e-momentum New Year 2005

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ceo letter

Welcome to the New Year Edition 2005 of RABQSA's online magazine – emomentum!

The New Year has finally dawned upon us, and we are pleased to bring you the new face of RABQSA International, Inc! RABQSA will stand is one of the world's leading certification organizations for the provision of accredited personnel and training certification, and related professional development services worldwide.

2005 will be an exciting year for the newly formed RABQSA International, as plans to release further personnel and training certification within the first quarter, in addition to the design and development of personnel certification schemes for many private sectors.

In addition, we have numerous events and seminars planned for Sydney, Chicago and Bangkok that will offer a stage of keynote speakers. Be sure to watch www.rabqsa.com for further updates, we welcome your contribution to these conferences and hope we have the opportunity to meet.

For those subscribers who continue to follow us in 2005, we look forward continuing to offer enticing articles for your development and interest – and for those new readers, we encourage your contribution and hope you enjoy the read.

Wishes for a prosperous New Year!

Regards,

Michael Carmody

RABQSA International
President and Chief Executive Officer

letters to the editor

Get published!

If you have something to say, whether it is a media release on your latest product, an academic article or a controversial comment, please notify the RABQSA's online magazine, ***e* -momentum**.

Why not just write the editor a letter for comment?
Please email submissions to tmchenry@rabqsa.com.

Following the merger effect on January 1st, 2005 RABQSA was pleased to receive the following feedback:

Dear RABQSA,

The merger of the Registrar Accreditation Board (RAB) - Personnel Certification Division and the Quality Society of Australia (QSA) will go down in the annals of history as one of the most monumental moments in the development of professional certification. This landmark merger is a first step in the globalization of the entire certification industry. RABQSA International is now the worldwide benchmark industry leader in the accreditation industry. It was only fitting that these proud organizations form an alliance that the rest of the accreditation world can only look up to. I am humbled, and proud, to personally be a member of this prestigious and elite group. The mission of RABQSA International is now the guiding light for auditors all over the globe.

Congratulations to all of the dedicated people who were involved in this truly historic moment.

David Evans
RABQSA Auditor/Sr. Quality Engineer

rabqsa news

Sydney, Australia – Milwaukee, United States January 1st, 2005

RABQSA International, formed from the merger of the Registrar Accreditation Board (RAB) – Personnel Certification Division and the Quality Society of Australia (QSA) was today officially established.

"Today marks a very important milestone in the personnel certification industry," says Michael Carmody, President and CEO RABQSA International. "A new era of personnel certification has emerged, based on personnel competencies that have been defined by industry and accredited to international Standards – this approach reflects the international movement from qualitative to quantitative competency based criteria that defines measurable standards of performance".

RABQSA International offers a range of personnel and training certification schemes, and related professional development services worldwide, via an innovative e-based medium that receives and administers applications from every corner of the globe.

"RABQSA has assumed a strong leadership position in the industry" says Michael Carmody, "…by taking a pioneering approach to the issue of personnel competency, and being the first accredited organization in the world to offer a comprehensive range of personnel and training certification schemes, in addition to ensuring certification is accessible to anyone, anywhere, at the simple click of a button!"

The shift in prerequisites for RABQSA accredited personnel certification is based on ensuring organizations gain value, relevance and advantage, in today's competitive environment, from engaging certified personnel. The involvement of industry as key stakeholders in the certification process, in clearly articulating expectations of personnel performance, shall ensure required personnel competence will align with defined business outcomes.

2005 will be an exciting year for the newly formed RABQSA International, as plans to release further personnel and training certification schemes in the highly stringent area's of, hydrogen safety and airport operations are envisaged within the first quarter, in addition to the design and development of personnel certification schemes for many private sectors.

For further information regarding RABQSA International, please contact Ms. Toni McHenry on tmchenry@rabqsa.com or +61 2 88336408.

RABQSA International, a non-profit (not-for-profit) organization, is one of the world's leading certification organizations for the provision of accredited personnel and training certification, and related professional development services worldwide. A wide variety of organizations employ our certified persons for the purposes of improving business performance.

annual ISO survey

And the survey says…
Although the annual survey from ISO does not claim to give the definitive number of 9001 and 14001 certificates issued worldwide, many people look to it to give them a clearer picture of what's happening in the certification world. The 2003 results were published last month and QW takes a closer look.

Predictably, while ISO draws our attention to the reasons why the survey is not accurate (companies which implement ISO 9001 without seeking third party certification and companies which hadn't completed the transition by the end of 2003 are not included), it is still very upbeat about the worldwide results. The UK figures are not so positive, however: the total number of ISO 9000 certificates issued between 2001 and 2003 has dropped by nearly 18,000 from 66,760 to 49,151.

But the optimistic predictions made by the certification bodies in the December 2003 issue of QW – that up to 95% of the 1994 ISO 9000 certificates will be transferred – have materialized. According to the survey, just under 92% of companies in the UK made the transition to the new standard.

Surprisingly, Italy is speeding ahead in the European race and fervently embracing ISO 9001 with 64,120 certificates issued by the end of 2003 (with an apparent 100% transition rate). Similarly, according to the figures supplied by the Chinese national accreditation body, every company holding an ISO 9000 certificate (old and new) had made the transition to the 2000 version by the end of 2003. Considering that, at the end of 2002, nearly 35,000 companies were still certificated to ISO 9000:1994, the fact that all of them made the deadline is incredible.

The survey speaks...
The ISO survey has been carried out 13 times since the first one in January 1993. It is now performed annually by the ISO Central Secretariat (ISO/CS). The data is provided by a variety of sources including ISO national member institutes and accreditation and certification bodies. ISO/CS is well aware that the certification bodies which contribute data are commercial rivals of each other. Thus the data supplied is not connected in the survey to the certification body which supplied it in order to avoid it being used by competition as 'business intelligence'. The data is treated by ISO/CS in strict confidence and requests to identify market share or 'the top ten certification bodies in the world are refused. The responsiveness of certification bodies to requests for data varies. Not all submit data. The quantity and quality of the data that is submitted varies. In some cases, estimates have to be made. Sometimes, mistakes occur and the figures are adjusted accordingly in subsequent surveys.

The survey is a snapshot of a moving target. There is no central database of ISO 9001 or ISO 14001 certifications. These are carried out independently of ISO by more than 750 certification bodies active around the world.

The ISO survey has never had pretensions of academic rigor in its compilation, of scientific accuracy in its results, nor of being exhaustive. The survey does not therefore attempt an in-depth analysis of the results, so a degree of caution is advised in interpreting these.

Despite the limitations of the survey, it is eagerly awaited each year as it provides an indicator to the worldwide implementation of ISO's management system standards. The total figures are the result of many factors: new certificates, a switch from multiple, single-site certificates to single, multiple-site certificates or transfer to sector-specific management system standards and withdrawal of certificates. It has not been possible to analyse precisely the impact of these factors. Thus, ISO intends to improve and refine the modalities for the collection of data for the 2004 edition. In particular, it aims to obtain a clearer picture of single multiple-site certificates as well as of certification to other ISO management system standards. >

annual ISO survey

The survey provides the following principal results for 2003:

ISO 9001:2000

- Up to the end of December 2003, at least 500,125 ISO 9001:2000 certificates had been issued in 149 countries
- The 2003 total represents an increase of 332,915 compared to 2002, when the total was 167,210 in 134 countries
- The 2003 total represents an increase of 445,737 compared to 2001, the first year for which the survey recorded ISO 9001 certifications, when the total was 44,388 in 98 countries
- At the end of 2003, two weeks after the transition deadline, the 500,125 total ISO 9001 certificates was equivalent to 89% of the 2002 world total of 561,747 of ISO 9000 (old and new versions) certificates
- The number of ISO 9001:2000 certificates shows an increase of 332,915 compared to 2002, and the worldwide total of ISO 9000 certificates (old and new versions) shows an apparent increase of 6,238 – from 561,747 to 567,985

ISO 14001

- The increase in the number of certificates in 2003 to ISO 14001 is the largest so far recorded in the nine surveys in which ISO 14001 has been included
- Up to the end of December 2003, at least 66,070 certificates to ISO 14001 had been issued in 113 countries
- The 2003 total represents an increase of 16,621 compared to 2002, when the total was 49,449 in 117 countries and economies

SOURCE: Quality World Magazine

Quality From Scratch: A Model For Small Business

About 84% of all US companies have less than 50 employees. Because these small to medium-sized companies must continuously improve or die, implementing quality programs is critical. A smaller company may not realize the huge returns of a large company, but that does not reduce the impact of a quality program's return on investment.

Start With Quality
Every company must satisfy customers, stakeholders and employees to survive. Day-to-day details often divert attention from what is good for the company. Conflicts in priorities and contention for resources combine to form a huge barrier to organizational excellence. Smaller businesses also have a narrow buffer to shelter customers from error and waste.

In a small business, quality planning and business planning are synonymous. The best time to start a quality program is during the initial planning for the business when designing quality into product and service delivery is essential. Integrating quality into an existing company culture is more difficult, but no less critical.

Smaller businesses have certain advantages over larger ones:
small businesses can move more quickly because innovative ideas are approved and developed at a faster pace.

- Communication channels are shorter and simpler.
- Fewer bureaucratic procedures need to be overcome in getting ideas to market.
- Employees acquire decision making skills faster by exercising the authority that has been granted to them.
- Employees tend to form a close-knit effective work team.

These advantages are an important spring-board for management in starting a quality program. A truly integrated quality system is based on three principles: customer focus, process improvement and total involvement. Customer focus encompasses both the external and internal customer's needs. Process improvement is the lifeblood of an organisation wishing to sustain growth. Total involvement is the vehicle through which the company realizes the daily activities that act on the first two principles.

The elements in Figure 1 are taken from the Malcolm Baldrige National Quality Award performance excellence criteria. Though other models can successfully help small-business leaders segment their processes into measurable and stable components, small to medium-sized businesses compete along with Fortune 100 businesses for recognition under these criteria.

The Baldrige website even offers a free tool to help companies of any size assess their initial quality positions. (This tool can be downloaded in PDF format at www.baldrige.nist.gov.) One of the first things managers are instructed to do during business planning activities is a SWOT (strengths, weaknesses, opportunities and threats) analysis. The Baldrige self-assessment tool is an excellent complement to the traditional SWOT exercise. (If you would like a copy of Figure 1, please email Toni McHenry, tmchenry@rabqsa.com).

Successful Process Design
The core process redesign pathway has five-phase methodology supporting a systematic process of improving how work is done in organizations. This methodology supports the whole company, not a subset of activities labeled "quality". Quality must be integrated into every phase of the business to be totally effective.

