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## Enterprise Excellence: Six Sigma and Lean Production

By Harry Jackson, Normand Frigon, Roy Weber and Lawrence Barkau

The challenges facing business and industry are unparalleled in history: Uncertainty associated with the war on terrorism, failing confidence in business leaders, a dynamic global marketplace, e-commerce, the internet and shrinking budgets. Government agencies are facing the same challenges, evidenced in shrinking budgets, broadening commitments, legacy systems maintained long after their planned life, financial and schedule pressure to meet milestone commitments, and the ever present urgency to satisfy constituents.

These challenges have led to “management by best seller” — grasping for the silver bullet that will solve immediate problems and enable the enterprise to meet its monthly or quarterly numbers. They are searching for a quick resolution to problems and situations that have been years in the making, and are supported by well-entrenched cultures and bureaucracies.

The search for this silver bullet plays into the Law of Unintended Consequences. The five limiting factors of the Law of Unintended Consequences — lack of knowledge, error, imperious immediacy of interest, basic values, and self-defeating predictions — are central to the proliferation of management by best seller. Pursuing a single program of improvement strategies ignores the interactions of the many factors, systems and processes of an organization. It focuses on quick fixes to save the day, ignoring or at least trivializing negative consequences. It also leads to manipulation of results to match the required goals. This approach will always, therefore, appear to solve the immediate need, but in the long term will create an opportunity to look for another best seller.

The thinking that is required to eliminate this never-ending search for solutions is to implement a holistic approach to managing the organization, a strategy for achieving and maintaining the competitive edge.

### Enterprise Excellence Model

Enterprise Excellence optimizes the critical success factors of quality, cost, schedule and risk. It uses a holistic approach for managing and improving operations of the organization and focuses the leadership, management and technology on critical systems and processes of the enterprise. This is accomplished through a focused, collaborative implementation of a Quality Management System, Voice of the Customer System, Six Sigma and Lean Enterprise.

The successful implementation of Enterprise Excellence will result in an organization with a culture built on fact-based decision making. The infrastructure and processes of Enterprise Excellence will create an agile organization capable of quickly addressing problems, changing markets, changing technology, etc. These traits will lead to maximized profits, reduced cycle time, reduced risk, maximized customer satisfaction and increased value.

As indicated in the Enterprise Excellence Model (see Figure 1 on page 8), achieving Enterprise Excellence begins with establishing a Quality Management System and a Voice of the Customer System. These first two elements of the model ensure the organization is focused on the requirements and expectations of the customer, and it has the infrastructure in place

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*From the Chairman*

## Fellow Quality Management Division (QMD) Members

*By John Bauer*

### Quality Management Division Update

In the last issue of the QMD *Forum*, I briefed you on the activities of the QMD Planning Committee. When the Planning Committee completed their work, they turned over recommendations for the future of the Division to an Implementation Committee. The Implementation Committee is now working on the specific plans and tactics needed to bring more value to our members. I'll report those plans to you when available.

Much of the work of both committees follows the ASQ Living Strategy, including:

#### **ASQ Vision**

*By making quality a global priority, an organizational imperative, and a personal ethic, the American Society for Quality becomes the community for everyone who seeks quality technology, concepts, or tools to improve themselves and their world.*

#### **ASQ's Role and Long-Term Objectives**

- *To be stewards of the quality profession by providing member (customer) value*
- *To be stewards of the quality movement by providing increased society value from ASQ activities*

I encourage you to go to the ASQ members-only website and click on "About ASQ" to read the full story of its Strategic Development. Your input to the Society and to your Division is always welcome.

### The Ultimate Quality Management System: Part 1

The July 2003 issue of Quality Progress listed a number of quality management systems that could be used and adapted for different organizations. Reading the issue started me thinking again on what constitutes the "Ultimate Quality Management System." I think the closest we can come is the Baldrige Criteria for Performance Excellence.

I've worked more with ISO 9000 than Baldrige over the last 15 years, but my clients who embrace the Baldrige philosophy are much more successful than those selecting any other system. The most important reason for the success of Baldrige is that it deals with the broad concept of the organization as a whole and not just the "quality function." World-class organizations don't have "quality functions" in the traditional "QA or QC Department" sense. They incorporate quality and process improvement into everything they do. I've had the pleasure of participating in a number of Baldrige-

based site visits at the national, state and local award levels. Whether the organization scores a 300 or a 700 against the 1000-point ultimate goal, there is always an underlying feeling within the organization of accomplishment and a sense of satisfaction in participating in organizational improvement.

I'll talk more in the next issue of the *Forum* about my experiences with Baldrige.

### MEET A FELLOW QMD MEMBER: TOM TAORMINA

Tom has been a leader in the quality and business management fields for over 34 years. For 14 years, he was a member of the Project Apollo team at the Johnson Space Center, including 10 years as a Quality Control Engineer with Ford Aerospace. In that capacity, he performed capability audits in over 100 companies and developed a unique understanding of quality and business processes. For nine years he worked for a number of oil field service companies as quality manager and manufacturing manager where he turned the lessons learned as an auditor into practice as a business leader. His last industry assignment was as Director of Training for Schlumberger Anadrill.

In 1991, Tom founded Productivity Resources, LLC, and is now the Managing Partner. He is a consultant in leadership development, business processes and strategic quality improvement. He has been a facilitator for companies such as Dell Computer, Ford Motor Credit and Burlington Northern Railroad. He has developed seminars on ISO 9000 for Productivity, Inc. and for the American Productivity and Quality Center. He has also developed and delivered seminars on Self Directed Work Teams and Conflict Resolution. Tom has facilitated successful ISO 9000 implementations in a wide variety of business environments. He is the author of seven books on ISO 9000, leadership development and process control. His writings on ISO 9000 have been published on five continents and translated into Spanish, Portuguese and Korean.

Among his professional certifications and affiliations: Certified Quality Manager from the ASQ, Certified Management Consultant from the Institute of Management Consultants, Certified Professional Consultant to Management from the National Bureau of Management Consultants, and Past Chair of the Quality Management Systems Committee for the Quality Management Division of ASQ.

# Reasons for the Failure of Quality and Customer Satisfaction Initiatives

By Robert Desatnick

*This article is based upon your author's personal experiences as a quality professional consultant.*

One often-neglected aspect of superior quality service is that CEOs tend to ignore internal customer satisfaction. On the other hand, enlightened CEOs pay as much attention to internal customer satisfaction as they do to external customer satisfaction. This enables their organizations to significantly out-perform the competition in financial success and in becoming the employer of choice.

Briefly, from the lessons I've learned, if an organization is to achieve superior quality in all that it undertakes, the CEO must serve as an example, taking the lead role in employee and customer satisfaction. This mandates a strong personal commitment of time and resources on a continuous basis. It cannot and must not be delegated to lower levels of the organization.

In those initiatives that fail to achieve their full potential, I have discovered nine common denominators that contributed to that failure.

## 1. Inadequate top management involvement, participation, commitment and support.

- Senior management, on the surface, commits itself to total customer satisfaction, to excellence in all that they do. They even, on occasion, fund the total quality effort.

