Innovative Management Includes Finding Effective Ways to Lead

Introduction to the Spring issue of the Journal of Innovative Management .................................................. Page 4/5

Seeking Perfection in Healthcare: Applying the Toyota Production System to Medicine

J. Michael Rona and Christina Saint Martin, Virginia Mason Medical Center, Seattle, Washington
Case Study ......................................................................................................................... Page 6

The Challenge of Leading and Managing

Laurence R. Smith, GOAL/QPC, Salem, New Hampshire
Perspective ......................................................................................................................... Page 18

Delivering Return on Innovation

Steve Callahan, Radius Product Development; Greg Adams, Nypro; Clinton, Massachusetts
Case Study ......................................................................................................................... Page 46

HR Executives Confer on Strategy, Possibilities, and Healthcare Costs

News ........................................................................................................................................ Page 59
Introduction

The first three years of Lean Enterprise

Lois H. Bronstein
Marketing Research Programs Manager
DuPont Company
Wilmington, Delaware

Michael J. Burtha
Executive Director, Knowledge Networking WW
Johnson & Johnson
New Brunswick, New Jersey

Loren G. Carlson
Chairman
CEO Roundtable
Boston, Massachusetts

Bruce F. Carmichael, Sc.D.
Associate Dean for Resources & Management
Yale School of Nursing
New Haven, Connecticut

Vivian E. Christian
Business Management Officer
USAMC Logistics Support Redstone Arsenal
Alabama

Patricia A. Clark
Quality Manager
American Bankers Association
Washington, DC

Leanne Drake
Enterprise Process Integration Manager
Boeing
Huntington Beach, California

Donald Eggleson, Jr.
Director, Organizational Development
SSM Healthcare
St. Louis, Missouri

Al Endres, Ph.D.
Dir., Ctr. for Innovation and Knowledge Management
University of Tampa
Tampa, Florida

Susan West Engelkemeyer, Ph.D.
Dean, School of Business
Ithaca College
Ithaca, New York

Gary D. Floss
Director, Quality Assurance
Marvin Windows & Doors
St. Paul, Minnesota

Carol Galizia
Executive Vice President
Detroit Edison Credit Union
Detroit, Michigan

Jesus Gallegos-Hernandez
Superintendent
ICA Construccion
Unidad Plateros, Mexico

Lois M. Gold
Vice President, Service Delivery
MetLife
New York, New York

Jerry E. Hewett
Administrator
Transitional Services
Florida Dept. of Corrections
Tallahassee, Florida

John J. Ireland
Corp. VP & President, Specialty Paper Products Div.
Nashua Corporation
Merrimack, New Hampshire

Thomas J. Kling
Quality Performance Associate
The Dow Chemical Company
Midland, Michigan

Rose Lindsey
Administrator
Quality, Accreditation, and Medical Management
Baptist Memorial Health Care
Memphis, Tennessee

Valeriana Moeller
President
Columbus State Community College
Columbus, Ohio

William L. Montgomery, Ph.D.
President
Montgomery Consulting Group
Doylestown, Pennsylvania

Donald R. Randall
CQI Manager
Lawrence Livermore National Lab
Livermore, California

Dana F. Ruberto
HR Strategy
GSK – GlaxoSmithKline
Research Triangle Park, North Carolina

Helmut Schlicksupp, Ph.D.
President
Innovationsberatung
Heidelberg, Germany

Larry R. Smith
Redford, Michigan

Thomas Splitgerber, D.D.S.
San Diego, California

Terry Stevens
Manager
Organization Development and Training
Busch Gardens
Tampa, Florida

Tom Sullivan
President
Clevary College
Ann Arbor, Michigan

Bill Tucker
Vice Chancellor, Planning and Development
Dallas County Community College District
Dallas, Texas

John Wallner
Director, Manufacturing Engineering
Tektronix
Beaverton, Oregon

L Carole Wharton, Ed.D.
Director
Office of Planning, Management and Budget
Smithsonian Institution
Washington, DC

Dan Walsh
Customer Relations Manager
Caterpillar Financial Services Corp.
Nashville, Tennessee

Professor Dr. Klaus J. Zink
Chair, Industrial Management and Human Factors
University of Kaiserslautern
Kaiserslautern, Germany
The Journal of Innovative Management is a peer-reviewed quarterly journal for people who are improving the way their organization runs. The purpose is to facilitate increased learning and innovation by providing people with cross-discipline stories of transformation through participative planning, problem solving, and innovation. It is written to help leaders, managers, and workers to:

- Cope with the growing need to integrate quality management, systems applications, and creativity and innovation into their organization dynamics
- Integrate academic thought with real-world applications
- Cope with learning time pressures by using an article format that enables faster reading and improved initial learning
- Facilitate a sense of community as readers see how people from various organizational settings and sectors face and solve what are essentially common leadership and managerial problems
- Achieve performance excellence throughout the organization.

The Journal of Innovative Management publishes articles that fall into the following matrix of categories:

- Case studies, applied research, tools, leadership perspective, and news & views
- Organizational transformation; participative planning; problem solving, and innovation; process design, management, and improvement
- Private sector; public sector; and non-profit organization settings
- Leading-edge and experience-based information, generally 1–3 years old.

Reader Services

The Journal of Innovative Management (ISSN: 1081-0714) is published quarterly by GOAL/QPC.

Bob King, Publisher
Laurence R. Smith, Editor
Jenny Donelan, Editor/Writer
Janet Ireland, Graphic Designer

Name or address corrections: Send address or other changes to:
Journal Subscriptions
GOAL/QPC
12-B Manor Parkway
Salem, NH 03079-2862.

Copyright and permissions: Copyright 2006 by GOAL/QPC. All rights reserved. No part of this publication may be reproduced, stored, or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without written permission from the publisher. Requests for permission to quote passages from this journal should be addressed to: Permissions, GOAL/QPC, 12-B Manor Parkway, Salem, NH 03079-2862.

Reprints of Articles Prices are:
$10.00 (minimum order) for 1 or 2 copies.
$3.50 each for 3–49 copies.
$3.00 each for 50–99 copies.
$2.70 each for 100–499 copies.
$2.50 each for 500–999 copies.
$2.30 each for 1000+ copies.

Reprints are available in hardcopy, Adobe Acrobat® PDF format, or as a next-day fax.

Single copies of the Journal are $25.00. Back issues of the Journal are $15.00. Please call for quantity pricing.

Members of GOAL/QPC receive a subscription to the Journal of Innovative Management as a membership benefit.

Ordering information

Customer Service
GOAL/QPC
12-B Manor Parkway, Salem, NH 03079
Phone: 800-643-4316 or 603-893-1944 • Fax: 603-870-9122
E-mail: service@goalqpc.com • Web site: www.goalqpc.com

Subscription Rates

<table>
<thead>
<tr>
<th></th>
<th>1 year</th>
<th>2 years</th>
<th>3 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$99</td>
<td>$168</td>
<td>$229</td>
</tr>
<tr>
<td>Canada</td>
<td>$114</td>
<td>$198</td>
<td>$269</td>
</tr>
<tr>
<td>International</td>
<td>$119</td>
<td>$208</td>
<td>$289</td>
</tr>
</tbody>
</table>

To place an order, call: 800-643-4316.
Outside the USA, call: 603-893-1944.
Being aware of what blossoms from theories seen and unseen

A common complaint heard at GOAL/QPC courses in organizational improvement, in the early 1990s, was about the manufacturing examples used by instructors. In fact, when GOAL/QPC began teaching, twenty-five years ago in 1981, about how to create a customer-focused master plan, and how to develop processes to achieve higher quality, lower costs, and on-time delivery, the people coming to the courses were almost entirely from manufacturing companies. Virtually all of the data about how to create consistently higher quality at reasonable cost seemed to come from the experience of two industries: manufacturing (mostly in Japan), and aviation safety. In the early 1990s, managers from other industries started coming to quality improvement courses and they complained that they couldn’t relate to manufacturing examples; they wanted examples that were specific to their own businesses.

My first reaction to this complaint was one of deja vu. During the twenty-five years that I was in chamber of commerce management, including fifteen years as a CEO, I would attend professional conferences and training sessions where my peers expressed the same demand. Managers wanted very specific examples, including how-to protocols, that they could take home and immediately implement in their own organizations. They didn’t seem to consider that what worked in one organization, in one community, at one point in time, might not work as well or at all in another place and time. Participant feedback from these courses and conferences showed that the teaching and presentations that got the highest scores were of the cook-book variety: low on theory and high on inexpensive ingredients and simple menus that could be quickly replicated.

That kind of thinking seems to be changing. I attend various conferences and learning events every year, and I’m noticing more variety in attendees and more interest in the theory underpinning a program or activity. More people want to know why something is being done or not being done, and not only what was done and how it was done. Speakers, especially those in senior management positions, are showing more interest in cross-functional and cross-discipline examples that will help them gain understanding that can be adapted to their own situations.

My thinking is that this attitude represents a growing maturity and sense of professionalism in management. It’s hard work being a good manager or leader in today’s world, and there’s a lot at stake in creating and maintaining viable organizations. The quality of our lives depends on many qualities: our thinking and knowledge; our choices, planning, use of resources, and behaviors; the systems and products we create and use; the leaders and managers we select and allow, together with our employees, customers, communities, and environments.

Our world requires a high degree of emotional and intellectual maturity from leaders, together with an intent to develop people and organizations in a manner that seeks the highest good. Anything less diminishes quality of life on a planet that seems quite large and robust in one sense, yet very small and fragile in another. The paradox is that in the world of human organizations, in which we make a living, we must invent high-quality microeconomic systems while simultaneously creating and maintaining high-quality macroeconomic systems that enable the microeconomy to do the right things for ourselves, our organizations and stakeholders, and the planet.
Innovative Management Includes Finding Effective Ways to Lead

A number of leaders will sometimes talk about excellence but it seems as though not too many really try to achieve it in their organizations. That’s why it’s exciting for us to offer you stories of people who demonstrate the courage and capability of true leaders—people who are improving the way their organizations run by focusing on serving as best they can their customers, patients, clients, constituents, employees, and communities. They aren’t perfect and they say so. But they are willing to admit mistakes, learn from them, and work hard to make sure the whole organization, including themselves, keeps getting better at serving others. And in doing so, they end up serving themselves better, too.

J. Michael Rona, president of the Virginia Mason Medical Center in Seattle, Washington, led some big changes, starting in 2001. “Frankly, healthcare produces an embarrassingly poor product,” Rona says, and he didn’t want to be a part of that kind of system. So he looked for a management role model to study and found a welcoming teacher in Toyota. There was a lot of opposition from professionals and managers but he took people to Japan and they learned to see things differently.

Our vision at Virginia Mason is to be the quality leader. Our mission is simply to improve the health and well being of the patients we serve. We begin with the patient, and I will tell you that for most healthcare systems in the United States, the patient is important, but not number one. So everything you usually experience in a healthcare environment is actually not designed and performed with the patient in mind.

The plan for translating what we had learned into reality at Virginia Mason incorporated seven areas of focus: 1. “Patient First” as the driver for all that we do. 2. The Virginia Mason Production System will be our brand of the Toyota Production System. 3. The creation of an environment in which our people feel safe and free to engage in improvement—the adoption of a “No Lay-off Philosophy and Policy.” 4. Implementation of a company-wide defect alert system called “The Patient Safety Alert System.” 5. Encouragement of innovation. 6. Creating a prosperous economic organization primarily by eliminating waste. 7. Accountable leadership.

It was twenty-five years ago that GOAL/QPC began working for the transformation of organization management. It began with the personal teaching of Dr. W. Edwards Deming in 1981. Journal editor Laurence Smith was there at the beginning and offers a twenty-fifth anniversary perspective on the Challenge of Leading and Managing.

“Delivering Return on Innovation” is next. In this story you’ll read how Steve Callahan, President of Radius Product Development, and Greg Adams, vice president of global engineering and technology at Nypro, Inc. overcome some challenges.

Historically speaking, when it comes to innovation and new product development, the design and manufacturing departments of companies haven’t tended to see eye-to-eye. The design community perceives manufacturing as hard workers, perhaps, but not way out in front in terms of embracing innovation. On its part, the manufacturing community views designers and innovators as, well, words like “space cadet” and “flower child” come to mind.

We conclude this issue of the Journal of Innovative Management with a news article on the human resource professional’s role in corporate strategy, on a shift to possibility thinking, and a recognition of how business can make a more positive difference in healthcare costs—all from a Society for Human Resource Management conference.
Seeking Perfection in Healthcare: Applying the Toyota Production System to Medicine

Authors
J. Michael Rona, President, and Christina Saint Martin, Vice President Virginia Mason Medical Center, Seattle, Washington

Introduction
J. Michael Rona, President—Virginia Mason Medical Center’s journey toward perfection began in 2001. Since then we have simply been trying to create a better product. Perhaps when the industry looks back later on, we’ll be viewed as one system that helped lead the revolution in healthcare. Some of the best lessons we’ve learned along the way have been the incredible importance of focusing on the customer first, a lesson we definitely learned from Toyota; the possibilities and implications of zero defects; and the need for adopting a new management paradigm, which is especially necessary in healthcare, which tends to have a fairly defective management paradigm.

Background of Virginia Mason Medical Center
Virginia Mason is an integrated healthcare delivery system with everything under one roof—the hospital, the clinic, the doctors—everybody’s employed by our 501(c)(3) not-for-profit. Many years we live up to our not-for-profit status. (I remember our former chairman once said, “We are not-for-profit but we are not-for-loss, either,” which is a great reminder!) We have 400 physicians employed at Virginia Mason, and about 5,000 employees over all. Patient care is number one for us and we provide care in a teaching environment, so we instruct residents as well. We also do research. And we have a foundation that receives gifts from grateful patients and our community. Our net revenues are about $650 million.

If you’re dreaming about it, you can do it
Chihiro Nakao is the chairman and CEO of the consulting organization Shingijutsu International. He is one of our teachers, a consultant who helped us understand the Toyota Production System. On one of our trips to Japan, I remember him saying that if you’re dreaming about it, you can do it. This underscores the importance of vision and then driving toward a vision. At Virginia Mason, we have a dream about what we think we can produce for our customers and patients, and what we think healthcare in general can produce for its customers.

Begin with patients
Our vision at Virginia Mason is to be the quality leader. Our mission is simply to improve the health and well being of the patients we serve. We begin with the patient, and I will tell you that for most healthcare systems in the United States, the patient is important, but not number one. So everything you usually experience in a healthcare environment is actually not designed and performed with the patient in mind. We really do want to be the very best—not just the very best in Seattle and not just the very best in Washington, but the very best in the world, because we think that’s what our customers deserve.
Frankly, healthcare produces an embarrassingly poor product. This used to be pretty well understood in the professional journals, but not widely known otherwise. In the last five years, however, even the lay press has picked up on it. There are stories about doctors working drunk and stories about medical errors, such as a surgical sponge and gauze left in a breast after an operation, or a kidney transplant performed on the wrong side. That’s a devastating error. You only have one kidney left after a kidney transplant. These are things that are absolutely impossible to accept, yet they happen.

An Institute of Medicine study in 1999 showed that anywhere from 50,000 to 100,000 people die in hospitals as a result of preventable medical errors. Later studies have shown that the numbers may be even twice as high. Even at Virginia Mason, which is highly recognized as a center for excellence in the region, we caused the death of a patient in 2004. So even in systems that are supposed to be very good, errors occur. We believe this is all the more reason to create a system that is defect-free.

Here are some examples of defects across industries at the 99.9% quality levels:

- 22,000 checks are deducted from the wrong bank accounts every day
- 16,000 pieces of mail are lost by the Postal Service every hour
- 2,000 unsafe airplane landings are made every day
- 500 incorrect surgeries are completed every week

This is not a good story. And healthcare is actually at about 97% quality levels, so it has a 3% defect rate. That rate might sound pretty good, but for the person who’s had the wrong kidney transplanted, that’s a 100% defect. That person doesn’t really care about your industry statistics. Statistics are interesting but not meaningful at the individual level, and healthcare is an individual product.

Not only are devastating things happening to patients in the current healthcare system, but the system itself is extremely expensive. Annual healthcare costs in the US are now in excess of $7,000 per person, which is huge. (See Figure 1.)

Employers are saying healthcare is unaffordable and patients are saying that healthcare is unaffordable. Errors and defects add greatly to the expense of healthcare.
In our quest to provide better patient care, we decided to learn more about management methods that were effective in other industries, since the management method we had for healthcare at Virginia Mason didn’t seem to be changing the outcomes of our products or our cost/performance.

We began learning about the Toyota Production System from John Black, a longtime leader in quality improvement at Boeing who had been instrumental in bringing Toyota into Boeing. He and others introduced us to the teachings of Taiichi Ohno, who is considered the father of the Toyota Production System.

What we learned in our studies, and what many others knew already, was that at least half of everything we do is waste. We have found this to be true in every single process we’ve examined. (In healthcare, I believe that more than half is waste.)

To get these changes started, we took our executive leadership—kicking and screaming—to Japan for two weeks. We studied Toyota, visited its museum, and learned about the company’s history. And we visited the factory floor at Toyota. We were a bunch of healthcare people who couldn’t understand Japanese and thought we knew everything.

We learned very quickly that we didn’t know anything, and realized what a wonderful opportunity the Toyota Production System would be for healthcare. Just as in a manufacturing environment, healthcare is full of production processes that involve concepts of quality, safety, and customer satisfaction. They’re very complex. Our surgeons thought they did complex things. Well, there are some really complex things being built out there in factories, and these products, if they fail, can cause fatalities too. We began to see that these processes were very much the same as admitting a patient, performing a procedure, or sending out a bill.

We decided in Japan, in June of 2002, that we would adopt the Toyota Production System as our method of managing the company. We sent back this plan to all 5,000 of our employees—they thought we must have been drinking sake the whole time we were away! But what we said to them is that we have thought of ourselves as a patient-first organization, but we’re really not. We’re not driven by the customers’ requirements and needs. “Just in time” is just in time for us, never for the customer.

The plan for translating what we had learned into reality at Virginia Mason incorporated seven areas of focus:

1. “Patient First” as the driver for all that we do
2. The Virginia Mason Production System will be our brand of the Toyota Production System
3. The creation of an environment in which our people feel safe and free to engage in improvement—the adoption of a “No Lay-off Philosophy and Policy”
5. Encouragement of innovation
6. Creating a prosperous economic organization primarily by eliminating waste
7. Accountable leadership
No lay-offs and patient safety alerts were major components of the plan. We adopted a no-layoff policy because it was obvious to us that if we asked people to remove waste that might imply the elimination of jobs. The board approved the policy as soon as we got back from Japan, and we’ve had no layoffs since then.