The core process redesign methodology asks two key questions at every phase:

1. Does the process under study support the organization's strategic mission?
2. Is the process under study necessary to meet the demands of our customers?

The Baldrige model can be easily fed into this methodology. Each element of the quality program becomes a mega-process for design under the core process redesign methodology.

The Baldrige performance excellence elements listed are:

- Leadership
- Strategic planning
- Customer and market focus
- Information and analysis
- Human resource focus
- Process management
- Business results

The company leaders and employees assign teams to address each element in turn.

Focus Phase

Though senior leadership must be active in the focus phase of each element, in many companies with fewer than 50 employees the leadership team will be involved in all phases.

Senior management usually undertakes the focus step as the result of an organizational assessment and thorough data analysis, such as the Baldrige self-assessment or SWOT analysis discussed earlier. The owners or executives sponsor teams of leaders and employees in designing the seven elements. They focus organizational resources on improving the processes selected. And as teams meet for the first time, the owners and executives must also focus on management's requirements of the work of the teams.

Two major activities are required during the focus phase of instituting a quality program:

1. Identify the scope of its proposed work
2. Document its agreements with the executive sponsor

The executive sponsor reviews the original process design team assumptions, thus ensuring alignment of mission, scope, objectives, ties with strategy and measures of success.

Assessment Phase

The real work begins in the assessment phase. The leadership team starts by gathering baseline data along two dimensions:

1. Process capabilities
2. Customer needs

Determining process capabilities – what the company can do or deliver – involved mapping the flow of activities as they currently occur and measuring their input, output and value added benefits, separately and together.

Figure 2 shows an example of a completed supplier, input, process, output and customer (SIPOC) worksheet for the distribution process of a distance learning program at a public university. This chart is useful for identifying the scope of the element being integrated into the quality program. If the company is working on the

strategic planning element, for example, it would identify what starts strategic planning, which activities are involved in planning and what ends it. The bottom part of the worksheet helps the company identify inputs and outputs of the strategic planning element, along with the suppliers and customers of that process.

As the team develops a flowchart of its current state, it will likely find unnecessary work being performed or unneeded reports being developed, and it can eliminate them during this step. This is a dynamic process. Improvement activities need not wait until the end of the process. A small business has more flexibility when taking action than a larger organisation does because it has less bureaucracy.

Assessing customer needs is also critical to measuring the success of a process. This component of the assessment phase involves identifying the customers of the process, documenting what the team knows these customers currently need and might expect in the future and planning how to close any gaps in knowledge and understanding.

Though assessing process capabilities and customer needs should be performed concurrently to ensure their alignment, there are two risks:

1. Performance gaps that occur when a process is not meeting customer needs may go unnoticed.
2. Growth opportunities or risks critical to the business may go unnoticed. This occurs when a process delivers beyond what customers need. Companies need to leverage this situation because any process that delivers in anticipation of true, future expectations can become their competitive advantage.

The assessment phase is concerned with performance on three dimensions:

1. Process time (cycle time or throughput)
2. Costs (fixed and variable)
3. Rework and defects (product or service quality).

If the process performs well on all three dimensions and is built to the appropriate customer requirements, customer satisfaction should follow. Realize, however, that these three dimensions are internal measures for implementing the quality program. Customers don't care what it costs the company to get work done. They care about product or service outputs and their interface with the people who deliver those outputs.

Negotiation Phase

The negotiation phase is critical to senior management. Leadership in the company must pause long enough to verify all stakeholders have been drawn into the quality program design as process partners.

Negotiating the validity of customers' needs is critical to an understanding of process partnership. Needs are not valid requirements until the company is committed to fulfilling them.

Negotiation involves discussion, joint ownership and collaborative problem solving. Leadership should look for opportunities to give and take during this phase. Negotiation means being flexible, so leaders need to look out for the good of the whole business system. This phase usually concludes with a reconsideration of goals.

Redesign Phase

The reconsideration in the negotiation phase usually leads to the redesign phase because the company has likely made decisions about how the process might work better. This often manifests itself in a series of educated guesses on which leadership establishes pilot improvements. The guesses are called educated because they are based upon leadership's careful analyses of valid data.

This phase offers a natural synergy for getting the rights people into the room. Small businesses are better able to congregate those most knowledgeable about a particular work process. They explore opportunities for future savings, such as lowered costs, reduced process time and improved output or service quality. By this time, company leadership has started to draw conclusions about where it can change things to meet customer needs.

The redesign suggests three steps to better manage unintended consequences of change that invariably pop up during implementation:

1. Analyse the process to look for the root causes or drivers of performance gaps.
2. Draw conclusions about what change will close these gaps.
3. Test conclusions about whether the right improvements are identified and whether they go far enough.

This three-step cycle is easy to implement because every time a team begins describing a current process, it usually ends up analyzing it for suggested improvements.

Implementation Phase

The last phase is implementation. By now, the leadership team should be ready to test and finalize new standards for how work flows through the system as a whole. Identifying progress and success indicators is an important part of the last core process redesign phase.

Indicators of Success

To be successful, any company must measure and report its performance on a routine basis. When designed and implemented effectively, performance measurement does the following:

- Supports the organization's strategic plan by providing management with tangible indicators and goals relevant to daily activities.
- Provides executives with sufficient and timely information regarding the effectiveness of operations before significant financial impacts are experienced.
- Creates a work environment that supports and rewards cooperation among key functional areas to attain desired results.
- Drives change by focusing resources and shaping behaviors toward specific, tangible results.
- Establishes a mechanism for assigning and enforcing accountability as well as recognizing and rewarding outstanding performance.

The target for measurement is processes and functions that, when performed and managed effectively, play a critical role in driving positive financial results. The key aspects of defining effective measure are:

- Identification of those areas of business that play a critical role in a company’s success, including the financial, satisfaction and operational areas.
- Participation of departmental and functional managers that control key areas in the overall measurement design and implementation efforts.

All levels of an organisation should be involved in defining the critical success metrics that measure progress and results associated with each process. While most managers have a solid understanding of what their staff is responsible for, they are usually too close to the activity to be of much help. Some points to consider: It is easier to edit than create. Where possible, use metrics used to track performance in your industry

- Success metrics between departments should be complementary. Metrics are most likely interdependent at some level.
- Success metrics must be relevant to the particular function to which they are being applied.
- Success metrics should be defined in terms that continue to be relevant as the business evolves over

time.

- Success metrics should be relatively easy to calculate and understand. To be effective, this information must be understood from the boardroom to the break room.
- Not all effective measures are quantitative. Many human areas of business lend themselves to measurements related to timeframes, frequency of occurrence or other qualitative parameters.

The Human Element

So how does a small business transform all this process integration into a highly effective quality system? It should use the resources available. The human resources of a company are tremendously valuable if the company maintains an environment in which they can be successful.

All levels of an organisation must be involved in the design and implementation of the new quality program. Leadership should use the "top to bottom and back to the top" concept of establishing a senior management vision, share it with the whole organisation and listen to the ideas of those impacted by the changes.

There are many levels of involvement necessary for implementing a quality program into a business of any size. Executive management is responsible for strategic planning, SWOT analysis, customer and market research and the development of a company vision. Once senior management has identified the general director of the company, functional managers take the vision to the tactical level. Goals are identified in support of the company as a whole and the functions that comprise the total enterprise.

Each functional area works with middle and first-time managers to identify specific tactical objectives. First-time managers, team leaders and the general workforce address each of these objectives in terms of specific outputs to meet customer needs.

Keeping It Current

Senior management must frequently review the anticipated effects of proposed changes on the people and systems of the organisation. How might these changes affect the competencies of those who do the work? How might these changes affect the gathering and use of information needed to get the work done? What reward mechanisms exist to encourage continuous application of the new and improved quality processes? The company owners must take another systems view of the whole organisation. Successful implementation of an integrated quality program is an iterative process.

It is senior management's responsibility to consider recommendations of the teams in the context of each other. Remember, changes to one process are not made in a vacuum – all processes must be aligned so the entire system functions at an optimal level. The core process redesign methodology adapts to the industry because it is focused on improving processes, those workflows that deliver a company's products or services to its customers.

Implementing a quality program is not a one-way process. The drill-down sequence must have a strong feedback element. Policy deployment moves downward in an organisation, and action and finite completion dates must be reported back up the organisation. Tasks that require additional resources or escalation also flow back up the management ladder. Proper use of team dynamics encourages a strong horizontal and vertical communication web within an organisation.

The core process redesign model is a flexible sequence that supports any number of quality program structures. I use the Malcolm Baldrige performance excellence model because it is frequently used by businesses of all sizes. Another model commonly used is ISO 9001. Local quality consultants are usually available to assist with either of these options. The sidebar "Partial List of Quality Improvement Models" offers a number

of models, and the books listed in “Entrepreneur’s Quality Library” mention even more.

Integrating a quality program into a business is not a one-time activity. Once the program is implemented and tested, a continuous measurement and improvement cycle must be instituted to keep the program effective. The effort to implement quality into all areas of the company is no small task, but the benefits and results are well worth the effort.

Grace L. Duffy is president of Management and Performance Systems in Tavares, FL. She earned in MBA in management and information systems from Georgia State University in Atlanta.

book review

The Quality Audit for ISO 9001:2000
A Practical Guide - Second Edition

By David Wealleans

Since the publication of the first edition of this book in 2000 the revised ISO 9001 standard has since been implemented and is being used widely. While the basic premise of the original book is still sound, the reality of auditing the new standard has shown up various areas which require refinement – this new edition addresses that need. It remains a pragmatic guide, covering all aspects of auditing, including certification assessment, supplier investigation and internal audit, enabling auditors to appreciate the approaches adopted by those working in related areas. With its detailed analysis of the requirements of ISO 9001:2000, this book will also be of interest to all those involved in implementing certified quality management systems, as well as the auditors who are required to examine those systems.

A down-to-earth approach is taken throughout The Quality Audit for ISO 9001:2000, avoiding the impractical and nit-picking methods which have so often characterized quality management audits, making it an invaluable source of realistic advice. It demonstrates how to produce real benefits from an audit programme rather than simply guaranteeing compliance to a documented system. Everyone who sees audits as a useful tool for business improvement should read this book!

About the author
David Weallans is a chartered engineer and practising lead auditor who has held senior industry positions in quality, design and marketing. He is a lecturer in post-graduate studies and works as an independent management consultant and trainer. David was introduced to the subject of quality auditing in 1981 and has since been involved in it at all levels. He delivers a range of practical audit courses around the world.

The Quality Audit for ISO 9001:2000, A Practical Guide, Second Edition (0 566 08598 4) by David Weallans will be available late from January 2005.

Be Your Own Boss!

Change can be good. Opportunities come from change. It can reduce stress levels and result in more challenging work and increased responsibilities.