Having given lip service to Total Quality Management (TQM), they proceed with business as usual. The responsibility for TQM is delegated to the marketing, operations or human resources director, and that's the end of that.

- A steering committee with members of the senior management team is not established.
- Management fails to participate in training as facilitators and team leaders.

## 2. Absence of a strategic quality planning process.

Senior management tends to be overly preoccupied with the following:

- Quarterly earning reports
- Downsizing or right sizing
- Cost reductions
- Sales and profits in the short-term

If quality is not specifically planned for, both short-term and long-term, it simply will not happen.

Many of the organizations I've personally assessed as a Malcolm Baldrige Examiner that had both a 1-3 year and 3-5 year strategic quality plan also had the highest levels of customer satisfaction.

An important part of these strategic quality plans is the top management monthly review, wherein each department and functional head formally reports his/her quality progress to the management steering committee, which consists of the CEO and his or her direct reports.

## 3. Insufficient attention to internal customer satisfaction.

There is a failure to recognize that customer relations mirror employee relations. Thus, no attempt is made to:

- Measure internal customer satisfaction
- Reduce cycle times
- Improve internal working relationships

Management fails to recognize that everyone in the organization has at least two roles:

- Each is a customer of someone else, i.e., they receive products, services, subassemblies or information from others.

- Each is someone else's customer service, i.e., they provide products, services, subassemblies or information to others.

## 4. Insufficient training of team leaders, facilitators and team participants.

This is, in my opinion, the second most important cause of failed TQM efforts.

In our experiences with the banking, automotive and health care industries, we noted the following:

- Normally, the human resource person or operations manager reads a book or a few articles on training. They proceed to do the following:
  - Form a small committee of equally unknowledgeable people
  - Develop a quick approach to get quality improvement teams started
  - Seek volunteers; and because this is the first time someone has asked employees' opinions, get many volunteers
  - The result is team meetings that are unproductive because team members do not know what to do or how to approach their assignments

The upshot is that no progress is made, team members lose their initial enthusiasm, a few stop attending meetings and teams gradually dissolve.

## 5. Improper or non-existent alignment of objectives.

People protect their turf. Consequently, sales people make commitments to customers that operations cannot possibly fulfill; order entry notes mistakes or incomplete information on sales orders. Credit is bypassed

(REASONS FOR FAILURE, continued from page 3)

and shipping works overtime along with operations to provide customer satisfaction.

#### **6. Information is not shared among different departments and functions.**

Knowledge is power. To some, sharing information is sharing power and it weakens their position.

Each department and each function develops its own database of information and the only common denominator is usually the monthly financial report.

One of the largest deficiencies of organizations is that customer satisfaction data is not aggregated, evaluated nor used to monitor customer satisfaction trends.

#### **7. Too many initiatives and too many goals.**

All too often TQM efforts are undertaken in the midst of the following:

- Management changes
- Mergers, acquisitions or joint ventures
- Downsizing or right sizing
- Organization development efforts
- New performance management systems
- Refinancing efforts
- Reorganization
- New computer systems

The circuits become overloaded and TQM efforts become fragmented; people are pulled in too many different directions.

#### **8. TQM not viewed as a way of life — as a process for continuous improvement.**

In focus groups conducted in a number of industries, middle managers, supervisors and employees felt that TQM was just another program to reduce costs and people. The comment heard often: If we wait long enough, it will go away.

Additionally, management failed to communicate the real purposes of TQM, which should be:

- To improve customer satisfaction
- To increase market share
- To provide job security, pay increases and promotions
- To give employees more latitude and decision making as it affects their jobs

This is not to say that a TQM effort should be launched with bells, whistles, banners and badges, but rather a focused, low profile effort aimed at early success, which means a positive impact on customer satisfaction and all that this implies.

#### **9. No early success stories.**

Far too often it becomes a race to see how many cross-functional quality improvement teams can be launched.

One result is that the teams choose very complex projects such as total system changes and enhancements, which can and do take one to three years for successful completion.

My own criteria for early efforts dictate that projects should be brought to a successful conclusion within three to six months of the starting date. This implies that facilitators, team leaders and team members have been trained in:

- Criteria for project selection
- Problem solving skills
- Cost/benefit analysis
- Behavioral/interpersonal skills

#### **Lessons Learned**

Customer satisfaction is the degree of happiness your customers experience with your products and services, resulting from the positive interaction of all employees within the organization.

Recognize that every employee is a customer of someone else within the organization who provides services, information, products or components. Similarly, each employee has customer(s) for their products or services.

If an organization is to achieve superior quality in all that it undertakes, the CEO must serve as an example, taking the lead role in employee and customer satisfaction.

This mandates a personal commitment of time and resources on a continuous basis. Anything less will result in failure as noted in the nine reasons for underachievement.

*Robert L. Desatnick is the president of Creative Human Resource Consultants, helping organizations to exceed customers' expectations in a quality-driven world. He has earned a M.B.A. with distinction from Washington University, has authored 10 books and 18 articles on the topics of human resource utilization and development, customer satisfaction and retention, total quality management. In addition to serving as a faculty member of several universities, he is also a quality examiner for the national, Michigan and Illinois Malcolm Baldrige Awards, and as a Certified Lead Quality Systems Auditor for ISO 9000 Quality Standards. He can be reached at [bob@chrconsult.com](mailto:bob@chrconsult.com) or on the Web at [www.chrconsult.com](http://www.chrconsult.com).*

# 16th Annual Quality Management Conference

## “New Frontiers of Quality”

March 2004, Dallas, Texas

### Keynote Speakers

- Harry S. Hertz, Director of Baldrige National Quality Program
- Gregory H. Watson, Past President & Chair, ASQ
- Flip Flippen, The Flippen Group
- Patrice L. Spath, Brown-Spath & Associates

### Many Learning Opportunities

Learn from leading practitioners in a variety of forums.

- Preconference tutorials with half-day, full-day, two- and three-day formats March 1 - 3.
- Two-day conference with keynote speakers and conference sessions March 4 - 5.
- For the first time, post-conference tutorials March 6.

In keeping with the conference theme, there will be many topics and issues that progressive quality professionals want to hear more about:

- Advanced Manufacturing (Lean)
- Supply Chain Management
- Knowledge Management
- Strategic Quality Planning
- Six Sigma
- ISO/QS/AS 9000/14000
- Organizational Learning and Development
- International Quality
- Quality Management in Health Care
- Quality Management in Government

Formats will vary from straight presentations to discussions, and from case studies to workshops.

### Certification Examinations

Certified Quality Manager, Certified Quality Auditor, Certified Quality Engineer, and Certified Quality Improvement Associate examinations will be held on Saturday, March 6.

### Exhibitor Opportunities

This event draws leaders and decision-makers from all over North America and other locations. Reserve your space as an exhibitor or become a sponsor by contacting Sam Maloof, Conference Exhibits Chair at 407-356-5100 or by email at [samuel.l.maloof@lmco.com](mailto:samuel.l.maloof@lmco.com). At National ASQ, contact Phil Edmunds at 1-800-248-1946 or email [pedmunds@asq.org](mailto:pedmunds@asq.org). We will rush you Exhibitor Information and be happy to answer any questions you may have including information about sponsorships and other opportunities.

