



2012

Powering Out
Of The
Recession

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The New Year provides an opportunity to confront the fast-growing myth that America’s best days are in the past. While this myth may become a self-fulfilling prophecy, members of Affinity Systems think it is absurd. We just returned from the Middle East and experienced the ruins of past magnificent civilizations. That all things have cycles is also a truism. To believe the myth ignores other truths. An input of mental and economic energy can extend the cycle far into the future.

America is statistically tied for first place in worldwide manufacturing. America is the most entrepreneurial and richest country in history. We have independent energy resources. Our competitive advantage is the American people.

True, America has stumbled on the uneven road to prosperity and passed on major opportunities. To those doubters, when Americans fire up our Yankee ingenuity and get to work, the myth will fade to cyberspace. Government is not our friend, but the power of entrepreneurship will overcome excessive regulation.

American business will play the most significant role in our national resurgence. There are internal actions executives can take to prepare for the economic up-cycle, and we are sharing some of them.

Current

Americans are suffering from recession fatigue. Business is sitting on two trillion dollars. It’s an election year and “Made in America” is getting a new focus. Whether the breakout from the

economic doldrums occurs in late 2012 or early 2013, business must be ready to react to opportunities or reverse direction when risk factors are high.

Economic trends will resemble previous cycles. Demand for business products will return, followed by consumer goods.

The US Bureau of Labor and other significant data sources provide low optimism for improved employment in 2012. Data indicates little correlation of high employment during presidential election years. It also indicates uncertainty about whether any job recovery is occurring. While we are beyond the historical bottom of the employment cycle, actual recovery remains elusive.

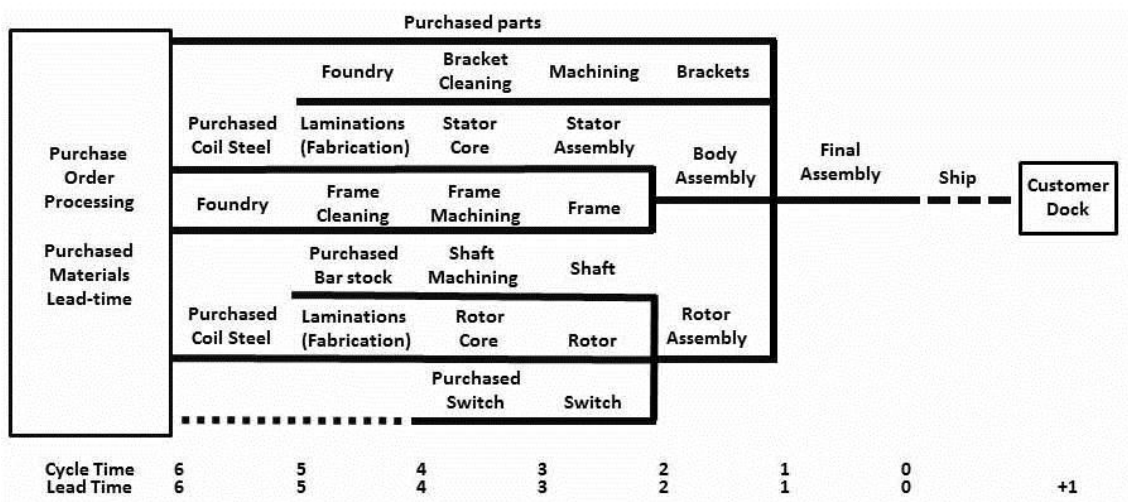
The challenge

The recession has been deep and the recovery long and painful. For manufacturing companies able to control their situation, profits have been high. At the other end of the spectrum, some are still in deep trouble or closing down. The economic uncertainty is creating greater risk, but there are always opportunities for innovative thinking and action.

Forward looking companies use this part of the cycle to access and strengthen infrastructure. It is an ideal time to fix planning, capacity and quality bottlenecks. The key to the decision is strengthening information, customer service and production systems. The management of opportunities and risk, taking advantage of increased flexibility and shorter lead times dramatically improve the potential for greater business adaptability. The missing link is timely decision-making information.

Speed

The speed of smart decision-making and business reaction depend on aggregated physical time realities controlled by the speed of information gathered, analyzed and available for use. We call this the information reality. The following chart helps explain the concept. It is an electric motor, manufactured with a cast iron frame and brackets.