We also included a shared success plan in case we actually did better than anticipated. And we implemented a companywide defect alert system called the Patient Safety Alert System, which is designed so that people can immediately call attention to defects.

We were impressed by the history and the importance of innovation—relentless innovation—by Toyota, and we knew this was important to our processes. We said that our economics would improve by removing the waste from processes, as opposed to just focusing on traditional costs. We also said our leaders would lead or we’d find new leaders.

On the production line at Toyota Motor City, each worker has a designated amount of time in which to do their job. And if they cannot do their work correctly in that amount of time, they can stop the line by using one of two pull cords. We saw those pull cords on the floor, and we saw them used. A little yellow light would go on, and the big control panel in the plant would light up yellow where the problem was and then management would run to go help the worker. We were totally flabbergasted: First of all, our workers had nothing to pull, and frankly they were so busy they usually just passed along defects. Second, management didn’t have “run” in its vocabulary. We found all those things totally disarming.

We loved this system. It showed enormous respect for the worker. The workers at Toyota are so concerned about passing on a defect that they’ll stop, and management is likewise concerned if workers cannot do their work. When we saw that, we wondered what it would be like to have a similar system at Virginia Mason—if all 5,000 of our people could pull the cord. We stared at each other as we realized how embarrassing and how wrong it was that we were not allowing our people to stop the processes and that we were allowing them to pass along defects.

So we later implemented the Patient Safety Alert System, recognizing that most of our hazards are process hazards, which are the least harmful and the easiest to fix when they happen, rather than down the line. You cannot fix the situation once the wrong kidney has been taken out.

Our people are now inspectors; they can all stop the defects. And if we can’t stop making defects, we have to stop the process. Every day, our leadership gets Patient Safety Alerts. Most of these alerts aren’t gravely serious, like the situations I described above. But we deal with every one. The vice president or chief responsible for that area must run to the line right away to figure out whether we have a serious problem or not.

Here is a case study: a sixty-nine-year-old woman with a right aneurysm in the brain. Her procedure was done through the leg. The procedure seemed to go great.
She went on to recovery, where she started feeling leg weakness and sensory loss. The radiologist checked her right away and confirmed that the cause of the symptoms was not a stroke or an internal hemorrhage. A tech was called and then those people who were investigating began to focus on three clear, unlabeled solutions on the procedure table: saline, which is salt water; contrast, a material that fluoresces under X-ray so you can see the veins; and an antiseptic solution used to clean the skin.

The radiologist called a Patient Safety Alert. We informed the patient, the family, and the primary care physician that a possible problem existed. The radiology vice president directed the investigation. We took the staff person offline after we realized that the radiologist had been given a syringe full of topical antiseptic and it was injected instead of saline or contrast. We explained what had happened to the patient, and got permission from the patient and the family to tell all of our staff about it, because we had no idea whether this was going on throughout our company. We immediately developed a standard for labeling, and changed the way this particular liquid was administered.

The patient died. Obviously, the entire staff was devastated by this occurrence. We apologized publicly and then learned from our lesson. Today, in fact, this particular error has gained attention on a national level and is now a patient safety issue across the country. This was both a bad and a good way to lead.

We continue to have any number of PSAs, though not on the magnitude of this particular patient. We need to know about the defects so that we can fix them. These defects fall into a number of buckets—facilities, unprofessional conduct, unreturned phone calls, misdiagnoses, wrong medication. Here is an organization that is clearly known as one of the best in the world, yet we certainly have had our share of defects. We have really learned the importance of identifying defects, stopping the line, and then fixing the defects. If we cannot stop the defects in the process, the process must be stopped.

Christina Saint Martin, Vice President—The most obvious cost of error involves medical mistakes. When we make even small errors, it costs the organization money. So if you actually stop the defects from happening, you can save quite a bit. Right now, Virginia Mason pays about $5 million a year in claims for medical errors that could have been avoided.

Some people internally have said how can you possibly improve quality and reduce costs at the same time? We have a great example of that—the implementation of our ventilator acquired pneumonia or VAP program. The avoidance of VAP is on the Institute of Healthcare Improvement’s list of healthcare initiatives. We also wanted to focus on this because ventilator-acquired pneumonia is preventable in an in-patient setting. So we implemented our VAP prevention procedure bundle.

In 2002, prior to our VAP initiative, we had 32 cases of VAP in our hospital. Using nationwide statistics for death rates of people with VAP, that would correspond to about five people dying from VAP at Virginia Mason. The cost to the organization alone would be $500,000, and that mainly represents rework associated with these incidents. After implementing the bundle in the in-patient setting, we’re now down...
to two cases in 2005. We have severely increased quality for these patients. Using the national statistics again for death rates, those would be at about zero, and our cost at about $30,000. You can increase quality and reduce costs at the same time.

We have a great story here too with our staffing trends. It involves the problem of not continuing to add more people to your processes. In 1996, Virginia Mason was on a trajectory to add 7% in additional staff members each year to our payroll. Our costs for staff are about 65% of our expenses.

In 2001, when we discovered the Toyota Production System, and founded the Virginia Mason Production System, we actually stabilized our staff by looking at removing the waste from what people were doing, keeping those people, and not adding people from the outside.

So we’re really starting to see a downward trend in our FTEs (full-time equivalents), and we are doing that by monitoring attrition. We have a rigorous process for filling positions when people leave the organization. We actually go through standard worksheets and percent load charts. We do value-stream mapping of the work that the person who is leaving has been doing, so that replacing the position is truly justified or not. With a no-layoff policy, every staff member is really a million-dollar commitment, and we want to make sure that we can hold to our no-layoff promise.

We have had some excellent results using 3P (production, preparation, process) for space design. We’ve put it to use for our cancer unit, which is one of our strategic program priorities, and for the hospital, where we want to focus on length of stay and staffing issues. We are planning to build a new hospital, and we are going to use 3P in designing every unit of that new facility. We’ve also had great results in the dermatology department, where we focused on flow and throughput. We have also increased the capacity of GI, which is a very high demand service. And we’ve seen great results in our hyperbaric medicine area.

When we use 3P, we bring in a diverse team, usually of about thirty participants. The teams are made up of engineers, architects, doctors, patients, and staff members.

One of the benefits of 3P is that there’s a lot of cost avoidance, especially if you go in with a Lean lens while you’re planning your space. For our hyperbaric chamber, for example, we actually had more money allocated in our capital budget to spend than we ended up spending, and 3P helped us save about $1 million. We have a $25 million capital budget in a given year, but about $80 million worth of requests. Since there’s not enough to go around, every bit helps.

In our hospital 3P, we were really looking at lead time for the patient. Is the patient staying longer than he or she needs to? Although we haven’t built the new hospital yet, we can actually take pieces of that 3P and implement it now. It has already helped us reduce our length of stay and our leadtime for inpatient care.

The cancer 3P is a great story. These are our sickest patients. We calculated that many of them were walking about 1600 feet for each day of treatment. And because of our 3Ps and co-locating all our important services, we were able to reduce that...
walking distance to about 375 feet, plus increase our capacity from 120 to 188 pa-
tients per day—a 57% increase.

As for our surgery suites: Surgeons always think they need more ORs, and that more
is better. But when we looked closely at scheduling, we realized we had an abun-
dance of ORs, and that they were not being utilized properly. So we actually saved
$6 million there in capital.

Visual controls results

We utilize a lot of visual controls for safety in the OR and in the in-patient setting.
Our medical director of quality at Virginia Mason, an anesthesiologist, led a team
through developing a shadowboard for all of our anesthesiologists’ trays. It’s a lami-
nated sheet with photographs underneath of what should be on the trays, so you
can tell at a glance if anything is out of place, missing, not prepped, or not the right
size. This is a fabulous result of using visual control for safety.

Payments posting results

One of our business process results involves insurance payments posting. In health-
care, we don’t do direct transactions with the patients—everything goes through
insurance companies or the government. In the past, we waited for the money from
the insurance companies in order for patients’ bills to be posted as paid. On any
given day, we had about $11 million sitting there waiting to be posted to patient
accounts.

In the meantime, while we were not doing today’s work today, the patient was being
rebilled, which was causing rework for the staff and the patient—not to mention
aggravation. It can take a long time to get through to people and get someone to
answer your call and that was frustrating to many patients, especially some of our
elderly ones. So we focused on the insurance payments posting process, and went
in five months’ time to doing today’s work today, having $2 million on the books at a
time, so that cash could be posted, in a single-piece flow, to the accounts.

The key learning for the executive who led the charge on this project was that if you
aim at nothing, you’ll hit it. If you don’t try and improve the process or even look at
the process as important, you’re certainly not going to make any change.

Reducing treatment lead time for cancer patients

A great result in a clinical area occurred with regard to leadtimes for our breast
cancer patients. The vital times for these patients are when they get that diagnosis,
and when they can be treated. The time frame between those two events is a very
stressful one for the patient and the family, and they might want a second opinion
during it. Our lead time at Virginia Mason used to be twenty-one days from diagno-
sis to when patients could begin treatment.

Within one RPIW (Rapid Process Improvement Workshop) we reduced that lead
time by 50%. (RPIWs are the main vehicle for improvement at Virginia Mason. These
are five-day workshops in which we involve people from various areas of the process
being examined.)

Part of our cancer treatment process changes involved doing workups before the
patient was diagnosed and then performing rigorous followup and creating better
education materials. We would like to reduce that leadtime again by half, while also
recognizing that many of our patients do want some time to seek a second opinion. In general, however, the sooner we can get patients to start treatment, the better.

We’ve also reduced out-patient treatment times for cancer patients. The lead time a cancer patient used to be able to expect from when he arrived at Virginia Mason to when he started his treatment was 240 minutes. Many of these people are dying, and time is one thing you cannot give back. So we reduced that lead time by 63%. Gains in the area of 90% are what we really want to strive for.

GI services are in high demand, especially in the Seattle area—we have the demographics that are making GI very popular. Also, it is profitable for Virginia Mason, so why not focus there? We need to focus on our most productive lines and meet pent-up demand. So we had ten RPIWs, which focused on standardization, travel distance, and room turnover, including setups, scheduling, and results for the rooms, results recording to the patient, and inventory supplies. The GI staff wanted about $2 million more in procedure rooms to meet demand, but through our RPIW efforts we actually kept the rooms we had, not adding any, which represented about $2 million in capital savings, and increased the net margin by about 48%, adding a net margin increase of $2.1 million to our bottom line.

Hyperbaric medicine involves oxygen therapy and is primarily used for divers who get the bends, cancer patients who need wound healing, and people who are suffering from smoke inhalation. Firemen and quite a few people from the Navy come to us as patients. We’re the largest facility north of LA and west of the Mississippi for hyperbaric medicine. But we had an old hyperbaric chamber for these treatments, which had actually been used for animal testing in the 1960s. Hyperbaric treatment was increasingly becoming more popular for certain cancer patients, so we began to have a lot more volume in that old chamber than we used to. At the same time, we still had many emergency cases from Seattle and elsewhere, so our non-emergency patients who would come from all over for this treatment would often get bumped for the emergency cases, because you can only run one setup for patients at a time.

We did a 3P on hyperbaric and out of that came our new hyperbaric chamber, which is about the size of a 757 fuselage. It has three chambers that can be worked simultaneously and also at staggered intervals, so you can accommodate six to eight patients on each side of the fuselage and emergency patients in the center. That way, when you get the emergencies, you’re not interrupting the care on either side of the chamber. This gives us better throughput and our patients better continuity of care.

We had the old chamber, we had to work twelve-hour days, and were still not able to accommodate the extra, pent-up demand. Now we can work an eight-hour day and also handle pent-up demand. That’s one example of waste reduction through this process. Another involves the ambulances. This was really kind of funny. The old hyperbaric unit was right across the street from the hospital, yet we couldn’t transport patients there except in an ambulance. That was not very efficient or comfortable for the patient, and it also cost us about $55,000 a year because this was not a reimbursable service. So we located the new hyperbaric space below the hospital in the old conference room and library spaces and no longer need to spend that transportation money. Another efficiency related to the location involved
Delphi's Lean Enterprise Progressing Along the Journey

oxygen. We now use the oxygen available in the hospital, whereas we used to have to have it delivered to the other location in canisters.

The economics are an even better story. Volume has increased by 48% and margins increased by 330%, largely because our costs are lower.

Even with all of our positive changes, we discovered that some approaches just weren’t successful:

- Lots of activity but not enough traction (safety vs. waste and flow)
- Scope too big
- Hit the wrong target
- Too many targets

When we started doing RPIWs in 2001, we had maybe twenty or twenty-five of them, and we thought at the time, the more the merrier—let’s just have the whole place changing as quickly as possible and that way we will accelerate our implementation. We were scheduled to run about 200 of these workshops a year in 2005 and 2006. But that is a tremendous amount of change to undergo. So although we were seeing results such as 50% and 25% in lead-time reductions, that’s a lot of activity to follow through on and have newspapers on, while continuing to sustain results. So what we learned at the end of 2004 was that we had a lot of activity but not enough traction.

We did have some great traction in our 3P efforts, where we were designing great new physical spaces and new processes. But we had too big a scope on some of these projects. We’d start in saying: Let’s change the OR. And that’s not something you can actually do in a week. Otherwise, sometimes we hit the wrong target or we hit too many targets.

We revisited how we were going to go forward in 2005, and looked at many things. How where we really going to get there, now that we’d had those three years of educating our staff, our patients, and the community around us? We focused on six key areas:

- Infrastructure
- Education
- RPIWs/Kaizen events
- 3P
- Everyday Lean
- Accountability

So improving the infrastructure was where we started. What we wanted were focused goals that were in line with our organizational goals.

We looked at our educational strategies. Were we engaging the right groups of people, and how? We have courses that are required for all staff members. These represent a mandatory fitness-for-duty requirement. And we have management classes for the middle-management level where people needed in-depth training on mapping, mistake proofing, and related issues. In 2006, we’re opening up those same classes for the whole staff. We’ll probably train about 1,000 staff members in these tools.
We looked carefully at the RPIWs and Kaizen events, at how we were using them and whether we were using them correctly. If you’re pulling people off-line for a week of improvement work, that adds up, especially if you have physicians on the team. We also focused on 3P and everyday Lean, and considered accountability, and how to implement that. The managers who were responsible for being process owners had been feeling as if they got handed the newspaper at the end of a workshop and then were on their own. So we wanted to make sure they had partners in their efforts on an ongoing basis.

When we started The Virginia Mason Production System we had a very small team of experts: one consultant, a senior vice president responsible for overseeing the system, a director, and five specialists. These specialists trained in Japan and then served as coaches, mainly for our certified leader group, which comprised all the executives and the administrative directors (about sixty people).

Today, we’ve gone back to what they say about Lean and leadership, which is to re-deploy your very best to the most important work. We’ve created three decentralized Kaizen Promotion Offices (KPOs) aligned with our organizational structure. We have one for the clinic, one for the hospital, and one for all our administrative and overhead areas: finance, IT, and human resources. Within each of those three KPOs are two administrative directors. Those six people were the very best at what they did and have been redeployed. So we took our best clinic operational and administrative directors (in other companies these would be vice presidents or associate vice presidents), and assigned them to run the improvement work, and that’s all they do now, full time. We have seen wonderful results from implementing this structure. We are seeing reductions in lead times and cost savings.

Our everyday Lean idea campaign is for the entire staff. This is a quick, I-want-to-fix-something, twenty-four-hour-turnaround-time initiative, and incidentally, something that’s very celebrated at Toyota. They have more than 600,000 ideas every year and they implement about 90% of them. At Virginia Mason, the campaign is a way to engage our staff and educate them about Lean principles at the same time.

J. Michael Rona, President—I never met the patient who died at Virginia Mason due to our error on November 23, 2004. But I came to know about and understand her at her service, where her pastor said this day brings a lot of rearrangement and there are things that happen in life, and in the lives of organizations, that help you put things back in perspective.

I would say that our visit to Japan in 2002 and the death of the patient in 2004 were both seminal moments in the history of Virginia Mason, which has been around since 1920. These moments remind us of what it is that we do and what it is that we ought to be doing. We are also aware of the opportunity we now possess—because we actually have the vision, the drive, the knowledge, and the method—to make sure that events such as this tragedy never happen again.
After last year, we determined that at minimum, we would make sure that our place was safe. This goes back to the beginning of medicine: Above all else, do no harm. Ensuring the safety of our patients by eliminating avoidable death and injury has become our only corporate goal for the company. This takes major energy and resources, but why do anything else if you can’t make sure that this is happening?

We have numerous initiatives. And we have made extraordinary gains. If you find something with no label at Virginia Mason, you’ve got to put it down and pull the cord, and this does happen. The wonderful part of all this is people’s understanding that they really do have the opportunity to create a zero defect environment. Actual joy comes with that.

Certainly we’ve faced challenges along the way. One of them has been resistance to a change of culture. Actually, I think Americans are preoccupied with culture, but it exists nonetheless. It is hard to change what we are—we’re kind of in love with ourselves. But when we take the focus off us and put it on the customer, then we can change, because the customer doesn’t come from that culture. They can just tell you, “this doesn’t work for me.”

The idea of professional autonomy is also a challenge. Everybody has been trained to be a star on their own. It’s not just doctors and nurses, it’s accountants and managers—everyone. Most people think they know what’s best, and they want to do it their way. Our staff members have a hard time saying, well, let’s just take the very best way and we’ll all do it, and then improve on it if necessary. For a science-based industry, you’d think this approach would be intuitive, but it’s not. And I would tell you the worst group with regard to professional autonomy is management.

Then there’s this whole idea about “people are not cars.” Our friends at Boeing told us that when the Toyota production concepts were introduced there, people said, well that’s fine but Toyota makes cars and we make airplanes. Our people told us, that’s fine but we don’t make cars and we don’t make airplanes. To which we replied, we don’t make people at Virginia Mason either! But we do make products that affect and interact with and change the lives of patients. This concept is hard for medicine because medicine doesn’t want to think of itself as production. “Production” feels too blue collar. But when we say that you can only hope and pray for the quality and results that manufacturing has, people begin to understand. For the most part, we cannot fix the natural trajectory of illness, though we’re trying. But we can make sure that patients’ experiences are defect free, with the best practices known, consistently administered, every single time. That we can do.

The idea of zero defects has also been hard to convey. Healthcare does not believe in zero defects. It believes in that bumper sticker, “S— happens.” But if you boarded an airplane and the pilot said, “Ladies and gentlemen, we’re glad to have you aboard, but there’s a 3% chance we’re not going to land safely,” everybody would be using the exits, right? Whereas when people begin believing in zero defects, they’re overjoyed.