### One-Stop Information Location: [www.asq-qmd.org](http://www.asq-qmd.org)

At the Quality Management Division website you can:

- View the course and session descriptions
- Apply for certification examinations
- Register for the conference and courses
- Obtain exhibitor information
- Download conference specials
- Obtain hotel, travel and Dallas-area information

# Creativity Plus Knowledge Equals Innovation

By Douglas Smith

Many people have said disparaging things about U.S. manufacturing — misdirected, inappropriate metrics, poor approach to recognition and reinforcement — all in a hierarchical organization. Looking at the new millennium is that where you want to be?

But, change takes time. There are as many answers to questions as there are people who are willing to try to overcome the roadblocks life puts in their way.

We want to learn how to stretch our minds — to generate many new ideas. But, if you are perceived on a consistent basis as only an “idea machine” — someone not capable of using those ideas — you may become unemployed. Idea generation is like going to one of those all-you-can-eat smorgasbords — if you over-indulge, there will be a bad reaction.

You must:

- Keep generating ideas.
- Be able to organize and prioritize them.
- Know when to bring them up.

In any business there is nothing more difficult than trying to get *all* employees to change. Instead, get them to imagine “What if ...?” That’s imagination applied to business processes.

Some people are linear and others more intuitive. Tell representatives of both types that you want them to come to a party. The linear one wants detailed instructions. The intuitive person just wants the address. If you fail to recognize that people think and learn differently then you will be less than successful in whatever your work.

While idea generation is not work, but fun, intuitive people are generally better at it than linear types. We need to provide some stimuli for our linear thinkers and that includes someone to help them see other ways of looking at things. What we are asking is for people to look at things differently. Change their perception.

Look at gift bags — those bags that replace boxes and wrapping paper. Who at

## Creativity:

The generation of ideas

## Knowledge:

Information with meaning,  
intellectual capital

## Innovation:

Analyzing, synthesizing  
and converting ideas into  
meaningful changes in  
products/services or the  
creation of new ones.

the wrapping paper company would encourage that idea? Did that person experience FUDs — Michael Michalko’s word for Fears, Uncertainties and Doubts? Have you ever delivered a presentation to management trying to convince them to do something? Didn’t you experience FUDs both before and after? FUDs control our thinking. Overcoming them is difficult and requires re-examining old ideas from a new perspective.

If in the above-mentioned presentation you were not successful in getting what you wanted, how did you feel? Now what can you recall from the meeting that may put a more positive spin on what took place? Your choices are to give up or try again, but from a different perspective. What did you learn from the talk? What can you do better next time? Can you schedule a re-presentation? Ask individuals for constructive guidance? Prepare for contingencies?

If we try the second approach, we will be responding to Prescott Lecky and his two points that:

1. Each of us is capable of doing one’s share — we only need to know where we fit in.

2. Each of us possesses equal talent and we should let no one belittle us or cause ourselves to suffer indignities.

Remember your successes, focus on the positive experiences, what you can *still* do. If you acknowledge yourself, your abilities and your unique qualities, this will encourage you to get moving. Success breeds success. We all act, feel and perform as we *imagine* things to be true about our environment and us. State you are creative. Restate it in multiple ways — *always* positive. This is not a magic pill, but try it each time you are down. If you are *persistent* and *positive*, you will become re-energized. You must *believe* you are *creative* in order to be so.

If I said “tropical island vacation,” then said, “Quickly give me seven things that you could do.” You would have ideas. Would you be afraid to say them? No. So what is your excuse at work? The guy who invented lollipops got the name from a racehorse. That is why we don’t call it “candy on a stick.”

You *must* record your ideas. Sometimes they are fleeting. Try keeping a notepad by your bed just in case a good idea comes by. In general we can keep only about four to nine pieces of information in our mind at one time. After about 12 seconds, short-term recall fades and after 20 seconds the idea is lost. Log all these ideas. When you review them, others will surface.

Make a journal of things you would find personally interesting and worthwhile to solve. For example:

1. How can I cut costs and increase productivity?
2. How can I increase sales by 20 percent?
3. How can I become indispensable to my company?

In the same way, the mere act of writing a challenge may cause your mind to create something meaningful to fill the gap and solve the problem. Do not stop thinking and challenging yourself! It took the inventor of the automatic bread slicer 16 years to convince anyone it was worthwhile. In 1933,

after only three years of use, 80 percent of all bread was sliced. He didn't give up. It is going beyond the boundaries of the mind that make you an active thinker.

We have two halves to our brain and each offers a different perspective. Some people are more Left Brain they think in terms of words and symbols. Right Brain people think in terms of images. Writers, scientists and mathematicians use the left-brain. The right side is used by artists, craftspeople and musicians. Whichever side seems to be dominant there are techniques to improve your skill.

Many people solve problems best when they are not trying. Their ideas come during commuting, bathing and while in bed. Follow this approach:

1. **Identify** a personal challenge worth pursuing and think of the consequences of solving it. If you can envision the positive results of your work you are likely to achieve them.
2. **Prepare:** Talk, research, gather data. Consciously work on the challenge intensely until you are thoroughly prepared.
3. **Instruct** your brain to find the solution. Close your instruction by saying "OK, find the solution to this problem. I will be back in two days."
4. **Incubate.** Let go of the problem. You decide how long to wait before re-addressing. It may take five minutes, five hours or five weeks, but insight will occur.

You are now the master of your own fate. Follow these three simple steps. **Explore the Challenge, Generate Ideas, and Prepare for Action!**

**From Creativity and Knowledge to Innovation**

Now we turn to developing an innovation strategy for your operating organization based upon encouraging the foregoing activities within your workforce. Innovation is NOT

just invention. It is a combination of invention, creativity and continual improvements.

Your task as a leader is to facilitate innovation. We thought we were moving away from the 20th century technological and manufacturing base and outright downsizing. These are not necessarily risk taking times. Are you or your leaders ready to look for better ways to manage the organization? Modern Management Methods are not focused on information or technology. They are focused on knowledge, the innovation process and collaboration. Where is your focus?