Would you like to receive direct rewards for your successes and create working conditions to your liking? Why not work for yourself by creating a new small business and becoming self-employed?

There are about 24 million small businesses in the United States. (For research and statistical purposes, the U.S. Small Business Administration (SBA) defines a small business as independently owned with 500 or fewer employees). More than 98% of all U.S. employees in the United States work for small businesses. At about 70% of small businesses, the only employee is the owner.

Data reported by the SBA based on research by the U.S. Census Bureau point out small businesses represent more than 98% of all employers and employ approximately half on all private sector employees. Small businesses thereby pay more than 44% of the total private payroll in the United States.

Small businesses annually generate 60 to 80% of new jobs and were responsible for 22.8% of the total value of federal prime contracts (about %50 billion) in fiscal year 2001, the most recent year for which the SBA provides summary data for all industries. Small businesses and solo entrepreneurs produce 13 to 14 times the number of patents per employee of large patenting firms and employ 39% of high-tech workers (such as scientists, engineers and computer specialists). In small businesses, there are many opportunities for creative thinkers to deliver quality processes and quality results.

About 53% of small businesses are home based. Being home based can do wonders for reducing costs related to being an employee. Consider how much additional creative work can be accomplished with commuting eliminated.

Is self-employment for you? Is a major change in your work and career called for? Might self-employment be an alternative to unemployment? Employment and economic numbers were positive in the first quarter of 2003, but an important fact is revealed in the Occupational Outlook Handbook. Employment in the quality field (inspectors, testers and auditors) is expected to grow slowly or be flat, reflecting growth of automated inspection and redistribution of quality control responsibilities from inspectors to other production workers.

Traditional quality positions are not offering future opportunities, but quality is ever more important, and people delivering its results are doing this from new positions and new organisations. Positions for trainers, process and supply chain managers, and project specific consultants will continue to increase. That means career transitions may be in order for those currently in or looking for traditional quality jobs.

Support Services Abound

If self-employment is an option, be assured support services exist for persons establishing and leading small businesses. There are businesses startup resources for persons temporarily unemployed. The U.S. Department of Labor Employment and Training Administration offers assistance to dislocated workers considering self-employment as an accepted route to overcome unemployment. This program is offered through states, but not all states participate. The program's intent is for participants to work fulltime starting their business instead of looking for wage and salary jobs.

As you consider self-employment, start by considering taxes. State and local taxes impacting small businesses range from supportive to repressive. All states have sites with information explaining their taxes and revenue practices. The federal Internal Revenue Service website is a source for online courses and training., advisors, tools for business decision maker, and aids for complying with federal tax laws and requirements.

Leaders of small businesses in advanced technical fields need to know about the Small Business Innovative Research (SBIR) program. SBIR strengthens the technological competitiveness for small businesses as new technology is commercialized. Through SBIR contracts, businesses move products into the market with government as an initial customer. Quality is a key to successful SBIR projects.

The U.S. Small Business Administration (SBA) and regional business development centers provide resources for persons creating jobs through a business start-up or expansion. The SBA means it when is says, “We’re from the government, and we’re here to help you!” Loans, reference and business planning guides, consulting services, classes and links to hundreds of other resources are found at its website.

The Office of Advocacy within the SBA can even provide a small business owner advice and legal guidance should an agency of government unfairly interfere with business operations.

A primary search tool for all federal government websites is FedWorld operated by the U.S. Department of Commerce. With this tool, targeted or general searches are possible for businesses, regulations and government support programs.

Networking Is Important

Networking with peers and potential customers is a primary route to success in small and specialized businesses. The local sections and national divisions of ASQ are primary networking resources. Joining ASQ in importance are organisations such as National Association for the Self Employed, National Federation of Independent Businesses and other professional, trade and industry specific groups.

Careers and opportunities with small businesses are many. They produce an estimated 50% of the nation’s gross domestic product annually, and they are credited with creating a majority of all new jobs. Becoming an employee of a small business or becoming an owner who creates employment raises significant issues requiring fact based decisions, but the opportunities are many.

Quality delivers measurable results to the bottom lines of all organisations, whether large or small. But quality processes and results are tremendously important to small businesses in all sectors of the economy.

Specialists in quality have the knowledge, tools, resources and skills to succeed in many fields. Fact based career decisions are as important as fact based business decisions. Specialists in quality have the tools necessary for decision making as owners or employees of small businesses.

Consider opportunities for change, satisfaction and the challenges of being your own boss. Enjoy your successes while benefiting directly from your efforts. Live with the risks, and learn from results. Use quality tools that deliver continual improvement, and watch desired results and profits-your profits-accumulate.

IATCA NEWS

New Direction for International Auditor and Training Certification Association

The Chairman of the International Auditor and Training Certification Association (IATCA), Dr George Anastasopoulos, announced a new direction for the Association today.

"I am delighted to announce a number of exciting initiatives for the Association which, in conjunction with the release of the new personnel certification standard, ISO/IEC 17024:2003, will ensure our Association's relevance to industry in years to come", said Dr Anastasopoulos.

"These initiatives include a name change to more accurately reflect our interest in promoting personnel certification criteria beyond our traditional market of management systems as well as the re-location and alignment of our secretarial functions to provide more cost effective services to members".

Dr Anastasopoulos went on to announced that IATCA had been legally re-established as the International Personnel Certification Association (IPC) a non-profit organisation incorporated in Greece. "Thanks to the support of the Greek Government, IPC will have a funded Secretariat, based in Europe, providing cost effective support services to members. Funds once required for Secretarial support will now be directed to further development of industry schemes and programs", said Dr Anastasopoulos.

Dr Anastasopoulos advised that draft criteria defining competencies and associated assessment requirements for certification had been developed and endorsed at IATCA's plenary meeting in Singapore in September 2005. "These criteria provide guidance and increased flexibility for our certification members to assess competence of their auditor members in a more relevant, cost effective manner".

"IPC has successfully provided guidance for its members to meet the requirements of ISO 17024, and thus increase the value of the certified professionals globally", he said.

Dr Anastasopoulos indicated that IPC would be seeking Association Membership of the International Accreditation Forum (IAF). "Talks so far have been very constructive and we believe IPC would provide valuable, ongoing input to IAF to represent our members' interests and continue to build the professionalism of the auditing profession".

Dr Anastasopoulos did not rule out IPC establishing criteria beyond its traditional membership base of management systems auditing professionals. "There are many opportunities for IPC to grow its personnel certification activity, to meet industries' needs for consistency and professionalism", he said.

Transition plans, including moving membership from IATCA to IPC and the IAF application process, were well underway, Dr Anastasopoulos confirmed.

Media Inquiries

IPC/IATCA Secretariat: www.iatca.com

industry news

FOOD SAFETY NEWS

On The Path to Nationally Consistent Food Safety Auditors

Progress continues to be made on several fronts to ensure a more nationally consistent approach to food safety auditing in Australia.

As part of the National Food Industry Strategy's Food Safety and Quality Systems Initiative, the Department of Agriculture, Fisheries and Forestry (Department) continues to progress the outcomes from the National Food Safety Auditor Competency Steering Committee (Steering Committee) to enhance Australia's food safety auditing infrastructure.

The outcomes of the Steering Committee have been published in a report, *Food Safety Auditor Competency: Proposed National Competency Criteria and Management Systems.* This report is now available from the Department. A short booklet highlighting the Steering Committee's work and the next steps being undertaken to achieve more nationally consistent food safety auditing in Australia will also be available from the Department at the end of this year.

The National Food Industry Training Council, following an extensive consultation process, has developed food safety auditor units of competency based on the Steering Committee's competency criteria. The draft units can be seen online at www.nfitc.com.au. It is anticipated that by early 2005 these national benchmark standards will be available to all commercial and government training providers to enhance training of food safety auditors in Australia.

Options for implementation of the **national food safety auditor management framework model** proposed by the Steering Committee are being considered by the joint industry/government National Food Safety Auditor Advisory Scheme Committee (Advisory Scheme Committee). The Advisory Scheme Committee has agreed that in the short term a personnel certification scheme will be developed in conjunction within RAB-QSA International, Inc. This scheme will comply with international protocols of ISO/IEC 17024:2003 and will provide food regulatory enforcement agencies and industry with a national resource of competent food safety auditors.

The Department continues to work with State and Territory food enforcement agencies through the Australia New Zealand Food Regulation Ministerial Council to develop a **National Food Safety Audit Policy**. An open consultation process to discuss the various options will occur in early 2005.

To assist in the development of the national food regulatory policy, the Deparment recently visited New Zealand to meet with representatives from the industry and the New Zealand Food Safety Authority to discuss the implementation of their food safety programs and supporting food safety auditing infrastructure.

For more information about work on developing a national consistent approach to food safety auditing in Australia, or to obtain a copy of the final report or booklet, please contact Tamarra Dadswell on 02 6271 6577 or email foodinteg@daff.gov.au

QUALITY NEWS

With Focus on Quality, Hyundai Ready To Take on Big Three, Toyota

After working on improving the quality of its vehicles, Hyundai is trying to take market share away from the Big Three and Toyota.

Although the South Korean company had a reputation for poor quality products a few years ago, U.S. automakers are now comparing South Korea to the way Japan was in the 1980s.

Hyundai is counting on its newly redesigned Sonata to help boost market share. Sales for Hyundai have been improving as the automaker improved quality. Last year, Hyundai and Honda tied for second in overall quality in a J.D. Power and Associates Survey. Also last year, the automaker overtook Honda and Nissan to become the world's seventh largest automaker.

If Hyundai can keep vehicle costs low for consumers and maintain its new reputation for quality, the automaker could cause problems for U.S. and Japanese companies. "I think Detroit has the potential to be in serious trouble. They're just being bombarded," said Art Spinella, an auto industry expert with the consulting company CNW Marketing Research in Oregon.

Hyundai has a new plant in Alabama, and it will be important to keep quality high there.

Car buyers won't accept any lapses in quality as Hyundai "irons the inevitable bugs out of its new factory," said Paul Eisenstein, publisher of www.thecarconnection.com.

"If they blow it with this [Sonata], if they stall in quality right now, it will hurt their image immeasurably and will take them a long time to recover from. So they have to hit it right, right out of the gate," Eisenstein said.

SOURCE: *The Washington Post*

OHS NEWS

GM Fined for Not Reporting Safety Problems Quickly Enough

The National Highway Traffic Safety Administration (NHTSA) fined General Motors (GM) $1 million after deciding the automaker had waited too long to report a windshield wiper defect that involved tens of thousands of SUVs made in 2002 and 2003.

"The agency is concerned [the problem with wipers] is not an isolated incident, but rather appears to reflect institutional shortcomings leading to repeated failures to report safety related defects in a timely manner," said NHTSA chief counsel Jacqueline Glassman.

