



Industrial Resource
Center Network



Improving the competitiveness of Pennsylvania manufacturers.

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Innovative Manufacturers: Leaders Who Learn to Win

Executive Summary



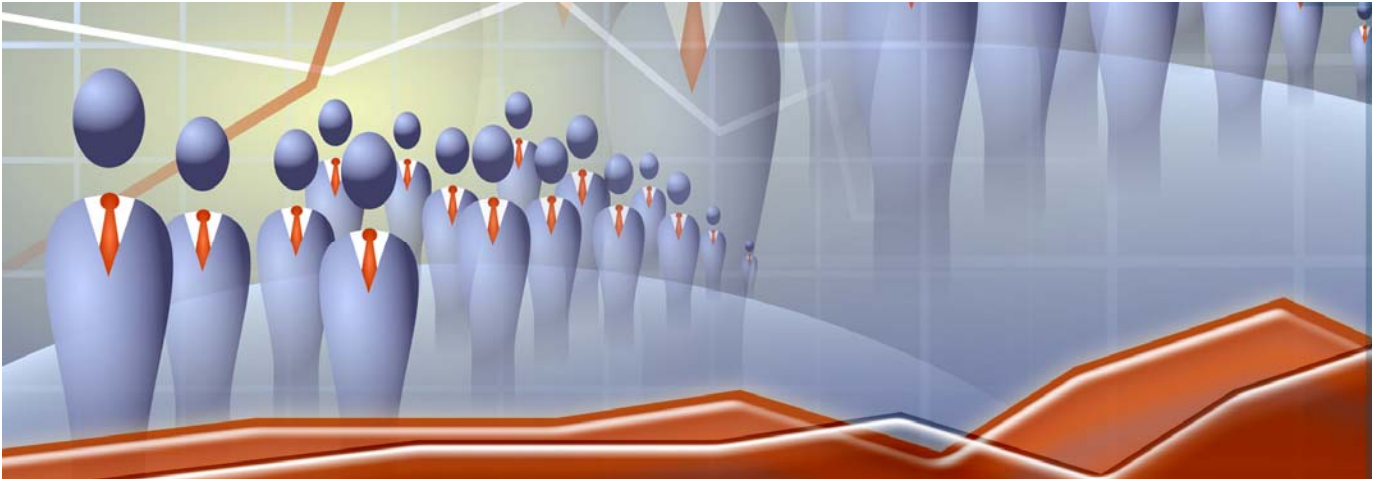
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Innovative Manufacturers Leaders Who Learn to Win

EXECUTIVE SUMMARY

Pennsylvania's manufacturers have recovered from the deep industrial recession of 2001-2003. Some 64% of them have increased their profits during the past three years. Two-thirds say they are in a stronger competitive position than they were in 2003. A growing number of manufacturers in the Commonwealth are becoming innovators to respond to the challenges of the global marketplace. During the past three years, 44% of Pennsylvania manufacturers have introduced new products for known markets and penetrated new markets with established products. Four in ten have introduced at least three new products since 2003. Pennsylvania is home to a rising vanguard of what can be called *innovative learning firms* that can drive the manufacturing future of the Commonwealth.

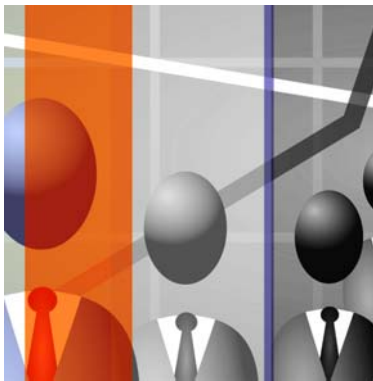
These are among the key findings of *Innovative Manufacturers: Leaders Who Learn to Win*, a new study commissioned by the Pennsylvania Industrial Resource Centers (IRCs) and conducted with the IRCs by Echo Strategies, the Pittsburgh-based research and consulting firm. In their 2003 study *Manufacturing Pennsylvania's Future* conducted by Deloitte Consulting, the IRCs made a worthy contribution to regional manufacturing development strategy in the global economy. During the past three years, they have developed a suite of Business Growth Services to deploy this strategy. *Innovative Manufacturers: Leaders Who Learn to Win* extends this contribution by focusing on how firms and their CEOs learn to innovate – the key to business success in the global economy.



The Big Picture

How Pennsylvania Manufacturers Can Succeed in the Future.

Pennsylvania manufacturers perform in a rapidly evolving global economy. During the past fifteen years, hundreds of millions of producers and consumers in developing nations and the former Soviet block have entered the global marketplace. Their capacities and needs help drive global growth. Modern communications and transportation systems and the rise of modern manufacturing capability in emerging economies give large corporations global reach as they site facilities and select suppliers to produce for global demand.



The global economy can stress regions whose established manufacturers suddenly face new challenges. Manufacturers that produce directly for consumer markets face able new competitors that exploit the low labor rates of developing economies. The Big Box retailers that mediate much of smaller manufacturers' production for consumer markets also source globally. (If Wal-Mart were a nation, it would be China's sixth largest trading partner.) American manufacturers that try to compete on price alone are at risk.