An organization must create new products and services while they are successful — not while they are in decline. To begin to move in this direction takes dynamic and intelligent leadership. They will have to balance the competing demands of short-term profitability and long-term growth. You will be out of business if you wait to develop new customers, products or services until your business is in

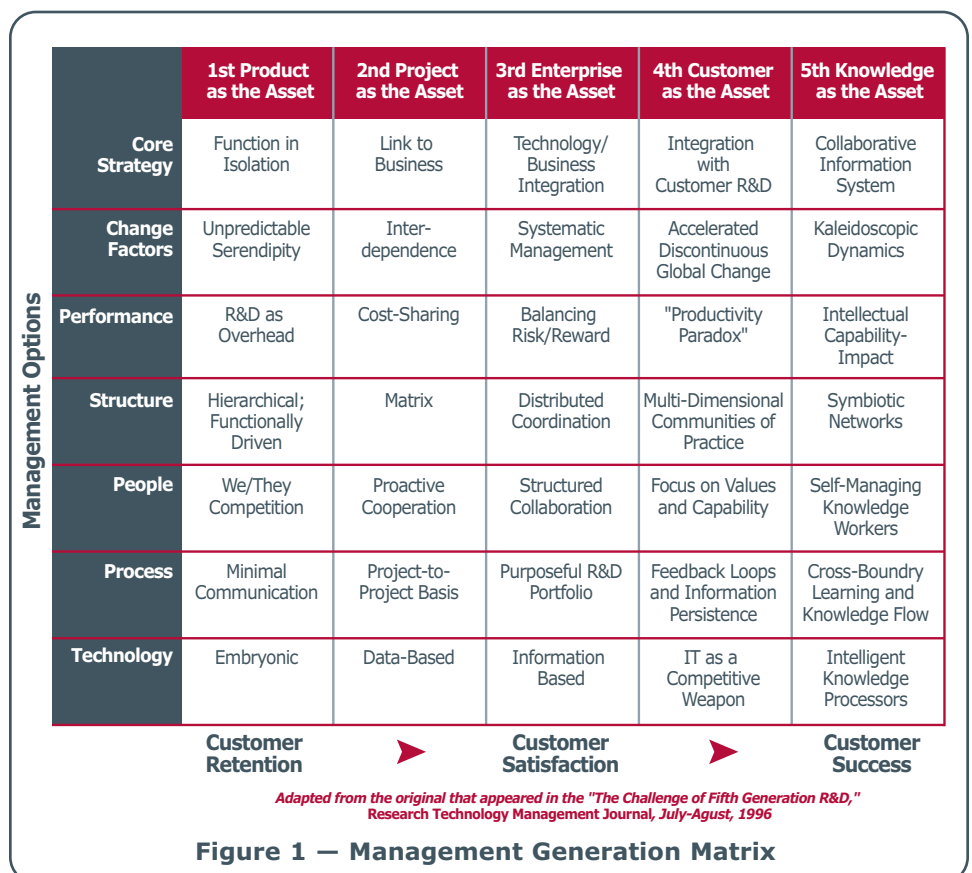
a downturn. You must create a work environment that nurtures and directs innovation and that requires managers to maximize the power of the combined workforce of the business — it's intellectual capital.

Charles Savage in his book *5th Generation Management* outlines a new set of principles needed to be successful:

- Peer-to-Peer Networking
- Integrative Processes
- Work as a Dialogue
- Human Time and Timing
- Virtual Task Focusing Teams

He says there are "invisible networks" of knowledge that have come to be known as "communities of practice" — specific groups of workers trained in-depth. It is

(CREATIVITY, continued on page 14)



(ENTERPRISE EXCELLENCE, continued from page 1)

for managing the enterprise to achieve a competitive edge. The Quality Management System establishes the infrastructure, processes and procedures necessary for leading and managing the organization. The Voice of the Customer System establishes the infrastructure, processes and procedures for developing the products, services and processes necessary for cost effectively satisfying customer requirements and expectations.

Next, the enterprise needs to ensure the effectiveness of its operations through the implementation of Six Sigma, and then implement Lean Enterprise to ensure the efficiency of its operations.

During the life of the enterprise there will arise challenges to the organization. These will be resolved through the four basic elements of the Enterprise Model — Quality Management System, Voice of the Customer System, Six Sigma and Lean Enterprise — which apply to the points of concern.

**Quality Management System:**

A quality management system represents the basic management approach of the enterprise. This basic approach will reflect the culture of the organization and how the enterprise will be managed. All quality management systems have several baseline requirements in common: a requirement for processes and procedures and how to control them, a planning process, and an organizational structure with management roles and responsibilities. It describes how the organization will communicate and provides a method for making decisions. One final, and the most critical, element of a Quality Management system is a commitment to Continuous Measurable Improvement (CMI). There are many standardized Quality Management Systems such as ISO-9000-2000, QS-9000, ISO-14000, etc. All of these provide a good structured approach for establishing and maintaining a Quality Management System.

**Voice of the Customer:** The Voice of the Customer is a commitment to knowing and understanding the full scope of customer requirements and needs. To accomplish this, a process is used to acquire customer

requirements, understand them in a structured way and translate those requirements into products and services. It consists of a focused process for identifying customer requirements and expectations, establishing robust products, services and processes, and using the Integrated Product and Process Development (IPPD) to develop the products, services and the processes for producing them.

**Six Sigma:** Six Sigma is a disciplined, structured approach for process and product optimization that is focused on the bottom line of the organization. Six Sigma provides an infrastructure, a well-defined tool set and process, intended to be used in new product/process development and for improvement projects. In the development of products, services and processes, Six Sigma provides the methodology and tools for achieving the required robustness and *effectiveness* of processes. Once in production, Six Sigma provides a focused approach and well-defined tool set for achieving continuous measurable improvement. If used appropriately, Six Sigma will result in directly improving the bottom line of an organization by improving quality and

meeting operating schedules while reducing costs and risks. Six Sigma provides a specific tool set and instructions for applying the tools, whereas ISO does not. Although a quality policy promoting a high-level process standard is implicit in Six Sigma, the Six Sigma methodology of Define, Measure, Analyze, Improve and Control (DMAIC) is more concerned with producing improvements from the specific application of its tools.

**Lean Enterprise (Lean):** The Lean Enterprise concept represents the manner in which organizations must be managed in a highly competitive environment. This concept embodies a collective set of principles, tools and application methodologies that enable organizations to remove waste from the system and achieve dramatic competitive advantages in development, cost, quality and delivery performance. It is a methodology intended to increase the *efficiency* of an organization's operation by eliminating or minimizing the non-value-added tasks. Lean provides a systems engineering approach to the efficiency of the enterprise. It is concerned with eliminating waste, streamlining operations and coordinating activities that

