

Do more with less: The 5 strategies used by successful SMB manufacturers



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Executive summary

A common issue facing small and medium-sized business (SMB) manufacturers today is how to increase revenue and grow their business without significantly adding staff. With larger firms able to compete by drawing upon greater financial resources, and often times able to simply apply more resources, including employees, equipment, contractors, and vendors to new initiatives; it leaves the SMB manufacturer at a distinct disadvantage. Most entrepreneurial or start-up manufacturers seek to grow within their means, avoiding the temptation of leveraging venture funding at the risk of losing control of their business. However, to successfully remain independent and grow organically, manufacturers must institute a lean business model for their industry that can maximize utilization and minimize overhead costs.

Understandably, the impetus for starting a manufacturing business is typically focused on the delivery of a specific solution, (combined products and services), that fills a gap in a targeted marketplace. In addition to a “great idea”, manufacturers must have a vision beyond the products and services they deliver that encompass how they will design, produce, and deliver their products to the market. Business owners should ask themselves questions such as: How can I develop and produce my products faster while maintaining quality standards? What are the business practices that will enable me to run my business as efficiently as possible? What percentage of my staff is directly contributing to product development, manufacturing, services delivery, or other value-added activities? How can I minimize non-value added functions? What are the metrics I should be using to measure my businesses performance? How can I increase the rate of new product introductions? Do I know the costs and profits related to each of my products?

Today, manufacturers can have brilliant ideas for new products, but if it takes too long to bring them to market, with procedures that require too much overhead and at a cost that makes it difficult to sustain profitability, they are not likely to survive. Through the start-up process, there is usually little attention placed on internal business procedures and infrastructure since there are only a handful of employees, and a limited number of customers to serve. Manual business processes are quickly adopted that tend to be people-resource intensive. In a start-up mode, many owners feel it is easier to simply have people deal with exceptions and inadequate procedures as they arise, rather than taking time to analyze customer behavior patterns and internal work flow inefficiencies. As new problems arise, more people are added to accommodate the growing number of exceptions. The negative effect of these manual processes and the reliance on adding staff in order to take on more business is their inability to maximize and sustain profitability. In turn, the lack of profitability can significantly limit an organization’s ability to make strategic investments used to maintain their product innovation or customer service advantage. A primary root cause for manufacturers to falter as a business stems from a lack of formal procedures that supports disciplined business practices and worker efficiency. Taking a proactive approach to improving internal processes not only helps you to improve your ability to grow as an organization, but also can help you to maintain the current level of business as well.

According to an AMR Research study, “Across all SMB manufacturers, 27% of new product launches fail to meet the original business expectations.” And that, “Over one-third of small manufacturers (fewer than 500 employees) and nearly one quarter of midsize manufacturers lack a formal process for bringing new products to market. Often, many of these companies follow informal processes that change with each project.”¹

This indicates that the lack of defined processes not only holds organizations back from growing, but also can contribute to the potential failure of the company. Having procedures that vary from project to project, or person-to-person can point to a highly manual and people-intensive business structure. Manufacturers can position themselves for more predictable success and business growth, without a reliance on adding more people, by considering a few strategic planning guidelines:

- 1. Vision:** A clear understanding of the solution, the need you are looking to fulfill, the target audience you are serving, and the internal business model and guiding principles of the company.
- 2. Process:** Adoption of Lean Manufacturing and Six Sigma principles that seek to eliminate waste throughout all aspects of the organization and process and focus on the production and delivery of products directly associated with customer orders.
- 3. Metrics:** Identification and application of business metrics and Key Performance Indicators that can keep each aspect of the business on track and meeting or exceeding established goals.
- 4. Automation:** Use of automated technologies that can accelerate individual processes such as design and engineering, production, quality control, product movement, inventory management, order fulfillment, and accounting.
- 5. Information Technology:** The systematic integration and sharing of information for the efficient flow and management of work between internal and external functional areas of the company.

Within each aspect of the strategy it becomes a matter of bringing simplicity to what typically becomes complex as a company grows. Complexity can present itself when there is a lack of focus and discipline to stay within the boundaries of a defined strategy. That is not to say that strategies shouldn't be adjusted. It is important to make adjustments, but only those that enhance the base strategy rather than changing it completely.

1. Source: AMR Research Small and Midsize Business Report: Trends in SMB Applications: New Product Development and Introduction, 2004 – 2005. © 2005 AMR Research, Inc.

