
In Today's Economy, the Best Investment Is in Your Own Back Yard

How to Invest in Yourself for Maximum ROI

White Paper

Paul J. Galeski, P.E., CAP
MAVERICK Technologies, LLC



Introduction	3
The State of Manufacturing Automation	4
Factors That Impact Manufacturing Efficiency.....	5
What It Means to “Invest in Yourself”	5
How to Invest in Yourself: A Step-by-Step Guide	6
Conclusion	7

Introduction

As every business executive knows all too well, high-return, low-risk investments are hard — if not impossible — to find these days. The economy continues to look uncertain at best, with the stock market having reached its lowest level in many years and numerous companies declaring bankruptcy, including American icons like General Motors and Chrysler. The implications for manufacturing capital expenditures are clear. In a 2008 Bank of America Business Capital survey, 40 percent of manufacturing company CFOs reported that they plan to decrease or postpone their capital expenditures in 2009.¹

Your Potential ROI

When properly positioned and deployed, internal investments drive shareholder value and enable a “double-dip” profit potential.

- First, you can receive a 20–100% return on your capital.
- Second, as your business becomes more profitable, you will earn a higher bonus multiple on the additional EBITDA generated.
- As your economic value added (EVA) and cash flow increase, you may even have additional leverage to raise capital for acquisitions, to repay expensive debt or to make other favorable balance sheet improvements.

Capital expenditures (Capex) may seem like discretionary costs that could be eliminated during these lean times. But if you have a cash surplus in your business and / or borrowing power, now is the perfect time to invest. **And your best opportunity — with lower risk and higher returns — is to invest in your own interests in the fields of automation and enterprise integration.**

Recent events and scandals have shown that you can’t control investments in outside firms and markets. With trust and transparency at an all-time low, the traditional risk-reward profile is just too unbalanced. (See Figure 1.) But you *can* control an investment in yourself. (See Figure 2.) You determine the type of investment and the rewards you’ll reap. Pick your own return. To quote Jack Welch, General Electric’s former chairman and CEO, “Control your own destiny or someone else will.” (See Figure 3.)

Make your move now, before the economy heats up, while interest rates are still low. Take advantage of the slowdown and use your time to research the best investments and deploy capital in the best way possible. If you do it right, you’ll outmaneuver any competitors and emerge from this economic recession in a much stronger strategic position. This paper shows you how.