Smaller manufacturers that supply other manufacturers are also challenged. Transnational corporations now configure their supply chains as extended global enterprises. Smaller manufacturers in the advanced economies of North America, Europe and Japan cannot compete with the labor costs of supplier firms in rising economies such as China. They must concentrate on less price-sensitive supply chain opportunities to beat the 'China Price' by providing value that cannot yet be matched by their competitors in emerging nations

Such opportunities are there for innovative firms that learn quickly. As transnational corporations develop, design, manufacture and support complex, high-value added products for the most rewarding markets in the global economy, they seek resourceful suppliers that will help them shorten time to market, add desirable product features, and deliver on-time inputs for products with short life-cycles. Progressive manufacturers in advanced economies have a significant if time-limited advantage through providing value as partners in these extended enterprises. This value can take several forms:

- ▶ Complex inputs with sophisticated design and engineering;
- ▶ Superior services to support manufactured inputs;
- ▶ Speed and agility providing innovative solutions to supply chain needs; and
- ▶ Robust knowledge-management as supply chain partners.

These distinctive competencies are the way that smaller manufacturers in advanced economies can compete successfully as preferred providers in rewarding supply chains and as favored producers for high-end consumer markets. Robust support for smaller manufacturer mastery of the distinctive competencies of innovation is the way that regional economic developers in advanced economies can assure a vibrant future for wealth-creating manufacturing in their regions. This is now our responsibility in Pennsylvania.

Goals and Methods of the Study

Since the IRCs published the Deloitte study early in 2004, they have focused on supporting manufacturers' revenue development through the IRCs' Business Growth Services. Their direct service work with hundreds of manufacturers revealed the importance of CEO learning and leadership and firm culture as drivers of innovation. In 2006, the IRCs commissioned a new study to deepen understanding of these connections. They set five goals for the study:

- ▶ To learn what CEOs want to understand to guide and build their firms;
- ▶ To determine where CEOs seek knowledge to help them lead their firms;
- ▶ To identify subjects on which CEOs have difficulty finding sources of knowledge;
- ▶ To learn how CEOs deploy knowledge within their firms; and
- ▶ To discover the characteristics of successful manufacturing innovators.

The study pursued these goals through three phases:

- ▶ A Literature and Internet Review to conduct and summarize a thorough search of previously published work strongly relevant to the project;
- ▶ Focus Groups to listen carefully to the views and experience of over 100 CEOs from firms from across Pennsylvania as they talked in small groups about how they learn, the knowledge they seek, how they try to deploy their learning within their firms, and their performance as innovators; and
- ▶ Survey Research to engage nearly 700 Pennsylvania manufacturing firms CEOs in a structured telephone interview to generate findings in which all can have high confidence about CEO leadership of innovative learning organizations.



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Key Findings of the Study

The study generated a large knowledgebase on the views, practices and performance of Pennsylvania manufacturers. The IRCs look forward to drawing on this knowledge and sharing it with their economic development colleagues across the Commonwealth. Two findings are especially important for IRC strategy:

- 1) An emerging vanguard of manufacturers in the Pennsylvania industrial base demonstrates that investment in product and process innovation, learning, strategic planning and talent development will pay off in stronger enterprise performance and robust returns; and
- 2) A growing number of manufacturers in Pennsylvania are ready to respond to the example of innovative learning firms, eager to emulate their success, and open to objective, affordable assistance that can help them develop the distinctive competencies of innovation.

Pennsylvania's Innovative Learning Firms

The IRCs and Echo Strategies took considerable care to characterize "innovative learning firms" based on the nearly 700 respondents in the survey. They determined that firms thus characterized must:

- ▶ **Be committed to change** because they aggressively use what they learn from others to drive change, seek to evolve by constantly improving their processes, and take swift action when their environment changes. Manufacturers classed as innovative learning firms scored highly on questions on these attributes;
- ▶ **Set and perform to aggressive growth goals** by continuously working to create new products and services, actually introducing more than one new product in the last three years, and achieving a stronger competitive position in 2006 than in 2003. Manufacturers classed as innovative learning firms had to score highly on questions on these attributes; and
- ▶ **Invest in talent development** by having a line in their annual budgets for training. Manufacturers classed as innovative learning firms scored highly on this attribute.

Using this test, 105 survey respondents were classed as innovative learning firms, some 16% of total respondents. This suggests that perhaps 850-900 of the roughly 5,500 Pennsylvania manufacturers with between 20-500 employees are now innovative learning firms. These firms are winning in the global marketplace. In the past three years:

- ▶ 87% have increased their revenues;
- ▶ 82% have increased their profits;
- ▶ 53% have both penetrated new markets and introduced new products;
- ▶ 43% both import and export;
- ▶ 36% have introduced at least five new products;
- ▶ 70% have generated new product ideas from source beyond their firm.

