5 Ways to Free Your Manufacturing from Inefficient and Outdated Processes

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Freedom is generally defined as the power or right to act, speak, or think as one wants without hindrance or restraint.

The license to act as one pleases offers a host of benefits, but it can also produce consequences that limit your freedom. The same can be said of your manufacturing. The choices you make on people, machines, software, and technology come with both benefits and consequences.

In the manufacturing industry, one of the biggest constraints on freedom is getting stuck in yesterday – doing things the same way over and over because they have been successful in growing the business. However, success in the past does not guarantee continued success in the future, especially when new technologies, processes, markets, and customer needs can change seemingly overnight.

The best and most successful manufacturers are those who define freedom as the ability to change, adapt, and improve for the common goal of growing. They see it as imperative for keeping up with the evolving industry and ever-changing customer needs. During conversations with many of these manufacturers, five common themes around developing and maintaining freedom were repeated.

1 Provide a clear view of your manufacturing.

In manufacturing, it's hard to manage what you can't see – which is what happens when working off paper documents and spreadsheets. Aside from the human error that plagues manual data tracking, paper documents and spreadsheets often get lost or misfiled and are almost immediately outdated. ERP consolidates all production data into one integrated digital system, providing complete control over how you track, measure, view, and analyze the information needed to operate a successful business.

With today's mobile technologies, ERP can provide access to the data you need, when you need it, from any device. When employees can access real-time data anywhere at any time, information sharing becomes a process improvement tool rather than a bottleneck. Shop floor personnel can do their jobs faster and with fewer mistakes, so you can get products out the door on time while eliminating sources of internal waste.

As production processes become more visible, management can make informed decisions based on accurate data rather than intuition or guesswork. ERP tools such as tailored key performance indicators (KPI), customizable Dashboards and visual web programs that display live data on the shop floor enable fast decision making on schedule changes, hot jobs, and other issues that demand immediate attention.

The efficiencies produced by having access to fully integrated data can be staggering. For example, it used to take Corsair Electrical Connectors, a producer of military, commercial, and aerospace aircraft connectors, 60 hours a week to create a voluminous report used to determine if the company had the materials on hand to start jobs. Now, their ERP system automatically calculates the materials on hand, determines which jobs need them, and correctly assigns them based on due dates – all within four hours.

2 Improve your key metrics.

Tracking and measuring key metrics is one of the most important processes in a manufacturing enterprise. It gives a clear picture of specific areas of the business as well as an overview of how the business is doing regarding goals and expectations, while providing information vital to identifying areas for improvement.

Without a fully integrated ERP system, capturing key metrics in a timely manner can be one of the most difficult processes. Using job costing as an example, let's take a look at how ERP can turn monitoring key metrics from a cumbersome undertaking into a precise, accurate task that provides reliable data as soon as a job is complete.

Few tasks are more important to get right than job costing. Without accurate numbers you can rely on, quoting and estimating often miss the mark, and determining the profitability of individual jobs becomes a hit-or-miss process. At the end of the year, you can get a rough idea of whether you made money, but the data doesn't say which products are turning a profit and which are losing money, or why.

ERP software enables manufacturers to track costs with remarkable precision, starting with clocking in and out of jobs correctly, validating the time collection, and issuing materials to the job all in real time. Shop floor personnel electronically log in and out of jobs, and the system automatically assigns the correct costs to their hours. Managers know exactly what each employee works on and how long it takes to complete a sequence. The system automatically assigns any time not logged into a job to indirect.

Precise job costing also makes estimating and quoting more accurate. Suppose you estimated $500 to produce a part, but it actually cost $750. Did raw materials cost more than expected? Did quality issues require rework? Was overtime needed to complete the job? All this information is instantly available in the ERP system for analysis. Furthermore, reviewing historical data for the part can indicate whether the discrepancy was a one-time anomaly or an ongoing trend that needs attention. When you collect labor, issue materials, and track costs with precision, you can estimate and quote with confidence.

Embrace the power of effectively monitoring key metrics.

Accurate job costing also has a beneficial impact on scheduling. When you know with certainty how many labor hours it takes to complete a job and how much capacity exists at each workcenter, you can schedule with greater precision. This, in turn, enables the setting of realistic due dates for on-time delivery every time.

These are the kind of results you can expect in every area of your business with ERP KPI software. With the data KPIs provide you can review monthly and quarterly key metric reports, analyze executive summaries that let you drill down into detailed data, and predict future actions and results. In the long run, KPIs encourage the development of a proactive decision-making culture where managers make evidence-based decisions that benefit your business.