The government relies on carmakers to come forward quickly with reports of safety problems. GM reportedly knew of the wiper problems in late 2001 but the NHTSA wasn't made aware of the problems until later. The agency started investigating the wiper problems in September 2003. By that time, GM "had recognized significant numbers of wiper motors were failing in service … more than a year before it notified NHTSA of any defect," Glassman said.

After the deadly Firestone tire failures in the 1990s, Congress passed a law giving the NHTSA power to increase penalties on automakers that don't report defects in a timely manner.

This fine marks the agency's first use of that power. The NHTSA can now seek as much as $15 million from an automaker. In the past, fines were capped below $1 million and typically were much lower. In this case, the agency originally sought $3 million and settled with GM for $1 million.

SOURCE: *The Washington Post*

ENVIRONMENTAL NEWS

UNIVERSITIES GO GREEN — UK

Universities are today (Jan 11th 2005) urged to promote sustainable development in all their activities, from research and teaching to waste recycling and buying "green" energy.

Launching a consultation document on how universities can help, the Higher Education Funding Council for England (Hefce) said sustainable development - ensuring that what we do today can fulfil our needs without damaging the lives of future generations - related to economic, social, and ethical issues as well as environmental activities.

But ironically the funding council's call comes as Oxford University, the eighth largest purchaser of renewable energy in Europe, is debating whether to go back to fossil fuel electricity because of rising costs.

Sir Howard Newby, chief executive of the funding council, said: "Our vision is that, within the next 10 years, the higher education sector in England will be recognised as a major contributor to society's efforts to achieve sustainability - through the skills and knowledge that its graduates learn and put into practice, and through its own strategies and operations. Universities and colleges will be building on the existing good practice that they are already carrying out which we recognise in the consultation."

Hefce's strategy sets out a wide-ranging role for higher education, encompassing:
· Preparing students for their future roles as managers and leaders, so that they understand the issues of sustainability and can make informed decisions.
· Helping society to find social and technical solutions to the challenges of, for example, diminishing natural resources and climate change.
· Acting as a catalyst for change with local people, businesses, government bodies and others.
· Reducing the sector's own impact on the environment through improved use of energy, and transport and waste management.

Some universities are already tackling these issues. Newcastle University's Devonshire building opened last year to house its environmental and sustainability research institute is designed as a flagship of sustainable design. It makes use of natural ventilation and light, has a flexible internal layout, and uses materials that require less energy to make, construct and dispose of.

Leeds Metropolitan University was one of the first universities to adopt an environmental purchasing policy, in 1995, covering all parts of its supply chain for goods and services. This includes considering costs and energy use over the whole life of any project, specifying recycled materials where possible, and favouring suppliers that are committed to environmental improvement.

Kingston University is the first higher education institution in the UK to carry out an audit of sustainability in the curriculum to assess current attitudes and activities among staff and students.

But Oxford University, which currently contracts for electricity from hydroelectric projects in Scotland provided by Scottish & Southern Energy plc, this week warned staff and students that it might well not be able to afford to renew the contract due to expire at the end of March.

Other institutions which had renewed their contracts in the autumn had to concede price hikes of between 50 and 60%, added the university, which is a world leader in research into sustainable energy. The announcement was strongly condemned by students, who have launched a petition.

The report: Sustainable development in higher education: Consultation on a support strategy and action plan (Hefce 2005/01) is available at http://www.hefce.ac.uk under publications. http://www.guardian.co.uk

ISO 9001's Guiding Light

With its new emphasis on process auditing, ISO 9001:2000 was always going to be fraught with difficulties. But, as Brian Henry explains, help is at hand in the form of the Auditing Practices Group, which aims to provide sound advice for auditors.

The ISO 9001 Auditing Practices Group was created to respond to a need that had been identified by the ISO 9000 Advisory Group (IAG). The IAG itself had been previously established – under the auspices and with the support of ISO/TC 176, the International Accreditation Forum (IAF) and ISO/CASCP – to identify and react to any perceived threats to the credibility of ISO 9001:2000.

It was recognised that some auditors might have difficulty in making the transition from the former clause-based style of auditing to the new approach of process auditing, which was needed to effectively and consistently evaluate conformity to ISO 9001:2000. The situation was further complicated by a new shift in emphasis on the importance of certain requirements, such as management responsibility and continual improvement with a minimum of documented procedures.

The A Team

The IAG decided that the perceived problem would be most effectively addressed with the help of a group of experts. This group would represent standards writers, certification bodies, accreditation bodies, consultants, trainers and, most importantly, currently practicing auditors.

The IAG took its recommendation to the IAF at its plenary in Berlin in September 2002. This resulted in a resolution to form such a group. The IAG also took its recommendation to ISO TC176 at its plenary in Acapulco, Brazil in October 2002, which similarly resolved to form this group.

This joint initiative by ISO TC176 and the IAF resulted in the establishment of the ISO 9001 Auditing Practices Group. Its first meeting was held in Sydney in February 2003. The group's two co-conveners, Alex Ezrakhovich and Randy Dougherty, represent the two founding bodies, ISO/TC176 and IAF respectively.

Members have been appointed from both ISO TC176 and IAF, and also individuals from ISO/CASCO, IATCA, and industry. The membership represents a wide range of organisations which are stakeholders in ISO 9000 third party certification. These include:

- companies with certificated QMSs
- standards writers
- certification bodies
- accreditation bodies
- Consultants
- Trainers
- currently practicing auditors

Aiming High

The goal of the Auditing Practices Group was, essentially, to provide advice to auditors. This would help them improve the value of third party certification audits of organisations with a certificated QMS and then ultimately be able to pass on these benefits to their customers. A primary consideration was to develop guidance that was practical, useful and usable for a third party certification auditor when auditing a QMS based on ISO 9001:2000.

The Auditing Practices Group agreed that the guidance needed to be written in concise and direct language. 'The papers are short, and easy to read and understand,' says Randy Dougherty.

The guidance would include practical examples and other tools, with a 'how to' approach. The Auditing Practices Group also recognised that it was vital that the guidance was widely promoted and readily available. As a result, it can now be viewed on a public website.

- So far, 19 guidance papers have been produced, covering:
- the need for a two stage approach to auditing
- measuring QMS effectiveness and improvements
- identification of processes
- understanding the process approach
- determination of the 'where appropriate' processes
- auditing the 'where appropriate' requirements
- demonstrating conformity to the standard
- linking an audit of a particular task, activity or process to the overall system
- auditing continual improvement
- auditing a QMS which has minimum documentation
- how to audit top management processes
- the role and value of the audit checklist
- scope of ISO 9001:2000, scope of QMSs and defining scope of certification
- value-added auditing
- auditing competence and the effectiveness of actions taken
- effective use of ISO 19011:2002
- auditing statutory and regulatory requirements
- auditing quality policy and quality objectives
- auditing the control of monitoring and measuring devices

Back to the future

The Auditing Practices Group has had three further meetings since Sydney. These meetings took place in Geneva in June 2003 and in Bucharest in October 2003. At the most recent meeting in Vancouver, the Auditing Practices Group agreed to develop further guidance on the following topics:

- auditing customer satisfaction
- writing non-conformities that are understandable, useful and therefore add value
- reviewing responses to non-conformities to assure correction and corrective action that is effective.

Effective White Collar Teams: The New Quality Imperative

by Howard M. Guttman

GIGO: Garbage in, garbage out. It's become a mantra of the computer age, but it's long been a tenet of the quality movement as well. You can't transform defective materials into a quality product, no matter how good your processes. Nor can premium raw materials make up for out-of-spec machines and sloppy mental or physical processes.

Quality is a three-part equation: A top quality end product depends on first-rate materials put through first-rate processes.

Back in the 1950's, with the help of W.Edwards Deming, Japanese manufacturers got the equation right. First, they attacked the supply chain, rejecting out-of-spec raw materials before they ever reached the plant floor. Next, they examined each step in the manufacturing process, with an eye to continuous improvement. By eliminating redundancy and waste, they increased profits.

In the 1970's, the focus shifted to the social and human resource preconditions for quality improvement. The Japanese pioneered quality circles, in which workers honed their problem solving, decision making and planning skills. Before long, "Made in Japan" had replaced "Made in U.S.A." as a guarantee of quality.

In the early 1980's, the quality movement, including total quality management (TQM), became manufacturing gospel in the United States. Solving the quality, cost and delivery challenge required paying strict attention to all the elements of the equation-input, process and output. The gap between American and Japanese quality began to close, especially in Detroit.

White-Collar Quality

In manufacturing environments, where TQM has flourished, improvements are relatively easy to measure. Rework and scrap rates, defects per thousand, overtime and other hard costs can be ferreted out. Any decrease in these costs can be translated readily into money saved, and return on investment (ROI) is quickly calculated.

In nonmanufacturing environments, quality has never taken root the way it has in production environments, although there are encouraging signs in the service, education and healthcare sectors. One reason: The input, process, output equation is far more invisible and difficult to measure.

As the vice president of human resources for a large consumer goods company notes, "On the plant floor, the payoff from the quality movement has been huge. Quality isn't just free; it pays for itself-and it's easy to measure the payback. In the back office or the executive suite, the payback from paying attention to quality can be equally great, but it isn't necessarily measurable. How do you measure increased efficiency, better teamwork, more thoughtful decision making? But those improvements also pay for themselves, over and over again."

In the white-collar world, quality must be pursued with the same rigor that has been applied in manufacturing. True, the value of the right decision is not always susceptible to quantitative analysis. Yet, the quality

equation still holds true. A quality output is equally dependent on quality raw materials (in this case, the brainpower and skills of employees) and quality processes (the interactions of those employees).

And GIGO is equally applicable in the back office or executive suite. An employee who lacks the requisite intelligence, experience or skill set the input-is unlikely to succeed. On the other hand, the smartest, most skilled person will likely fail if his or her interactions with colleagues-the processes-are dysfunctional.

High-Performance Teams

Make no mistake-teams have become the new organizing principle of organizational reality. They are the locus of power and responsibility, which is why every team at every level of the organisation must become a high-performance entity, delivering consistently top quality results.

"The quality movement in manufacturing was all about reducing variability-turning out products that were consistently up to specifications-and the manufacturing teams that took the initiative were extremely successful," says Gabriel Bottazzi, CEO and president of the Sara Lee Sock Co. "Now, we need consistency in the white-collar arena as well: teams that can deliver consistently good decisions, consistently efficient implementation and consistently innovative ideas."

Consistently high performance among white-collar teams requires taking a hard look at the second element of the quality equation – the process component or the way people interact, especially the way they deal with the cross pressure and conflict that come from today's horizontal structures, matrixed relationships and cross functional teaming.

