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The Case for Total Training

Many are complaining that a competitive gap has developed in employee skills and expertise within the overall pump industry during the last generation. How can we close this gap?

Changes in the world economy, the markets we serve, and competitive technologies in the pump industry are continuing at an exponential rate. To a large extent, the pump industry has *reacted to change* more than being a *driver of change*. At the same time, our industry's ability to manage through change has been reduced by industry consolidation and the loss of skilled talent due to downsizing, retirement and departure to other industries.

In fact, a closer view of changes in the world economy and our markets reveals that the pump industry has many opportunities to advance both corporate and societal goals by taking a lead position in defining and managing change. Fundamentally key to moving North American economies, our industry, our companies and ourselves into this position of leadership is a *commitment to continuous learning*.

We frequently speak of "innovation" as being important to growth and success in the pump industry; innovation is the product of talent, which is, in turn, largely a product of continuous learning. A core value statement of "*listen – learn – lead*" would be well suited to a pump company committed to acting upon this vision. A number of companies (mostly the larger ones) in the pump industry understand this and have already set related goals, developed strategies and crafted action plans.

I approach this topic as an executive of a group of companies with businesses ranging from tanks to pumps to leading-edge monitoring and control equipment, and as a resident of a small state (Massachusetts) with nearly 130 colleges and universities.

The Scope of Total Training

Pump companies' training generally focuses on the technical skills of engineers, salespeople and distributors, along with some specialized training offered by colleges and universities, distributors and consultants.

While this core training remains critically important, our industry must broaden the scope of both its technical and non-technical training. In the January 2006 issue of *Pumps & Systems*, John Allen, the president of Wilden Pump & Engineering LLC, observed, "The successful company of

the future must be *global* and be a *total provider*, not just an equipment supplier. Being a total provider requires retaining a vertical depth of knowledge at every level of the organization, from the manufacturing plant through distribution to sales and service" (emphasis added).¹

Beyond expanded technical training, all pump companies should consider *training in complementary areas*, including global cultures, global business ethics, communications, business metrics, functional best practices, life cycle costing, energy efficiency, six sigma, lean manufacturing, corporate policies and procedures, relevant global laws and regulations, and so on as part of a *comprehensive training strategy*.

Consider Figure 1, which represents the horizontal and vertical integration of companies in the pump industry:

- As noted above, past training generally concentrated in a relatively small area near the center of this graph.
- *Consolidation* in the pump industry creates a need for training to expand horizontally. Broadened training goals include effective and efficient communications, avoiding redundancy and promoting common (or complementary) corporate cultures and themes.
- Many developments create a need for training to expand vertically. New training goals are related to such developments as:
 - *Advances in technology*, including the market's growing interest in *predictive monitoring and control technologies*.
 - The move to become *total providers* of pump and systems solutions.
 - Growing emphasis on *energy efficiency*.
 - An increasing focus on *life cycle cost*.
 - The growing number of *supplier and customer partnerships* including arrangements with distributors and aftermarket partners.
- *Globalization* creates the need for training to expand along both axes.

The Value of Total Training

Quality, comprehensive training can be a substantial *investment* in terms of both development cost and implementation cost, where most of the value invested involves trainers' and