Victimization has been another challenge. Why don’t they leave me alone? They’re picking on me? Healthcare is hard enough. Again it’s sort of an internal orientation. It’s all about “us.” Healthcare thinks it needs more resources and doesn’t realize it’s got resources coming out of its ears. But our FTEs are going down, and we don’t really need more ORs.
Last, you can’t make it without leadership constancy. This entire thing relies on leadership and I would say that the reason continuous quality improvement never grabbed hold earlier on was it came from the middle of the organization. It didn’t come from the top and if the top doesn’t change, the organization doesn’t change. That’s just the way it is. What we do now comes from our board. All the way down.

Chihiro Nakao said at one of our sessions that it’s not by accident that you’re chosen to be a leader; it is your destiny. Some of us have been thinking about what that opportunity means. The leaders are the only ones who can change anything. No matter how hard people in the organization struggle, the leaders are the ones that let it happen and enable it. It has been our destiny to change the way that we do healthcare at Virginia Mason.

J. Michael Rona is the President of the Virginia Mason Medical Center. Prior to holding the title of President, he was Vice President and Executive Administrator from 1991 to 1997, and Clinic Administrator from 1983 to 1991. Currently, Rona is also an Assistant Professor in the School of Public Health and Community Services at the University of Washington. He received his undergraduate degree from Whitman College and a Masters in Health Care Administration degree from the University of Washington.

Christina Saint Martin is the Vice President responsible for implementing the Virginia Mason Production System throughout the Virginia Mason Health System. She has been with Virginia Mason since 1997, and also holds accountability for the organization’s human resource functions, governance structure, center for innovation, education, and general administration. Saint Martin received her Bachelor’s Degree from Northern Michigan University and her Masters Degree from Seattle University. She completed her Healthcare Administration Fellowship at Virginia Mason.

This article was developed from a live presentation at the twenty-first annual conference of the Association for Manufacturing Excellence (AME), November 2, 2005, Boston, Massachusetts.
The Challenge of Leading and Managing

Laurence R. Smith, GOAL/QPC, Salem, New Hampshire

Introduction

The quality of our lives—in the workplace and everywhere else—is dependent on how well each of us is able to lead and manage. How well we are able to lead and manage is dependent on the quality of our thinking, and on the quality of our relationships, both on and off the job. Additionally, the foundation for leading and managing—both corporate and personal—is the same. And at this time in the evolution of the Earth, some improvements in how we are thinking, leading, and managing are needed to facilitate an improved quality of life throughout the world.

To set the stage, it is useful to recognize just how much more important the issues of leadership, management, and relationships have become in today's world. To begin with it is clear, when we think about it, that the quality of our life is dependent on the quality of our relationships. It is also clear that the world conditions that we live with today are largely a creation of our own leadership and management, individually and collectively. We live in a complex world, among many forms of interdependent life trying to act independently, and every day we're learning more and more about the importance of interdependencies of many kinds to our individual and collective health and well-being.

Systems designed to finance unlimited growth

In terms of humanity, the quantity of people living on the planet has increased very rapidly in recent years, which has helped to heighten and hasten the physical and social issues we're faced with today. It is estimated that the world's population reached one billion people only 200 years ago, around 1800. In the next 100 years, population increased about 50% to 1.5 billion. But in the most recent 100 years—the twentieth century—population increased 400% to around 6 billion people.

During the last century or two, having created economic systems to encourage unlimited growth, humanity has also rapidly created a vast society of competing institutions intended to produce ever-larger quantities and varieties of material goods and services for a growing quantity and variety of people.

Our creations need leadership and management

One commonality is that all of these institutions need to be led and managed, and the systems that "experts" have created encourage this to be done in a competitive manner. Another commonality is that the world of human action and interaction is simultaneously creating a lot of good things and a lot of destructive things.

The now crowded, still growing, and highly competitive structure of the world's human systems, coupled with the speed with which things change (influenced largely by the simple fact that there are so many more people seeking to innovate, produce, and sell more things so they can get money to live), makes it both useful and important for everyone to become knowledgeable and skillful in leading and managing—and not just the few who seek and get management positions.
It is clear, from observing the world over the past fifty years, that better and more cooperative systems, management, and leadership are essential if we hope to have a healthy world to live in. And there seems to be no shortage of well-meaning people and institutions competing for our attention and time and money to tell us how to improve and manage better.

GOAL/QPC is one of these institutions, and 2006 is its twenty-fifth anniversary in teaching the transformation of management. The people at GOAL/QPC, a nonprofit educational organization, have been working since 1981 to bring to America and the world, the best tools and methods for planning, management, and innovation in organizations of all types. We have learned from very successful leaders throughout the world, and we have simplified this knowledge as much as possible, and made it available to the public as numerous processes and tools for highly participative planning and management.

GOAL/QPC has performed research into best practices, and then developed courses, workshops, conferences, and publications. The most popular teaching tool over the years has been in the form of The Memory Jogger™ series of pocket-size books. Over 10 million have been purchased, and many large organizations have bought versions that were customized for them.

What is unique about GOAL/QPC is that it was by accident that it got into management education. In 1978 I moved from New York to become the CEO of a regional chamber of commerce in northeastern Massachusetts. The area’s major industries encouraged me to work on two issues:

1. Improve the quality of education and get more people to stay in school and graduate.
2. Make the community a clean, safe, and attractive place to live and work in.

We managed to make good progress on both issues during the next five years, especially in the education sector, where we won an award in 1985 from the President of the United States for “finding innovative private solutions to public problems.”

Also in 1978, Larry LeFebre, the new mayor of Lawrence, the region’s largest city, created a nonprofit organization called GOAL (Growth Opportunity Alliance of Lawrence). The purpose was to find a way to end three decades of job loss and economic decline. In the three decades following World War II, industries were being wooed away from the northeastern United States for lower costs and lower wages in the southeastern part of the country. The GOAL group included government, labor, and business representatives. I was on the board of directors representing business. During the first two years there was very little progress.

In 1980 NBC aired its now famous “white paper,” If Japan Can Why Can’t We? That show generated a great deal of surprise in that it demonstrated that the growth or loss of jobs, the robustness of the American economy, and the viability of our cities and towns, were primarily a factor of the quality of management. This was a time when American consumers were buying a great deal of Japanese products that were of very high quality and were being sold at attractive prices. The documentary showcased the work of an American teacher, Dr. W. Edwards Deming, who after World War II, taught Japanese industrialists about designing a manufacturing system that (a) focused on planning good quality up-front, (b) enabled lower costs and less waste of time and materials, and (c) included statistical tools and an understanding of variation in order to consistently produce the quality of product that the consumer wanted to buy, at a price the consumer was willing to pay.
Beginning in 1950, Dr. Deming was invited to teach in Japan, which at that point in time had negative net worth and was devoid of natural resources. He gave thirty-five lectures in the summer of 1950 to top management and engineers. Six months later he was back in Japan to lecture again, and yet again in another six months.

Deming presented a difficult fact: “Japan must export goods in return for food and equipment. This battle could be won only with quality. The consumer will from now on be the most important part of the production line.” (Out of the Crisis, pg. 5.) He said that quality begins with management’s intent, which must then be translated by engineers and others into plans, specifications, tests, and production.

It is reported that his 1950 talks to twenty-one presidents of Japan’s leading industries was highly significant and influential, as the group controlled over 80% of the capital of Japan. (The full text of his lecture to top management can be found in the book, The World of W. Edwards Deming, by Cecelia S. Kilian; SPC Press.) Deming urged top management to be personally involved, and companies to work together.

Dr. Deming presented top management with his view of production as a system, using a flow diagram to illustrate it (see Figure 1). Materials from various vendors and suppliers come in from the left. He urged that a long-term partnership relationship with suppliers be nurtured to achieve trust and loyalty, and to improve the quality of incoming materials and decrease costs. He taught that consumers (on the right) are the most important part of the production line, and that quality should be aimed at the needs of present and future consumers.

Japan recognized his contributions to the nation by starting an annual quality improvement program in 1951 and naming an annual quality award The Deming Prize. Ten years later, in 1960, Dr. Deming was awarded the Emperor’s medal. Dr. Shoichiro Toyoda, Founder and Chairman of the Toyota Motor Corporation, in speaking about Dr. Deming, said: “Every day I think about what he meant to us. Deming is the core of our management.”

In 1980 GOAL/QPC’s CEO, Bob King, was industrial relations manager at Malden Mills, a Lawrence textile company, and co-chairman (with the mayor) of the GOAL Board of Directors. Bob saw the documentary, and thought that if Deming could help Japan, maybe he could also help Lawrence, Massachusetts.

Bob telephoned Dr. Deming, spoke with him, and invited him to come and teach us. Dr. Deming did come, and what he wanted to do was shocking and unlike anything that had been done during the preceding three decades to save jobs in the
region and grow new jobs. Dr. Deming wanted to teach managers how to manage properly in the rapidly emerging global marketplace.

Deming said that the loss of jobs was a result of the fact that American management didn’t know how to manage their companies in a competitive, global marketplace. Consumers wanted value for their money and they were finding it in high-quality Japanese products that were innovative, well built, and priced attractively. American companies would only be able to compete, stay in business, and grow jobs by focusing on the quality of their management, and not blaming workers for the way things were. Moreover, abandoning mill buildings and workers in Lawrence for cheaper land and labor costs in the southern states wasn’t going to solve the problem. Furthermore, just having Lawrence conduct marketing programs to attract new industry wasn’t going to work, either. American management needed to learn how to stay in business where they were, and manage their companies for a competitive global marketplace. That wouldn’t be easy and it would take time, Deming said.

Dr. Deming, a professor at New York University’s Graduate School of Business, had tried earlier to teach his theories of quality, productivity, and competitiveness to U.S. companies, building on ideas he learned from Dr. Walter A. Shewhart of Bell Labs. Shewhart had developed a system of measuring variance in production, with a goal of understanding variance and its causes, and being able to keep variance in manufacturing within acceptable limits. Shewhart’s model was basically a three-sigma approach, and it represented a significant improvement in manufacturing quality at that time. This became known as statistical process control (SPC).

This approach was required of all U.S. companies supplying the war effort during World War II. The approach proved very effective, but senior managers did not learn these manufacturing principles themselves; training was given to engineers. After the war was over, its use was discontinued by top management, which was more interested in rushing to get larger quantities of goods out to meet post-war demand. Focusing on quality would be too expensive, senior managers thought. That mistake caught up with American industry in a big way twenty years later as customers chose better quality goods produced under a different style of management, and lots of American jobs were lost.

When Bob King contacted Dr. Deming in 1980, Deming proposed that he teach a four-day management workshop for GOAL aimed at the transformation of American management. GOAL, and my chamber of commerce, sponsored the first workshop in 1981. Deming explained that the problems of American business were mainly in the organizational systems, and since management designed and controlled the systems, it had to gain new knowledge and change the way it was thinking about work, planning, and managing in organizations.

Local interest from local top management was small. A notable success was Western Electric’s Merrimack Valley Works, in North Andover, Massachusetts. This factory, with 10,000 workers in 1981, learned Deming’s teaching, applied it over the next ten years, and won a Malcolm Baldrige National Quality Award in 1992. At that time, the plant manager said to me that Dr. Deming told them in 1981 that it would take ten years of diligent work to reach the levels of quality needed to be competitive in a global market; in 1981 they didn’t believe that it would take them that long but in 1992 they said Deming was right. It did take them ten years. And they weren’t done: The Baldrige feedback report included a long list of improvements needed.
The plant manager, who was on my chamber’s board of directors and had “adopted” Lawrence High School as part of our Business-Education Collaborative, told me that if they had not changed their form of management ten years earlier, they would not be here today; they wouldn’t be able to compete. Shortly after that, he was relocated to Europe, and the person who headed up their quality management effort became ill and passed away.

The plant soon underwent ownership and management changes. One of the managers we worked with told me that the work systems, processes, and teamwork that got them to a new level of working did not continue, and that life at the company was better when they were following the Baldrige Criteria and Deming’s teaching.

I asked the Merrimack Valley Planning Commission to do an econometric analysis of the plant in the early 1990s. It was found that this Western Electric plant had a $1 billion annual impact on the Massachusetts economy, and it affected thousands of other jobs in the region. Most of those 10,000+ jobs are now gone.

There are senior- and top-management people who think in terms of “bringing in programs,” such as Quality, Reengineering, OD, Six Sigma, Lean, as problem solving tools to fix the current state of the organization that their own management system has caused. When the “problem” is fixed there’s no longer a need to continue the program, so they can go back to the old way of doing things and focus their attention on the next opportunity for making more money.

What we learned from Dr. Deming, and from the experience of those who followed his teaching, is that a successful management model is a system, not a diet-like tool, and can’t be abandoned without affecting results. The new way has to be a lifestyle and not be viewed as a problem-solving journey from which one returns to the old problem-causing behavior when the short-term objective is achieved.

GOAL also researched other approaches to management, quality, and productivity improvement by Philip Crosby, Joseph Juran, Armand Feigenbaum, as well as study in Japan, and then integrated and synthesized them into a cohesive, conceptual model. The result was the development of a graphic representation, the GOAL/QPC Total Quality Management (TQM) Wheel (see Figure 2). There was also a ten-element model of how an organization would implement this improvement system over a period of several years (www.goalqpc.com/resources_tqm_wheel.cfm).
In November of 1983, with a letter of introduction from Dr. Deming, GOAL made its first trip to Japan, seeking the best quality-improvement and management-improvement practices, experiences, training programs, and materials. Bob King, Diane Ritter, Charles McCarthy, and I visited leading quality improvement organizations, including the Japan Management Association, Japan Productivity Center, Union of Japanese Scientists and Engineers (JUSE), Japan Standards Association (ISA), and the Central Japan Quality Control Association. We also attended a series of all-Japan quality improvement presentations, and the Deming Prize ceremony and reception. Over and over again, we heard Japanese business and government leaders speaking about the importance of cooperation with America in creating a free-world knowledge base of management improvement ideas and practices. And we found Japanese leaders to be very open in sharing the tools and methods of quality improvement and management improvement that they developed.

After the first four-day Deming course in 1981 GOAL created a Deming follow-up steering committee with representatives from twenty-five to thirty companies. The purpose of the committee was to ensure the continuous study and use of Dr. Deming’s theories through the long transformation process. GOAL gained extensive knowledge and experience in statistical quality control by working with these committees and other groups in Massachusetts. (For Deming info see: www.deming.org.)

Later on, this committee separated into smaller groups to allow members to narrow their focus. One group focused on the most critical issues of quality and productivity transformation. At that time, Kaoru Ishikawa’s Guide to Quality Control was by far the most widely used Statistical Process Control text in the United States. The committee felt that a new version written for an American audience was needed. This idea became The Memory Jogger: A Pocket Guide of Tools for Continuous Improvement, published in 1985.

Memory Joggers are now used worldwide by organizations to simplify the task of continuous improvement. These guides are designed to help hourly employees, supervisors, and non-specialist managers improve their companies’ procedures, systems, quality, and cost on a daily basis.

The response to these small books was enormous. Memory Joggers are now used by over 10 million people worldwide and have been translated into multiple languages, making GOAL/QPC a leading business publisher and producer of management improvement training and educational programs.

In 1984 GOAL held its first annual conference, bringing together people from many different organizations in the United States. GOAL also introduced the “Seven Management and Planning Tools” at this time. They include the Affinity Diagram, Interrelationship Diagraph, Tree Diagram, Prioritization Matrices, Matrix Diagram, Process Decision Program Chart, and Activity Network Diagram.

The tools are now rather well known and it is beyond the scope of this article to go into detail. From a historical viewpoint it is worth noting that during the 1940s and 1950s people in operations research started to transform language data (words) into graphic data (diagrams). It was discovered that showing organizational planning and management information in diagram form greatly aided communication and understanding, and led to better plans and results.

During the 1970s the Japanese began to combine these tools, develop their own,
and integrate them into the Walter Shewhart PDCA Cycle that Dr. Deming taught them.


In 1985 and 1987, GOAL/QPC sent another delegation to Japan to see what impact Deming’s work was having. Members learned that the Japanese had created Total Quality Control systems in which all employees in all departments work together to develop systems that improve quality, reduce cost, and give employees work processes that are most economical and best qualified to do the job needed. GOAL has published several Research Reports that go into some detail on this.

During the following years GOAL received federal and state grants to create training programs for high school, college, and university faculty, administrators, and students. This allowed many people to attend quality courses at little or no cost. Area businesses were also able to have employees trained at significant savings.

GOAL developed a Supplier Institute to help small vendors learn the philosophy, tools, and techniques of Total Quality Management that their customers demanded. GOAL also sponsored a Summer Institute to train college and university professors in Total Quality Management.

In 1987 GOAL produced the first book published in the U.S. on Quality Function Deployment (QFD), called *Better Designs in Half the Time*, by Bob King.

In 1988 GOAL became GOAL/QPC. The company added “QPC” to its name to reflect its broadened mission. The QPC stands for Quality, Productivity, and Competitiveness.

GOAL/QPC has since expanded its research and publication efforts to Hoshin Planning, teamwork and coaching skills, project management, new product development, ISO 9000 certification, innovation and creativity, and employee wellness. It has published books on TQM specifically targeted to health care and education. In 1998 it published *The Idea Edge: Transforming Creative Thought into Organizational Excellence* by Bob King and Dr. Helmut Schlicksupp, which introduces creativity and innovation tools. These tools enable organizations to develop a systematic approach to creativity and innovation.

In 1996 GOAL/QPC began publishing the quarterly *Journal of Innovative Management* for managers who are leading and implementing management improvement initiatives. It is a cross-discipline forum for new approaches to running organizations: leadership, strategy development, planning, innovation, process improvement, knowledge management, customer focus, employee development, and organizational performance. It presents the personal insights and hard-won experiences of today’s organization leaders and top academic thinkers.

As it begins its second twenty-five years of working on the transformation of Western management, GOAL/QPC continues to research management methods for improving the way organizations run. GOAL/QPC’s learning events, workshops, and the *Journal of Innovative Management* present the newest knowledge, experience, and techniques in organizational improvement.
A few companies that GOAL/QPC has worked with, and their achievements, include:

- Did process improvement training at Coca Cola worldwide.
- Supplied GE with customized Memory Joggers for Six Sigma Green Belt Training.
- Supplied Philips with 200,000 joggers in seven languages to standardize process improvement worldwide.
- Taught strategic planning to Ford executive committee as part of worldwide reorganization.
- Worked with the chairman and management committee of IBM to introduce a new product design process as part of the redesign of the company.
- Took the top fifty executives from Intel to Japan to see how the Japanese were making chips at higher quality and lower cost.
- Helped Xerox in the development of problem solving teams with a logger for all employees.
- Helped Ford build supplier quality through introduction of Memory Jogger, used by all Ford employees and most Ford suppliers.
- Helped the Pentagon in future planning using the “Seven Quality Control Tools.”
- Helped facilitate the 2002 IOM Summit on the revamping of medical education for the next millennium.