Building a framework for growth

It is hard to imagine a company not creating a business plan at the outset of their business, to establish the initial thrust of the company within a target market. However, it is surprising that so many companies do not update their business plan on a regular basis. Some organizations may think they are updating their business plan when they are establishing their annual departmental budgets and revenue goals. In addition to a refresh of the operating plan, an annual business plan review should take a fresh look at the current corporate vision and target market; review past performance; analyze current strengths, weaknesses, challenges and any new competitive and economic threats to the current plan. Updating your business plan at least on an annual basis is a critical first step that can be taken to re-test initial assumptions, determine how the market is expected to change in the coming year, identify new programs and initiatives designed to improve efficiency and productivity, and establish updated business goals. The business planning process should include a review and update to the five key strategic guidelines, starting with the company vision. And once updated and reviewed with the senior staff members, it should be shared with the entire organization so they, too, understand the adjustments that are being made.

Vision: As a manufacturer looks to make strides in its ability to grow as a company, it often looks at how it can expand its target market or add additional products to the mix. In doing so, it is important to consider the impact these decisions will have on the organization, and what will be required to accommodate the changes. As a general rule it is best to offer new products to an established market the company is familiar with, or offer existing products to a new market. Trying to embark on the development of both a new and unfamiliar product that is targeted at a new and unfamiliar market audience is very difficult to achieve and will require significant financial investment. Having the ability to leverage the organizations expertise in either the existing product or a familiar audience will enable you to plausibly expand your revenue projections. In either case, you will retain a core competency that has made your organization successful in the past.

A review of the current business model is another important area to examine. Now that your company is established and has a track record on both the sourcing and fulfillment side of the supply chain, there may be ways to improve your cash flow model. Can you pay supplier vendors once you are paid by your customers, rather than paying for inventory prior to sales? One way to facilitate this is to ensure you are only building product to customer orders. This will require closer and more frequent communication with your supplier vendors to ensure they can deliver in shorter lead times than they may have in the past. In addition, bringing greater control and accuracy to your on-hand inventory can reduce the unnecessary cost of excess inventory, and free up cash for new initiatives.

Many manufacturers are forced to simplify processes such as inventory management in order to grow. And with customers shifting to the placement of more orders for smaller quantities, manufacturers are picking, packing, and shipping more orders than ever before. Implementing a new business system can be instrumental in simplifying the inventory management process, and position a company to take on added business. By achieving a higher accuracy rate on raw material inventory, companies can cut their inventory costs and take on additional customers without having to add additional people. This alleviates the need to manually check inventory, and applies resources to value-added functions such as order fulfillment and production. On the fulfillment side, the infusion of a new business system can also enable an organization to track labor costs associated with every work order as well as gain complete visibility to all costs and burdens associated with an order, leading to closer cost management and improved profitability. These changes provide greater visibility into those jobs that are profitable, and those losing money. Something companies are not able to do using manual processes. By applying a business application solution such as Infor ERP VISUAL, manufacturers can improve cash management, freeing up capital to grow their business without the need to increase the number of employees during the past five years.

In the case of **HowesTemco**, a company that manufactures and assembles precision-machined parts for a variety of industries, Infor™ ERP VISUAL has enabled the company to manage over 2000 jobs annually with minimal production support staff, allowing the company to focus more employees on value-added manufacturing tasks. For order processing activities, employees can access real-time customer order information quickly and easily in Infor ERP VISUAL Order Entry and Shipping Entry windows, improving customer satisfaction and reducing the size of the front office administrative staff. Within three months of implementing a new system, they were satisfying more customers and receiving fewer expediting calls. Improving their on-time delivery has almost completely alleviated telephone calls.

Process: The next step is to examine the business processes. By applying lean manufacturing principles, manufacturers can greatly simplify and streamline their operations. The end result is an ability to deliver more orders with less effort and resources. At its most basic, lean is a focus on greater operational efficiency, the elimination of waste throughout the organization, and continuous improvement. Some of the benefits include:

- Reduced lead times
- Improved delivery performance
- Increased sales revenue
- Lower operating costs and increased profits
- Improved customer satisfaction and supplier relations
- Increased inventory turns and a drastic reduction in inventory
- Better employee morale and increased employee retention
- Improved quality
- Reductions in the costs of goods sold, including scrap, burden and labor
- Creation of additional working capital for new projects
- Reduced physical space requirement
- Improved safety