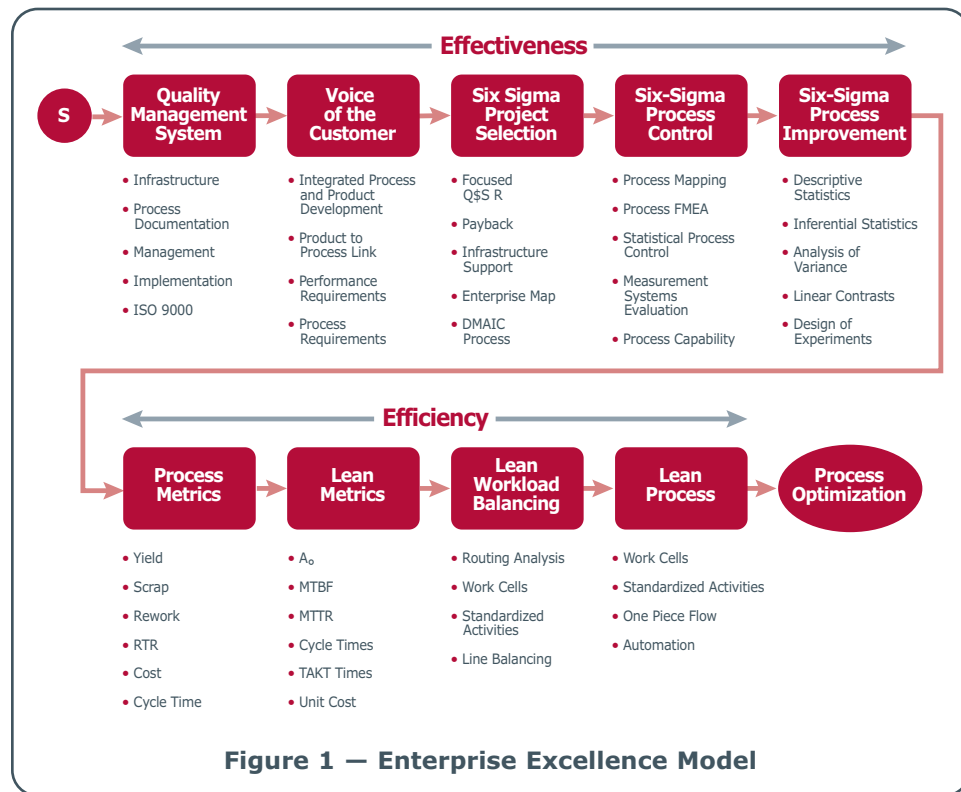


Figure 1 — Enterprise Excellence Model

will indirectly affect the bottom line of an organization or company. Applied in IPPD, Lean will ensure the optimal efficiency in the production of products and services, and will assist in early detection and correction of problems. Lean contains five primary elements: manufacturing flow, organization, process control, metrics and logistics. In Lean, the interconnectivity and dependency among the five elements is critical. Lean calls this a “holistic” approach to management. This is similar to the ISO systems management approach. Like Six Sigma, there is an implicit quality/productivity policy in Lean that promotes the implementation of “Lean principles.” Lean also uses some of the tools and techniques that are part of Six Sigma.

### Enterprise Excellence Implementation

Enterprise Excellence is based upon the integrated implementation of these four management and improvement strategies. All of the four improvement strategies have five important doctrines in common: management commitment, a customer-centered approach, fact-based decision making, continuous improvement and a process.

When implemented collaboratively within the integrated Enterprise Excellence framework, the strategies are compatible and synergistic. For instance, if the enterprise decides to implement ISO 9000-2000, it is required to develop a quality management system that is customer-centered and process-driven based on objective measurement and analysis, promoting continuous improvement. There is no better way to achieve this than to implement a comprehensive Six Sigma program. The structure and basic quality tenets gained through ISO 9000-2000 are an excellent foundation for the next logical step toward Enterprise Excellence, the comprehensive, integrated application of Six Sigma and Lean Enterprise. In the area of fact-based decision making, the data obtained from a Six Sigma project could also be used in making a Lean decision. And conversely the data obtained in a Lean project could be used to identify opportunities for Six Sigma improvement projects.

This synergy is further enhanced by the differences among the strategies. The differences among the four do not put the strategies in conflict, but make them complementary. First, let’s review their different approaches. QMS is a management standard intended to be used as a broad guideline. Voice of the Customer is a structured approach for translating requirements and needs into products and services. Six Sigma is a large set of tools directed by a specific process — DMAIC — intended to increase process *effectiveness*. Lean is a methodology that is intended to be used to increase *efficiency*. Six Sigma supports ISO by providing an infrastructure and methodology with specific tools to accomplish project tasks to meet the requirements. Lean supports ISO and Six Sigma objectives by providing a comprehensive approach to increasing systems *efficiency*.

Another way of looking at this synergy is to say that ISO provides the answer to “why and what should be done to improve” the operations of the enterprise. This supports the Voice of the Customer which provides the answer to “what, where and when” the organization should produce. Six Sigma provides the answer to “how” to achieve and maintain the required product and process robustness, and Lean provides the answer to “what is the waste in our system/ environment and how do we eliminate it?” To give a more tangible example, in the Scope section of ISO 9000-2000, it states “This International Standard specifies requirements for a quality management system where an organization aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system.” But nowhere in the ISO Standard does it address when, where or how to accomplish this. This is where Voice of the Customer can be used to find the answer to when/ where to improve by determining the key characteristics. The Six Sigma tool, Failure Mode and Effects Analysis (FMEA), could then be used to prioritize the key characteristics by criticality to determine which should be addressed first. Other Six Sigma tools could then be used to define, measure, analyze, improve and control the process(es)

involved. And, finally, Lean techniques could be applied to assess and improve upon systemic/environmental factors affecting the key characteristic process(es).

The strategies do not conflict, nor are they meant to be in competition with each other — they are compatible and complementary. They not only provide positive contributions in their own right, but are also enhanced and supportive when used together. For this reason, the use of multiple strategies, in a holistic manner, needs to be seriously considered when an organization realizes the need for improvement. However, it is important to remember that whenever more than one of these improvement strategies is adopted, their common characteristics and complementary aspects should be taken into account.

To achieve this balance between *effectiveness* (Six Sigma) and *efficiency* (Lean) it is important not to segregate or departmentalize any of these strategies from the others when implementing and deploying them. This would ensure little or no improvement at best, and waste activities that use up precious resources at worst. Therefore, the integrated implementation of these strategies ensures the cultural and organizational changes essential for the success of the enterprise. Existing business processes must be made to be effective and then efficient. This is the roadmap to process optimization and a direct route to improving the bottom line of any organization. The roadmap is demonstrated in the Enterprise Functional Model (see Figure 2 on page 10).

The enterprise model demonstrates the collaborative nature of the overall enterprise functions and how the management and improvement strategies are implemented within the enterprise. Depending upon the current and long-term needs of the enterprise, these strategies can be implemented at any time during the business cycle. In this way, the enterprise is much like the human body and the initial assessment of the enterprise needs can be accomplished much like the assessment in an emergency room.