The continuous need: how to transform Western management

Oftentimes we hear people advocate “quality management” or “six sigma” with regard to transforming American Industry. The theory implied is that one can directly intend to transform an industry. Dr. Deming, however, was working on the transformation of American management, and there’s a big difference. It’s the difference between a cause and an effect. Management is the cause. The industry that we experience in life is the effect—the result—of its management.

In 1982, the year after Dr. Deming began teaching for GOAL, MIT’s Center for Advanced Engineering Study published his book, Out of the Crisis. In the preface, Dr. Deming wrote:

Transformation of American style of management is not a job of reconstruction, nor is it revision. It requires a whole new structure, from foundation upward.

Failure of management to plan for the future and to foresee problems has brought about waste of manpower, of materials, and of machine-time, all of which raise the manufacturer's cost and price that the purchaser must pay. The consumer is not always willing to subsidize this waste. The inevitable result is loss of market. Loss of market begets unemployment. Performance of management should be measured by potential to stay in business, to protect investment, to ensure future dividends and jobs through improvement of product and service for the future, not by the quarterly dividend.

It is no longer socially acceptable to dump employees on to the heap of unemployed. Loss of market, and resulting unemployment, are not foreordained. They are not inevitable. They are man-made.

The basic cause of sickness in American industry and resulting unemployment is failure of top management to manage.

The job of management is inseparable from the welfare of the company. Mobility, here a while and gone, from the management of one company to the management of another, is something that American industry can no longer afford. Management must declare a policy for the future, to stay in business and to provide jobs for their people, and more jobs. Management must understand design of product and of service, procurement of materials, problems of production, process control, and
The problem is management, continued

So how does management learn its new job?

Deming's principles for the transformation of management

The next logical question might be what needs to be done to make this transformation possible? The answer is that a different kind of thinking is needed, because the current thinking has caused the current problems. Deming used to say that management can’t continue to manage from existing knowledge and existing theories of management. That’s what’s causing the problem. Deming continues in his Out of the Crisis preface:

Management obviously have a new job. Where can management learn about the transformation that is necessary?

The fact is that management can not learn by experience alone what they must do to improve quality and productivity and the competitive position of the company.

Everyone doing his best is not the answer. It is first necessary that people know what to do. Drastic changes are required.

Deming said that the first step that management needs to take in transforming itself is to learn how to change, learn to understand and use what he called the “principles for transformation of Western management,” the “seven deadly diseases,” and Dr. Walter Shewhart’s teaching on variation, SPC, and the PDSA Cycle. These are found in detail in Out of the Crisis, and are briefly highlighted next.

The principles (popularly called his “fourteen points”) represent Dr. Deming’s theory of management. Collectively (you do have to do them all and not pick and choose some) they offer a basis for the transformation of Western enterprise.

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.
2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn its responsibilities, and take on leadership for change.
3. Cease dependence upon inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.
5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.
6. Institute training on the job.
7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.
8. Drive out fear, so that everyone may work effectively for the company.
9. Break down barriers between departments. People in research, design, sales, and production must work as a team to foresee problems of production and in the use that may be encountered with the product or service.

10. Eliminate slogans, exhortations, and targets for the workforce, asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of poor quality and low productivity belong to the system and thus lie beyond the power of the workforce.

11a. Eliminate work standards (quotas) on the factory floor. Substitute leadership.


12a. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality.

12b. Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means, inter alia, abolition of the annual or merit rating and of management by objective.

13. Institute a vigorous program of education and self-improvement.

14. Put all emphasis in the company to work to accomplish the transformation. The transformation is everybody’s job.

While adopting the fourteen principles will enable transformation, Dr. Deming identified seven “diseases” that would stand in the way of or kill any transformation that got started. They are:

1. The crippling disease: lack of constancy of purpose to plan product and service that will have a market and keep the company in business, and provide jobs.

2. Emphasis on short-term profits: short-term thinking (just the opposite from constancy of purpose to stay in business), fed by fear of unfriendly takeover, and by push from bankers and owners for dividends.

3. Evaluation of performance, merit rating, or annual review.

4. Mobility of management; job hopping.

5. Management by use only of visible figures, with little or no consideration of figures that are unknown or unknowable.

6. Excessive medical costs.

7. Excessive costs of warranty, swelled by lawyers that work on contingency fees.

As time went on, Dr. Deming began to emphasize the need for management to take the time to acquire a new depth and breadth of knowledge, what he called a “System of Profound Knowledge.” This system is spelled out in some detail in his 1993 book, The New Economics, published shortly before his death on December 20, 1993. He had just turned 93 that past October.

Deming believed that his fourteen principles for management in industry, education, and government followed naturally as an application of the system of profound knowledge. He did not expect management to be expert in the following four areas but he did expect managers to understand them and apply them. To use a modern analogy, managers don’t have to be a black belt to be involved in applying Six Sigma. As Peter Drucker once said, “No institution can possibly survive if it needs geniuses or supermen to manage it. It must be organized in such a way as to be able to get along under a leadership composed of average human beings.”
The System of Profound Knowledge, for which Dr. Deming credited the work of Dr. Barbara Lawton in his book, *The New Economics*, calls for managers to have some understanding in four major interrelated subject areas:

1. Appreciation for a system: There are many definitions of systems, some fairly complex. A simple working definition was offered by Gerald Nadler and Shozo Hibino in their popular 1990 book, *Breakthrough Thinking*: “Basically a system is (1) a group of related entities that (2) does something—receives inputs, affects them in some way, and produces outputs.” (Page 163.)

2. Knowledge about variation: Some understanding of variation, including appreciation of a stable system, and some understanding of special causes and common causes of variation, are essential for management of a system, including management of people. (*The New Economics*, page 98.)

3. Theory of knowledge: How do we—and others we work with—know things? How do we know what we don’t know? How do we learn things?

4. Understanding of psychology: The psychology of individuals. The psychology of a group. The psychology of society. The psychology of change. How do we open our minds to be able to identify those things that aren’t working for us anymore and let go of them?

**Systems**

When Dr. Deming started teaching management with GOAL in 1981, he had been teaching about systems for over thirty years. Some people see only pieces of Deming’s work, like the PDCA Cycle and Statistical Process Control. Deming was more than that. He was very much an advocate, not just of mechanical and production systems, but of treating people well (consumers and employees), waste reduction and cost control, designing quality into the processes up front, cooperation and not only competition, improving government, improving education, improving economic systems, achieving stable and competent management, building a sense of community, and doing the right things right.

When it came to worker attitude, competence, and productivity, Deming emphasized that individual performance is governed largely by systems created by management, and that management is therefore responsible for the system and responsible for how things are working. He would say that 80% to 90% of the workplace problems were in the systems design and not with individual people.

Dr. Deming’s friend, Professor Russell Ackoff would say it isn’t possible to improve the system by working on the wrong things—you just get wronger. Personally, I wonder how many organizational “improvement programs” that didn’t work well were thrown out with the explanation that “that program doesn’t work,” when it was really a case of a management error, of not picking the right thing to working on? The real problem wasn’t the tool or the method. The real problem was about the competence of management in being able to work on the right things.

Understanding systems

When we consider the structure of the universe, the world, and our lives in it, we develop an awareness of an inherent order. We come to see that the existence of order is maintained by the interaction of its elements and we have come to call that a system. We can see that the interactions of certain combinations of elements, in what we identify as a system, produces certain characteristics that are not possible in any of the elements individually, but do become possible, and even likely, as a result of the combination. In combinations of human interaction, culture emerg-
Variation is an abundant and natural part of life, and many people happily embrace the idea that variety is the “spice of life.” The question in business life is: What kind of variety is good, when is it good, and how much is good? And to what extent can we predict and control it when we want to? The next question is: How can we do that efficiently?

In the mid-1920s, Dr. Deming learned how to properly understand variation in a manufacturing environment, and how to bring variation under statistical control so that people would be able to consistently produce products at the level of quality that consumers wanted and do it in the most efficient and least wasteful way. Walter Shewhart’s book, Economic Control of Quality of Manufactured Product, is a classic in the field, and Dr. Deming would always give credit to Dr. Shewhart for providing the foundation for much of his own work and teaching.

At the risk of stating the obvious, the task of leading and managing requires us to make decisions about what to do, or not do, along with when and how to do it. We usually say that these acts present varying degrees of risk. That’s because we believe we don’t have knowledge of all of the variables that we would need to have 100% confidence that the decision will assuredly lead to the desired outcome, with no negative consequences. In business decisions, and in many of our important life decisions, we’d love to be able to predict and control everything it takes to get what we want. But we know that life doesn’t work that way, and so we try to do the best job we can. We generally try to be rational in this regard.

Dr. Deming, in The New Economics For Industry, Government, Education, says: “Rational prediction requires theory and builds knowledge through systematic revision and extension of theory based on comparison of prediction with observation.” (Page 105.) He goes on to say:

We are today in possession of instant communication with any part of the world. Unfortunately, speed does not help anyone to understand the future and the obligations of management. Many of us deceive ourselves into the supposition that we need constant updating to cope with the rapidly changing future. But you can not, by watching every moment of television, or by reading every newspaper, acquire a glimpse of what the future holds.

To put it another way, information, no matter how complete and speedy, is not knowledge.
Knowledge has temporal spread. Knowledge comes from theory. Without theory, there is no way to use the information that comes to us on the instant (page 109).

A popular phrase in organizational life is that leaders makes the “hard decisions.” Decisions can be especially hard, and the consequences can be especially hard on people, when leaders fail to recognize and understand their own—and others’—theories of knowledge, leadership, management, human behavior, politics, economics, business, life, work, government, right and wrong, justice, and what is possible today and in the future.

Psychology helps us to understand people, interaction between people and circumstances, interaction between customer and supplier, interaction between teacher and pupil, interaction between a manager and his people and any system of management. (*The New Economics*, page 110.)

Dr. Deming encouraged a change in thinking and attitude by leaders to shifting some attention from competing for a share of the pie to making a bigger pie. For some reason that message has been a difficult one to get across.

Dr. Deming strongly urged a transformation of management in government, industry, and education. In his final book, *The New Economics*, written when he was in his 90s and still teaching, Deming said:

Management is in a stable state. Transformation is required to move out of the present state, not mere patchwork on the present style of management. We must of course solve problems and stamp out fires as they occur, but these activities do not change the process.

The transformation will take us into a new method of reward. We must restore the individual, and do so in the complexities of interaction with the rest of the world. The transformation will release the power of human resource contained in intrinsic motivation. In place of competition for high rating, high grades, to be Number One, there will be cooperation on problems of common interest between people, divisions, companies, competitors, governments, countries. The result will in time be greater innovation, applied science, technology, expansion of market, greater service, greater material reward for everyone. There will be joy in work, joy in learning. Anyone that enjoys his work is a pleasure to work with. Everyone will win, no losers. (Page 126.)

Organizations as complex responsive processes of relating

While Dr. Deming was observing and speaking of the complexities of interaction in management in the United States, Professor Ralph Stacey in the UK had been spending decades working, researching, and teaching in Europe about how people and organizations work—and don’t work—very well. His conclusion is an interesting theory on organizations not being “things,” but rather “complex responsive processes of relating.”

Stacey, along with two associates, Dr. Douglas Griffin and Dr. Patricia Shaw at the University of Hertfordshire, in England, are making a case about how vital it is that we recognize that it is thought—what we are thinking, how we are thinking, and how we have come to be thinking that way—that drives the direction and content of our PDCA cycles: what we are willing to plan, what we are willing to try, what we are willing to measure and check on, and then how we will evaluate what has happened and decide what to think about and act on next.

One of the things they ask us to consider is how our thought processes have become so focused around systems. They believe that there are aspects of organization life in which systems thinking is inappropriate and ineffective. It is very important for us to consider this possibility and its alternative.
To present their case, Stacey, Griffin, and Shaw developed a series of six books about “Complexity and Emergence in Organizations,” published by Routledge, between 2000 and 2002. To learn a bit more about their work, GOAL/QPC, ASQ, and Plexus Institute sponsored a two-day exploratory workshop with the three at Northeastern University’s conference center in Boston, in September of 2004.

The sense I have is that their starting point in what became a rather detailed investigation into how people have come to develop, lead, and manage organizations the way they do was the result of a personal recognition that in “the real world,” people in organizations rarely accomplish their day-to-day joint objectives in a way that is entirely determined by the designed systems in which they operate. They have now come to believe that there are limitations to the effectiveness of systems thinking when it comes to human interaction.

In the first book in the series, *Complexity and Management: Fad or Radical Challenge to Systems Thinking*, Stacey, Griffin, and Shaw write:

No system can encompass every eventuality and, therefore, ordinary daily human freedom is exercised to weave actions into and around the system, the known, in order to cope, at the same time, with the daily unknown. This acting, in an ordinary day-by-day way into the known-unknown, requires an explanation that systems-thinking on its own cannot provide because this thinking always entails some human chooser standing outside the system and acting upon it. (Page 186-7.)

Because of that, the authors want to “move away from the notion that human action and interaction is a system or can usefully be thought of as a system, when it comes to understanding change of a transformational kind.”

Stacey, Shaw, and Griffin are not, however, trying to diminish the important value of systems and systems thinking in life and organizations. They say that:

Scientific management greatly enhanced the understanding and practice of efficiency in management. Systems thinking represents a significant extension of scientific management in its focus on interaction and in doing so makes at least three important contributions:

1. The emphasis on interaction leads to an improved understanding and design of regulatory procedures and so secures more reliable continuity and a higher degree of self-regulation in organizations.
2. Thinking in terms of interconnections and the consequent awareness of causal links that are distant in space and time alerts managers to the unintended and unexpected consequences of their actions.
3. The awareness that managers are also part of the systems they identify and design leads to greater attention to the matters of participation and ethics.

These contributions offer the potential for more creative management. (Pages 80-81.)

So what’s the alternative, then? How would one think if one did not regard human interactions as a system? The authors explain:

For us, organization is a process of joint action in which patterns in that action are both repeated to preserve continuity and stability and at the same time opened up to create the possibility of transformation, the truly novel. The systems approach of redefining boundaries in response to criticism does not address how people “get it done anyway” in their ordinary everyday activities. The boundary redefinition response also does not enable any increased understanding of transformation or of how people actually cope with the unknown. It does not encompass the close connection between diversity, conflict, and creativity. (Page 83.)

When asked about examples, the authors point out that:

...managers repeatedly report long lists of things that went wrong with their plans, systems and procedures, and then ignore how they “got things done, anyway.” They move instead to prescriptions for yet more systems, procedures and plans. We suggest they do this because they are thinking within a framework imported by engineers from the natural sciences in earlier decades. This same point applies to complaints about inaccessible information and the call for information systems to replace the knowledge arising in personal contacts, never considering whether the gaining of knowledge
through personal contacts might be the most appropriate way in situations of rapid change. These complaints reflect systems thinking. This currently dominant frame of reference structures the conversations of people in this way through placing individual choice about whole systems as the central cause of how an organization comes to be what it is. It is the dominant discourse that makes it feel quite natural to think about the manager as one who steps outside the organizational processes in order to design systems and stay “in control.”

We are suggesting that members of organizations explore a shift in their way of thinking to a way that places relationships between them as the transformative cause of organizational identity. This focuses attention on conversation as the central activity of organizing, especially that spontaneous and fluid conversation characterized by ongoing differences of interpretation. This means that people jointly create the meaning of what they are doing when they act into the unknown, co-creating their future in interaction with others. From this perspective, they are all participants in the joint inquiry into what they are doing together. This way of thinking is a decisive shift from systems thinking. (Stacey, Griffin, and Shaw, 2000, Page 193-4.)

Example: Conversation and a sense of community

The style of leadership that Deming, Stacey, Shaw, and Griffin are urging is one that involves developing a sense of community, which is accomplished through conversation. The conversations, however, are dynamic and not with just anyone. I learned about this in the early 1980s from the late Dr. Anthony Nemitz while I was enrolled in the three-year Academy of Organization Management program at the University of Notre Dame, sponsored by the U.S. Chamber of Commerce. I also had the opportunity to apply in my organization what I learned from Dr. Nemitz in two major community-wide programs that grew to be large and highly successful.

Dr. Nemitz taught four essential things about community:

1. Community is based on a shared perception of right and wrong.
2. Community is developed through conversation that leads to action.
3. Conversation must include people with competence, jurisdiction, and interest in the common good.
4. Community is demonstrated by deeds done and not words said.

To carry out this model for community development in my organization, I combined it with a definition of leader that seemed to me to be sound and appropriate. It was from a political scientist, Dr. Thomas Cronin, in an article in the Presidential Studies Quarterly. “Leaders are people who perceive what is needed and what is right and know how to mobilize people and resources to accomplish mutual goals.”

I first tested this model in the early 1980s by investigating drug and alcohol abuse in the community. My thinking and behavior was based on the theory that a community is needed to get things done, that leaders are people who are able to perceive the right needs, mobilize the right people, and engage them in conversation that leads to setting goals and ensuring the provision of the necessary resources to accomplish the goals.

I began by arranging a lunch meeting with the region’s five police chiefs to find out if they saw a problem. That led to another lunch, including the regional director of the federal Drug Enforcement Administration (DEA). That produced a consensus that there was a problem—small at the moment—and the knowledge that the only places where the problem was being contained was where the community got involved. It was said that the average age of abuse onset was twelve, and our conversation concluded that there was one place where virtually all twelve-year-old
children come together regularly—in school.

We then invited the area’s five school superintendents to join us for lunch, and we outlined our purpose, saying that we wanted to work on prevention and not bring police into the school and arrest kids. At first they said there was no problem. We continued to talk. And then there was a breakthrough. Since we were meeting privately, and our goal was to be a behind-the-scenes resource aimed at preventive education, and they would take the lead with us being a resource in the background, they all admitted there was a problem and they were thankful for the offer of help.

We then involved a psychologist from the local college in researching prevention programs, who made that information available, and the superintendents found that helpful. The superintendents then appointed representatives of their districts to form a design committee that would formulate a uniform policy of non-tolerance that each of the elected school boards would be asked to review and approve. I hosted those meetings and the policies were adopted.

A few months later I discovered that the programs weren’t being implemented very well and I learned that the teachers were concerned about liability. So I brought in the county’s district attorney, who told the teachers they would not have liability if they implemented the policy but they would if they did not. Then they fought back, saying that they didn’t want police coming into the schools and locking kids up for what they considered minor offenses. The police and district attorney didn’t want to be locking up kids either, and the DA offered to create a juvenile diversion program that would channel kids into treatment instead of courts. The teachers liked that idea, so the DA invited the juvenile court judge to meet with us, and he agreed to a diversion program.