The time periods are numbered, and all production activities, such as the body assembly, are assigned one period. Six periods equal total cycle time - how long it takes, given the material, labor, machines and tooling, to make the product from start to finish.

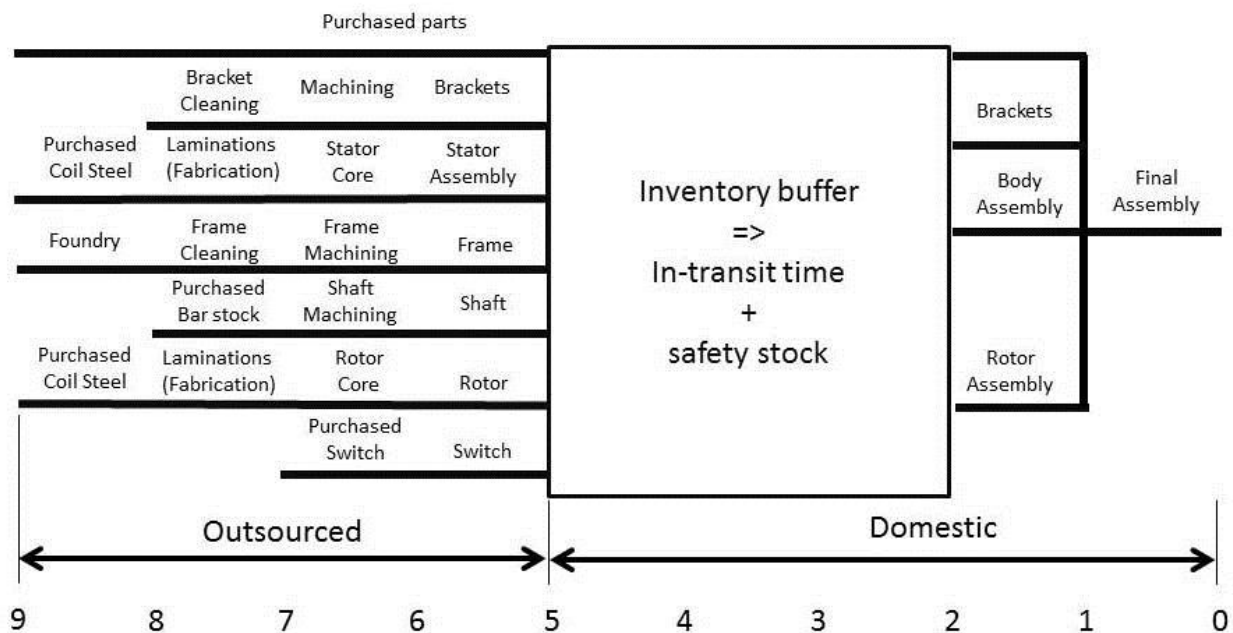
Shipping from the plant to the customer dock is one period. Delivery time added to six periods of cycle time equals a seven period customer lead-time.

If the production schedule is filled to absolute capacity, there is little flexibility to accommodate opportunities. While orders can be prioritized, it creates winners and losers. If the schedule is filled to planned capacity, incremental time is needed to increase production. Shop flexibility means a fast response. When the entire organization can respond quickly to opportunities without high penalties, it is adaptive.

If an emergency order is received for top priority customers, setups will be broken and other orders pushed back. A flexible shop with short setups will absorb the change with less schedule interruption than a company with long setup times.

If the time periods used in this example are one week, and it takes six weeks to affect the production schedule, the information reality is weeks for reaction and days for planning and reporting. Building a real-time information system for severely constrained operations would be an expensive undertaking. The need for information speed is governed by physical realities.

A derivation of this chart assumes that all the raw materials, fabrication and subassembly are performed off shore with three weeks in-transit.



Like the first example, eight weeks of physical reality does not justify a short information reality. Unlike the earlier example, this shop may be “Assemble to Order,” where the final assembly schedule pulls components from inventory to feed assembly. If the inventory is highly interchangeable with a modular design, the production cycle is two periods. If it is a “build to order” shop and the components are allocated to specific orders, the physical reality is nine periods. These longer cycle times are inherent in most companies with significant off shore purchased components.

In either case, when the periods are days, the business can react very rapidly. The information reality is days, minutes and real-time. The business is adaptive and able to respond rapidly to opportunities and move to avoid threats.

