JOURNAL of INNOVATIVE MANAGEMENT

A Journal Reprint
Volume 6 Number 1
Fall 2000

FORESIGHT 2020: THE FUTURE OF QUALITY IN THE AGE OF TECHNOLOGY

Gregory H. Watson, President, American Society for Quality, Milwaukee, Wisconsin

Perspective

GOAL/QPC

JOURNAL Of INNOVATIVE MANAGEMENT

Journal of Innovative Management

Description

The *Journal of Innovative Management* is a peer-reviewed quarterly journal for experienced practitioners of quality management and continuous improvement systems. The purpose is to facilitate increased learning and innovation by providing people with cross-discipline information about organization transformation through participative planning, problem solving, and innovation. It is written to help leaders, managers, and workers to:

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

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

- ✧ Cases, applied research, tools, news & views
- ✧ Organizational transformation, participative planning, problem solving, and innovation
- ✧ Private sector, public sector, and nonprofit organization settings
- ✧ Leading-edge and experience-based information, generally 1- 3 years old.

Reader Services

Reprints. Article reprints are available in hard copy, Acrobat™ PDF format, or as a next-day fax. Quantity discounts are available.

Ordering information. To order a subscription or reprints, call or write:
Customer Relations
GOAL/QPC
2 Manor Parkway
Salem, NH 03079
Phone: 800-643-4316 or 603-893-1944
Fax: 603-870-9122
E-mail: service@goalqpc.com
Web site: www.goalqpc.com

Name or address corrections. Send address or other changes to:
Journal Subscriptions
GOAL/QPC
2 Manor Parkway
Salem, NH 03079
E-mail: service@goalqpc.com

Permissions. Send requests for permission to quote passages from this article to:
Permissions
GOAL/QPC
2 Manor Parkway
Salem, NH 03079
E-mail: lsmith@goalqpc.com

Members of GOAL/QPC receive a subscription to the *Journal of Innovative Management* as a benefit of annual membership. To learn more about GOAL/QPC products, visit our web site at www.goalqpc.com.

The *Journal of Innovative Management* (ISSN: 1081-0714) is published quarterly by GOAL/QPC, 2 Manor Parkway, Salem, NH 03079.

Bob King, Publisher
Laurence R. Smith, Editor
Carolyn Field, Associate Editor
Daniel Picard, Assistant Editor
Cathy Kingery, Assistant Editor

©2000 GOAL/QPC. All rights reserved. This article is intended for the individual use of GOAL/QPC members only. This article may not be reproduced, distributed, or sold without written permision of GOAL/QPC. Reprints of this article are available. For more information, contact GOAL/QPC, 2 Manor Parkway, Salem, NH, 03079.

Foresight 2020: The Future of Quality in the Age of Technology

Author

Gregory H. Watson, President, American Society for Quality, Milwaukee, Wisconsin

An uncertain future

There is confusion today about the future of the quality movement. Business is changing its emphasis on quality, and ownership of quality practices is also changing. Business professionals, not just quality professionals, are now using the quality tools. Many people also believe that there is a difference between Six Sigma and the quality principles. As leaders of the American Society for Quality (ASQ), we've had to ask ourselves: "What is the status of ASQ and the quality movement?"

The first future study: 1995

Back in 1995, ASQ conducted its first study in which we looked forward to the year 2010 and our place in it. But a funny thing happened in the meantime: the future arrived much faster than we expected. We had grossly underestimated the rapid advancements in technology, such as the Internet, and how much these changes would alter the business landscape. The technical forecasts we made were achieved almost five years ahead of our expectations. We also overestimated Japan's economic influence and underestimated China's. But the study did help us prepare for the years to come, and led us to initiate important strategic changes for the organization, including a $2-million systems upgrade, a name change, a new organization structure, and a new research strategy. Those changes have served us well, but they are not enough. We realized that we have to look again at the forces that will shape our future, so that we can continue to play a vital role in it.

The Foresight 2020 study identifies critical assumptions

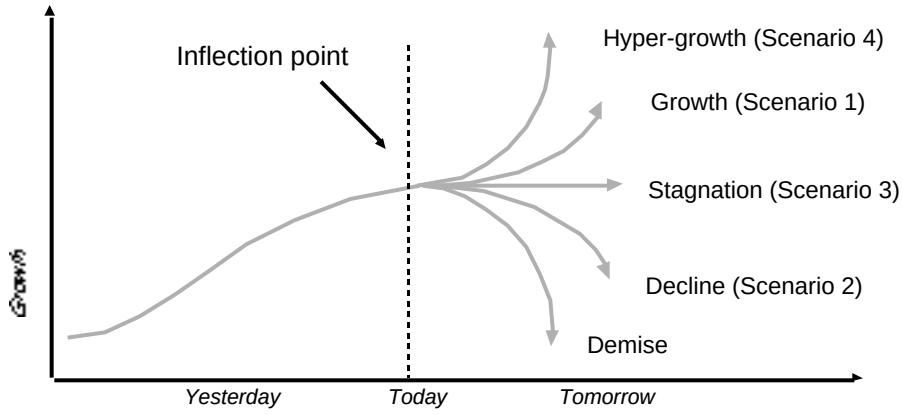
In August 1999 we convened a future study team, many of whom were also members of our strategic planning committee, to conduct Foresight 2020, a look ahead to that year. This study increased our understanding of our entire business environment, our customers, and ourselves. More importantly, the results of this study yielded insight into the critical assumptions we have about the quality movement and our society.