Then we found out the teachers were still concerned about liability, this time civil liability, from enforcing the drug and alcohol policy. We brought the DA back again, who said the liability existed by not enforcing the policy. They weren’t convinced. So the DA invited an attorney he knew from the Massachusetts Teachers Association who reviewed the policy and told the teachers there would be no civil liability if they enforced it, and they co-developed a seminar on it.

After holding a couple of seminars, the superintendents said it would be too disruptive to send all teachers and staff from all five public school districts to training. I asked if putting the training on a videotape would help. The superintendents said yes, and the DA and MTA attorney agreed to do it. The DA offered to pay for it. So the videotape was done and distributed. At the same time, we helped finance some preventive education programs for the schools.

Throughout the process I kept alert to seeing the need, testing it for rightness, and bringing to the table people with competence in the issues, jurisdiction to make it happen, and interest in the common good. I consistently found that a sense of community emerged as people talked about the issues and as projects were planned and carried out. Throughout this process, which took a couple of years, leadership and community kept emerging. Various people were leading and doing the work themselves. The kind of leadership that I provided was essentially that of a high-level convenor, while other people were providing all sorts of leadership in problem solving, and in designing and implementing programs.

Another example of how the above model of leadership and developing community worked for me is in business-education collaboration over a ten-year period.

I mentioned earlier that my chamber of commerce’s board of directors wanted us to work on improving education. My approach to that was not to go out and tell...
the schools that they were failing and give them our list of desired improvements. Instead, I started with small conversations that led to small programs being done, which led to more conversations with more people, and more programs being done. As this was happening, I found that I wasn’t starting all of the conversations, either. Others were coming to me with ideas and these conversations led to more conversations and often they led to new communities and new programs being created and carried out. There are four that I want to briefly mention here.

1. House building

The superintendent of a regional vocational-technical high school was on my chamber’s board of directors, and he was interested in getting real-world experience for students. The vocational teachers have that industry experience. The electrical teacher, for example, is a licensed electrician. The plumbing teacher is a licensed plumber. The carpentry teacher has general contractor experience. The school was wondering if we would work with them in building a real house, where students would do most of the work under the supervision of the teachers. I had a separate community development corporation in the chamber that was functioning as a revolving loan fund and the board of directors was interested in the house building idea. There were conversations with teachers, building inspectors, trade unions, and realtors. It was decided to go ahead and have an annual house building project in which the fund would purchase land, finance the construction, and sell it on the open market when completed. Profits would go back into the loan fund to enable additional loans to be made.

The school would develop plans, with students in the drafting class drawing them up. The Revolving Loan Fund Board would review and approve the project. Teachers and board members would find a parcel of land and we would buy it. Professionals would excavate and pour the foundation over the summer. Then, during the school year, students would build the house, including carpentry, cabinetry, plaster, plumbing, roofing, electric, and painting. The next spring when the house was completed, we would sell the house and get ready to build the next one over the summer.

We easily sold every house. Word got out about how well-built the houses were and there were never any problems with building inspectors or unions. Unions were happy to get graduates with real experience. Building inspectors were impressed with the quality of work. The school was delighted to offer some 200 students from all of the different trades in the school real-world work that they could not afford to provide on their own. Consumers were happy to get well-built houses. Students were happy to be doing real work. We were happy to provide the experience and to make money for our revolving loan fund.

2. Adopt-A-School

One day after a Rotary meeting, Sid Zussman, a local automobile dealer who was on my Chamber’s board of directors asked me about adopt-a-school, which he had heard about on the radio that morning regarding a school system in the mid-west. I told him that it involved local business people getting involved with a local school. He was interested and we got some conversations going with the principal of the school near his business. We also included a couple of other business leaders—a bank president and the owner of an animal feed company—who were both Rotary members and chamber board members.

These three business leaders were nervous, thinking the school might want a free car, and money. But they didn’t. The school leaders asked for help with recognition of students who made improvements in five areas: attendance, coming on time, doing homework, improving grades and making honor role, and demonstrating citi-
zenship/leadership. The business people were asked to come into the schools and meet the students, talk about the importance of getting an education, encourage them to work hard and improve, and give out awards. We paid for the awards and for parties. It turned out to be another everybody-wins situation. Students, teachers, parents, and businesses loved it.

Word quickly spread, and we had conversations with the very open and supportive superintendent, James Scully, and other principals, and other business leaders throughout the city. I hired a former school teacher, Joe Duggan, to manage our rapidly expanding business-education collaboration. Within five years, all eighteen schools in the city were adopted. This involved people from forty-four businesses, six business groups, eleven educational agencies, eleven community organizations, and seven community foundations.

3. Read Aloud

A local English teacher, George Edmonds, came to talk about an idea. He said that children in inner-city schools don’t do well in writing as they get older, and this is because they don’t read much. They don’t see much reading happening at home and so they don’t read. Edmonds wondered if our business-education collaborative would consider developing a program in which community and business leaders would come into a K-3 classroom and read a children’s book to the class.

Following the conversation-community model, we got the “right” people together and talked about it. People wanted to do it and they started developing the program. It began in one school and the next year expanded. Two years later there were 250 adult readers signed up who made 1,800 classroom visits. Readers included the attorney general for the state, the congressman, state legislators, the mayor and city councilors, bank presidents, business owners, and plant managers. While we had books available for reading, many of these people went out on their own time to bookstores and bought a children’s book that they liked and wanted to read to the class. This was another instance where everybody won. All of the readers loved the experience and volunteered to do it again. Teachers loved it and wanted to have it happen periodically. Students were enthusiastic. And parents were supportive.

4. Academic Olympics

The next person to approach us with an idea was a local clergyman, Rev. James Keller. He had been unable to get a rather ambitious program started that would involve the city’s three high schools—an academic olympics. Would we take it on? Again our first thought was conversation. We asked ourselves, “Who would need to be here to hear about and talk about it? Who would cover the competence, authority, and common-good interests?” To make a long story short, we had a number of conversations. Ultimately there was agreement to proceed, and a lot of self-organization took place. Seventy people from various industries volunteered to be coaches in various academic disciplines; 264 students signed up to participate, and a total of 2,800 hours of coaching were recorded. A local foundry created and donated “gold, silver, and bronze” medals. Contests were held and judged. An awards ceremony was held, where medals were presented, and a reception was held afterwards. Here’s what one contestant wrote to us afterwards:

Throughout the school year, we work hard at bettering ourselves in academics and the arts, but even the most favored subjects can become tedious. Our efforts aren’t praised enough, and our achievements, whether they be a well written paper, high scores in math, or fine pieces of craft, are seldom applauded. Athletes are urged on and famed, but when was the last time a person who could do fine stitchery, or who was a whiz in computers, was cheered on? There is no big boost, no real show of appreciation.

The Academic Olympics gives students this boost. Gathered together in the Lawrence High School
auditorium, we were able to pay tribute to each other’s work. We were the honored guests, each one a winner, treated with respect. It was our chance in the spotlight, and each person outshined it. The sense of accomplishment in our achievements, as well as those of our classmates, rose higher than the helium balloons that decorated the stage.

The Academic Olympics also gave us the opportunity to pat ourselves on the back, because, until that night, we may not have even realized what great successes our efforts actually were. Encouragement and appreciation from others are wonderful things, but to be able to be true to ourselves, to urge ourselves on, and to realize our own worth, show that we are wonderful in ourselves.

Theory

You can’t run a business or anything else on a theory. —Harold S. Geneen

Even for practical purposes theory generally turns out the most important thing in the end.

—Oliver Wendell Holmes

He who loves practice without theory is like the sailor who boards ship without a rudder and compass and never knows where he may cast. —Leonardo da Vinci

Experience without theory is blind, but theory without experience is mere intellectual play.

—Immanuel Kant

A paradigm is a general theory, like the Darwinian theory of evolution, which has achieved general acceptance in the scientific community. —Phillip E. Johnson

It is the theory that decides what can be observed. —Albert Einstein

Export anything to a friendly country except American management. —W. Edwards Deming

As you can see from the above quotes, there is some controversy over theory. For some reason there are a number of managers who express what is probably a kind of “machismo” by dismissing without consideration the possibility that theory or philosophy has value, and just jump into doing. They don’t, of course, realize that in doing so, they are acting on their theory, their philosophy. Or maybe they do, and they just don’t want others to know that, so they can simply be the dominant … male.

There are some animals, especially males with horns, who like to butt heads with others in order to establish who is the dominant male in the territory so they can own the herd and get all the perks. The one with the smallest headache wins. But all may not work out well with the new leader. Some herds will blindly follow as he thunders mightily along the plain and over a cliff.

The big question is, of course, are we animals or humans? Or a bit of each? And when we choose “human,” can we ask: What does it mean to be human in today’s world? What must my thoughts be? What are my beliefs and theories about living and working on this planet? What will my plans be? What will my doing be? What will these beliefs, thoughts, plans, and actions create? How does that make me feel?

As we grew up, we went to school and were taught (i.e., required to memorize) many things. We were, of course, expected to believe these things as truth. All of the curriculum was based on somebody’s theory and the way the school was organized was based on somebody’s theory. What was the value of the learning you received from the application of those theories?

In general, how well we did in school was a function of how well we memorized stuff. As Dr. Donald Snygg, one of my psychology professors, said in the first day of his social psychology course: “There’s generally only one sure way to get an A in school: Listen to what the teacher says and when you get a test repeat it back, keeping it in the teacher’s language so the teacher understands it.”

And then some of the students became teachers, including me. The things that I was taught were based on theories developed by other people as to what an “educated” person, and a teacher, ought to know and be able to do.
We may not have realized that the curriculum for everything we learned in school was based on somebody's theory of knowledge that was developed and perhaps approved by other people. But that's the way things work in the world. Same with organizations. The places we work in were designed by certain people, based on their theories about how people work and how to do work.

When one studies math, chemistry, engineering, or medicine, there is a common body of knowledge that is proven in action. When one studies management, and gets an MBA, there is no common body of knowledge. Individual schools and professors are pretty much able to teach what they want and there is no scientific professional status to the work of leading and managing even the largest and most powerful organizations. One not only has to be interviewed and hired to be a nurse, accountant, lawyer, or kindergarten teacher, one has to graduate from an accredited school and pass a common license exam. To run a city, state, or nation, one just has to get elected.

It works that way with organizations, including businesses, governments, hospitals, and schools, for example. Different people have developed theories about how these institutions should be developed, led, and managed. And since we live in an economic world that works on a theory that competition is necessary, there is a lot of competition for theories about how organizations should be created, developed, led, and managed, too. And so we have a crowded marketplace with claims for right, wrong, better, and best ways to manage. It's a buyer beware marketplace, and there's a lot of cynicism among customers and potential customers.

Many, if not most, of the good, bad, and fearful things in society that we read or see or hear about aren't caused by the economy or some nation, institution, corporation, or natural disaster. They are caused by leaders and managers and people who do or do not act on what these leaders and managers tell them.

The fact is that many, if not most, of our economic, business, employment, pollution, government, health care, union, religious, and other social problems are caused by the people who are in positions of leadership and management. At the root-cause level, we have—and we tolerate—a management and leadership crisis in the nation and world today.

It is a kind of lie, a misleading truth, a partial truth that serves to steer us away from improvement, to say things like we have a healthcare crisis, economic crisis, energy crisis, environmental crisis, government crisis, educational crisis, or other “institutional” crisis. It is a misleading truth, because by accepting it, we let the leaders and managers who cause and maintain these problems label them as something occurring outside their involvement and beyond their control, and then we go looking for solutions where they won’t be found. And when things don’t get better, we settle for scapegoating as an easy diversion for our anxiety.

These ongoing crises keep happening because leaders and managers work to protect themselves, and the people don’t work to hold them accountable for the results of their actions. As Henry Ford once said, “It is well enough that people of the nation do not understand our banking and monetary system, for if they did, I believe there would be a revolution before tomorrow morning.” And more recently, David Korten: “As long as you have a system that is based on the rational that if you are making money you are thereby making a contribution to society, these financial rogue practices will continue.”
There are many articles, books, and courses about leadership and management and yet the world is crowded with the visible signs of debilitating leadership and destructive management.

One reason for poor leadership is that many are trying to lead and manage organizations with the wrong theories, systems, and tools. We are creators, not victims. We need to recognize the fact that the current economic, social, and political systems, and the thinking that keeps those systems the way they are, are causing the current socioeconomic problems. And the leaders and managers who maintain those systems the way they are cause them and prevent them from being solved.

The problem isn’t a handful of “bad” people that have to be caught and punished for the problems we face every day. That kind of “solution” has been tried over and over again and all we get, from such simplistic and destructive thinking, is overcrowded prisons and a worsening of the problem. Scapegoating simply directs people’s attention away from seeing that the real causes of the problems are in the systems controlled by leadership and management.

Trying to get better by improving aspects of what essentially is a defective or ineffective system design (because we can’t or won’t recognize it as being flawed to begin with), or rigid and closed-minded thinking (because we’re heavily invested in the thought-patterns that created and maintain the current system), makes the end-result worse, not better.

We can demonstrate this with a simple math example: -1 + -1 = -2. The logic is that if you’re in a system that is producing unwanted results (e.g., a negative), even if you think the system design is a good one, and then you do something to try to improve that system, using the same type of thinking that created the system in the first place (another negative), the whole system will then move even further into negative territory.

Then we might try to place blame on someone or something outside our sphere of influence because we’re thinking: “It can’t be me or my system that’s wrong.” Or we may say: “I don’t know why things aren’t working as hoped or planned.” We may even believe that the existing system, and the thought that led to its creation, are good. Or we may be afraid of the negative consequences of admitting that our system is defective, so we won’t even entertain any change and we persist in saying that something else is to blame —so we find a scapegoat and load the sins of the system on it (or them), and “send” it away. Of course that doesn’t fix anything and problems continue to arise. That may lead to scheduling an annual scapegoating, or other anxiety reducing, ceremony.

Albert Einstein said, “The problems that exist in the world today cannot be solved by the level of thinking that created them.” So let’s demand a different level of thinking about leading and managing, and let’s start at the beginning—with our thinking, and the behaviors and systems that emerge from that.
Leading and managing begins with you

The world needs your personal and collaborative leadership. Without it you and the others around you can’t lead a happy and productive life.

Living and working involves a continuous flow of relationships with yourself, others, and the world around you. We all live together in what is essentially a single and vast stream of life. The Earth’s oceans and rivers are the only source of water for our lives, the Earth’s atmosphere is the only source of air to breathe, and the Earth’s waters and soil are the only source for growing our food and natural medicines. So how can we let so-called “leaders” tell us it’s too expensive to keep these real and necessary-for-life resources healthy and unpolluted when the “money” it takes is only an artificial resource that they create and control with rules that “experts” make up in their heads and write down on paper? And this all happens in a world that is crowded and growing more crowded every day. Clearly, effective leadership and management would create a system to protect these real and essential planetary resources for life.

Life happens in an ever-moving, competitive and sometimes cooperative, conflicting and sometimes confusing, and often unpredictable cacophony of cultures. Change is happening every day, everywhere.

In today’s world there are many organizations, small and large. This is a recent development in history, as people have created more and more mechanisms for production, transportation, and communication. Development in the nineteenth- and twentieth-century Industrial Age brought more and more people together, to work together, in what has become a global collection of individual organizations seeking their own gain.

The first modern corporation in the world was created around the mid-1800s. Since that time corporations have grown in large numbers and size and complexity. As this growth took place the need for leadership and management processes grew, too. And now the need to lead and manage the interactions looms large. Adding to the confusion, many different theories and practices have been developed over the years to offer guidance in leading and managing organizations. Different theories and practices are still being taught and applied today. Competition exists in this domain, too.

We also need to keep in mind that all of the world’s organizations—for profit and not-for-profit corporations, government organizations, and non-governmental organizations (NGOs)—operate within other systems, natural and social. We all have to live by the “laws of nature” when it comes to natural systems, and we’re expected to play by the rules that the leaders and managers of social systems create and maintain, which is based on their thinking about the way their system “should” work in the real world. One social super-system is the all-encompassing economic and monetary one that has grown to be very large, and both enables and constrains people’s ability to improve the quality of life in the world. That system is what produces the competitive and highly consumptive society that we live in.

In the second half of the twentieth-century the practice of organization management and leadership began to undergo rapid and significant changes. Those changes continue today.
A lot of the changes involve a shift from the mostly authoritarian and tribal forms of leadership and management common in history, to a more participative and cooperative form that is needed for life to exist and improve today.

There are a number of factors contributing to both the need and the possibility of participative planning and management. One factor on the possibility side is the growth of public education, which has led to more people being capable of designing and improving work. A factor on the need side is the tremendous growth in the world’s population, coupled with a global economy that requires ever-increasing production and consumption of goods and services to create enough money for people to live on. We must now learn to create socioeconomic systems that enable us to optimize consumption and maintain the health and vitality of the entire planet we live and depend on for our health and well being.
On the other hand, people also need to learn to take control of their own lives. They needed to learn how to lead and manage themselves. To some extent this is recognized, too, and people are told to pay attention to their own career path.

But there is another aspect of this situation that is generally neither seen nor understood. It is the need to mature emotionally from dependency and entitlement to a combination of independency and interdependency. This shift involves outgrowing a legacy of learned dependency that so many people have been contained in over many generations, because it has rapidly become obsolete and dangerous.

People can no longer thrive by moving from one dependency relationship to another for their whole lives, going from home to school to job to retirement to grave, all the while having someone “above them” making the leadership and management decisions in a secure and stable environment. Corporate managers are no longer competent to play that role of providing a stable environment and lifetime employment. The marketplace has become too large, competitive, fast moving, complex, turbulent, and violent.

Leadership and management are people skills. Before people can manage anything well at work, they need to be able to manage their own personal lives well. So we need to start our leadership and management journey with the basics. Those include our thought processes, what we think about and how we think. Our thoughts are the seeds of our feelings, beliefs, attitudes, learning, knowledge, and growth.

To lead and manage well we must develop a capacity for process and systems thinking, as all life is a series of complex processes of responding and relating to people and to our environmental conditions. We’re all a part of this planet’s life systems. The Earth is our common wealth.

To mature, we must learn critical thinking. We must learn how to ask the right questions. We must learn to listen well. And we must learn how to answer questions well. And then we must have enough confidence to act on our own behalf, and in the interests of others, and learn from our mistakes.

Who am I? What is my dream? What do I want from life? What is my vision? What does life want from me? What is my mission? How do I achieve a good life? When am I happy?

Do you ask yourself these questions? Do you believe they can be answered in a way that makes you happy? Can those answers allow the other people in your life to be happy, too?