As competition has heated in a more fluid, complex environment, the ability to make quick, smart decisions-and to do so consistently-has become critical to maintaining competitive advantage.

As another vice president of human resources puts it, "If a machine is off spec, and you don't have the tools to fix it, you keep making scrap. Dysfunctional conflict is the off spec of the white-collar environment. If a team is mired in conflict, and its members don't know how to deal with conflict, they won't be able to make any decisions. They, too, will just keep make scrap."

The Alignment Connection

In my experience, the central driver that determines whether a team is off spec is the extent to which that team is aligned. Quality professionals working the white-collar routes would be wise to rivet their attention on ensuring teams at every level reach agreement, or become aligned, in the following four areas:

1. The organization's key strategic and operational goals and how the team's goals relate to these goals.
2. What they are responsible for and what they are authorized to do, both individually and as a full team.
3. The team's protocols or ground rules for dealing with conflict.
4. Their interpersonal relationships-the range of personal styles team members adopt when interacting with one another.

Andrew Pek, global director of organisation effectiveness for Pfizer Consumer Health Care, points out, "Just as failing to examine every step in the manufacturing process can compromise the quality of your product, neglecting to align the team in any one of these four areas can jeopardize its ability to achieve its desired results."

Given the importance of alignment to quality improvement, particularly in the white-collar arena, let's examine these areas to see how aligning a team around each provides a high-quality process that enables a team to deliver top results.

Strategic Clarity
Johnson & Johnson (J&J) is a diverse organisation consisting or more than 200 companies or business units organized into approximately 20 franchise groups. How does J&J manage the out-ward forces typically at play in this environment?

According to Michael Carey, corporate vice president of human resources for J&J, the franchise strategies are tied together be clear, common goals and values, which minimize the chances for misunderstandings and misalignment.

These goals are articulated in two places. The first is the parent company's statement of strategic direction, which says it will abide by the ethical principles of the credo, capitalize on its decentralized form of management and manage for the long term. The second is a list of four imperative identified by the executive committee, themes around which J&J expects each of its businesses to pursue its individual strategy:

1. Innovation
2. Process excellence
3. E-business
4. Flawless execution

And, just as each franchise keeps the statement of strategic direction and four imperatives in mind as it develops its strategic plan, so must the business units within the franchise as they develop theirs. Carey cites an example:

Ethicon is one of the cornerstone companies in our wound care franchise. Its base business is wound closure: sutures, stapling and adhesives. Wound care had declared its goal is to become the innovation leader in its category. For the franchise's strategy to succeed, the Ethicon team must be committed to the same goal.

For example, R&D might suggest pursuing the me-too solution of using synthetic skin to close wounds. Marketing might respond with, "No, we need to be more innovative. We need to develop sutures and staples that cause less trauma as they pass through the skin, produce less swelling and promote faster healing, less chance of infection and fewer doctor visits."

If the team is truly aligned around the goal of becoming an innovation leader, the choice should be an easy one. That's how having clear goals, from top to bottom, reduces the potential for in-fighting and competition among functions.

Roles and Accountability
It's a typical scenario. As a meeting ends, everyone allegedly agrees on the next steps, but before the participants have escaped to the safety of their respective silos, the baton passing has already begun. It's a telltale sign the team is sorely in need of an alignment session.

Here are two questions to help to team get the process started:

1. How clear are you about your role and accountability on the team?
2. How clear are you about the other team members' roles and accountability?

Then, have the team probe further. During an alignment session, ask team members to define their jobs for the rest of the group by listing the activities they carry out and results they are responsible for, describing how they believe their job is perceived by other players and identifying the gaps between themselves and the other team members.

Then record their responses on a matrix visible to the entire team. As each participant's data are added, the disconnects become increasingly apparent. The discussion that follows often results in a whole new model, with new intersection points, on which everyone can agree.

Rules of Engagement

Clarity of goals and roles will only get you so far. Protocols for resolving conflicts-think of them as ground rules for behavior-are the third key element in developing a healthy team atmosphere.

At Campbell Soup, Coach, J&J, Materfoods U.S.A., Sara Lee Corp. and many other companies where teams have aligned to effectively manage conflict, the following protocols have proved useful:

- Don't triangulate. Triangulation entails bringing an issue to a third-party rescuer for resolution instead of resolving it head-on between the two people who own it. It has no place on your team.
- Don't recruit supporters to your point of view. Third-party recruiting is contrary to effective conflict management. It is not conducive to open, candid discussion. It does not result in positive behavior change. It tears apart rather than unites the team. Ban it.
- Resolve it or let it go. The longer conflict remains unresolved, the greater the chance it will metastasize, spreading throughout and beyond the team. Some teams adhere to a 24 or 48-hour deadline for conflict resolution. If at the end of that time the parties with the issue haven't been able to resolve it, they are expected to drop it once and for all and move on.
- Don't accuse in absentia. Even accused felons have a right to hear the charges against them and defend themselves in open court. If, during a team meeting, someone brings up an issue that involves a team member who is not in attendance, the discussion should stop right there and not resume until the absent person can be heard from.
- Don't personalize issues. Treat every issue as a business case. While depersonalizing isn't easy, all team members need to be able to accept criticism and answer challenging questions without taking umbrage. Of course, it's easier to depersonalize when feedback is given objectively. Make it a rule that anytime criticism is give, team members must present the facts without finger pointing or editorializing.
- No hands from the grave. There are some people who just can't take no for an answer. When a decision doesn't go their way, they continue to lobby for their pet alternative, even after it's been taken out of the running. Don't allow it.

A final word on protocols: To be useful, they must be embedded into "how business is done around here." To ensure the team continues to subscribe to its protocols, make sure they are written and circulated. Keep them posted in the meeting room. And revisit them as a group from time to time to assess whether they are being observed or additional protocol are needed to support the team in its conflict-management efforts.

Interpersonal Relationships

How successful a team is in aligning its goals, roles and protocols speaks volumes about the interpersonal relationships among its members-the fourth key element that is aligned on a high-performance team.

These relationships are often the holding pen of conflict. In dysfunctional teams and organisations, here is where all the silo thinking and subterfuge surface.

People come in three different packages:

- The nonassertive person, in effect, says, "I've got needs and so do you, but I'm not telling you what mine are. And if you don't guess them, I'm going to hold it against you." The nonassertive person is Mount St.Helens waiting to erupt.

- At the other extreme, the aggressive individual proceeds on the basis that, I've got needs and, at best, so do you, but mine count more." This is the schoolyard bully in business attire.

- The middle ground belongs to assertive individuals, who recognize both parties in a conflict situation have needs and who are willing to work toward a negotiated settlement. They are effective conflict managers, and high performance teams are those whose members have adopted this communication style.

Can people change style and metamorphose toward the golden middle? Sure, but it's hard work. Consider putting a team through this exercise: Begin by asking each person to identify his or her communication style-nonassertive, assertive or aggressive. Then, ask the other members, one at a time, to explain why they agree or disagree with their colleagues' self-perception.

It takes a great deal of skill-and courage-to look at ourselves through the eyes of others. It takes even more of both to modify our behavior based on the feedback they give us.

But, if team members are serious about ratcheting up performance, it behooves them to eliminate their blind spots, particularly those that relate to how they transmit and receive messages.

Less Tangible Measures

For quality initiatives to take hold in a white-collar environment, quality professionals must realise benchmarking, Six Sigma, ISO 9000 standards and the like aren't the only valid measures of quality.

Speed and effectiveness of problem solving and decision making, efficient project management, product and service innovations and other team accomplishments are less tangible but equally definitive indicators quality is on the upswing.

Consistently high-quality team output requires alignment of goals, roles, protocols and relationships. Consistently, high-quality organizational output requires alignment of all teams, at every level.

The challenge for today's quality professionals is to become catalysts for that alignment by using their skills and experience to guide teams within their organisations.

12 Ways to Add Value to Audits

Much has been said and done in the last couple of years related to organizational improvement and value added auditing:

- The ISO 9001 baseline standard requires continual improvement.
- The Six Sigma folks have reinvented continuous (never ending) improvement and reinvigorated the quality community.
- Lean practices help us refocus our attention on improving efficiency.
- The new ISO 19011 quality and environmental auditing standard includes an example audit objective of evaluating effectiveness of the management system and identifying areas of potential improvement.
- Some people believe system process auditing is needed to comply with the new Sarbanes-Oxley legislation designed to prevent another Enron or Global Crossing debacle.
- Others say we should be conducting value added audits anyway, but many are not sure exactly what these are.

In doing all this, are we straying from the primary contribution of system and process auditing? Are we going beyond the training and ability of most system and process auditors? Can system-process auditing really contribute to continual improvement?

My first assumption for this article is that continual improvement is desirable. Organisations desire to remain competitive and improve their effectiveness and efficiency. Yet continual improvement seems to elude us or may be difficult to sustain from year to year or manager to manager.

One of the contributing factors for the recurring difficulties is that very few top managers have firsthand knowledge of the quality profession or continual improvement and have received minimal quality management training.

Even now, at the start of the 21st century, quality management principles are rarely taught to university business students. Nor are there programs to integrate quality into pre-university curricula. The same is true for other specialty fields such as safety, health and environment.

In general, top managers need additional information to make informed decisions regarding areas in which they have very little background or experience. One of the primary management tools for collecting unbiased information is auditing. Perhaps auditing can help support management in its quest to achieve and sustain continual improvement. Perhaps auditing is the missing link needed to monitor, promote and sustain improvement programs.

Can auditing really help overcome the following most common difficulties in sustaining ongoing improvement?

- Lack of management commitment.
- Failure to change a culture of shooting the messenger.
- Mind-set that conformance to specifications and procedures is sufficient.
- Mind-set that quality costs instead of creating wealth.
- Failure to prevent recurrence of problems.
- Failure to find inputs to continually challenge the organisation to meet higher competitive standards.
- Failure to involve people in the continual improvement process.

The 12 audit action items will result in an audit program strategy that overcomes each of these difficulties

and promotes and sustains continual improvement.

Lack of management commitment is the number one cause of quality improvement program failures. It is both that simple and that complex.

Lack of management commitment can come about for several reasons. It may be evident at the onset of a quality improvement program when management isn't involved and hasn't provided sufficient resources for the program's implementation and maintenance. Audit program services may be able to bring to the surface issues concerning inadequacy of resources in hopes management will be able to resolve the problem.

Audit Action Item 1
Monitor implementation of continual improvement projects and programs to report progress and ensure adequacy of resources.

Lack of management commitment can also evolve over time through a series of poor decisions and actions. Top management must realise that as soon as it makes a commitment to a quality management system and continual improvement, its sincerity will be tested by customers, suppliers and employees to determine the level of its commitment to the change.