Process improvement programs

Manufacturers have invested capital in automated equipment and Lean/Six Sigma. Both programs have dramatically increased productivity, reduce cycle and lead times. Capital investment and Lean, while contributing to slow job recovery are exactly the right strategies.

Interestingly, finding qualified people to run sophisticated equipment is difficult. We know companies that are hiring employees with Information Technology degrees and training them to run multi-axis manufacturing equipment.

For companies with excessive physical time and limited flexibility, review the process improvement program. Every good program includes components of setup reduction and time compression. In many cases, Lean Six Sigma programs were designed for quick results with a focus on the Five “S,” which are Sort, Set in Order, Shine, Standardize and Sustain. The programs lost energy when it came to the hard work of setup and lead-time reduction.

For some companies, Lean/Six Sigma has resulted in the unintended consequence of inferior product quality. This often occurs during recessions, as companies cut costs to retain profits or stay in business. It happened in the 1981-82 recession, roughly half as deep as the current one, and opened the door to Japanese products. Since Six Sigma is a quality driven program, it may be difficult to understand how it produces poor quality. The answer is simple. Most process improvement programs are Lean, not Six Sigma, and start with the best of intentions, but are not data driven. The quality result is conveniently not measured. When management measurements exclude quality metrics, look for quality problems.

Energy

Every company with an extended supply chain needs a contingency plan based on incremental energy costs and supply continuity. If you perform this analysis, include all the costs, not just the ones used to support the outsource decision. These include the cost of maintaining a

complex supply chain and inventory obsolescence resulting from sudden decreases in demand and the inability to make timely engineering changes.

Enterprise Planning Systems

The business planning started in October is normally finalized by the end of the year. Strategies have been set, and tactics established to achieve them. The difference between this year and most is where it is in the economic cycle. If you have not reviewed your ERP system, ask some questions. A high level assessment is included in "Pathways to Adaptability." Information on the book is on Page 7.

Make sure the systems have the functionality and capacity to meet your information reality. This includes data captured from the source. If it is captured and processed in batch, the shop information reality is at least a day. Weekly reports mean supervisors have to wait for information and are unable to react to immediate situations. If management waits until monthly reports are processed and analyzed, the information reality is probably somewhere between four and six weeks.

Contrast the above to the company reporting in real-time through hand-held devices and capturing data from customers through their CRM (Customer Relationship Management Program). Your salesperson, on the shop floor with a customer in France, inquires about an order status and finds it was released to production five minutes ago, and it is on schedule. The customer requests an early shipment, which is immediately approved. That afternoon, executive management is provided a new opportunity requiring a shift and increase in capacity. The Business Intelligence System is interrogated, and a capacity simulation performed. Information is shared and analyzed by knowledgeable staff. Executive management now has the information to make an informed decision. This is real-time information reality. The problem is that building real-time systems is expensive. In the world of Lean Six-Sigma the cost for faster, but unusable, information is a waste.

Acquiring and installing a new ERP system generally takes between six months and a year, depending on the size and complexity of your business. Making your system functional does not always mean buying and implementing software on site. There are other alternatives.

Computer technology and program functionality are changing rapidly. Vendors go out of business, and new technologies such as SAAS (Software as a Service) are maturing. Due diligence is not a fun activity, but an imperative. We have included a flowchart of our process to help out in the present. It is found on Page 8. Use a structured process such as this one and do not skip steps.

We are working hard to finish our new book titled "ERP Lessons Learned." In this book we are not promoting ourselves or our services. With a forty percent or greater failure rate with ERP projects, it is our way of helping American industry. For those needing the information now, we posted one of our training classes, [ERP Lessons Learned - Executive Overview](#) on competitiveamerica.us. It is a little dated, but it covers the major issues.

Opportunities for 2012

Reviewing the business model, risk and opportunities, and markets you will serve are part of the annual planning process. Given the uncertainties in today's global economy, many companies are still looking for answers on the best model and where to focus the business. For those in this situation, we recommend reading "Pathway to Adaptability" and to find a copy of "Top Management Strategy" by Benjamin B. Tregoe and John Zimmerman. Our clients always borrowed our copy and reluctantly returned it.

Match your information and physical reality time. Make sure your ERP system is fast enough to support adaptability to the maximum. If not, kick off a study to define and install a solution. Speed is an order winner and like chocolate and profits, everyone wants and covets more of it.