In addition, there needs to be a focus on the production and delivery of products directly associated with customer orders. Rolling out a lean initiative can be viewed as having three essential layers: A business value stream layer, a business improvement layer, and a business strategies and tools layer. At the foundation is the business value stream layer, which helps to define and optimize the way in which your company responds to customer demand and how it will add value and ensure customer satisfaction. Within this layer, the company defines this value stream through a cycle that includes the following steps:

- Defining value based on the customer's viewpoint
- Map the value streams for all processes serving internal and external customers
- Make the activities flow with efficiency
- Respond to customer demand
- Continuously improve (Kaizen) the processes based on feedback

The business value stream activities should precede the implementation of a business software system in order to ensure the practices and business flows are well understood and can be matched with specific business solution capabilities. Value Stream Mapping is the process of streamlining and optimizing specific processes or activities, such as order to cash, procure to pay, attract to perform, and accounting to reporting. By re-examining their value stream process, **ThermoFab** in Shirley, MA, a supplier to the medical and electronics industries, was able to reduce lead times on average by about 50%, from 6 to 8 weeks down to 2 to 3 weeks, and with a particularly difficult part, they were able to reduce the manufacturing time from 45 days to 5 days. As a result, they were able to recognize hidden costs and take on additional business with the same staff. Adopting continuous improvement initiatives play a critical role in sustaining these kinds of gains. Error Proofing and Six Sigma are important components of the lean philosophy and business process improvement, both ensuring that defects are eliminated and processes are refined at each step of the manufacturing process.

Metrics: Many companies find it difficult to realize their growth objectives as a result of addressing the wrong issues. This is usually due to the use of the ineffective metrics. For example, because they were using older cost accounting methods, ThermoFab had been turning away orders because they appeared to offer narrow margins. Using more accurate throughput accounting metrics, coupled with improved delivery performance and reduced lead times, the company realized these jobs could be profitable and subsequently added 10% more revenue using the same resources in the first three months into their business process improvement transformation. Throughput Accounting actually measures and focuses on actual customer orders and only registers value when products are sold. Throughput is the rate at which you are able to generate revenue through sales. Mathematically, throughput equals product sales minus material costs and outside services costs, and excludes fixed, overhead costs. Rather than viewing inventory as an asset the way traditional cost accounting systems do, inventory is considered a liability when using throughput accounting. In addition, materials procurement should be directly related to actual demand, rather than forecasted demand. As you are able to produce more goods in the same amount of time without increasing costs, the result is all profit.

There are several metrics associated with lean manufacturing that should be tracked and that have the potential for significant performance gains, including:

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|--------------------------------------|------------|
| ■ On-line Delivery | 99% - 100% |
| ■ Manufacturing Cycle Time Reduction | 50% - 90% |
| ■ WIP Reduction | 50% - 90% |
| ■ Productivity Gain | 30% - 40% |
| ■ Reduction in Required Floor Space | 50% - 70% |
| ■ Reduction in Unplanned Overtime | 90% - 100% |
| ■ Reduction in Finished Goods | 20% - 50% |
| ■ Reduce Raw Material Inventory | 25% - 60% |

Without the benefit lean manufacturing oriented performance measures, companies often experience significant problems with on-time delivery and resort to assigning expeditors to handle exceptions. The absence of the proper tools and measurements manufacturers can continually find themselves wondering what to work on next. By taking a fresh look at how you are measuring your performance you can identify areas throughout the company that can reduce costs and provide increased capacity to take on more business with your current staff resources.

Automation: Most manufacturers have adopted one or more automation solutions that address improved efficiency and speed individual processes at a work center or department level. This includes Computer Aided Design (CAD), Robotics, DNC and CNC platforms, sortation systems, and best of breed software applications. These solutions have become crucial to reducing manufacturing production control costs and enabling each department to improve productivity. However, these solutions can become even more effective when they can be integrated with planning and execution systems. By connecting CAD engineering with manufacturing planning, for example, the design to production process can be accelerated by establishing a link between the CAD systems and a Bill of Material (BOM) system. This type of integration speeds the design process through direct access to existing parts in the BOM part master, and maintains faster turn around between manufacturing and engineering departments during engineering change request cycles. By bringing these core functions closer together, manufacturers are able to significantly improve their ability to accelerate time to market for new product introductions.