The informal and formal testing or verification of the system is an absolute. The only unknowns are when and how frequently. Management must be prepared to respond to customer, supplier and employee testing to reaffirm its commitment. An active continual improvement audit program could help show management's commitment.

Audit Action Item 2
Monitor the conformance to quality management system program requirements and report to management.

Tests to management commitment will also come during times of high stress or crisis. During a business crisis it may be necessary to temporarily waive quality criteria, but management should carefully weigh the consequences and be sure employees don't misinterpret decisions to bypass controls.

Top management should be aware quality has a virtuous characteristic about it. To some, any deviation from a set of quality rules that ensures product and service quality would be considered a lack of management commitment. Although management cannot always avoid this perception, it should be aware that quality can be a sensitive subject, similar to the environment. Most employees will understand the need to respond to a business crisis as long as it is atypical.

Audits can point out when rules are not being followed to highlight to potential consequences. As a follow-up, management must change the process to avoid or be better prepared for future crisis situations. Management must be prepared to make short-term compromises for the long-term good of the organisation.

Management must also be aware of all the consequences of a decision to implement a quality improvement program and seek buy-in by middle managers. Everyone should buy into the program, but middle managers can derail an improvement program if they believe their performance will be judged the same way it was before he program began. Management incentives and objectives should be aligned with the continual improvement program. The same is true of the audit program. Audit results should not be used to reprimand employees but to improve the organisation.

Implementation of a quality improvement program should not be a leap of faith. Expected results should be

stipulated. When it comes to forecasting results, a team may be necessary to sort out the initiative, how it will be realized in the business environment and how to word it in monetary terms. Management should know what benefits the organisation can expect from the continual improvement program.

Monitoring results will help keep the program on track and ensure the ongoing commitment of management and employees. Continual improvement auditing services could be used to verify continual improvement programs and projects are benefiting the organisation.

Audit Action Item 3
Audit improvement projects to verify claimed benefits and ensure they add value to the organisation.

Part of the quality process is to identify and fix problems. This always seems to work well at first, but after the first round of problem solving and management anguish, there is a tendency to revert to status quo.

It is natural for people to want the business to run smoothly, but this reversion to the status quo has resulted in problem avoidance or failure to admit problems exist. When a manager of an area appears to have too many problems, top management may have the individual terminated or replaced for being incompetent.

In some cases, employees (customers and suppliers, too) who report problems are discredited by being judged as non team players, disgruntled about work or always protesting or pushing their personal agendas or by being labeled complainers or whiners. There is not a positive term in any English dictionary to describe someone providing feedback for the good of the organisation. I would like to coin the word “vancour” for a person who provides feedback for the sake of improvement and without malice.

In most business cultures it is important for management to maintain an image of a ship operating in smooth waters. But this should not be accomplished at the expense of missed opportunities for organisations to improve or remain competitive.

Audit Action Item 4
Listen and be the messenger to convey problems and opportunities to top management so the organisation will learn and improve.

Auditors can operate independently of organisation politics. Quality improvement programs are ineffective when issues are hidden and unresolved. Listening to customers, suppliers, employees and other interested parties and being the messenger to top management can be a key contribution of the audit program.

Reliance on documentation cannot become a substitute for quality improvement. Conformance to a set of requirements cannot guarantee quality or continual improvement. Sets of requirements such as ISO 9001, TS 16949, ISO 9004 and the Baldrige criteria don’t seem to be the magic key to continual improvement. Overemphasis on documentation and records can waste resources and not achieve customer satisfaction.

The notion that quality means having procedures and inspection records stems from a mind-set from more than 50 years ago. Governments required high risk industries, such as food and drug, to establish and maintain procedures and records as a means of control and subsequent verification.

The prevailing image of quality for the general public remains its inspection and recordkeeping aspects. Yet in the late 70’s and early 80’s, the industrialized world started to realize quality through procedures and inspection was too expensive and inefficient compared to other techniques and strategies. Unfortunately, quality has not been able to rid itself of the inspect and control label.

Because people relate to tangibles such as a quality manual, it is easy for management and employees to slip into a comfort zone of having procedures and records as evidence of quality.

Auditing to verify conformance or compliance is important to management, but the audit program could also provide information about organizational performance. This is especially true of first and-second-party audit programs. Even third-party audit programs seek ways to add value beyond the documented procedure. Many auditors are switching to process auditing techniques to identify ineffectiveness and inefficiencies and to add value.

Audit Action Item 5
Promote process performance auditing as well as conformance.

A sure sign of "quality is compliance" thinking is when employees defend actions based on documentation. Some typical responses when a problem surfaces are:

- All the procedures were followed.
- We have the records to prove it.
- That method has always worked for us in the past.
- Our customer service is the best because we are 100% complaint with our procedures.

This mind-set is self-indulgent and avoids having to improve.

Audit Action Item 6
Carefully scrutinize audit finding corrective actions that make the system-process more complex.

Overcoming the thinking that quality is procedures and records is a major hurdle for organisations with mature quality systems based on regulatory compliance. Adherence to a procedure is a wonderful tool, but when overemphasized this practice can inhabit quality and continual improvement.

In some cases, managers and employees prefer not to make changes to improve a process to avoid the risk of receiving a nonconformity or noncompliance as a result of the procedure or process change.

Another document and records pitfall occurs when organisations establish new documented quality management systems. Before planning and documenting this processes, organisations were disorganized. After documenting their quality management systems, staff members become pleased with their handiwork and how they were able to plan their operations. They consider themselves to be organized.

But pride and confidence can lead to overconfidence and arrogance. During the ego stage, new problems that crop up are rationalized as already addressed or designed into the existing system. An active continual improvement audit program can keep the organisation vigilant.

Everyone must remember documents and records are only tools to be used (the means) to achieve quality, continual improvement and customer satisfaction-not an end in themselves.

Another reason for quality program failures is management believing quality costs and detracts from the real goals of profitability or coming in under budget.

When the quality program is treated as a burden or an extra cost of doing business, it is constantly targeted as a source of cost reduction. Yet modern concepts show quality improvement is a necessary strategy to stay competitive and gain wealth. Auditing programs can contribute to that strategy.

Audit Action Item 7
Link finding with economic pain to the organisation

Quality strategies have improved both parts of the income statement by opening new marketing opportunities it increase revenue and improving competitiveness by lowering costs.

Audit findings can be linked to organisation cost, missed opportunities or avoidance of risk.

Audits (system or process) can evaluate effectiveness and efficiency of processes to identify opportunities to improve.

This can be another source of input to continual improvement. Eliminating the causes of problems and improving efficiency contribute to customer loyalty, satisfaction and goodwill.

Audit Action Item 8
Audit process performance to identify inefficiency and processes that need to be optimized.

If continual improvement programs are viewed as an extra cost or luxury, they will always be on again and off again. Process auditing can ensure ongoing inputs into the continual improvement program are sustained. Auditing is the most effective management tool we have to ensure programs are sustained. If it works for safety and environmental programs, why not for continual improvement?

Continual improvement programs are both optimization and creation tools for organisations. Some cultures are strong in creating and innovating and improve by constant change. Others are strong in optimizing or evolving an existing system or process.

One of the cornerstones of continuous improvement programs is elimination of the cause of problems. If the problem causes are eliminated, the problems will not recur. This is another simple and effective quality concept.

However, many organisations complain their organisations are not improving as a result of the quality program actions. These complaints may demonstrate a lack of understanding of the process for eliminating causes of problems.

An audit program can be a prime offender in generating lists of problems whose causes are never eliminated. Audit program managers must take a strong position that systemic problems must be analyzed and causes identified and eliminated. This will ensure improvement actions are effective and add value to the organisation.

Audit Action Item 9
Ensure causes of findings are identified and eliminated.

It is imperative people be trained in the corrective action process and understand the underlying (or fundamental) cause of an action or problem. Finding the underlying or root cause is a difficult task that must be monitored by management.

It is too easy for people to react to problems as if they were a list of minor defects that must be fixed. The thinking is that the sooner the listed items are addressed, the sooner people can get back to work. Some organizational cultures recognize those able to work through problem lists as excellent expeditors and re-

ward them accordingly. The result is no improvement and the items on the list recurring because the system was not changed. In this situation, organisations are not even learning from their mistakes.

Audit Action Item 10
Monitor the corrective action program to ensure there is added value.

Management is interested in actions that make the organisation more valuable, more efficient and more competitive. It is not enough to follow the corrective action procedure, complete the required records and implement the action plan. Actions must add value to the organisation.

It is far too easy to accept superficial corrective actions when there is pressure to fix things and move on. When organisations reward expeditors too much, there will be less problem solving and actual improvement. The audit program can evaluate continual improvement actions and report their actual contribution to the organisation.

Another common reason continual improvement programs are not ongoing is they run out of gas. Everyone is so interested in the latest successful project that the pipeline is allowed to run dry. There must be a constant input of ideas. If people are running out of ideas, change the people or find other new sources.

Audit Action Item 11
Provide assessment services against mature standards, award criteria and best practices, and benchmark against best in class organisations.

New ideas and innovation are evolving, any many are rooted in the audit program (assessments against higher level standards such as ISO 9004, the continual improvement quality management standard) or comparison against quality award criteria (the Baldrige criteria, for example). Benchmarking and best practices information is readily available for evaluation and consideration.

During audits, an auditor may observe a best practice. If so, the best practice should be recorded and shared with other members of the organisation.

What is incredible about best practices is people say they don't have time to implement them or rationalize reasons they will not work. But implementation of a best practice is just as important as other actions to improve the organisation.

When the quality program is designed, implemented, maintained and improved by a select group, it risks failure and ineffectiveness when a person or group changes jobs or leaves the organisation. An entire quality management system can collapse when one person leaves. Involving more people results in a broader base and healthier program.

Audit Action Item 12
Develop and conduct surveys to test management policy and program deployment.

In general, people are more satisfied with their jobs when they have some input into planning and solving problems linked to their work environment. When asked, employees will share their opinions and insights regarding situations top management may not have considered. When work or task results are linked to quality objectives, employees can better see how they are contributing to the organisation, which increases their self-worth.

value adding

The 12 audit action items in this article can be implemented to support organisation objectives for continual improvement. The system-process auditing function has an opportunity to provide a value added service beyond traditional self-imposed limitations.