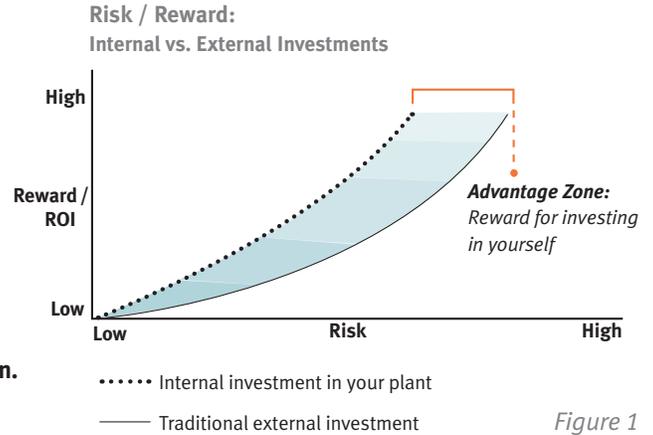


Figure 1

ROI: Internal vs. External Investments

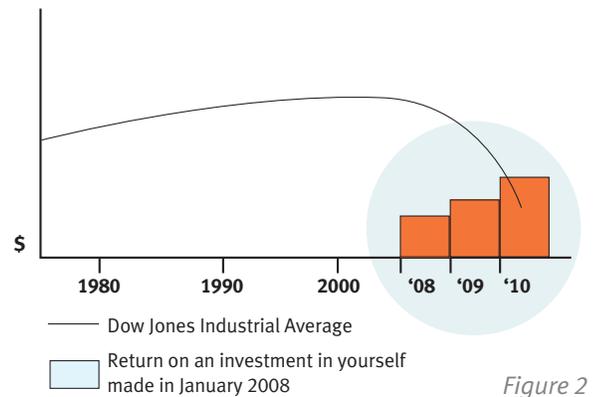
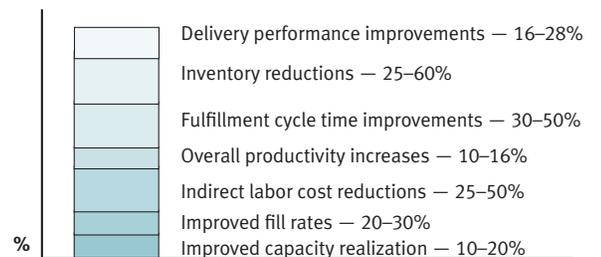


Figure 2

Proceeds from Internal Investments: Percentage Over Time*



*Averages have been generated based on experience with manufacturing IT projects and benchmark data provided by the Supply Chain Council and the Manufacturing Enterprise Systems Association. All categories may not specifically apply to every company.

Figure 3

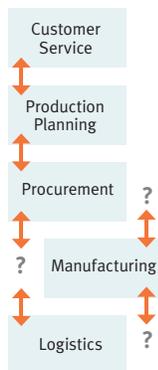
The State of Manufacturing Automation

Generally speaking, manufacturing technology was restricted to plant operations for most of the past 25 years. Manufacturers stayed focused on their production lines and whatever they needed to do to fulfill the day's work orders. But as technology evolved, new products and tools emerged to expand manufacturing technology beyond the factory through real-time information sharing, data exchange and knowledge management.

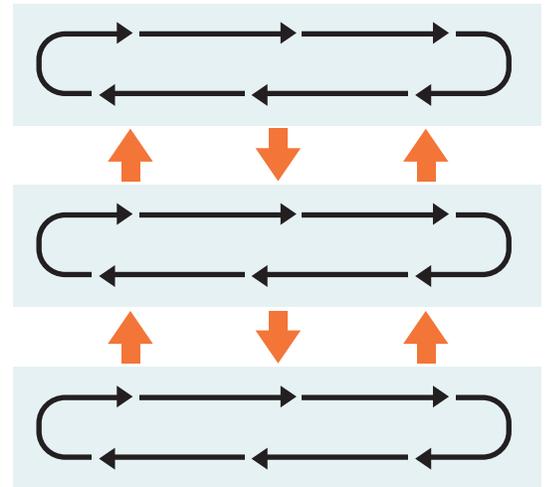
Symptoms of Suboptimization

When manufacturing operations do not align with other enterprise functions, you may experience a broad range of problems, including:

- Poor visibility / predictability of operations
- More focus on cost than pricing
- Missed ship dates
- Too many (or slow) changeovers
- Excess or slow-moving inventory
- Increased raw material usage
- Decreased yield
- Product downgrades / rework / waste
- Extended order to cash cycle
- Too many SKUs
- Lack of flexibility needed to meet customer demands
- Poor functional organization



Today's popular technologies, including manufacturing execution systems (MES) and enterprise resource planning (ERP) systems, are much more easily integrated, making it possible for manufacturing organizations to think about their operations holistically. When information flows across the boundaries of functional business silos, business processes become streamlined — eliminating waste of many kinds, reducing costs and driving efficiency throughout the enterprise. To achieve maximum business results, organizations must integrate their operations horizontally — across the entire enterprise — as well as vertically — from the plant floor to the board room. As reflected in the Capex decline, many organizations still have not taken the critical step to integrate their operations and provide near real-time information and control and may therefore be “suboptimizing” their operations.



Integrate operations horizontally and vertically across the enterprise to gain efficiency and maximize ROI.