Information Technology: The last area that can be examined for optimization is the integration of all aspects of information management across an organization. The speed of business today has made it essential for businesses to share more information between functional areas. And once the appropriate business practices and procedures have been mapped out, Enterprise Resource Planning (ERP) systems can be applied to provide added efficiencies. Some applications can act as a hub and serve as a repository for every department to access. They can view or add data, generate reports to improve their departmental decision making, and eliminate redundant efforts such as maintaining multiple sources of the same or similar data in different databases. Examples of hub applications include: Customer Relationship Management (CRM), Quality Management, Business Intelligence Dashboards, and Work Order and Production Management applications. Application modules such as CRM, when accessed and utilized by all employees can provide a 360 degree view of each customer. The CRM module can be shared across the organization, making it quicker and easier to manage customer transactions with better, more complete information, whether the users are in customer support, field service, sales and marketing, or the finance department.

For example, Finance looking to follow up on an outstanding payment, will be able to see that there is a current issue pending in customer service with that customer, which could be the reason for a delayed payment; Sales can see what services activities a customer is engaged in, enabling them to make more informed sales calls; and management is able to generate more meaningful reports, covering the full scope of a customer's sales and service history.

While the integration of a single hub module provides performance improvement, more significant performance gains are realized through the linear integration of the functions along supply chain workflows such as order to cash, and procure to pay. In the order to cash scenario, integrating the order process with CRM, engineering, finance, and production scheduling provides some significant advantages. Consider an order process that begins with the opening of a customer CRM history record, allowing all known account information to be populated in the order screen. The order processing clerk can speak with the customer with knowledge of their prior business, and make suggestions on products, delivery schedules, etc. For complex orders, they can ensure that an accurate and buildable configuration is quoted using an integrated product configurator module that is kept up to date by the engineering and product management staff. During the process, the order taker can quickly make a credit check immediately through the integration with the finance module, without having to put the customer on hold. Once an order has been specified, it can then be evaluated for a promised ship date through the integration with the production scheduling window. As the order is confirmed and accepted, workflow messages can also be used to communicate order information to other departments, and proactively move transactions from one department to another. Having the direct visibility to information that was once isolated to individual departments can now be leveraged by each individual, making them far more productive. It also eliminates the need to interrupt or require non-value added administrative time from other departments in order to process a "clean" order.

Technicon, of Concord, NC has found that a fully integrated system has freed up resources for more value-added work. Over the years, their headcount has either remained constant or been reduced slightly, even though their business has grown. Infor ERP VISUAL's front office capabilities have helped them better service their customers with access to more timely and accurate information. The integration of Order Management, Advanced MRP, and the Manufacturing and Estimating Windows are powerful tools that let them schedule accurately and build better quotes. What they internally call the "document flow" allows them to follow an order from order entry through production to shipping. With this capability, they can spend fewer man-hours tracking down information. Everything is right in front of them. On the manufacturing side, they spend less time with operational planning and scheduling now, than they did without an integrated system. This allows them to focus their resources on production and value added functions instead of administration, making their company more profitable.

Summary

There are many business drivers today that put added pressure on manufacturers to do more business with less overhead and cost, whether it is increased global competition, more demanding customers, a tighter economy, rising material costs, or all of the above. Developing a strategy to position your company to be able to work in a more efficient and integrated fashion, both horizontally across the supply chain as well as centrally from hub applications that link critical information repositories to all departments, can quickly pay dividends.

By using a single integrated ERP system, **JC Steele**, of Statesville, NC, the largest producer of heavy clay machinery in the United States, has been able to grow without adding headcount, while their sales and output has increased. With sales volume up by 35%, they have managed to increase their sales volume with 3 fewer people involved; 2 in production and 1 in accounting. From a production workflow standpoint, their work order scheduling process no longer requires manual intervention. And on the accounting workflow side, their purchasing, accounts payable, and accounts receivable areas are more productive. Apart from the software solution itself, the software implementation process forced JC Steele to rethink and change their processes, which helped them become more productive.

Taking the time to make your next business planning process a more complete review of the business, from all aspects, and not just an update to the operating plan and budget, might enable you to set even higher revenue goals. Whether it is to find a way to drive incremental profits from the existing level of business, or to increase revenue for a dramatic increase in profit, both can be achieved. Reviewing your corporate vision in comparison to market trends and analyzing your business processes for continuous improvement and lean manufacturing principles is the first step. Understanding the metrics and key performance indicators that can keep activities on track will enable you to sustain improved performance. And applying selected automation solutions and bringing them together through a single, integrated ERP backbone will improve resource utilization and ultimately increase profitability and the potential to take on more business.

About Infor

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