But you will need audit team members who have the appropriate training, education and experience. Audit team competencies may include auditing conventions, accounting practices, process knowledge or experience, and use of quality tools and concepts.

events

February 7-8
Six Sigma Conference 2005
ASQ, Palm Springs, California, USA
Six Sigmas Conference Online

February 24-25
17th Annual Quality Management Conference
ASQ, Orlando, Florida, USA
www.asq.qmd.org

March 2-4
3rd Annual Six Sigma in Healthcare Conference
WCBF, New Orleans, LA, USA
Check out the program

March 21-23
Safety In Action 2005 Trade Show
Melbourne, Victoria, Australia
www.safetyinaction.net.au

April 25-27
Quality: The Way to Sustainability, 49th EOQ Congress
Antalya, Turkey
Check out the program

May 16-18
AQC, American Society for Quality
Seattle, WA, USA
skrentz@asq.org

May 18-20
AuSAE National Conference 2005
Melbourne, Victoria, Australia
Check out the program

Next Generation ISO 14001

by Susan L.K. Briggs

ISO 14001, the international standard on environmental management systems (EMS) requirements, has been undergoing review and revision for five years.

The revision is focused on two goals:

1. Increased compatibility with the latest version of ISO 9001.
2. Improved clarification to assist users in understanding the requirements, thereby easing implementation and enhancing environmental protection without additional or diminished requirements.

The technical committee (TC) 207 working group found it challenging to satisfy these goals for several reasons:

- Language proposed by one member to clarify a requirement has been interpreted by other members as a new requirements
- What appears to be a minor grammatical change can, in fact, results in significant changes to meaning.
- In some cases, sections common to both ISO 14001 and ISO 9001 were recast into ISO 9001 terminology and structure, resulting in some difficulties, particularly in applying the product quality concepts of ISO 9001 to the environmental arena.
- In response to criticism by independent stakeholder groups, enhanced emphasis on regulatory compliance and external communication has been proposed.

Overview and Implications

The revised standard new requires an organisation to define and document the scope of its EMS and determine how it will fulfill requirements. It enables each organisation to customize its EMS to its size, culture and needs, thus reducing the potential for an external entity, such as a registrar, to mandate how to implement a requirement.

The environmental policy requirement for communication has been changed. The policy now must be communicated to “all persons working for or on its behalf” instead of “employees.” This may expand an organization's current communication efforts to include contractors and temporary staff.

A minor grammatical change to environmental aspects has far-reaching implications. Previously, an organisation was required to identify the environmental aspects of its “activities, products and services.” The proposed revision requires an organisation to identify the environmental aspects of its “activities, products and services.”

This clarification ensures no activities, products or services are excluded from consideration in the aspects analysis. Organisations still have the flexibility to define the scope of aspects’ organisation, buy they cannot, for example, consider only activities and services but not products.

Further, the organisation now has to consider “activities, products and services that it can control and those which it can influence.” This implies an organisation may have to consider activities, products and service it does not control directly but can influence, such as aspects related to goods provided through the supply chain. Previously, both control and influence were necessary prerequisites for consideration in the aspects determination.

Previously, “planned or new developments, or new or modified activities, products and service” were taken into account only when establishing environmental management programs.

Now, these change management considerations are evaluated during the aspects determination process. The intent is to reflect the step-by-step progression from evaluating the significant aspects of operational changes and then establishing objectives, targets and programs for the significant aspects. A requirement to document the aspects information has been specified.

The revision to the legal and other environmental requirements section, particularly the requirement for the organisation to “determine how these apply to its environmental aspects,” has caused concern to several of the TC 207 member bodies, including the United States.

The intent is to clarify that having “access to legal and other requirements” alone is not sufficient. Instead, an organisation needs to establish and understand the requirements’ applicability to its aspects and thereby, through inference, applicability to its activities, products and services.

One concern is the incremental effort an organisation will expend to demonstrate conformance to an auditor. Will a registrar be satisfied through interviews alone, or will a documented analysis be required?

The elimination of specific reference to environmental requirements minimizes misinterpretation that only those originated by environmental agencies are included. In fact, applicable Occupational Safety and Health Administration or Department of Transportation requirements will have to be addressed by the EMS.

To increase emphasis on compliance, legal and other requirements must be taken into account when establishing, implementing and maintaining an EMS.

The objectives, targets and programs section now represents the merger of objectives and targets and environmental management programs sections. This structure change improves the connectivity and linkage between the goal setting and action planning processes.

Clarifying text has been added specifying objectives and targets be measurable where practical and be consistent with any and all of the organization's policy commitments, not just the commitment to pollution prevention.

To strengthen the emphasis on environmental performance improvement, significant aspects and legal and other requirements must be taken into account rather than just considered when setting objectives.

Most changes to the competence, training and awareness section are in terminology and structure. References to personnel, employees, members and staff have been replaced with the more general “person(s) working for or on its behalf.” The new section title implies an increased emphasis on competence.

In response to arguments for increased emphasis on external communication, the revision requires an organisation to decide whether to communicate externally and, if so, to establish methods for this communication.

ISO 9001 and ISO 14001

Where there is commonality between ISO 9001 and ISO 14001 requirements, an effort was made to reflect the same terminology, format and structure of ISO 9001 and the ISO 14001 Final Draft International Standard (FDIS).

The documentation, control of documents and definitions sections are examples of this commonality. Beyond that, the most significant changes to these sections are:

- In addition to documents specifically required by the standard, all documents required by the EMS must be controlled.
- Documents of external origin necessary for the planning and operation of the EMS must be identified and this distribution controlled.
- References to "documented procedure" have been replaced with "procedure," defined as a "specified way to carry out an activity or a process. Note: Procedures can be documented or not." This change provides organisations greater flexibility and reduces administrative burden, while challenging registrars to find assessment techniques relying less on documentation.

In response to external criticism that the standard did not sufficiently emphasize compliance, a dedicated section on periodic evaluation of compliance was added, increasing the scope beyond legal requirements to include "other environmental requirements to which the organisation subscribes."

This implies organisations will need to expand their evaluation processes. The revision also requires that compliance evaluation records be kept, which can then have legal ramifications for organisations that document noncompliance information.

In addition to current requirements to handle and investigate nonconformities, take action to mitigate their environmental impact and take corrective action, the FDIS clarifies that the cause of nonconformity must be determined and action taken to prevent its recurrence.

Further, an organisation is required to evaluate the need for actions to prevent nonconformities, implement appropriate preventive actions and review the effectiveness of corrective and preventive actions taken.

Lastly, the definition note "nonconformity is nonfulfillment of a requirement" implies an expanded interpretation of what nonconformity entails. The common understanding in the United States is that nonconformity is nonfulfillment of an EMS (or ISO 14001 system) requirement. In contrast, noncompliance is treated as nonconformity throughout much of Europe.

Specific examples referenced in the records section have changed. Instead of citing training, audit and management review records, the FDIS cites records for compliance evaluation, procedure implementation and results achieved. This substitution was intended to increase emphasis on regulatory compliance. Questions remain on how organisations will record implementation of as well as results achieved from each and every EMS procedure.

Other than a change in the title, the major change to the internal audit section is the requirement to select competent auditors and ensure objectivity and impartiality when they are conducting the audit. This may be difficult for small organisations with few trained and qualified employees to conduct audits, not to mention limited resources to hire consultants. Clarifying text has also been added distinguishing this audit requirement from a certification audit.

The management review section was changed to be compatible with ISO 9001, now listing the inputs and outputs required in the management review process.

Final Expected by December

The ISO 14001 EMS standard recently was approved for elevation to FDIS. It is expected TC 207 will approve the FDIS and issue a revised international standard by December. Organisations will then have 18 moths to conform.

The degree to which the revision fulfills its goals is being debated:

- Some argue the proposed revisions do not increase the value and benefit to an organisation or the community in terms of improved performance and environmental protection but instead increase administrative burden.
- Some believe the changes benefit only the registrars whose business is to audit and certify these systems (and consultants whose business it is to help clients understand and comply with the new requirements).
- Others argue the new version is now clear, explicit and compatible with ISO 9001.

But what constitutes compatibility between the standards has evolved. Once it meant no conflicts, and then it meant alignment. To some it meant identical text.

Discussions on how to further enhance the alignment between ISO 9001 and ISO 14001 are already under way. It will be the users who will be the ultimate authority on whether the working group has achieved its goal.

Scope Projects in 10 Steps

by Jean Harvey

Think globally, act locally. Strategic options and their implications are not visible unless you take a global view. However, since trying to change everything at once results in chaos, change must be executed through small, bite-sized projects. The same goes for process improvement and process design of a more tactical nature. Unfortunately, a series of beneficial local actions may result in a loss of global coherence, unless care is taken to ensure coherence by regularly looking at the big picture.

To get the correct project scope, you need a good cookie cutter. Too big a scope generates much frustration, and energy is wasted beating around the bush. The greatest risk is you never reach the level of detail required to identify and fix the vital variables. By contrast, the greatest risk to too small a scope is you leave these variables out entirely and waste time beating the wrong bush.

While these issues are well known in manufacturing, mitigating the risks in professional services, where complexity arises from other factors, requires a different approach. The proper methodology in services includes tools designed to force an organisation to see where the project fits into the global picture and to help it pick the right part of the right process to improve.

To illustrate this methodology, I will focus on the case of a child protection service (CPS) agency. While the methodology has general applicability, an example drawn from the complex field of human services shows how the approach lends itself to some of our most sensitive social problems. For those readers not familiar with CPS agencies, I will also show how the methodology benefited a software developer and an accounting firm. Here's an overview of the problems each organisation faced:

- The CPS agency was concerned about recurring capacity problems, so the general manager hired a process improvement consultant.
- The software developer wasn't meeting its promised delivery date. Late project start-up was initially thought to be the culprit.
- The accounting firm was experiencing problems in collecting its receivables and thought inefficiencies in the billing department were to blame.

The methodology proceeds from a high level exploration of related metrics and processes through the selection of the specific goal and process to be improved to a final delimitation of scope.

1. Identify the big Y: What is the general goal we are pursuing?

The initial problem statement should be formulated to be "SMART" (specific, measurable, ambitious, realistic and timely).

The CPS agency wanted to solve its capacity problems, so its problem statement said, "We want to shorten the time is takes for children in need of protection to be admitted to the reception center from 10 days to 1 day." While on the waiting list, these children are at risk and their situation generally deteriorates. Having recently completed a strategic planning exercise, management had no problem identifying this as its top priority.

This initial problem statement is known as the big Y-Six Sigma's way of referring to the high level dependent variable. It provides a starting point in an organization's search for the right scope.

The corresponding statement for the software developer said, “We currently meet our deadline on 25% of our contracts, but we should be 90%.” And the accountant’s SMART statement said, “We get paid 85 days after we’ve performed the work, but we should be paid in 30 days.”

This fist step of the methodology gives focus to a discussion that is often loose and instructed. It forces stakeholders to be more rigorous and get data.

2. Determine related metrics: What other quantities (or metrics) are so closely related to the big Y they could potentially constitute alternatives to it?