These are not necessarily easy or trivial questions. Life is complex and ever changing. Life is more than asking, “What am I going to do with my time?” There’s another question that is fundamental to your happiness. It’s the being issue. You ask yourself, What do I want to be?

Maybe you want to be happy, or productive, or creative, or innovative, or wealthy, or healthy, or responsible, or efficient. Maybe you want to be a team player, or a caring person, or a loving person. You may think that you—somehow—just want to be yourself—whatever that is! You might want to be all of these things, or maybe some of them. And they may change over time.

Then there are the wanting things that we think will make us happy. We have desires. At a generalized level, for example, you may want to have a good quality of life. But do you really know what that means? Do you know how to make the right
decisions about what to be and do, and how to have what you desire? Do you know how to put it all together and create the quality of life you desire? That's what leadership and management are about.

When I graduated from the State University of New York, I bought a class ring that was inscribed with the school motto: “Let each become all he is capable of being.” I liked that motto. Maybe I even thought my education prepared me to achieve it. Over the years I have achieved success in many areas. But have I become all that I am capable of being? What does it take to know that, to do that, to be that?

A recipient of the Nobel Peace Prize, the Dalai Lama, said, “I believe that the very purpose of our life is to seek happiness.” That notion is not, of course, a new one in the United States’ social and political scene. The Declaration of Independence states that seeking happiness is an important human right, and that a purpose of government is to help people in that pursuit. It states:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. — That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, — That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness.

Well, then, how does one actually go about seeking happiness? If happiness is something that can be sought, then it is logical that there must be a process or method by which it can be attained. And there is: Living is a complex process of leading and managing relationships. personal, family, corporate, community, government, and public.

Our own personal ability to seek happiness and a good quality of life requires us to possess at least a basic knowledge and skill in leading and managing. The leading part is about deciding what to be and what to do, and how to go about it. The managing part is about actually doing it; making it happen. We must do both. We must be capable of leading ourselves in life and managing our way. That includes both our personal, interior life, and our public, work and community life. Learning how to do that, learning how to lead and manage our own lives, are basic human needs.

Living our lives is a process of thoughts, beliefs, feelings, behaviors, and resulting outcomes—causes and effects—followed by more choices and more outcomes. The ability to handle that well requires that we be capable learners, and skillful in leading and managing ourselves. We need to know how to continuously learn, and how to continuously lead and manage our way in life. And since we live among other people, we must be capable of creating and managing relationships.

This work includes more than what we do, more than what our jobs or careers are. That is part of our external life, our public life. We must also include our inner selves in this learning, becoming ever mindful of our private and public lives, in order to be complete. We must pay attention to our thoughts, beliefs, feelings, actions, and the resulting outcomes produced.
When we experience those things that we like and those things that we do not like, it is important to understand the causes. When we look deeply enough to find the root causes we learn two important things: 1. We discover the causes of things that we don’t want, so we can stop doing those things. 2. We discover the causes of the things we do want, so we can focus on repeating those activities and produce more desired results. It short, leaders learn to look for and identify the root causes. That knowledge gives them the freedom to make real improvements.

As we do this more frequently we mature, becoming more mindful of who we are, and why we do the things we do. We come to see how we produce the results we get. We become more accountable to ourselves for ourselves. We recognize our responsibilities, not as shoulds and oughts, but as simple fact (i.e., that we are responsible for our own thoughts, feelings, attitudes, and behaviors). It’s not an issue of finger pointing or blame. It’s simply an acceptance of cause and effect, and an understanding of our own role in it. By accepting that responsibility we gain the authority to change. Only we can change our thoughts and behaviors.

As we continue to practice root-cause analysis with an open mind, we come to learn that we are also examining our own inner motivations, and that helps us grow, too.

If we learn to examine our inner motivations, if we do a root-cause analysis to see what forces are driving our thoughts, feelings, and behaviors, we will understand that there are basically two core motivations from which everything emerges—love and fear. That’s all there is, and we get to choose.

When we think about those things that are deeply satisfying, fulfilling, and enable us to be healthy and feel good about ourselves and others, we find that they are things of caring and of genuine nourishment of the heart, mind, body, and spirit—things of love. As we think carefully about things that keep us from loving and experiencing love, we find that fears have gotten in the way. We may believe those fears are reality based, such as “life has to be based on competing with and defeating other people” (oftentimes people you don’t know and can’t see), and that “failing to make the grade” in school or at work will result in harm or catastrophe.

The truth is that we all have our loves and fears. We can think of our inner selves as having two different fruit-bearing trees planted on our property, and each one produces a very different type and quality of fruit. When we see that, we can make intelligent choices to grow more of the fruit that we really want. The fruit that we really want is that which gives us a better quality of life. The choice of which tree, which roots to feed, nourish, and strengthen—love or fear—is ours. And if we choose “wrong” it usually isn’t fatal; we simply get an opportunity to make a different choice. Life is a continuous string of choices and outcomes. A key is living mindfully, being aware of what’s happening in and around us, and seeking to understand. Then we can make wise decisions.

But if we have not explored our inner world and learned to see that there are two different motivating forces, we simply feed both, thinking it is only one tree—called me—and both fear and love grow in us without an understanding of what is going on. When we learn to recognize the processes of cause and effect, and see how our own personal leadership and management skills influence our ability to control our lives, we see that love produces happiness and a better quality of life for ourselves and everyone else.

We also see the effects of making choices that are rooted in fear. It may be a fear
that there can’t be enough for everyone, or that people don’t care about us, or any
number of other fears.

So it all comes down to the quality of life that we want for ourselves and for oth-
ers in this world, and what we are willing to learn, to believe, to be, and to do to
achieve it.

We all are extraordinarily complex individual human beings with needs and desires,
loves and fears. It gets even more complex because we live on a planet with many
other human beings who are living with their own needs and desires, loves and fears.

A vital part of life—if we hope to be happy—is learning how to make good choices
and turn those choices into desirable reality. We do that by leading ourselves and
managing our way in life in collaboration with others.

We all begin life in total dependency, letting other people do the leading and
managing for us. We don’t get to make very many choices in the beginning. But we
do learn. We learn that we have our own will and that we want to make our own
choices. We also learn—sometimes to our frustration or anger—that the ability
to realize our choices involves considerable time and work, and that we encoun-
ter conflicts with other people who are living their own choices. Sometimes other
people want to impose their choices on us, and we have to choose how we will deal
with that, and face the consequences of those decisions.

As we go through school, our learning and growth continues. We find that our skills
in learning how to lead and manage our way in life, and the various institutions we
enjoy or tolerate or reject, are critical to our happiness. Part of the maturing pro-
cess is learning how to make wise choices as we grow.

Then we finish school and go out into the world as young adults. If we have learned
well during these years we will have developed an appreciation for process, sys-
tems, and the complexity of life, because all of what we have lived through has
been the result of a series of complex interdependent processes. If they were well
designed, implemented, managed, integrated, and improved along the way, we will
have developed well.

As an emerging adult, we begin to design, implement, manage, and improve our
own life processes. Our learning skills, leadership skills, and management skills
become even more important to our happiness and success as time goes on.
Essentially we are presented with the ability to create a quality of life. It is an art, as
architecture and music is an art. It is a science, as engineering is a science. Together,
quality of life is a matter of engineering our creations. I call this creationeering.

Leading and managing are related skills but they are different things. Leadership
is about what to do and why. Management is about how to do it. Leaders must
be good managers or their ideas will never be achieved well. Managers don’t have
to be leaders, and often aren’t in organizations today. This can and does create
conflict. Managers can become so narrowly focused on doing what they do better
and more effectively that they resist any significant change in what they’re doing.
Seeing the need for change is a leadership function.
Wisdom includes cultivating both leader and manager skills. When we master the ability to lead and manage ourselves in life, it then becomes much easier to lead and manage in larger settings: family, work, community, state, nation, and the world.

Laurence R. Smith has led and managed organizations, and has worked with a wide range of people on the process of organization improvement. His work includes being CEO of successful nonprofit organizations.

He is the Editor of the *Journal of Innovative Management*, published quarterly by GOAL/QPC, an internationally respected nonprofit organization that does research, development, publishing, and training in performance excellence and organizational improvement processes and tools. Before being Editor of the *Journal*, Smith did coaching and training in quality management for nonprofits and local government.

While CEO of the Merrimack Valley Chamber of Commerce in northeastern Massachusetts, he led it to be one of only 10% of chambers of commerce in the nation to be accredited. He also won the top award in The President’s Citation Program for Private Sector Initiatives, in a competition with over 1,000 corporations and associations in the nation. The award was presented by the President at a White House ceremony.

Smith is one of only fifty-six chamber of commerce or association executives to have been admitted to the Academy of Organization Management by the University of Notre Dame and the United States Chamber of Commerce.

He was chairman of the Merrimack Valley Private Industry Council (a quasi-public agency that funded training programs for the economically disadvantaged), president of the Massachusetts and the New England Association of Chambers of Commerce, a member of the Governor’s Working Group on Youth Violence, a member of the Massachusetts School-Business Partnership Committee, and Treasurer of the Lawrence (MA) YMCA. He is listed in Who’s Who in America and Who’s Who in Finance & Industry.

A certified teacher, Smith has an AAS in Electrical Technology from the City University of New York–Staten Island, a BS in Education from SUNY–Oswego, and a MBA in Executive Management from St. John’s University.

Larry has completed numerous professional development programs in quality, organization development, economic development, community development, and emotional/spiritual development. This includes training at the Harvard Mind/Body Medical Institute, GOAL/QPC, the Institute of HeartMath, and the NLP & Coaching Institute of California. He is a certified one-on-one coach for HeartMath tools for Inner Quality Management, and a certified coach with the NLP & Coaching Institute of California.

He has been involved in church activities for over thirty years as a licensed lay minister, vestryman, and church school chairman. He authored *Godfidence*, a book on spiritual growth, and an article, “Can Churches Help Society Recover a Sense of Community,” published in *Social Justice Review*.

Born in New York City, he currently resides in North Andover, Massachusetts, with his wife, Betty Ann (Larsen). They have been married for forty-one years, and have two adult children, Erik Lars, and Alesa Ann.
Delivering Return on Innovation

Authors
Steve Callahan, President, Radius
Greg Adams, VP Global Engineering & Technology, Nypro, Inc., Clinton, MA

Part I: Realizing Innovation

Steve Callahan, President, Radius—Historically speaking, when it comes to innovation and new product development, the design and manufacturing departments of companies haven’t tended to see eye-to-eye. The design community perceives manufacturing as hard workers, perhaps, but not way out in front in terms of embracing innovation. On its part, the manufacturing community views designers and innovators as, well, words like “space cadet” and “flower child” come to mind.

To alleviate the challenges caused by these different perceptions of innovation, Nypro, a fifty-year-old company that designs and manufactures integrated plastics products, spun off Radius as a separate company in 1992.

Nypro has always been ahead of the curve in terms of leading-edge technologies and international expansion. It established operations in Puerto Rico back in the early 1970s, and started up early in China as well. It now has sixty-five separate businesses in eighteen different companies, so the company truly has a global footprint. Radius has leveraged this global leadership and now has full-service design and development facilities in Chicago, Copenhagen, Hong Kong, Beijing, and outside Boston.

The impetus behind Radius was that companies would come to Nypro with some very nice, compelling designs—new and innovative. But when it came time to get those designs made into products, it couldn’t be done. They looked stunning, the design and marketing people loved them, and they seemed to create meaningful differentiation for the company with end-users. But when those products went to production, everyone discovered they couldn’t be made efficiently while also continuing to reflect the original product intent, or for the price that people thought they could be. So Radius was created to focus on the innovation, the up-front piece of the business, and its relationship with the back-end piece of the business. When I say up-front, I mean at the beginning of the idea process—in the world of research and design.

We all know that design can be compelling, and can almost save or revitalize a company, as it did Motorola, with those Razr phones. What a hot product! So I hope and believe there’s some appreciation in manufacturing for what these “flower children” can do.

My own background is in manufacturing. My first job out of college was for an injection-mold manufacturer, and I loved it. So now, working for Radius, I’m more or less balancing my first love, which is manufacturing, with what’s on the other side. I’ve gained an appreciation of design.

I would encourage everyone to get an appreciation for design. In fact, I propose that
where we’re going to go in the United States is where the best companies in the
world are going right now, which is toward innovative design. True innovative design
encompasses more than the up-front design piece. It also includes innovative engi-
eering and manufacturing that can help deliver that “big idea” to the market, com-
plete with all its intended competitive advantage. We can “Lean” ourselves out to a
certain point, beyond which I think it’s hard to go. Embracing innovative design and
new concepts is where our direction should be in the manufacturing community.
This is as much a mindset for us manufacturers as it is a process. In today’s world,
“it can’t be done” is of little value. As manufacturers, we need to embrace innovative
ideas by saying, “I don’t know how to do it, but I’ll find a way.” We need to be a part
of innovative design.

When we talk to a client about design, we observe a lot, and listen, and learn. And
when we refine a product, we do it with the manufacturing teams. We’ve all been
involved, as I mentioned earlier, with those products that look compelling, but can’t
be made, and that’s a lot of wasted time and energy.

Design for us at Radius begins with looking at the project from a customer perspec-
tive. Technique is important. We observe people engaging in their daily lives, in
their own environments. Unless you enter the lives of the users, you find out only
what they think you’re interested in knowing. Discovering the ideal user experience
through observation often leads to opportunities for new product solutions.

One such example is the electronic paper towel dispenser. If you go into an airport
restroom and wave your hand in front of one of these, a paper towel comes out au-
tomatically—you don’t touch the button. People didn’t ask for that product, exactly,
but there was clearly a need, because we all used to say, “Don’t touch that germ-in-
fested button!”

At Radius, we design complex products like the hands-free towel dispenser, but also
simpler ones. We’ve done a lot of work in the medical market, and also consumer
electronics.

Let’s look at the old days—fifteen years ago. What did our customers want then?
Three things: They wanted great service. They wanted quality—quality was job one
in those days. And everyone wanted a low price. They still want a low price—let’s not
kid ourselves. But from our perspective, it’s otherwise a brand new day.

So what do companies want today? Companies also want accountability, and some
things never change—they still want that low price. But it’s all about efficiency,
speed to market, a global presence, and differentiation in the marketplace. And,
besides all this, they want innovation. There’s nobody who says they don’t want in-
novation. These elements are all interrelated.

Efficiency: Our customers don’t want to use all their own people for design, de-
velopment, and engineering. To enhance efficiency, they are trying to use as few
people as possible. Who in business hasn’t heard someone say, “How can we reduce
the headcount in our group?” Key to this is utilizing people specialized in product
development.

Speed to Market: We’ve all seen that bell curve for the product life cycle—it’s gotten

The future is
innovative design, continued

Pursuing design
from the client’s viewpoint

What companies want
Case Study • Delivering Return on Innovation

really crunched. Getting to market faster is something everybody needs to do. But I have to say that you can’t speed up all aspects of product design. I hate to use the baby analogy, but it’s a bit like that. It takes nine months to grow a baby and a certain amount of time to design a new product—you really can’t speed that up. Sometimes with new products, companies do try to speed up the design process, but the way they go about it isn’t successful because after it’s done, it’s going to need to be redesigned.

Global Presence: Critical to achieving what companies want today is a global footprint. They don’t want to work with someone who only deals locally.

Differentiation: Companies want and need a way to offer something different and meaningful to their customers or end users. Otherwise, it’s all just about being Lean and that can only go so far.

Innovation: Innovation is key to achieving all the things that companies want today. It’s about innovation driving new and compelling ideas, as well as innovation supporting these new ideas throughout the entire product development process.

At Radius, our bylaw, and we live this every day, is innovation realized. Again, it’s all compelling ideas supported by innovation throughout the whole design process. It’s our mindset as well as our process. We want to have compelling new products, but you can’t realize them if you can’t get them to market. It all ends up of no value and you’ve wasted a lot of time.

I’m often asked if our manufacturing DNA and the way it informs our design process restrict the creativity of our up-front design innovation. I, and most of our clients, would say no. We have a team of people at Radius who do focus on unconstrained creativity. That means without manufacturing input when they first start out. Now, I was an opponent of that sort of thing for ten years. I used to believe you can’t get manufacturing involved too early. But I have to say I’ve gone over to the “dark side” now. I think that you need to get this group of creative people together and let them go. The question is, how soon do you reel them in? You need unconstrained creativity to stay focused on the inspirations, but by the end of the day you also need to get a solid foundation of manufacturing people involved so you don’t get too far along and down-select to great new innovation that can’t be made (or realized).

We’re thrilled and honored to do business with some great companies. When you work with Motorola, Proctor & Gamble, Johnson & Johnson, Gerber, Nokia, and Microsoft, you learn a lot about innovation and how to get products to market. You learn so much because you are dealing with the best in the business. And when you work with other companies, ones that aren’t the best in the business, you learn a lot too—it’s amazing how much. I think everyone has worked with people who have taught them, by example, what not to do.

Great companies are passionate about innovation. Are the people in your organization passionate about innovation and new products, or are they indifferent? Because if you want to be innovative, you’ve got to get the indifferent people out of
there. Nothing can be worse than, “I don’t care.” How passionate is your manufacturing organization about design innovation? Are you the one in the company that loves new ideas? Or are you the one who always says, “I don’t think we can do that.” You have to be passionate about innovation, because if you’re not, you’re not going to have success.

In addition to passion, here are three attributes that I think great companies have in common when it comes to innovation:

1. Design innovation leads from the top
2. Organic organizations
3. The end is in the beginning

Companies that successfully innovate all seem to have a champion for design innovation at the top of the organization. That indicates to me how passionate the company really is about innovation. If there’s one person who is low in a business group in terms of authority, but who’s responsible for all the new products, that says a lot. Good luck!

Consider Altoids. It’s an interesting product. The metal tin is five or six times more expensive than a cheap plastic one would be. They have a piece of paper in there that does nothing. It’s just a little piece of paper. I suggest that this may not be a Lean product. There’s a lot of waste here. But the fact is that somebody high up in that organization is saying, “I’m passionate about the customer experience.” And so they’re going to keep this packaging.

I propose you’ve got to have the right person up there, the right person at the top, driving innovation. And I hate to say it but it’s probably not somebody in a suit.

The whole concept of the organic organization is very important. I understand about Lean and process and methodology and efficiency. And the word organic doesn’t really find its way into that lexicon. By definition, it means occurring or developing gradually and naturally, without being forced or contrived. The word organization is defined as the coordinating of separate elements into a unit or structure. So organic organization sounds like an oxymoron.

But I believe that you’ve got to work on having an organic organization nonetheless if you are going to bring new, innovative products to the market. It is obviously not easy. People will say they have a tremendous baton-passing system that is very efficient, very clean. To me this suggests a real oxymoron: structured innovation. You can’t have it. People say they do, but I don’t believe it.