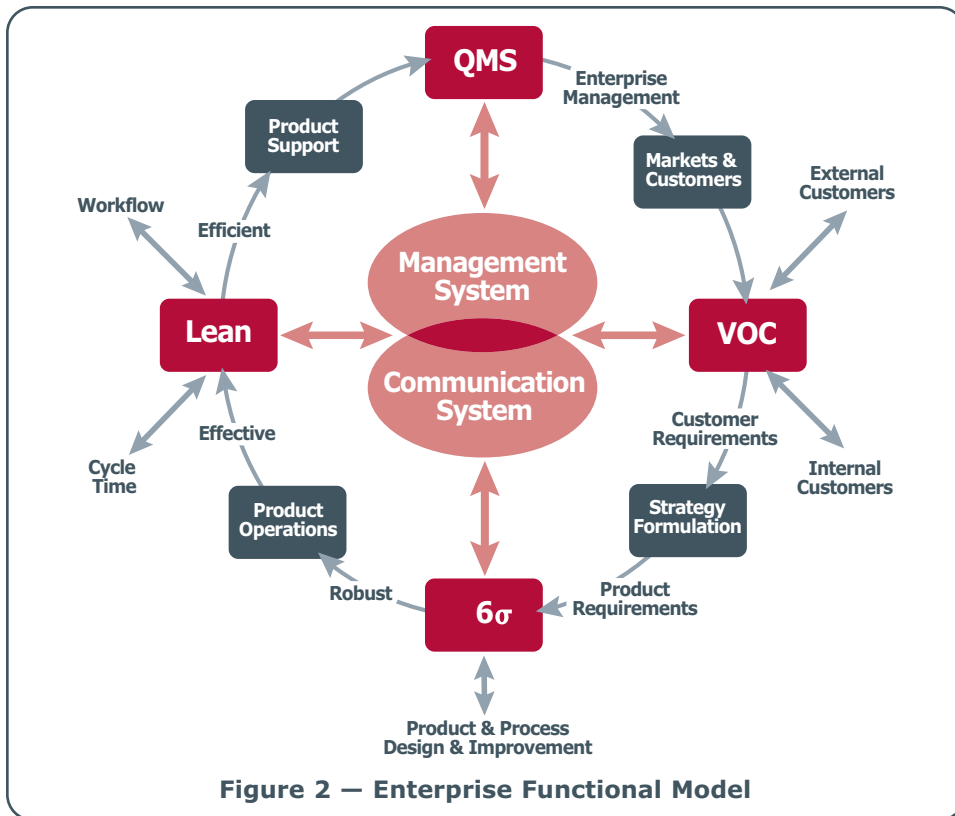


Figure 2 – Enterprise Functional Model

(ENTERPRISE EXCELLENCE, continued from page 9)

**The ABC of Enterprise Excellence**

An enterprise can be viewed as a living organism with all of the requirements and susceptibilities of a human being. When an organization experiences an illness (breakdown in its operations) the amount of time before help is administered, and the extent to which the problem is allowed to expand, largely determines if the organization can survive as an enterprise. When managing our organizations we can learn from the medical community and how medical emergencies are handled.

During a medical emergency, specific actions and their order of implementation have been established by the medical community to optimize the probability of survival of the patient. These actions are part of the assessment of a patient referred to as ABC — Airway, Bleeding and Circulation — and constitute the assessment and actions necessary for treating the patient.

The steps for implementing the ABC of emergency care are implemented in parallel when possible. As the patient is checked for breathing, monitors are hooked up and IVs

are started. If the patient is conscious he/she is questioned about the injuries and/or symptoms. The ABCs are the core of the six steps of the ER process for the survival of the patient:

1. **Assess the situation:** Identify the extent of the damage, the immediate actions that are mandatory for survival, and the limitations to those actions.
2. **Airway:** Check for breathing. Clear the airway and provide any additional assistance (CPR) required to ensure that oxygen, the most critical component of sustained life, continues to reach the victim.
3. **Bleeding:** Apply pressure to wounds. The loss of blood will take more time to impact the victim than loss of oxygen, but its effect will be just as catastrophic if left untreated.
4. **Circulation:** Check the vital signs for indications of less obvious problems: Circulation indicated by the pulse; visual deformities indicating

trauma, fractures, or spinal injury; and temperature as a symptom of shock or other non-visible malady.

5. **Treat for shock:** The body may have an internal reaction to the emergency that far exceeds the actual damage caused by the injury. Anticipation and prevention may stop a danger not yet recognized.

6. **Continue to monitor the patient:** Assess for degradation, additional undetermined problems, and the *effectiveness* of the treatment.

The oxygen for an enterprise is the Voice of the Customer — understanding who our customers are (internal and external) and understanding their requirements and expectations. We then need to have the necessary systems and processes in place to ensure we understand the requirements and expectations of the customers; and that we translate these into our customer performance model, and then into the design and development of our products and services. A breakdown in any of these systems and processes will cause the enterprise to die.

The Enterprise Model demonstrates how the Voice of the Customer flows through the enterprise and how it is used to develop our products and processes. This Model is analogous to the nervous system and circulatory system in the body. These functions and relationships ensure the Voice of the Customer is understood and translated into products and services that cost-effectively satisfy the customers’ requirements and expectations. Breakdowns in any of these functions will result in organizational bleeding, i.e., losses in resources due to inefficient and ineffective functions. The symptoms of this bleeding of resources will be in cost of poor quality, missed schedules, increased operational costs, loss of profitability and customer dissatisfaction.

Indications the enterprise is “breathing” include effective systems and processes that provide for:

- Formal Business Development
- Customer Research and Communications

- Market Research and Communications
- Integrated Product and Process Development
- Quality Management System
- Information Technology System
- Financial and Resource Management System

An evaluation of the enterprise's systems and processes for the Voice of the Customer can be diagnosed through the answers to a series of questions that include:

- What systems or processes are in place to identify internal and external customers?
- What systems or processes are in place to deal with customer complaints?
- How are the customers' requirements and expectations identified?
- What functions are being used to decipher VOC data and communicate it to the organization?
- Does the enterprise have a formal implementation of IPPD?
- What are Critical Success Factors (CSF) for the organization?
- Are CSFs deployed throughout the organization in a formal, collaborative and supportive process?

The answers to the questions are developed through:

- A series of focused, one-on-one interviews with key individuals
- A series of focused, interviews with selected focus groups
- Review of selected process documentation
- Development and evaluation of the Enterprise Value Stream Map

The evaluation of the enterprise's Voice of the Customer systems and processes may identify deficiencies. These need to be addressed immediately; gap analysis, plan of action, assignment of responsibility and accountability, and implementation. If the deficiencies are not eliminated they will lead to the demise of the organization.