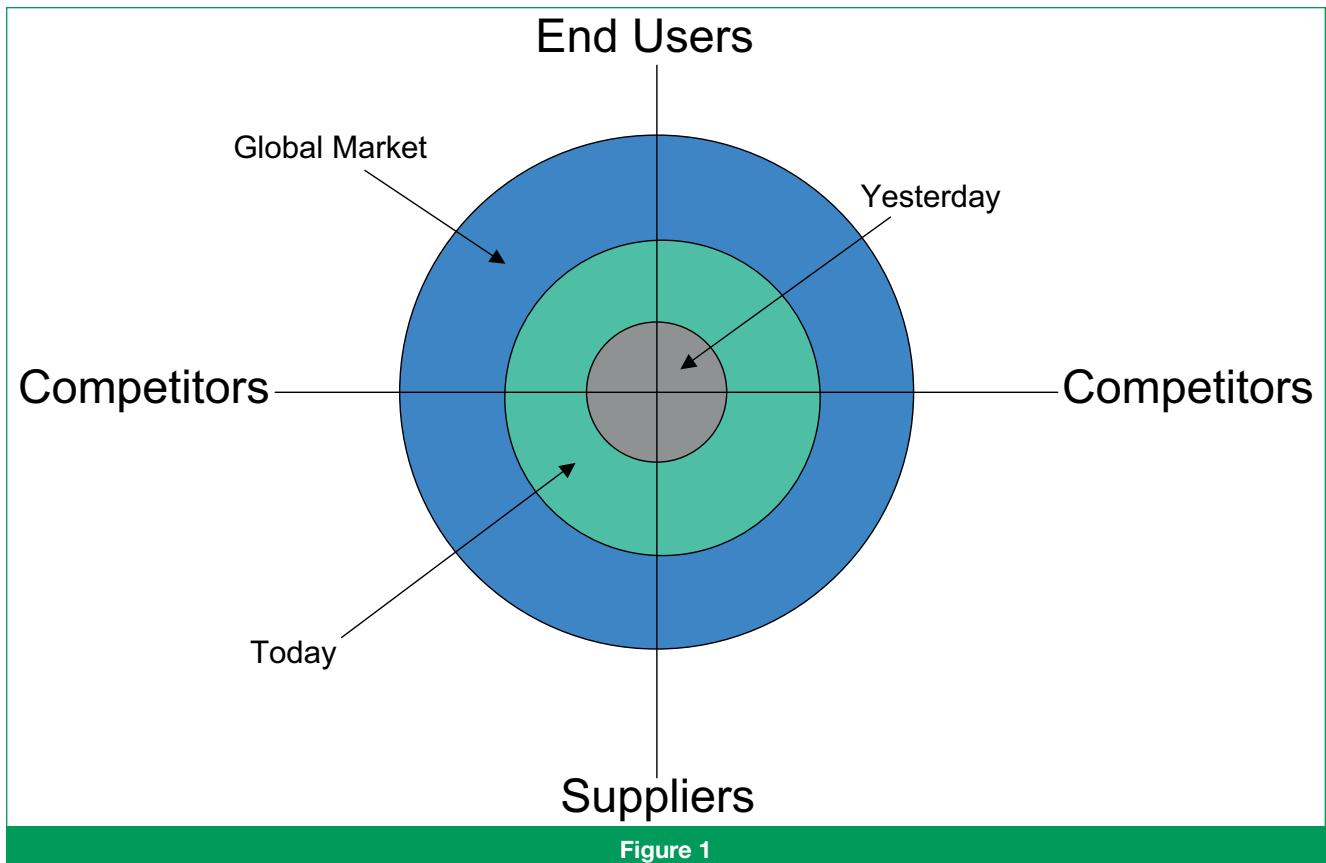


Figure 1

trainees' time.

Although difficult to quantify, the cost of *not* providing training in any or all of the areas discussed above can be extraordinarily high. *Risk management* is a core element of the business planning process for all of our companies, where we decide how much risk is tolerable, what the cost will be to contain risk at this level and what specific investments we must make to accomplish this. Training is one of those investments. Classic examples of training in the pump industry center on improperly specified, installed or maintained pumps. Other timely examples might center on employee conduct, export control regulations, energy efficiency measures or foreign business ethics and practices.

At Walchem, we have made use of state grants available for employee training, most recently for a comprehensive review and upgrade of our quality management system. In our case, we employed *grant consultants* whose knowledge of the various grant programs available, the funding status of each program and ways and means of navigating through each different program was key.

Consultants may specialize in federal or state grants, or even in specific federal or state programs. Josh Britton of Comprehensive Funding Solutions, Inc. (Feeding Hills, MA) characterizes his business as one that "specializes in training consultation, grant writing and grant management with the

goal of simplifying the entire grant process for companies who are seeking to develop employee skills, increase competitiveness and grow profits."

Working through *partnerships between grantors and trainees* is an alternative to employing grant consultants. For example, our companies have worked through the Greater Boston Manufacturing Partnership for lean manufacturing training. The Partnership is a non-profit collaborative effort of the University of Massachusetts – Boston and the state Department of Workforce Development. The Partnership both conducted the training and assisted the companies in obtaining grants for the training.