So creating an organic organization is not an easy thing to do. The manufacturing team must be integrated in an organic way with the design team. The best companies that we deal with have found a way to make this happen.

The third essential component I’ll describe is a concept I call, “The end is in the beginning.” What I mean is that you must in your product design process, and in your organic organization, get everyone buying in early, because you don’t want to be looking at late-stage changes, which are so much more expensive and time-con-

Great companies are passionate about innovation, continued

Three more things great companies have in common

You need a design champion at the top

Organic organizations

The end is in the beginning
Successful product development should integrate all disciplines at each stage. During the development cycle, we leverage all the disciplines, allowing us to address multiple elements of what is critical to product success throughout the entire process. By disciplines, I mean research (the user experience and discovery), industrial design (form factor, human factors, aesthetics, appeal or “wow”), engineering (conceptual, detailed, and refinements), manufacturing (technology, verification, testing, etc.), and business. To ensure effective results, it is critical to overlay a robust quality system. Our process can integrate nicely with our clients’ internal product development phases, stage gates, and controls.

We’ve had some problems along the way, old projects that we learned a lot from. One was a kind of pen cap that was actually a medical device. It had to slip on and off 100,000 times with an audible click, and without any wear. There was a tiny design detail that we knew about early on that we knew would cause trouble, but we planned to fix it later along the way. Lo and behold it became an absolute nightmare to fix at the very end of the process. We did it, but again: The end is in the beginning. That one little detail created hard work for a lot of people for an entire month. And it didn’t have to. If we’d had enough people look at it earlier, that never would have happened.

Another cautionary tale involves what seemed like a simple project—a little vial for blood samples. It had to seal up so you could send it anywhere in the world on an airplane. What was needed here was an O-ring, but we actually used an oval ring. Then we found out there’s a reason they call it an O-ring, and why that works pretty well. “O” sure doesn’t stand for oval-ring! Again, the end is in the beginning. You carry a problem along, and it just creates headaches for you.

In our organization we have what we call the Radiate program. At the beginning of the year, everybody at Radius gets twenty-four Radiate coupons. Each is worth $20. Throughout the year, if someone goes above and beyond—someone helps you, someone worked late, someone really put in that extra effort, you get to give them a Radiate coupon. Once a month we have a Radiate lunch and anyone who got a Radiate is recognized. At the end of the year, everyone cashes in their “good will” for a special bonus earned by being a great colleague. You many say it’s just $20, but talk about building teamwork. We’re looking for things that people are doing right, instead of looking for things that annoy us.

We’ve learned from past mistakes and now enjoy many product successes. Here’s one: Microsoft wanted a brand-new package for the Office Suite for the Mac, one that had a little more personality for the Mac user, but was still clearly a Microsoft
product. This had to be designed, developed, prototyped, made into samples, etc, in 122 days from the first telephone call we got from Microsoft. That's a pretty fast timeline. So we jumped right into it and did a lot of design and development, trying to find that balance between what feels like a Microsoft product but has the personality of a Mac product. And eventually, we did it. There are probably not a lot of firms that you're familiar with that could take something from a concept to global production in four months’ time.

I propose that it would be nearly impossible to do the research, the design, and the development required to build the package molds this quickly if we didn’t have our organic organization. In this case we were working with Nypro, our joint-venture partner, but more than 40% of our products actually go to other manufacturers.

To me, whether you call it an organic organization or teamwork, it's a collaborative mindset, working together, with design, R&D, and manufacturing. And I suppose that's the most important thing when it comes to innovation. And Henry Ford said it pretty well: Coming together is a beginning. Staying together is progress. And working together, well that's really a success.

Part II: Delivering Lean Solutions

Greg Adams, Vice President Global Engineering & Technology, Nypro—We’ve gone from a domestic molding enterprise to a global enterprise that spans a large slice of the value chain. If we were to compare Nypro's revenues ten years ago to our revenues today, we'd find that a decade ago 60% of our sales were US-based, and today US sales probably account for only 30% of the whole. So we’ve had to engage in a lot of different value streams, and that has put quite a bit of pressure on our ability to continue delivering a Lean product.

From a Lean credential point of view, our CEO Brian Jones was a driving force behind our HVS or high velocity system Lean manufacturing program. I was part of the team that developed HVS, having spent most of my Nypro years in operations. In the last couple of years I’ve gotten back to engineering, and am in fact currently working to bridge the unstructured innovation side of the Nypro house to the operations.

This year we’re celebrating our fiftieth anniversary. Our mission for fifty years was to be the best in the world at plastics injection molding, and that mission statement has evolved to reflect our expanded value chain and global nature. It has also expanded around complete solutions from designers who recognize the larger value stream that we’re trying to play in. Our mission statement is now: To be the best in the world at providing integrated and innovative plastic solutions, from design to delivery, creating value for our customers, employees, and communities. We've always had this "humble" objective of being the best in the world. That means using the best ideas wherever we can find them.

We are a custom house, which is an important part of our story. We count the world’s best OEMs among our customers. Our strategy is to figure out a way to do whatever our customers tell us to do, and do it anywhere in the world, and in a Lean
way. That is the driving force behind our Lean initiative, both on the manufacturing floor, and upstream in our development process.

Anything that can be made in plastic and designed in plastic would be addressable by us, but in general, we’re looking at precision, high-volume production. Generally less than 2 million of something a year struggles to get into our sweet spot. In healthcare we make a lot of insulin pens, asthma inhalers, diagnostic products, and the like. In the consumer space, we do product packaging, laptops, and cell phones, and in automotive, we make combination precision components, high-end decorative radio bezels, heater bezels, and so forth.

Our agenda is to be a full-service global partner, everywhere, which is a tremendous challenge from a Lean point of view. Lean is all about simplifying and creating a cumulative learning curve, analyzing repeatable processes, and gradually taking out degrees of non-value-add. This sort of thing is difficult to do in an environment in which you’re adding thousands of people to the payroll, and you’ve constantly got new locations, new customers, and different geographies. In the last two years, we’ve added facilities in the US, Latin America, South America, eastern Europe, China, and western Europe. In the US, we always seem to be in the papers for investing in China and eastern Europe and Mexico, but in fact our largest single investment in the last few years was in Massachusetts, where we added a new tech center and more manufacturing space.

Between 1991 and 2004, we generated a 581% increase in sales, and a 2100% increase in our stock price. Nypro has always been an employee-owned company. This is actually an important part of our Lean story. Since 1998, we have allocated $89,623,000 in Nypro stock through our employee stock ownership plan. Now everybody’s got a common interest:

- Getting paid just three days faster can increase the value of your shares by $7.84 per share.
- Reducing the number of days’ worth of inventory by only five days would increase the value of your shares by $6.50 per share.
- Increasing molding machine utilization by just 1% could increase the value of your shares by at least $10.00 per share.

Whether you’re in the office, on the shop floor, or wherever, this is a very important part of the story.

We have a variety of processes that we’re trying to launch in different places around the world where we’re working to deliver Lean solutions, and this is a real challenge. We have facilities in Finland, for example, which has a high labor-rate environment—much higher than in the US—and also in Tijuana, where the labor situation is far different.

In Monterey, we’ve got one of our best plants from a Lean metrics point of view. Yet not one of the Lean practices in use there was pioneered from scratch in Monterey. All these had to be developed somewhere else—the knowledge, the systems, and the processes had to get over a language barrier, a distance barrier, a not-invented-here barrier, and your general resistance-to-change-barrier.
At the end of our fiscal year 2004, our cash-to-cash cycle for our capital budget was about forty days. We had projected a goal of getting that to twenty days. Now, except for the financial guys, this is pretty dry stuff. It's hard to understand. Even though it's progress, and we all want to make progress, who is really going to get excited about forty vs. twenty days for a cash-to-cash cycle?

What we did was relate this directly to what makes us competitive: our goal of being able to do things everywhere. First, we put it into dollars so that everybody could understand it. For example, we had a forty-day cash cycle with $80 million sitting on the balance sheet. A twenty-day cash cycle frees up $40 million. That's a lot of money, and in fact, equal to almost our entire capital budget for that year. Want a new plant? A new machine? The money is in the boxes. Get yourself Lean, and you can become more competitive, on a strategic level. This is a very powerful tool for us.

About six or seven years ago, we studied Toyota, and decided to create the Nypro production system. Everywhere the system said “Toyota,” we inserted “Nypro.” That didn’t work out very well. So we changed things around so they would work in our environment, and moved to the high velocity system. HVS is in one sense fairly standard. I’ll even say uncharitably that it’s all about “tired” industrial engineering principles: Make your processes smarter, quicker, and more stable. This is easy to understand, but very hard to do. So we’ve tried to marry these concepts with an education program and over all tie in everything from the stock price to the corporate strategy to the capital budget, and cascade that through our organization.

So our objective is not just to be Lean. Because our competitors are all Lean too. You’ve got to put it in motion. You’ve got to get to velocity, that’s where we came from. You’ve got to be more than Lean; you must take the next step and meet or exceed your customers’ expectations. And decide where you really want to be. Agility is the breakaway point. That’s where you know that your Lean program is working. If you want to break away from the pack, you’ve got to know how to do it. It’s not enough just to talk about doing it.

Overall, I think the power of our program is that it goes forward with the customers in mind. It really emphasizes collaborative planning and forecasting, and there’s no such thing as Lean to us unless there’s a direct tie-in to our customers. If we do the job right, if we Lean our operation, and if we apply what we know, then we drive the productivity side of the equation.

We recognize an HVS company of the year with an award at our annual management meeting. We’ve had this award for several years, but in 2005 we named it after a Nypro legend, Pete Easley, who was really an unbelievable guy. We named the award after him to give people the idea that they’re carrying on with a legacy, and this went over very well. If you have an opportunity to tie in the history of your company with your current employees, I would suggest you do it.

The winner in this case was our Nypro Tianjin plant in China, which did $17 million in sales three years ago and this year is going to do $100 million in sales. They’re pretty busy. When you’re really busy, who works on the important stuff? Nobody. Who works on the urgent stuff? Everybody.

But what these guys said was come hell or high water, we’re going to work on the
important stuff. That’s the only way we’re going to make this a successful business. So they dedicated 16 people, which, out of a total of 2,500, is not a huge commitment from a percentage point of view, but all these people do is Lean activity. There’s a plan, and the process they use against that plan is every bit as rigorous as measuring daily production reports, which we spend a lot of time doing. There are internal audits that are performed around the elements of Lean—some form of this happens in all Nypro locations, so that we don’t fool ourselves into thinking we’re Lean when we really aren’t.

We also award the number one HVS project. There are different criteria, one of which is the scalability of the project. We have a plant in Louisville where labor productivity was sub-optimal. We chose a section of the molding floor and did a detailed time study there in one day. The team went in, worked all night, did three shifts, and discovered some non-value-add—about half the time spent, in fact. We followed one guy around—a good guy, who was just doing his job, and isolated what he did. How far did he walk in a day? A little more than six miles, and that’s to work on six injection molding machines in one line, down one aisle. He would go to one at the beginning of the line, and then one at the end, and then one in the middle—there was no linear progression. The next day we came out and redesigned that workflow. We didn’t hire an expert, we just did this in one day. That worker has now gained weight, though he’s not going through tennis shoes quite as fast as he used to!

The important thing is not only what happened in Louisville, but that there’s a solid platform here. I have to give credit where credit is due. Other companies helped design the HVS system, and helped a lot with the implementation. The important part is to take what we learned in Louisville and incorporate it one day someplace else, because nothing is more expensive than launching a suboptimal process.

The other dimension of our Lean enterprises is pushing Lean upstream into our launch process. At a high level, we’ve got two challenges. One is that we want efficient processes. You often hear it quoted that Toyota engineers are four times as productive as General Motors engineers. I’ve worked with a lot of great General Motors engineers, and it’s hard to believe that they are only 25% as productive. But you read that Toyota engineers are four times as productive because they work an eight-hour day on things that add value.

When I moved from an operations to an engineering role at Nypro, one of the first things I wanted to concentrate on was creating more efficient processes so we could be adding value eight hours, rather than two hours, a day. The other side of this, and I would say the bigger fish, is the idea of optimized results, as well as launching an optimized process. Figure 1 shows where you want to be: in the upper right-hand quadrant.
The first thing to think about is that if you're only focusing on design for Six Sigma or zero defects, you're only focusing on half the problem. By the same token, if you're only focused on an efficient process, on generating value eight hours a day, that's only half the problem as well. With any 2x2 matrix of this kind, you want to be in the upper-right corner, not anywhere below it.

We looked around and asked ourselves: How are we from an engineering point of view missing or even contributing to the muda problems in our operation? (Muda is a word for human activity that absorbs resources but creates no real value.) Here's what we found were major causes of muda:

- Launching sub-optimal processes
- Project re-looping
- Unscalable technology
- Fumbled hand-offs
- Inadequate risk management
- Code red response

I've already discussed launching sub-optimal processes, but it's a big source of trouble. Project re-looping is as well: It's easy to see on a chart, but hard to address. Fumbled handoffs are a problem, and also inadequate risk management. We don't seem to understand risk in enough depth, and we don't understand it soon enough.

Most important, we don't seem to have people connected in their views of risk. Like everybody, if we're honest about it, we have trouble understanding the nature of risk. If you never fall down on the ski slope, you're not pushing yourself hard enough. You don't fall down too often if you never get off the bunny hill!

As a custom house, we used to try to mirror our customers' processes, which, in a sixty-company, eighteen-country, billion-dollar organization, was absolutely unworkable, and did not generate a result that could be scaled in other Nypro locations. So then we focused on developing a commercialization machine that is really simple, and passes through the following four areas:

- Marketing and Sales
- Engineering
- Internal customers (operations)
- External customers

We also have a phased program management framework:

<table>
<thead>
<tr>
<th>Phase 0</th>
<th>Business Concept Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Program Planning</td>
</tr>
<tr>
<td>Phase 2</td>
<td>Specification</td>
</tr>
<tr>
<td>Phase 3</td>
<td>Product Manufacturability</td>
</tr>
<tr>
<td>Phase 4</td>
<td>Validation and Qualification</td>
</tr>
<tr>
<td>Phase 5</td>
<td>Operations Excellence</td>
</tr>
<tr>
<td>Phase 6</td>
<td>Ramp Down and End of Life</td>
</tr>
<tr>
<td>Phase 7</td>
<td>Product Service Life</td>
</tr>
</tbody>
</table>

It used to be that if a customer said they needed 1,000 parts starting October 1, and we made 1,000 parts by October 1, we would consider that a success. This led to a focus on delivering hardware, rather than the actual desired technical and commercial result. Engineering and operations could look at the same project, with one
seeing success and the other failure. But now we look at the rest of the process as well. Maybe we had a manual workaround for what was supposed to be an automated process. Perhaps we had to use X-Acto knives some of the time because the part didn’t fall out of the molds exactly as it was supposed to. So we changed “time to market” to “time to margin.” Now there’s a shared objective between the program manager and the operations manager.

Tollgates say on the fifteenth of every month we’re going to have a project review and it’s going to be with these certain people, and if one of them isn’t there we’ll reschedule it for another week. I think that’s a problem. You’ve got to slow down to get through those tollgates. We have a rolling “tollgate” structure that actually doesn’t involve fixed tollgates. When the team decides something is ready, it passes through the gate. That pass-through is not set by the calendar and we never, ever wait for some fixed corporate committee to be available. It’s not so much a tollgate as it is a GPS system. You’re driving down the highway and your navigation system is constantly checking whether or not you’re on track.

Responsibility is a really important concept at Nypro: Our company doesn’t call you up in the field and tell you that a bunch of us really smart guys sitting back here at corporate headquarters have thought up something else for you to do. That doesn’t work very well. What does work is to say here are the basic requirements. These are the few “thou shalt.” We’ll provide the toolbox and reference to all of our experience, and then you figure out how to do it. What we tell every program manager at Nypro is, here’s your responsibility. Use any template you want. There are a dozen examples on our internal program management website. If you’ve got a better way, upload it. Here’s a library. Use it if you want. Don’t use it if you don’t want. You are responsible at all times for maintaining these six elements of a program:

- Program scope
- Role & responsibility
- Risk assessment
- Issue management
- Program timing
- Program budget

How do you know you’re maintaining? If everything is up to date to the satisfaction of the program manager, the general manager, and the account manager, you’re ready to go on to the next step. If it’s not, you stop, and you elevate. There’s a plural elevation. Nobody gets their noses out of joint. That’s the beauty of our program. There are these few thou shalts. Thou shalt maintain the mandatory elements in a manner acceptable to the team. Thou shalt be true to “three in a box” (account manager, program manager and general manager). And thou shalt report project status on a monthly basis!

Those are our thou shalts and they are what work in our environment. I don’t know if they work everywhere, but for us these concepts have taken hold.

A big part of the product development cycle is building the tools—that’s a very hard thing to do. And we’ve basically been prompted by customers to where we are able to help them push their product development cycle significantly. Customers want
the time collapsed, but they actually want flexibility increased as well, and the costs have to be perfect. So what do we do? We developed something called Maxis—rapid, flexible, precision injection molds.

A typical process has loops in it and extends out over a number of months. We might go through a sequence of industrial mechanical tool designs, all of which have little iterative loops in them. The opportunity here is to get rid of the iteration.

An injection mold, for example, is a highly technical machine built through a complicated process. We looked at one and figured out what was value added and what was not. We pinpointed what was generic and what was not—and this is heresy with custom jobs in the toolmaking business. It’s heresy to say something is generic; that it is a commodity. You cause a lot of heartburn when you say things like that to a toolmaker.

But we modularized each part that we could, so that we could go from program to program not only taking all those engineering variables out at the beginning, but creating a reusable system. Here was our basic strategy:

Separate the precision custom mold into two categories:
- Those that are specific to the part geometry
- Those that are generic and do not directly affect part geometry

Then modularize standard components and drive optimization through the supply chain.

So what does this mean? We can standardize something that is typically treated as a custom product. Basically the philosophy here was to make as much of the mold part of the injection molding machine as possible.

What we’ve done is build all of the Lean into the tool and process. This is an example of a Lean product development process that generates a Lean result.

In my staff I’ve had a nightmare recently, with over 200 years in engineering experience retiring over eighteen months. We’re not going to go hire 100 people with two years’ experience each. We’ve got to have a mechanism to convert that individual experience into information that’s usable all over the world. What we’ve done is capture that in a design and lessons learned guide so we can use what we’ve learned one place in another. A good example is in Monterey, where we applied Lean lessons that were actually piloted and developed elsewhere.