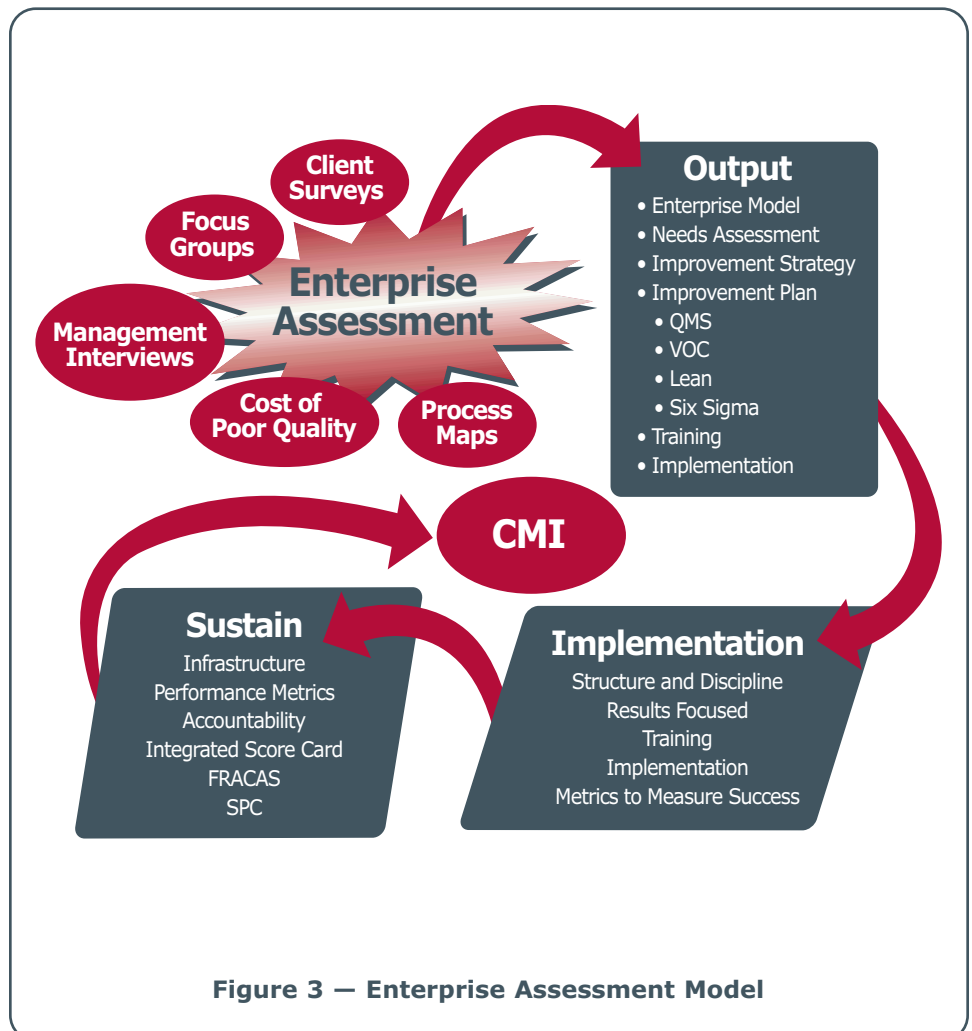
Bleeding of resources is easily identified through analysis of system and process metrics, e.g., scrap, rework, repair, warranty costs, roll through rates, schedule problems and customer complaints. These can be classified into measures of inefficiency or ineffectiveness.

**Conclusion**

The implementation of Enterprise Excellence enables the organization to optimize the critical success factors of quality,

cost, schedule and risk. It uses a holistic, collaborative approach for managing and improving operations of the organization, and focuses the leadership, management and technology on the critical systems and processes of the enterprise. The details of the implementation depend on the specific situation of your organization. The assessment, as in the emergency room of a hospital, points to those areas of immediate concern and prioritizes the actions necessary for success. The appropriate methods, processes and tools are then selected and the solution is adapted for the need. This focused, collaborative and holistic approach leads to achieving the competitive edge for business, industry and government agencies.

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**Figure 3 — Enterprise Assessment Model**

# Gaining Maximum Value from Quality Award Site Visits & Feedback Reports

*By Denis Leonard*

Entering a national, state or local quality award process is a major step for any company and a time for excitement and anticipation. However, the real goal is to take action on the Opportunities for Improvement (OFIs) provided by the site visit and resulting feedback report.

## The Site Visit

Making the cut for a site visit is a major achievement; however, quite naturally many are anxious about the process and view the arrival of a team of Examiners as a stressful experience. This stress often arises from the perception that no mistakes can be made during the site visit, leading some applicants to avoid the Examiners during the visit. The Examiners are not visiting to tear apart the organization or to be negative about the applicant. Their focus is to accurately reflect what they find and they are the nervous ones since they are responsible for providing the most valuable feedback possible, which can ultimately result in significant improvements. Therefore, the site visit is an occasion to ensure that Examiners have all the information they need to fully understand the organization.

Remember, you probably had difficulty trying to relate all the great things you do in the application document due to the restricted number of pages. This site visit is your chance to fill in the gaps and show them why your company is outstanding.

The following are tips for a productive and stress-free site visit:

- Schedule appointments with key people the Examiners may wish to speak with and assign rooms for these “interviews.” This will be coordinated by your organization’s representative and the site visit team leader. Back-ups should be provided in case of unforeseen circumstances.
- Book a number of rooms during the visit to conduct interviews outside the scheduled interview times.
- Organize a team to meet the Examiners during the introductory meeting. Be selective in regard to the number of

people attending this meeting, often too many attend and it becomes unwieldy. It is crucial that the senior leaders, such as the CEO or President, attend the meeting. This sets the tone and reflects how important this really is to the organization.

- Prepare the key points — mainly from the Organizational Profile and Results sections — you want each member of the team to discuss. Also point out two to three key distinguishing characteristics that set your organization apart. And don’t forget to thank the team for their time and efforts.
- Assign a company representative to be available at all times during the visit as a key contact for all issues. Also designate one expert for each site-visit criteria.
- Prepare everyone for the Examiners’ arrival. This might mean providing everyone with a copy of the relevant Baldrige Criteria Handbook so they can become familiar with it and refer to it during interviews to help focus their answers.
- Distributing the application document to all those guiding and meeting with the Examiners.
- Ensure the senior leaders, the CEO and/or the President are all available for the close-out meeting at the end of the site visit. This is not a time to find out the results of the visit, but rather to ensure that all Examiners’ questions are answered. Most important, thank the Examiners for the hundreds of hours they have volunteered to analyze your organization and provide you with valuable and actionable feedback.

## Sustaining Momentum After the Site Visit

Once the site visit is over, there is a period of intense curiosity as to how the visit went and how the organization is doing in the overall award process. A review of the site visit can begin by having the organization representative, category experts and others that worked with the Examiners to submit

notes on their views of how the process went based on the questions they were asked. These members can be brought together to form a summary of the visit.

This is not to try and discern the score you think the Examiners will give, but to focus as early as possible on OFIs. This includes evaluating questions that helped uncover gaps or raised critical issues. All of these members can be brought together in a discussion to finalize this debrief report and create an announcement to provide feedback to the whole organization. Remember to thank all employees for their hard work and highlight the next focus — that of preparing for the feedback report and addressing the OFIs it will identify.

Thorough preparation before, during and after the site visit avoids the common “resting on one’s laurels” or “freezing” that often occurs after the application is submitted or mistaking the application submission as the achieved goal. It must be emphasized that the goal is implementing the OFIs identified in the feedback report.

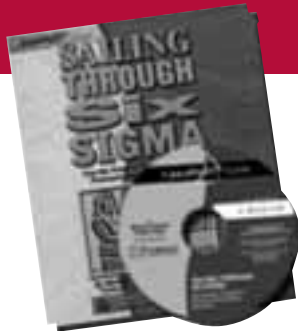
### Addressing the Feedback Report

The feedback report can result in a freeze due to the amount of OFIs reported, but remember even award winners receive OFIs. They are, after all, the real benefits of the process and it is through OFIs that an improvement plan can be developed. However, the number of OFIs can be overwhelming and result in them being sidelined and no action plan put into place. In addition, many organizations take offense at the OFIs and regress as a result.