Another aspect and benefit of enterprise integration and automation is knowledge management. A company inherently should (and must) own the intellectual property of the business. That intellectual property includes the “tribal knowledge” that is required (and used daily) to effectively, efficiently and safely operate a manufacturing facility. In many cases that so-called “tribal knowledge” lies in the hands (and heads) of the workforce. Unless robust and comprehensive systems are in place to capture and maintain that knowledge, the business is inherently at risk. This is not a risk that you can buy insurance for; your “premium” for mitigating this very real risk is the investment required to put in place and maintain the necessary business processes and technology for ongoing knowledge management. Arguably, the loss of intellectual property through a “knowledge disturbance” is at least as likely and potentially more impactful than that of traditional business interruptions such as weather. In essence, your intellectual property goes home every evening and may not come back due to many reasons, including retirement, resignation or health problems. As many manufacturing businesses face an aging workforce, the timing of addressing the knowledge management issue becomes even more critical.

Business transformation and integration projects are always challenging, but are particularly difficult when you're busy expanding and growing, so consider moving forward now. Bridge the gap between today's low productivity and tomorrow's high demand by integrating and improving the entire manufacturing enterprise.

Factors That Impact Manufacturing Efficiency

As if the slow economy weren't enough of a challenge, today's manufacturers must also contend with a range of other factors that limit profitability. Production obviously requires much more than the push of a button, and each variable has the potential to impact efficiency. Many of these variables relate to customer demands and rising complexity in today's marketplace.

The most common factors that impact manufacturing efficiency include:

- **Product customization** — Increased demand for custom products requires custom and flexible manufacturing and supply chain processes.
- **Real-time decision-making** — Customers and suppliers expect manufacturers to respond to marketplace changes with ever-increasing speed and agility.
- **Global supply chains** — Worldwide sourcing, global distribution and localized production overseas add complexity to supply chains and threaten the efficiency of product flow.
- **Regulatory compliance** — Environmental controls and other regulations may restrict outputs and yields or require more production time.
- **Product genealogy and traceability** — For safety, compliance and quality reasons, manufacturers must track raw materials all the way through production and delivery to the end user.
- **Supply and demand rationalization** — Link your orders (in real time) and new business pipeline directly to your production plan and operations.

Consider *All* the Benefits

Investments in your plant deliver a range of benefits that impact your bottom line, including:

- Improved quality
- Less rework
- Increased yield
- Reduced raw material consumption
- Fewer unplanned interruptions
- Lower inventory
- Shorter time to market for new products
- Customer relationships
- Internal collaboration
- Competitiveness within the marketplace
- ***Better business overall***

What It Means to “Invest in Yourself”

As explained above, manufacturing technologies and the marketplace have continued to advance in spite of economic slowdown. If a plant hasn't been upgraded in the past several years, it's just a matter of time before the facility becomes noticeably outdated and the competition passes by. Look within for high-value, high-return, competitively differentiating strategic investments.

Consider the following improvements:

- Reduce utility usage.
- Increase capacity.
- Enable faster changeovers.
- Develop operating dashboards that enable plant workers to make on-the-spot decisions.
- Speed time to market for new products or packages.
- Improve agility so the plant can respond “on the fly” to changing economic conditions and customer demands.
- Rationalize the supplier base.
- Transform, integrate and optimize business and manufacturing processes.

- Perform system upgrades.
- Reduce total cost of ownership.
- Develop business models and explore what-if scenarios.

Of course, if you make your investment too hastily, you may be disappointed with the results. Carefully evaluate all of your technology and service options in order to avoid the pitfalls that may slow your capital deployment and consequently your ROI. Never invest in technology for the sake of technology. To make a truly strategic investment, an organization must address a holistic combination of people, processes and technologies.