3 Generate better outcomes.

ERP software can have different impacts depending on what your business is trying to accomplish. In general, manufacturing companies can expect the following outcomes:

- Move parts through the shop faster.
- Schedule and deliver on time.
- Get your quality right.
- Know your costs.
- Grow sales.
- Maintain accurate inventory.
- Control labor costs.
- Improve efficiency by going paperless.
- Integrate your technology and machines.
- Serve your customers faster and better.

ERP also helps improve your company's competitive position. Suppose you typically ship jobs in two weeks and a customer asks for a one-week turnaround. Most manufacturers would accept the job hoping they can meet the delivery date. This decision often results in working overtime, higher costs for expedited materials, late delivery, and losing money on the job.

ERP lets you know with certainty whether you can meet the deadline without disrupting other jobs in the process. It identifies all the steps you must complete to ship in one week, shows your available labor and resource capacity, and determines whether you have the materials on hand for the job. This changes your thinking from a delivery date mindset to an operations completion approach so you can make the right decision about whether to accept the job.

ERP also enables you to provide faster, more responsive customer service. When customers call in about the status of a job, the typical response sounds like, "Let me check on that and get back to you." With ERP, sales reps can instantly see the current status of the job and give customers an immediate answer. They can also check available capacity and materials on hand before agreeing to a requested due date. In today's world, quick responses and fast turnaround times produce happy customers. ERP makes both a way of life.

4 Treat ERP as your most valuable asset.

When used properly, ERP becomes the engine driving everything in your business. From quoting jobs and taking orders to shipping on time and receiving payment, ERP provides a solid foundation for building the infrastructure and shop floor processes that make manufacturing faster, easier, and more profitable. ERP often changes how manufacturers think about their businesses and opens the door to imagining what could be rather than getting stuck in what is now.

By providing accurate data in every area of the business, ERP also creates a culture of accountability. Machinists know when they're performing well and when they're not. Managers have the data to reward those who exceed expectations and hold coaching conversations with those who fall short. ERP also provides opportunities for employees to develop new skills and capabilities that boost their careers by adding more value to the business.

As manufacturing becomes more competitive around the globe, opportunities abound for manufacturers to bring work back home from areas with lower labor and production costs. Without ERP providing a detailed history of the products under consideration, such a move might be too risky. ERP provides the data needed to determine which opportunities you can take advantage of and which do not align with your current cost structure or strategic objectives.

5 Build for today and tomorrow.

In today's "we need it now" customer environment with jobs going out the door at a rapid pace, managers tend to focus on what needs to be done today. Yet, continuing advances in production tools and technologies, combined with the rapidly growing Artificial Intelligence (AI) or the Internet of Things (IoT), will cause the future of manufacturing to look very different than it does today. ERP helps you plan and prepare for the "new now" by providing detailed historical and current data to help analyze where your customers are heading, where your business needs to go to meet them, and what you will need to do to get there.

Today, ERP increasingly communicates with third-party IoT devices and software to expand your manufacturing capabilities. For example, nesting software interfaces can integrate the shop floor cutting process by allowing your ERP system and nesting software to share data with each other. The ERP system sends work orders, workcenter details, inventory data, and other information to the nesting software, which uses the data to optimize material usage and cut patterns for individual sheets of material. The nesting software then sends cutlist details, material drops, scrap, and estimates for routing and work orders back to your ERP system – all in only a few minutes.

As AI technologies continue to make inroads into the manufacturing landscape, ERP software will play a critical role with integration into the way you do business. Modern manufacturers are already using AI to forecast demand for products based on historical data, market trends, and customer behavior. AI can also predict consumer demand for every SKU in the business by analyzing seasonality, pricing, promotions, and product lifecycles. It can combine supply, sales, finance, and marketing projections into a holistic view of demand across your entire enterprise.

ERP does a good job of organizing and distributing IoT data for analysis, but AI goes one step further by precisely identifying patterns and inconsistencies in real-time. AI algorithms process data from many different sources and present it in a consistent manner, making it easier to structure the data for analysis. AI speeds up real-time analytics by preparing, analyzing, and assessing data as soon as it is available.

The manufacturing industry is still in the early stages of determining how best to deploy AI in conjunction with ERP software, but it seems likely that AI-powered ERP will become the wave of the future. If your current ERP system doesn't free your manufacturing from inefficient, outdated processes, you either have the wrong ERP or you're not using it correctly.

ABOUT THE AUTHOR

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