number in the "tool inquiry" window, which checked all planned manufacturing orders to determine whether future production would need the tool. If not, purchasing would keep the card and put the tool item number on hold.

This manufacturer had accurate 13-month production forecasts, so if the tool inquiry didn't show that a tool was needed, it wasn't needed for a long time. Every tool that was not needed was either sold or returned. As new manufacturing orders were entered, the parent item went into the same tool inquiry window to determine whether any of the tooling needed by the manufacturing order was on hold. Purchasing was notified, a purchase order for the reorder quantity was generated, and the card was sent back to receiving.

A great system, right? Indeed. The company's tooling purchases dropped by 30% and they completely eliminated tool outages.

However – and it's a big however – the person in charge of tooling stopped using the system and went back to his old behaviors.

This story points to a leadership failure. A 30% tooling expense reduction equated to tens of thousands of dollars, yet the manufacturer did not mandate that employees follow the money-saving process.

Lesson learned: Document ERP system procedures for employees. Hold employees accountable when it comes to following procedures.

## Make Sure Your ERP System Implementer Has the Right Kind of Manufacturing Experience

*Case Study*

One manufacturer selected the right ERP manufacturing system, but the wrong software reseller to implement it. Unfortunately, this happens more often than you might think.

The ERP system implementation got off to a bad start when the ERP consultant imported beginning inventory quantities and respective costs incorrectly. Also, inventory values were not reconciled to the general ledger raw inventory and finished goods inventory accounts.

A year after the go-live date, the company's external auditors found major discrepancies between the inventory sub-ledger and general ledger, and between the inventory sub-ledger and physical inventory. The inventory sub-ledger and general ledger were off by over $50 million. Of course, during this year, the manufacturer had posted thousands of manufacturing orders with incorrect inventory costs.

While the "go-live" imported inventory data was under investigation, a system bug was also uncovered. The ERP system was not pro-rating setup time correctly. This manufacturer has time-consuming equipment change-overs between runs, so setup time (and thus cost) is high.

The manufacturer ultimately hired a new ERP consultant to clean up the mess.

Because the ERP system was not pro-rating setup time and cost across run quantities, it was applying the entire setup cost per piece, so the per-piece cost was seriously inflated. Think of a cost applied per piece, rather than spread across a run of 10,000 pieces. Two ERP consultants worked full-time for a month, unwinding every manufacturing order that had been posted to create correcting entries to adjust costs. Eventually the general ledger was within $5,000 of the inventory sub-ledger, at which point the manufacturer wrote-off the difference.

*Lesson Learned*

The initial implementation consultant clearly had no experience with an inventory intensive manufacturer. On the other hand, the owners of the company are ultimately responsible for their business decisions. Had they asked for references from this reseller, they would have learned they had no experience implementing manufacturing systems for their type of business. Also, perhaps the owners should have had their auditor examine and correct the final ending balances from the old system and verify the new system beginning balances reconcile prior to going live.

## The Bottom Line

Sometimes it is difficult to draw lessons from these real-life situations because fingers can point in so many directions.

On one hand, business owners can argue that the software vendor is responsible for problems. "After all," many business owners think, "we hired them to be the expert and manage the implementation."

On the other hand, the manufacturer is responsible for management decisions and functions, and for designating an individual with suitable skills, knowledge, or experience to oversee the ERP system implementation.

## About Gross Mendelsohn & Associates

Gross, Mendelsohn & Associates is a full-service, Maryland-based CPA and consulting firm serving the complete financial needs of privately-held businesses, nonprofit organizations and families in the Mid-Atlantic area. The majority of our clients are in Baltimore, Washington, DC, northern Virginia and southern Pennsylvania.

In addition to offering the traditional audit, accounting and tax services, the firm specializes in personal financial planning, litigation support, investment management, business valuation and technology consulting.

According to the *Baltimore Business Journal*'s annual Book of Lists, Gross Mendelsohn is one of the region's largest CPA and consulting firms, and one of the area's largest privately-owned businesses.

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