Ultimately, the grant process can be a "win" for both the grantor and the company receiving the grant, and the relationship between the parties can grow over time. Jane Kadlubkiewicz, the director of the Massachusetts Workforce Training Fund, notes we were "... chosen for grants because of their strong outcomes and measures associated with achieving the goals stated in their grant applications."

A walk through your organization will, no doubt, reveal an array of independent training programs. Each company's strategic planning process should yield training goals and a *comprehensive training strategy* which, among other things, identifies training gaps, links training programs together wherever possible and tasks appropriate departments with developing

and implementing training programs. This approach has both practical and financial benefits.

One product of the comprehensive training strategy should be a *training matrix* that shows *what* training will be performed, *who* will lead the training, *when* it will be performed and *who* will participate. A form should be developed that serves as evidence of employees' completion of training. The training matrix and evidence of completion meet both internal control review and ISO compliance objectives.

The comprehensive training strategy should consider the needs of employees who are required to earn continuing professional education credits to maintain professional certifications. To the extent possible, training programs selected for these employees should be capable of granting these credits.

Development of training by employees who are experts in their functional areas offers many potential benefits. From the employees' perspective, these might include:

- Extra compensation in the form of payments for authoring and/or leading training.
- Work outside of their daily routines.
- Refreshed knowledge of training content.
- Increased visibility and stature within the organization.
- A platform for advancement within the company.

For employers, this represents an opportunity to motivate employees and build loyalty while developing skills for advancement within the organization – all important considerations in today's hiring climate. Recently retired employees should also be considered as experienced, skilled and wise resources for developing and leading training.

More *affordable training resources* are available online and elsewhere today than ever before. Employing new technology can result in highly effective training tools such as Pump Systems Improvement Modeling, a freely available software tool available at www.PumpSystemsMatter.org that is designed to help train users, engineering consultants and others about pump and systems interaction.

Likewise, *technology* such as web conferencing enables training to be delivered more efficiently.

The Hydraulic Institute's Expanding Role

The Hydraulic Institute (HI) represents a significant body of knowledge and expertise. HI has been writing standards since 1917 and is an approved ANSI standards writing organization. The Standards and Guidelines, along with HI's "Pump Knowledge Series" of white papers and centrifugal pump e-learning program, provide significant educational value to both pump users and those who design and specify pumping systems.

HI frequently works hand-in-hand with other industry organizations. The recent *Pump Life Cycle Cost and Variable Speed Pumping* guides are joint efforts of HI and Europump, while the new *Mechanical Seals for Pumps* guide is a collaborative effort of HI and the Fluid Sealing Association.

In 2006, HI expanded its mission in education. The core of HI's mission is to "expand knowledge by providing education and tools for the effective application, testing, installation, operation and maintenance of pumps and pumping systems." Related developments include:

- Expansion of the HI Board of Directors, with the addition of a Vice President of Education and planned related additions to its staff.
- Ongoing development of a positive displacement pump e-learning course. HI is recruiting positive displacement pump companies to sponsor this program.
- Expansion of HI's Associate Member program, open to companies engaged in the North American manufacturing of motors, seals, bearings, component parts, gauges, controls, instruments and related software or pump-specific software for ultimate use in or with pumps.
- Launch of a Standards Partner Program offering engineering firms limited access to HI and its products and services.

Also in 2006, the related *Pump Systems Matter* (PSM) educational foundation was created and articulated its mission "to provide end-users, engineering consultants and pump suppliers with tools and collaborative opportunities to integrate pump system performance optimization and efficient energy management practices into normal business operations."

A number of HI pump company members including our Iwaki America business and associate members, along with non-government organizations, are charter sponsors of PSM and continue to support the foundation. PSM is actively seeking additional sponsors to grow and expand its efforts.

PSM developed an Educational Roadmap that includes five different courses. The first course in this series, "System Optimization and Life Cycle Costing," was delivered recently at the International Pump Symposium. The second course coincided with the launch of PSM's online Pump Systems Improvement Modeling tool mentioned earlier. Other courses are currently under development.

Conclusion

I am confident that the training value equation will yield a positive result for all companies in the pump industry that are committed to investing the time and effort necessary to define the variables and "solve" the equation.

P&S

References

1. John Allen, "Executive Insights," *Pumps & Systems* (Jan 2006): 48.

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