Managers can generally land in the rights strategic area, but if left to their own devices, they are quite unreliable when asked to pinpoint the problem. Thus, it is useful to explore the vicinity of the original problem to see whether a more meaningful problem statement can be found. The resulting metrics for the CPS agency are shown in Figure 1 in the form of a correlation diagram.

Adapted from the field of systems dynamics, correlation diagrams illustrate patterns of influence. An arrow indicates a correlation, and its direction signifies the assumed underlying causality. Correlation diagrams allow visualization of patterns. Balancing loops, such as the one shown by correlations numbered 1,2 and 3 in Figure 1, show how a one-time increase in the number of reports when the reception center is near capacity will eventually (with a time leg) lead to an automatic adjustment, as management responds to a lengthening of the waiting line by adding resources.

Reinforcement loops, such as the one shown by correlations 1,2,3 and 4 in Figure 1, are vicious circles. As a result of a longer waiting list, children at risk are left in their home environment for longer periods of time, thus triggering new reports that have to be investigated. This puts added pressure on the social workers who receive and investigate these reports, leading them to cut down the number of validation calls they make. They tend to deal with this increased professional risk by erring on the side of caution and deciding more frequently to withdraw children from the threatening situation (correlations 5 and 6 in Figure 1).

Under the pressure of the longer waiting list, the reception center reinserts children earlier than clinically indicated, thus triggering new family crises and even more reports (correlations 7 and 8 in Figure 1). Delays in these reactions, such as adding more personnel and earlier reinsertion, typically exacerbate the swings brought about by such situations as new corrective measures are brought on to try to resolve a situation whose solution is already in the pipeline.

This diagram helps managers understand the dynamics of the situation-a critical asset when the time comes to identify the best leverage point for breaking negative patterns. Though some of the critical correlations can and should be substantiated with data, it is generally impossible and even counterproductive to try to do so systematically. Keeping things simple produces the most benefit for the effort exerted. Assuming that some quantities are exogenous to the model-such as the variable “average experience of social worker” in Figure 2-will contribute to the simplicity.

As for the software developer, its influence diagram (not shown) identified metrics such as the number of technical risks initially identified, the number of staff changes that took place during the project, the number of supplier changes that took place between the bid and start-up stage and the time required to fully free up designated core team members once the project was started. This brought out a complex dynamic involving a lack of serious risk analysis and planning at the bid stage. Because technical challenges weren’t discovered until the project was well on its way, the developer tended to pull the best resources from other projects to fix the problem, thereby spreading the crisis to these projects and triggering a domino effect.

The accounting firm's diagram (not shown) identified metrics such as delays in producing invoices, errors on invoices, lateness of and errors on time and expense reports, clarity of invoices and clarity of contract and customer queries. The firm uncovered the fact it often started projects on the wrong foot as the terms and conditions related to billing were often vague or not discussed in detail with the customer. Thus, staff working on the project did not receive clear instructions. This caused delays, ambiguity or errors on time and expense reports and the invoices. These problems, in turn, triggered customer queries and further delays. The delays eventually built up and generated a backlog that took months to resolve.

In step one, an organisation is forced to be specific and gather data. In doing so, it realizes it has to exclude related metrics it believes are equally important. Step two allows the organisation to revisit these metrics to identify and specify the dynamic nature of the relationships among the metrics. This helps focus the project on processes with maximum leverage to resolve the problem.

3. List potential processes: What are we doing that has an impact on these metrics?

Underlying processes are implicit in steps one and two. This step makes them explicit. A potential set of processes relevant to the influence diagram (Figure 1 and 2). These processes are readily identified by managers, but because no process exists alone, the major links still need to be acknowledged.

You are not looking for correlations. You are looking for functional linkages that can be found in the answer to this question: If you were to modify this process, which other processes would have to be included in the project and which would have to be tagged up-front as related processes to be adjusted to maintain global coherence? The bold arrows in Figure 2 represent the former type of link; the regular arrows represent the latter.

As the CPS agency managers pondered which process to focus on, they realized the way short-term reinsertion decisions were made was irremediably linked to the way long-term decisions were made. If criteria were changed for one, they had to be changed for the other. They also realized these decisions could not be meaningfully separated from the other decisions that were made when the case was reviewed.

Thus, the three processes linked by bold arrows on the left-hand side of Figure 2 form an inseparable whole called the "review initial decisions" process. In a similar fashion, the three processes linked in the upper right-hand corner of Figure 2 must be considered together and are referred to as the "make initial decisions" process.

The managers realized if they wanted to change the process through which children were removed from their homes, they must be ready to make corresponding changes in the way families were helped and reinsertion was prepared. While these processes would be out of scope if the "remove child and admit to reception center" process was selected for improvement, they would have to be considered to be adjacent processes, and appropriate experts would have to be included in the project team.

The software developer ended up linking several processes related to risk management (assess initial project risk, prepare risk management plan and manage risks) and staffing (select bid team members and core project team members). Several clusters of processes also emerged in the accounting firm, such as those related to the preparation and verification of time and expense reports and those related to the initial billing agreement.

4. Create a process metrics diagram: How are the target metrics and processes related?

Figure 3 shows the impact of each process on the relevant metrics. Processes that are inseparable are the same color. These relationships are especially useful if you look back at Figure 1, which highlights pat-

terns of influence among the metrics. The "make initial decisions" process, for example, is at the center of the reinforcement loop mentioned in step two due to its impact on the intake valve. The "review initial decisions" process is also a strong factor due to its impact on the outlet valve.

At the software developer, the later completion of software projects turned out to be a complex problem with several clusters of processes at its root. Several projects would be needed to solve this problem, and each needed to focus on a different aspect of the business, prototype development and risk management.

This step confirmed the accounting firm's suspicion that the initial setup of the invoicing process was an important part of its problem because instructions to staff and customer expectations stemmed from that process. The firm also found the preparation and communication of the first invoice were pivotal in detecting and resolving any remaining internal or external issues.

5. Conduct a high level process performance evaluation: What is the current performance level of these processes?

The answer to that question provides critical input to the scoping decision. Figure 4 shows an evaluation of the processes using an efficiency/effectiveness diagram.

Three processes are in dire need of improvement:

1. Deciding which course of action to take initially
2. Visiting the family
3. Removing the child from his or her home environment.

Dedicating an improvement project to any of these processes will likely yield a high return. On the other hand, dedicating a project to the decision surrounding the timing of long-term reinsertion will probably not yield important payback.

6. Create a cause and effect diagram: What are the causes of the problem?

Tentative answers arising from earlier steps can be further validated using a cause and effect or Ishikawa diagram (see Figure 5). This tool forces an organisation to approach the same problem from an angle not restricted by process and metrics. The organization's earlier conclusions will be reinforced if the most important factors identified by the cause and effect diagram point toward the same culprits identified in the preceding steps.

In the case of the CPS agency, correlating earlier analysis with the cause and effect diagram singled out "defensive practices," "lack of uniformity in application" and a "poorly scripted home visit" as the processes that should be fixed. If that were not the case, earlier results would have to be revisited to reconcile differences.

7. Identify the small y: What is the specific goal we are pursuing in this project? What is the yardstick that will be used to measure the project's success?

Based on the information learned in the preceding steps, the percentage of reports that ended with the decision to admit a child appeared to be at the center of the problem. It's a bull's-eye type of metric, and there should be a target range within which the processes would be considered within specifications. The specific SMART statement for the CPS agency said, "Currently the admission rate varies between 10% and 50%. It should remain within the 15 to 25% range 99% of the time."

8. Delimit the turf: What is the perimeter of the process to be improved to reach the goal formulated in step seven?
The process of making initial decisions linked directly to the goal. It started when a report was received and ended with a decision on what action to take, if any. While the process of verifying the report was effective, its low efficiency was likely to have an effect on the waiting list in the resource bound context of the agency. The process owner was the director of child and youth protection.

The software developer's specific SMART statement said, "Our risk management plan currently rates a three on our 10-point quality scale. It should rate eight or higher." The quality scale had to be developed on the basis of a weighted sum of criteria, such as validation of the list of technical issues, the depth of the initial exploration of a technical solution, the number of risks with associated contingency plans.

It is a common misinterpretation of the measurement imperative-if you can't measure it, you can't improve it-that unless a metric is readily available for an objective you would like to reach, it should be dropped in favor of another. On the contrary, it should be kept, and an appropriate metric should be sought or developed. The process to be improved by the software developer was defined as "prepare risk management plan." It started with receipt of the request for proposal and ended with approval of the plan by the owner of the proposal.

The accounting firm decided to focus on the errors on the expense reports and time sheets used to prepare the first invoice for a new contract. The error count was eight, and it should have been zero. The firm chose "specify and communicate billing procedures to all concerned" as the process to be improved. The process started with the point from terms of reference (precontract) and ended with all concerned parties (internal and external) receiving explicit reporting and billing instructions.

9. Check the scope: Is the scope too broad? Is management abdicating its responsibility to scope the process down to a manageable size?
If that were the case, the team would feel abandoned because it was forced to use a rigorous analytical methodology to perform a task that required managerial judgment.

A cursory functional analysis, such as the FAST (functional analysis system technique) can help assess the size of the process. The diagram can be pushed farther to the right one level if management still doubts the breadth of the process, or a macromap that adds the players involved to another axis can be prepared. Of course, management will need the counsel of a process improvement expert to make an enlightened decision as the process's adequate size.

10. Review the scope: How could the scope be further reduced?
A low level efficiency/effectiveness analysis can be performed on the functions to determine whether a viable high leverage (low performance) subset can be isolated. This may create a loop back to earlier stages of the methodology because management may be tempted to leave out subprocesses that display high performance but were previously judged to be inseparable from the others. Thus, the methodology is iterative, not linear, because early judgment calls may be questioned later and may turn out to be critical to the scoping decisions as things unfold.

A Balancing Act
Determining the scope of a project involves managing a complex trade-off. Scoping must be performed from the top down and should be as scientific as possible, but the top view (management and strategy)

between the two realms should lie – at least for the period during which a rigorous analytical framework is to be deployed within the domain of the project. This places managers who must make that decision in the uncomfortable position of spanning the proverbial boundary between art and science. It assumes they'll know when to be guided by intuition and good judgment and when to be guided by facts.

Drawing the boundary between art and science is not easy, and doing so requires highly qualified people. They have to be comfortable distilling the experience of the organisation one moment and evaluating the normality of a dataset the next, accepting the manager's judgment call one moment and rejecting an undocumented assertion the next, taking the broad view one moment and the near view the next.

I hope this methodology and toolkit help bring structure to a complex task and diminish the unavoidable turbulence that occurs at this crucial interface between intuition and rigor.