To keep our cumulative learning guide up to date, we created our Technology Bookshelf. Everybody can see our state of the art and what we’re working on, all in one place with no scrambling around the night before the customer presentation. It’s all there, everything we’re working on, our technology roadmap, clearly defined. Vendors can contribute as well. This Technology Bookshelf is really a key part of what we do.

All our projects are expected to start with our cumulative learning curve as it exists today and contribute back to that cumulative learning curve. It’s a good process, though it’s not fully mature yet.
Case Study • Delivering Return on Innovation

About the authors

Steve Callahan is president of Radius Product Development. Prior to founding Radius, he was a global business unit manager for Nypro, Inc. He holds a BS degree from the University of Maine in Business Management.

Greg Adams is Vice President of Global Engineering & Technology at Nypro. Prior to joining Nypro in 1998, he held executive positions with global plastics and engineering firms based in the US and Europe. Previous to his current role at Nypro, he oversaw North American operations. Greg holds a BA from Michigan State University and an MBA from the University of Michigan.

About this article

This article was developed from a live presentation at the twenty-first annual conference of the Association for Manufacturing Excellence (AME), November 3, 2005, Boston, Massachusetts.
HR Executives Confer on Strategy, Possibility, and Healthcare Costs

Successful leaders say they pay attention to the people side of their organization. That can be a tough job at times. Have you ever wondered what’s going on in the HR world? What do HR managers talk about when they talk among themselves?

A good place to start looking for answers is the Society for Human Resource Management (SHRM). SHRM was started in 1948. Its membership has more than doubled in the past eight years. It has over 200,000 members from 120 countries including Canada, China, the United Kingdom, Australia, Bermuda, Japan, Singapore, Trinidad, the Bahamas, and Germany. The staff numbers more than 200.

SHRM encourages HR people to have a company-wide mission—to serve the whole organization. As a professional organization, SHRM’s stated purpose is to “advance the human resource profession to ensure that HR is an essential and effective partner in developing and executing organizational strategy.”

SHRM’s annual Strategic HR Conference was held in New York City last October. The theme was: “Aligning with the business to drive results.” The agenda focused on (a) strategic thought processes, (b) expanding views about what’s possible, and (c) providing key insights and ideas that HR can use to impact the success of the whole organization. Two keynote speakers, Benjamin Zander, conductor of the Boston Philharmonic Orchestra, and Harvard Business School professor Michael Porter, addressed the topics of understanding possibilities, and healthcare costs, respectively.

How can we know what’s possible?

The importance of capitalizing on “possibilities” in organizations is really about human innovation, and innovation is a hot topic in business today. The Council on Competitiveness, for example, says that innovation is an essential need that organizations must focus on if they expect to remain competitive in a global economy. The Council’s current slogan is: Innovate or Abdicate.

So in a world where so many leaders and people seem to be ever so certain about what can’t be done, how can we know what is possible? In Zander’s book, The Art of Possibility (coauthored by Rosamund Zander), he shows people how to live in possibility, a message that should be of great interest to any leader. After all, if the leaders, managers, and other people at the organization aren’t living in possibility, what are they living in?

Zander used story, music, demonstration, coaching, audience participation, and conducting to deliver his message to the audience, helping them to discover possibility in themselves and in the people around them.
You are possibilities and possibilities reside in every employee and every organization

“You were not brought here to learn more,” Zander told the 500 HR people gathered in the midtown Manhattan hotel. “You were brought here to remind yourself that you are possibilities and that possibilities reside in every employee and every organization.”

Corporate culture flows in cycles of positive and negative spirals that we create

Zander emphasized the importance of attitude, and the behavior that flows from that attitude, because this is what creates corporate culture and the direction of what he calls the motion of the organizational spiral—up or down, positive or negative. “The spiral lives in the words we speak,” Zander said, emphasizing the need for managers to avoid judging employees—and themselves—too harshly based on what they have or have not done. “It’s more important,” he said, “to ponder what they might do. This is about a power that’s available to every single human being every single day. This is about possibility!”

We need to learn how to learn from mistakes

Zander suggested that when a mistake is made, instead of damning or blaming, why not throw up your arms and say: “How fascinating!” The idea is not to make fun of or be cavalier about mistakes. It is about recognizing that mistakes, viewed with the right attitude, can be an integral part of learning. The ability to think “how fascinating,” comes from discovering that when you keep an open and caring heart and mind (thereby not shutting down the creative mind through anger or fear), you are able to create something you didn’t have before. You discover that your naturally creative mind is now receptive to new and innovative possibilities.

Possibilities evolve from our attitudes and the environments we create

In The Art of Possibility, Zander suggests that possibility, like a piece of music, has a long story line: “The long line portrays a world where the conflict between the individual and the collective that is intrinsic to our everyday reality resolves. In this vision, an individual’s unique expression plays an integral and constructive part in setting a direction for the group—in fact, for all of humankind. The long line is the possibility of seeing deeply into what is best for all of us, seeing the next step.”

Learning by being present

At the beginning of his talk, to immediately demonstrate the art of possibility, Zander invited someone in the audience with a birthday close by to come up front. He then asked everyone to sing Happy Birthday. The performance didn’t sound like the group was ready to move to Carnegie Hall.

Zander quickly critiqued that performance as a bit weak and tepid. Practice and some attitude adjustment were needed. He began to comment, coach, and conduct several more iterations of Happy Birthday until—finally—everyone had seen and heard and felt the variety of possibilities for improvement that had been steadily emerging from within themselves and each other.

It’s all invented

Zander states that there are many ways to manage and lead. Human resource professionals, he added, are the ideal people to look for and challenge their organization’s underlying assumptions about people, and to look for new ways to inspire their workforce. “There is no problem that cannot be solved if you’re willing to create a new framework for it,” he said.
Zander offered his secret for living in the world, which is to realize that: “It’s all invented!” “It’s all invented” is also the first chapter of his book, *The Art of Possibility*, in which he explains:

When you bring to mind it’s all invented, you remember that it’s all a story you tell—not just some of it, but all of it. And remember, that every story you tell is founded on a network of hidden assumptions. If you learn to notice and distinguish these stories, you will be able to break through the barriers of any “box” that contains unwanted conditions and create other conditions for yourself and those around you. We do not mean that you can just make up anything and have it magically appear. We mean that you can shift the framework to one whose underlying assumptions allow for the conditions you desire. Let your thoughts and actions spring from the new framework and see what happens.

**Grading people is invented**

One example Zander presented involves grades in school. An “A”, he suggested, is just an invention of the teachers or other people who are managing the system. An “F” is invented, too. “So we might as well invent something that lights up our life,” he said. Zander illustrated with a story about his own teaching. He tells his students at the beginning of the course that they’re all getting an A, so now they don’t have to worry about grades. He tells them to pay attention to their music, and he invites them think about this A, which they already have received, as a possibility that they will live into, not as something they’re supposed to live up to.

**Live into radiating possibilities, not downward spirals**

Zander noted that many people—himself included—spend too much of their adult lives being taught and believing that what they are doing is not good enough and can never be good enough. “Everywhere you look there are downward spirals,” he said. “Wealth, faith, power, and other goals capture our attention and won’t let go, while the true vision we would hope for gets lost. We all have a choice about living into radiating possibilities vs. downward spirals.”

He said leaders can distinguish the downward spiral and leaders have an ability to lead people toward radiating possibilities. If someone doesn’t do what you want them to do, for example, apologize to them for not empowering them or communicating to them about the way to accomplish their task. “To be a leader you have to open up the possibilities in people they don’t even know about,” Zander said. “It’s not easy. It has to be practiced and practiced and practiced.”

**Why not intend to be a leader who makes peoples’ eyes shine?**

He urged conference attendees to let go of their negative inner voices and to open themselves to the possibilities in themselves and others—even to giving up “the game of success and failure. Have you noticed how goals tend to be very grim?” he asked. “Vision, however, can rise above and inspire. The important thing is to make people’s eyes shine,” Zander said. “He noted that he once made his own eyes shine, and those of others, by changing his game from a competition for success to a different game he calls, “Am I a contribution?” That new game, serendipitously, led to success and a winning situation for all.

**Healthcare cost and delivery problem made worse by business**

It seems to be generally accepted that the systems for delivering health care in the U.S. do not produce acceptable quality for anyone. Far too many preventable and sometimes fatal injuries are being caused by doctors, nurses, and others “in the system” every day. At the same time, costs are higher than they should be and getting higher.
SHRM’s keynote speaker on this topic, Professor Michael Porter, suggested that employers could help improve matters but that the common approach that business is generally taking is serving to make things worse instead of helping to solve them.

Business is rightfully concerned with cost, he pointed out, but is reacting with simplistic cost-shifting tactics that make everyone unhappy and do not serve to solve problems, when it should instead be using its leverage to insist on value-improvement strategies that would work on both cost and quality, and better serve the needs of business, employees, families, and the nation. Employers have made the problem worse, he said, by setting up the wrong expectations for how we buy health care. As a result, we are wasting about half of the money we’re spending on it.

Consumer-directed health care alone will not work either, Porter continued. “There’s no way consumers are ever going to manage their own health care” without a substantial improvement in the volume and type of information available to them—information not even available in sufficient detail to employers in most cases. “I’m very worried that ‘consumer-directed health care’ is a code term for cost-shifting,” he said.

Porter urged business to focus their efforts on value creation. Where is value created in health care? Value is created where a condition is actually addressed—where someone treats and manages the condition successfully, he said. A system based on value would cost less, Porter said.

**Problems of wrong competition**

Porter described the U.S. healthcare system as a puzzle and a paradox. One example is competition. Many experts thought competition would improve the system, and now there’s a lot of competition, but of the wrong kind, he stated. It’s simple zero-sum competition, where one party’s gain is another party’s loss. An insurance company might force a medical provider to cut costs; an employer might require employees to pay more. That’s just shifting costs to the less powerful.

A fundamental problem with healthcare competition is that the competition has been at the level of hospitals and health plans, he said, rather than focused around the particular medical conditions of patients. Competition is also focused on specific interventions or procedures, rather than overall patient needs.

Competition is also too local: “It ought to be focused across a region, even across the entire country,” Porter said. “Every hospital thinks that it should be a full-service institution. That makes no sense, there’s every reason for them not to be full service.” Porter noted that a benefits manager of a mining operation in Montana told him that his workers get better and cheaper results at a hospital in Denver than at local hospitals, even with transportation costs factored in. “There has to be unrestricted competition based on results,” commented Porter. “The best providers are often the most efficient. … We need to reward excellent providers with more patients.”

**Pay attention to the full cycle of care**

The key to healthcare transformation, Porter said, is addressing medical conditions over the full cycle of care. “There is no competition where we really need it; there is no competition between health providers,” he said. We have tried to top-down
micromanage provider behavior, but nobody’s worrying about the cost of the total cycle of care.

Competition should center on medical conditions over the full cycle of care, he said. It doesn’t matter how talented or cost-efficient a surgeon is if the anesthesiologist is whoever happens to be on duty at the time and might not be particularly adept at that particular procedure.

**Reasons for optimism**

Despite all the problems with the healthcare system, Porter said he is optimistic. Some hospitals already are moving toward systems with better incentives for positive patient outcomes at reasonable costs.

One way to put the focus on value for patients is to lengthen “time horizons,” such as by negotiating multiple-year contracts with stable premiums from insurance companies. “If you want value, you have to invest,” he said. Disease management programs and employee education programs also help.

**Reduce fragmentation in the system**

Reducing the fragmentation of health care also is a fundamental need. Nearly 140 U.S. hospitals perform heart transplants, and this makes no sense, Porter said. A few have one-year survival rates that are close to zero, he noted. There’s no accountability, no measurement regarding providers that employers and patients can use.

Quality and cost will often improve simultaneously, Porter said. Bad diagnoses and errors in treatment are costly. Providers who specialize in a procedure such as a heart transplant and who perform them almost full-time are usually more efficient and effective than those who do such procedures occasionally—and, these experts are usually less expensive than other providers.

“We have a system that is massively fragmented,” he added. “There are massive differences around providers. Your employees every day are going to providers who don’t know what they’re doing. We haven’t done anything about that because we’ve been busy bargaining down prices.”

**Providers of health care must report results data**

“We have got to collect the right information,” Porter stated. “We’ll never get better until every provider of health care has to report results.”

That’s very possible, he added. Already, metrics developed for heart surgery and cystic fibrosis treatment are driving “dramatic improvements in value.”

As a result, malpractice risk will go down rather than up, he said. The reason that we have malpractice suits is that patients don’t know the facts about the severity of their condition and the attempted medical interventions. Some day, particularly high-quality institutions such as the Cleveland Clinic will have branch locations all over the country doing what they do best—in the Cleveland Clinic’s case, heart surgery.

**Value-based competition**

Transforming the U.S. health care system into one based on competition to provide the best value to patients can be accomplished in steps, according to Porter. First, the health care business must be redefined around medical conditions and organized around medically integrated practice areas.
Results should be measured by practice areas as well, he said. Services should be marketed based on excellence, uniqueness, and results. The best providers will grow locally and beyond, based on their strengths. Last, patients should get a single bill at the end of a hospital stay.

**Transforming the healthcare plan model**

The American health care plan, said Porter, must transform from the model of “No, we don’t do that” to “How can we improve the value of care?”

“We need health plans; they need to play fundamentally different roles,” he said. Employers can be part of the solution by working to improve value, not just to minimize costs. At the same time, employers should support employees in making good healthcare choices and in managing their health care, such as by providing incentives for healthy lifestyle decisions.

In addition, said Porter, employers “need to find ways to get more people into the healthcare system,” such as part-time employees. The desire to cherry-pick the healthiest plan participants is understandable, he noted, but whenever a worker is denied health insurance coverage, the cost of their care is borne by everyone eventually. “Ultimately, I think we need mandatory insurance, with some subsidies,” he said.

**Employers have an impact on the system**

Porter concluded by observing that “employers can have a tremendous impact on improving the system.” He said he is already seeing some of these innovations being tested and finding success. “It can be done,” he said. “But we’ve got to see the problem properly.”
The video-based series is a complete learning package that shows the techniques of facilitation in action. It helps viewers hone their observation skills, and learn how and when to use facilitation techniques—At a price of less than $60 per student.
The Business of Health Care
A Journal of Innovative Management Collection

GOAL/QPC

The health care articles in this book, first published in the Journal of Innovative Management over the past several years, showcase some valuable examples. They are assembled in this single volume for easy access and includes:

Improving Patient Care in Hospitals
Paul N. Uhlig, M.D., Medical Director, Cardiac Surgery Services, Concord Hospital, Concord, New Hampshire, and Associate Professor of Surgery, Dartmouth Medical School, Hanover, New Hampshire

Six Sigma in Health Care: A Road Less Traveled
Joseph Calvaruso, President & CEO, Mt. Carmel Health Systems, Columbus, Ohio

Process Design and Management: The Path to Organizational Transformation
Sr. Mary Jean Ryan, FSM, President and CEO, SSM Health Care, St. Louis

Living and Breathing a Customer-Centered Culture
Christine Kelly, Director of Laboratory, Health System Minnesota, and Elizabeth Lentz, Regional Laboratory Manager, Park Nicollet Clinic, Health System Minnesota, Minneapolis, Minnesota

Putting the Patient at the Core of a Healthcare Organization
Tom Tibbitts, President, and Sue Thompson, VP, Patient Support Services, Trinity Health Systems, Ft. Dodge, Iowa

From Incremental to Breakthrough Performance
Ellen J. Gaucher, Senior Associate Director and COO, University of Michigan Hospitals, Ann Arbor, Michigan

Hoshin Planning in Health Care
Geoffrey Crabtree, VP, Strategic Planning & Market Services, Methodist Healthcare System, San Antonio, Texas; Donna Hotopp, Director of Healthcare Services, GOAL/QPC, Salem, New Hampshire; Owen McNally, Director of Total Quality Management, Our Lady of Lourdes Medical Center, Camden, New Jersey

Managing by Teams at Rush Home Care Network
Kathryn E. Christiansen, D.N.Sc., Executive Director, Rush Home Care Network, Rush-Presbyterian-St. Luke’s Medical Center, Chicago, Illinois

From a Culture of Safety to a Culture of Excellence
Martin D. Merry, M.D., C.M., Senior Medical Advisor, New Hampshire Hospital Association and Associate Professor of Health Management, University of New Hampshire, Exeter, New Hampshire; Jeffrey P. Brown, M.Ed., Principal, System Safety Group, Peterborough, New Hampshire

Process Management and Systems Thinking for Patient Safety
Joanne E. Turnbull, Ph.D., Executive Director, National Patient Safety Foundation, Chicago, Illinois

Untangling the Web: Bringing Information Therapy to the New Healthcare Consumer
Molly Mettler, Sr. VP, Healthwise, Inc., Boise, Idaho

Chaos Theory and Creativity: The Biological Basis of Innovation
Ary Goldberger, M.D., Associate Professor of Medicine, Harvard Medical School and Director of the Electrocardiography and Arrhythmia Monitoring Laboratory, Beth Israel Deaconess Medical Center, Boston, Massachusetts

The Future of Medicine
Andrew Weil, M.D., Director, Integrative Medicine Program and Clinical Professor of Medicine, University of Arizona Medical Center, Tucson, Arizona

Counteracting the Harmful Effects of Stress through Self-Care to Enhance Wellness and Profitability
Herbert Benson, M.D., President, Mind/Body Medical Institute, and Associate Professor of Medicine, Harvard Medical School, Boston, Massachusetts

Code 8602P, Quantity discounts are available.

800 . 643 . 4316 or 603 . 893 . 1944  www.goalqpc.com
The Journal of Innovative Management

A proven resource for managers who are responsible for leading or implementing improvement initiatives.

Learn practical techniques for integrating innovative solutions at all levels of your organization.

Build an outstanding organization by capitalizing on the cross-discipline insight and experience of distinguished Journal of Innovative Management authors from business, health care, government, higher education, and consulting.

The Journal addresses issues of importance to all leaders:

- Strategic thinking
- Customer focus
- Employee development
- Process management
- Innovation & creativity
- Problem solving
- Knowledge strategy & management

Formatted for faster comprehension and ease of use, the Journal will give you quick insight into the latest methods of organizational improvement. Each quarterly issue provides managers with leading-edge perspectives, case studies, and applied research. It is full of practical ideas for building real change, creating lasting improvements, and constructing a culture of performance excellence.

GOAL/QPC has supported organizations with proven, practical management tools and techniques since 1979. As a non-profit organization, we seek to create a learning community through research, membership, our Annual Conference, and the Memory Jogger™ series of products.


To order, please use the attached Business Reply Card or contact our customer service representatives at 800.643.4316 or 603.893.1944 • e-mail: service@goalqpc.com • web: www.goalqpc.com
Delphi's Lean Enterprise Progressing Along the Journey

Introduction

The first three years of Lean Enterprise