All of these hard achievements distinguish innovative learning firms as enterprises that have learned to win. Innovative learning firms are led by CEOs who invest significant time in their own continuing education and believe they are successful learners. Such leaders know the importance of informed planning and execution-to-plan. Probing the planning of innovative learning firms, the study found that:

- ▶ 77% have a written strategic plan;
- ▶ 82% use outside resources to help refine and validate their planning; and
- ▶ 58% have formal processes to track changes in their industry and markets.





The CEOs of innovative learning firms promote a culture of communications that extends their commitment into their companies. They:

- Advocate open organizations that share as much information as possible;
- Seek to evolve how the firm does things by improving processes; and
- Listen to and frequently implement ideas for improvement made by employees;

Innovative learning firm CEOs are aggressively broad in their approach to communications within the firm:

- 97% conduct regularly scheduled employee meetings;
- 91% use newsletters, email or other written firm-wide communications;
- 93% convene roundtable planning meetings and brainstorming sessions;
- 91% track and publish sales metrics;
- 88% support formal internal training programs;
- 74% use traditional bulletin boards;
- 58% have established company intranets; and
- 38% use electronic bulletin boards.

Innovative learning firms are winners in the global marketplace. They make more money because they make good products. They focus with discipline on the practices required to make the right things for the right customers in the right way and are rewarded for their distinctive competencies. They are a vanguard for manufacturers in Pennsylvania.

Those who work to develop the economy of the Commonwealth should work together to deepen support for innovative learning firms. They know they will benefit from intelligent and objective counsel and assistance. And we must do all we can to grow their ranks in the years ahead. The Industrial Resource Centers believe that this is possible and are committed to strategies that will spur manufacturer innovation in Pennsylvania.

The Innovative Potential of the Pennsylvania Industrial Base

We may be at a tipping point in the development of manufacturing in Pennsylvania. We understand the challenges posed by the dynamic global economy. We know what firms must do to succeed. We recognize the limited time that firms have to build and sustain the distinctive competencies that will drive success. We welcome a vanguard of innovative learning firms in Pennsylvania that are doing what is necessary and reaping the rewards.

Based on our study and our nearly twenty years of service, the Industrial Resource Centers believe that many more manufacturers in the industrial base of our state have the desire and ability to become innovative, growing, permanently successful enterprises. Our survey found that two-thirds of all firms in the 20-500 employee range had increased their profits in the last three years and were in a stronger competitive position than they were in 2003. A third had developed and launched at least one new product or service in the last three years. These are indications of potential.

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IRC Actions Driven by the Study

The IRCs also believe that most CEOs sense what they need to know in order to succeed. The survey identified several gaps between the importance CEOs assigned to knowing a specific domain and their ability to gain this knowledge. Three of these knowledge challenges stood out boldly. Pennsylvania manufacturers are very eager to know much more about:

- **Customer needs** – how to draw a bright line between the current and emerging needs of the markets they do or could serve and their capacity to generate the products and services desired;
- **Sources of talent** – how to identify and recruit the highly qualified employees whose skills they need; and
- **Financial performance** – how to know with confidence their costs and financial performance, process by process.

These are the desires of leaders of firms who know the connections between process and product innovation, welcome the challenges of the global economy, and know what they need to know. Some of the assistance that would help them is also clear:

- **Planning.** Only 57% of all respondents to the survey had strategic plans. Of these, only 66% used outside resources to help refine and validate their plans.
- **Market Reconnaissance.** Only 38% of respondents had formal processes to monitor their industries and track changes in the markets they served.
- **Communications.** Only 45% of respondents had an Intranet and less than one quarter used electronic bulletin boards to share information within their firms.

The highest priority of IRCs' Strategic Plan for 2007-2010 is to develop a new multi-dimensional program to spur innovation by manufacturers that will achieve steady, strong growth. The program the IRCs envision will:

- 1) Inspire a CEO-led culture of innovation that leads to a rising number of fast-growing manufacturers;
- 2) Support both product and process innovation;
- 3) Draw resources into manufacturers from the Pennsylvania wellsprings of innovation based on the expressed needs of fast-growing manufacturers;
- 4) Nurture manufacturer creativity over deep time by assuring that innovative firms can enlist and retain all the talent they need to grow; and
- 5) Assure that the achievements of innovating manufacturers are sustained through careful succession planning when the time comes.

The IRCs envision their 'Spurring Manufacturing Innovation in Pennsylvania' Initiative as the consummation of 20 years of IRC development and their essential new contribution to the economic development of the Commonwealth in 2007-2010. The Initiative will deepen and integrate the well-established IRC Performance Improvement Services that remove costs from clients' bottom lines and the IRC Business Growth Services that bring new revenue to their top lines. Spurring Manufacturing Innovation will focus on those Pennsylvania manufacturers who are committed to growth in the demanding global market place. The IRCs believe the success of such firms will inspire many more manufacturers to make this commitment.