Review your product, then your quality program. If quality has slipped below spec and customer expectation, install a quality improvement program. "Quality Is Free" by Philip B. Crosby is a good place to start.

Review your process improvement program. It must enable quality improvement. Include setup and time compression to cut both cycle and lead-time. If you need a setup guide, download the "Setup Reduction" presentation from competitiveamerica.us.

Make a contingency plan for outsourced product. While the cost of energy is a potential problem, so is availability. Energy is the great threat to international supply chains. It may pay huge dividends to have near-by production back up for critical components. Having strategic domestic suppliers may reduce the physical time reality. There are three presentations on CompetitiveAmerica.us dealing with collaboration programs.

[Regional Collaboration Example: The New North](#)

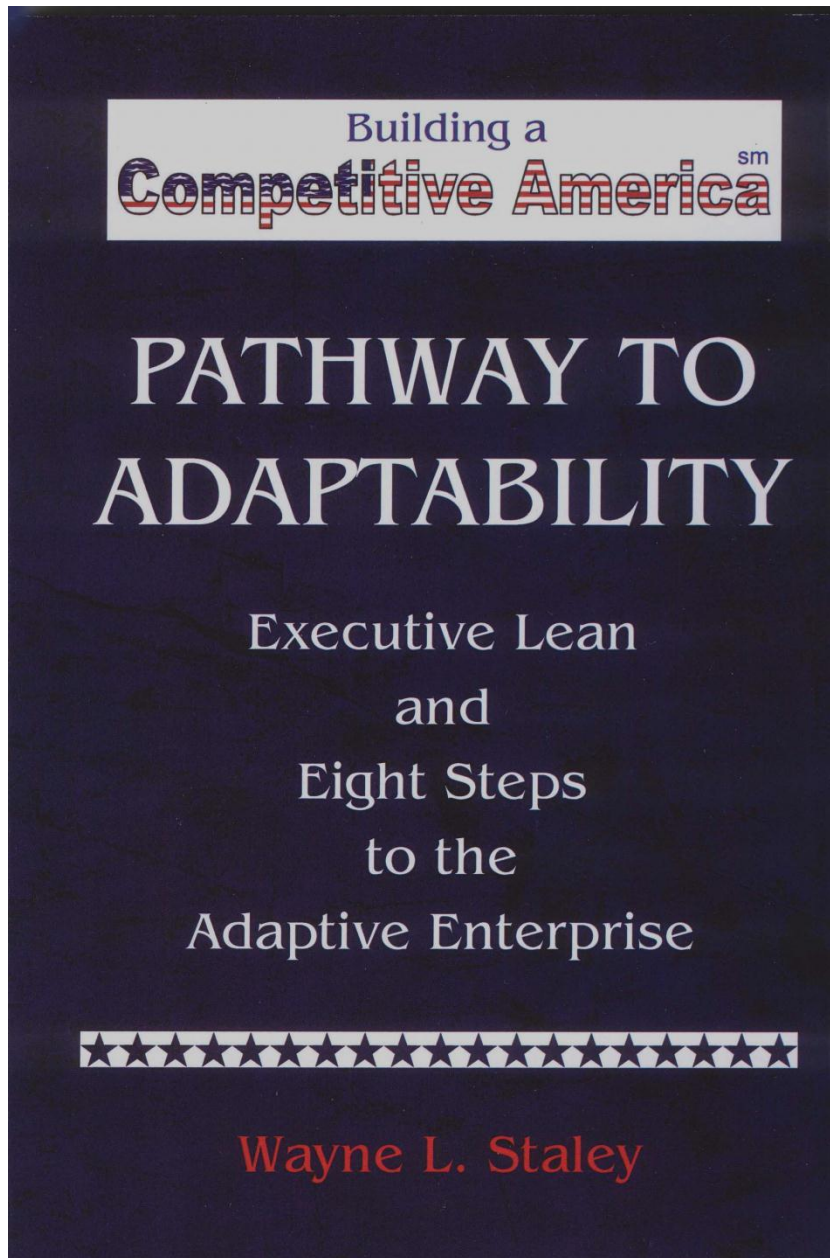
[Build a Competitive America Through Regional Collaboration](#)

[Supply Chain Collaboration – Getting Past The Theory](#)

Have a great and prosperous year,

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Structured ERP Process Chart

From Page 73 of Pathway to Adaptability