Factors that impact your return on investment include:

- **Inadvertently suboptimizing parts of your business** — You must focus on the enterprise holistically, particularly at the outset. Don't get drawn into the trap of piecemeal solutions that don't integrate vertically or horizontally. In order to maximize your ROI, the capital investment must be designed to be leveraged as much as is practical and appropriate. An appropriate technology reuse strategy is a must.
- **"Regret capital"** — A well-orchestrated and planned Capex program will prevent you from making investments that must be later "undone" or replaced as you work to integrate the entire enterprise in the future.
- **Technologies that require special skills or maintenance** — If your investment requires hiring specialized personnel or paying exorbitant maintenance fees, these additional costs may outweigh the efficiency benefits of the technologies. Look for technologies with a large installation base (preferably in the company's region) to ensure that available resources will know how to work with them.
- **The financial strength and experience of the solutions provider** — Be sure to select a solutions provider who is forward-thinking and disciplined. Make sure this provider will survive the poor economy as well as any marketplace shifts that may follow. Ideally, you will partner with this provider for at least 10 years. This partner should also have years of experience doing similar work for other companies, and references should be available to you. Be careful to select a partner who is flexible, one who can (and will) grow and change with your ever-evolving business needs.

Also, take care to choose a partner who will not only help you develop your strategy, but will also manage implementation and perform much of the program. Many times the handoff between strategic technology planning and tactical implementation leaves a gap that can reduce the overall return of the investment. Additionally, dealing with multiple providers creates additional expense and duplication of effort.

It may seem like a lot to think about, but a simple guide leads you through the process.

How to Invest in Yourself: A Step-by-Step Guide

Investing in yourself is easy to do and highly rewarding.

1. Conduct an audit of your manufacturing operations to determine efficiency.

This may require a flash diagnostic, which is a quick, broad look at the business. It is designed to be a cost-effective way to identify (at a high level) high-ROI opportunities and enable a more in-depth study of the business operations.

2. Get the cooperation of your entire organization.

Your success requires buy-in from everyone involved. A good solutions partner will help you with organizational planning and work to prepare your team for the challenge at hand.

3. Deploy the right solution.

Investing in yourself starts with you and your basic business requirements. Only you can ultimately decide which approach is best.

4. Choose a partner to help you select and implement the right investments.

An industry expert will be able to recommend the right level of technology, at the right cost and in the right timeframe to meet your unique business needs. This partner will help you find a solution that complements the existing infrastructure and can help deploy the capital in a well-orchestrated fashion, considering cash flow requirements and resource limitations while minimizing production interruptions. Then, work with the partner to implement the required systems at each level — in the right place, at the right time and at the right cost.

5. Reap the ongoing rewards.

Remember, a proper investment is not a “one-shot wonder”; it should deliver an annuity-type return. Design your Capex program around solutions that deliver ongoing returns year after year.

Conclusion

Whether you are a manufacturing executive, private equity investor or a venture capitalist with interests in manufacturing, you have the power to benefit directly and handsomely from an investment in the field of automation — even in today’s poor economy. Now is the time to “seize the moment” to invest in your own business. Further, taking a macroeconomic view of this approach, you will realize that our overall economy can (and will) benefit from a resurgence in capital investment. Capital investments not only benefit your business directly, but will resonate throughout the economy, helping fuel our economic recovery and improve our nation’s overall global competitiveness.

Investments in today’s manufacturing enterprises offer lower risk and higher returns than traditional forms of investments, and *you determine the results*. By taking simple steps to choose the right investments and the right partner to help you implement them, you will experience rewards that will position you as a stronger leader in tomorrow’s marketplace. Don’t let this opportunity pass you by.

Sources:

¹ 2009 CFO Outlook: A Survey of Manufacturing Company CFOs. 2008. Bank of America Corporation. 1 July 2009
<http://www.bofasecurities.com/publicpdf/landing/cfooutlook/Final_PDF.pdf>.

MAVERICK Technologies, LLC

265 Admiral Trost Road | P.O. Box 470 | Columbia, IL 62236 USA
+1.618.281.9100 | Fax +1.618.281.9191
www.mavtechglobal.com



engineering | systems integration | consulting