Whether or not a site visit is achieved, a team should be formed to distribute information from the feedback report. This team needs to be made up of category experts and stakeholders from a range of departments or divisions to ensure that the knowledge and resources required are brought together. The team members should work together on related issues so that work is not duplicated and learning is maximized. Consensus within the team and from the organization as a whole is crucial.

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Everyone must be informed of the OFI action plans being developed and have input in the decisions being made. Input can be via e-mail, cross-functional meetings or retreats, for example. Timelines, resources and milestones need to be scheduled to ensure that each of the identified OFI action plans is addressed successfully. The implementation of these can follow the Plan, Do, Study and Act process. The resulting improvements or best practices can then be shared across the organization. These can be shared through internal conferences and using shared folders or your organization’s Intranet to share processes, procedures and other tools and techniques developed.

### **Conclusion**

By focusing the organization on the feedback report and addressing the most critical and prioritized OFIs, rather than the application submission, the Quality Award process becomes a driver of continual improvement.

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(CREATIVITY, continued from page 7)

these people that constitute the real strength of an organization. Do you recognize any of these in your organization? Maybe there are some small groups of highly centered workers in specific areas?

Review Figure 1 (on page 7) for the five areas of management operations. We know from this matrix that we must focus not on skills, but on people's motivation. What makes them tick? This includes their commitment, their intuition, and how that intuition is activated. What we often find is that although we are living in 5th generation management times we are using second or third generation management technologies.

What we are going to see as we reach 5th generation status is that more major changes are necessary — especially in our approach to sales. While we will strive to help our customers be successful, we must move from a close-knit sales relationship to a mutually created learning network that will enable us to meet even our customer's unstated needs.

**Evaluation**

Everyone recognizes that the 5th generation is the one that is the least understood. When we evaluate our organizations, we too often use second generation techniques or units of measure that are no longer appropriate. When we evaluate the innovation process through these approaches, we lose. We must remember that we need to tap the inner workings of our employees to achieve breakthrough goals.

**Knowledge Management and Collaboration**

By sharing knowledge and working collaboratively, people can develop tight-knit relationships that enable them to discover, identify and harness something that they couldn't have done individually. Fifth Generation Managers focus attention on enabling collaboration within the organization, within partnerships, and most importantly, with its customers. This collaboration with customers is necessary to create new products and services in new markets. Customers have knowledge of your products and services

and those of your competitors. They may even have a better understanding of your competitor's direction than you might glean from your own research. What you need to know to create innovative products and services is what it will take to make them successful. Creating this tight relationship with your customers will enable you to satisfy unarticulated needs of existing customers and non-served customers.

**How to Introduce Innovation**

There are five activities that will help you move your organization forward.

**Activity #1: Walk the talk on creating and executing an innovation strategy.**

Create innovation — moving your idea to market — internally or externally. One

obstacle frequently found is the internal competition for resources — personnel, financial, and more important, the attention of the LEADER. An organization can be mobilized and motivated to capitalize on the opportunities created by the unarticulated needs and unserved markets when they share a sense of purpose. The message should be frequently repeated to be instilled in people.

**Activity #2: Test your organization's innovation prowess.**

Take the organizational Readiness Test (Figure 2) to see where your organization stands.

**Activity #3: Assign responsibility for innovation prowess**

Identify a leader for your innovation program. A first mistake is to assume that

**Use this 10 question test to gauge how innovative your organization is.**

<p><b>1.</b> Have you identified a "Champion"? Is this person empowered with both authority and responsibility for the innovation program's future?</p> <p><b>2.</b> Are there qualitative and quantitative performance measures identified and in place?</p> <p><b>3.</b> Do your training/education programs address the creation of sub-teams that are more focused on key areas and how these sub-teams interact?</p> <p><b>4.</b> Regardless of size, does your physical presence in an area act as a pipeline for the sharing of your intellectual capital with your customers and suppliers?</p> <p><b>5.</b> Is there an informal intelligence gathering strategy to monitor the positioning of both current and potential competitors?</p> <p><b>6.</b> Does your rate of introduction of new product/service exceed the norms of your industry and create new markets in which you can excel?</p>	<p><b>7.</b> Has a Strategic Partnership Manager been designated to create a network of partnerships and joint ventures to leverage your organization?</p> <p><b>8.</b> Does your marketing image portray an organization with the capacity to create and move ideas into the marketplace to make your customers successful?</p> <p><b>9.</b> Have resources been allocated in support of knowledge management, and do you share organizational expertise externally through publications and participation in major forums?</p> <p><b>10.</b> Is the computer/communication's World Wide Web connectivity utilized for conferencing and employee training?</p>
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If you answered YES to 7 of the 10 questions your organization probably has a good grasp of the innovation process and knows how to create an environment for the optimal flow of ideas. If you answered NO to more than 3 or 4 questions you need to take a look at how you utilize your intellectual capital.

**Figure 2 — Innovation Readiness Test for Organizational Prowess**  
(Edited from Debra Amidon's work)

someone already exists who can add this to their plate and that a process exists. Likewise, when the CEO is the only one in charge, the process fails to receive the support it needs. Bringing an idea to market is the same as a new product — all the departments must get behind the effort and work collaboratively.

**Activity #4: Build an environment for collaboration**

Bring together the whole organization, including stakeholders. It is change management time. An important shift in values must take place as a precursor for improving or starting an innovation initiative. Creating communities of knowledge practice (teams), requires creating a common language and a sense of trust and respect so that people can work with one another instead of competing against one another in organizations and partnerships. Managers (leaders) must create a sense of collaboration. Creation of an innovation strategy and its successful implementation will occur if we come up with a common sense of purpose, specific core competencies, and share the collective knowledge of these teams to expand the frontiers of our business.

**Activity #5: Monitor your progress.**

Consider your performance to date. What needs improvement? Are you synchronized with your corporate culture?

**Conclusion**

Creativity is very personal, occurs internally, and must be given an environment where it can flourish. Ideas must be written down if they are to be retained. **However**, you must be able to organize and prioritize them and determine the proper venue in which to bring them up.

In addition, remember the gift bag, FUDs, imagination, persistence, the power of positive thinking and their respective impacts on what you do, how you are perceived, and how effective you are. Our goal is to build a greater knowledge base and then use this new knowledge base to better the company, the stakeholders and ourselves.

Although every organization has a great deal of intellectual capital, there is a wide range of capability in how various leaders manage knowledge. For some, it is a simplistic notion of what knowledge sharing is all about. They downsize and outsource without considering the knowledge dimen-

sion. They understand that knowledge is power, but don't consider that **managing knowledge is more powerful still!**

The 5th Generation leaders realize there is a multi-dimensional pathway here to be explored: They understand that there are systematic processes and knowledge frameworks. The **leaders** are pioneering. They create broad interaction both internally and externally. They are inquisitive and open-minded. They are NOT naysayers. They realize that collaborative knowledge is more powerful than individual knowledge.

To position your firm for successful, prosperous and continuing innovation you must evaluate your organization against the Management Generation Matrix and by following through on the five activities presented here.

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