This study identified some key demographic, economic, cultural, and technical trends that will continue. We also identified eight forces that will shape our future, and from these trends and forces we created four possible scenarios. Our aim is then to develop recommendations for action plans for ourselves, our constituents, and our customers based on these scenarios. ASQ has reached an inflection point: the future growth of our organization can move in any number of directions (Figure 1 on the following page). In the '80s and early '90s interest in quality bloomed—and mem-

© 2000 by GOAL/QPC

The Foresight 2020 study identifies critical assumptions, continued

Figure 1. The American Society for Quality (ASQ) Growth Inflection Point



bership in ASQ grew in proportion to this interest. Although in the last few years we've had some significant growth in a few niche products such as ISO 9000 and health care, we've experienced flattened growth overall—in membership, certification, conference attendance, and in sales of our other products.

Let's look more closely at the trends among these driving forces that we believe will continue to shape our world, and the critical assumptions we are making that will affect how we interpret our future opportunities.

Inputs for our scenario planning

(1) **Demographic forecasts.** There are two peaks in population caused by increases in immigration and birthrates: the so-called Baby Boom Generation and Generation-X. During the baby boom, birthrates increased in the 1940s, peaked in the late '50s, and then bottomed out in the '70s. The second increase, Generation-X, began in the late '70s, peaked in the early '90s, and is now tailing off. These two cycles indicate there is a 40-year pattern of growth—that fact allows us to anticipate the beginning of another new cycle in the year 2010.

We all have spending, saving, and investing habits that are a function of our age. Therefore around 2010, we can anticipate a slowing of spending as many of the Baby Boomers start to conserve their incomes and increase their savings in preparation for retirement. That money then becomes the investment capital needed to create innovation in our children's generation, the fruits of which will come to market sometime later when our children have established themselves in their careers, and we have retired.

We identified this *cycle time for innovation* as one of our critical assumptions: the time to market for new inventions will remain constant and cyclical.

(2) **Technological forecasts.** There are several technical areas that we believe will come into fruition by the year 2020. One is nanotechnology: the manipulation and manufacture of materials and devices at the molecular scale. Computer-aided customization will become routine, as we see in the Lexus automobile with its

Inputs for our scenario planning, continued

programmable seat control. Fuel cell technology will come into its own: automobiles (consider the technology linkage that has been established between Ballard Technologies, Ford, and DaimlerChrysler) and homes (look at the work of Plug Technologies) will be able to use alternative fuel sources. High definition TV will become commonplace, and be incorporated into our cellular phones, smart maps (these will interactively define the direction required based on feedback loops from geographic satellites that track your real-time movement), and handheld computers. People will carry an electronic wallet, a smart card really, that will replace the keys to your house, your driver's license, credit cards, medical records. A company in France called GemPlus has already begun marketing products. Many of these technologies have been around for some time, but we will now see integration of computing power and information access into new products and services.

We make a couple of critical assumptions regarding technology: first, is the *continuity of technological growth*. Moore's Law* will continue to hold true (or even accelerate). A second related critical assumption is: *the health of the economy and distribution of money will continue to be significant in determining the speed of commercialization* for new technology. In developed retail markets, the more people with discretionary funds to spend on new technology products (these are the early adopters), the faster a product, such as HDTV, can move to mass market, because their critical mass provides a rapid payback for the inventor's investment, allowing a more rapid price reduction. Another critical assumption is that *the existing investment in production capacity for a mass market creates its own inertia*, slowing down the investment and development of new technology. This explains part of the phenomenal growth of the Internet: it didn't have to displace another technology.

Critical to the shift in the technological force is that once we thought that it was only important to own the patents. Now the speed of technical diffusion, the time it takes for technology to be commercialized, is accelerating, as we become more sophisticated in turning intellectual knowledge into commercial applications. This means that the time to obsolete patents is becoming more rapid and their enduring value is less important, but their significance as "business trading cards" is becoming a more significant aspect of future business alliances and technological partnerships.

(3) **Social forecasts.** We made a number of social forecasts:

• **Electronic immigrants and telecommuters.** Electronic immigrants from other cultures and economic conditions will continue to displace workers in more favored economies. Many companies now hire computer programmers in India or Eastern Europe who then telecommute. The labor costs of these telecommuters are about 10% of a programmer in the U.S. or Western Europe. The flip side of this coin

*In 1965 Gordon Moore, co-founder of Intel Corporation, observed that the number of transistors on (and the power of) integrated circuits doubles roughly every 18 to 24 months, while the price remains relatively constant. This observation has become known as Moore's Law.

Inputs for our scenario planning, continued

is that telecommuting will have a positive impact on family life, as more people have more time available to spend building their personal relationships.

• **Virtual reality.** The virtual reality created by the Internet and computer games will have a growing negative impact as a new form of addiction. People will become addicted to this artificial world that they can control, becoming more physically and emotionally disconnected from their families and communities.

• **Information warfare.** Computer viruses, worms, and other forms of technical sabotage will become an increasing threat to computer and web-based organizations.

• **Lingua franca.** English, already the dominant language of business, aviation, and science, will become the dominant language of the web. Toshiba of Japan, declared in January of 2000 that English will be their corporate language.

• **Knowledge entrepreneurs.** We'll see the development of the "gold collar" worker; this is someone who sells his or her knowledge to the highest bidder to improve business performance. Author John Naisbitt, in his book *Megatrends,* said that information was becoming the most precious resource companies own.

• **Intelligent tutoring systems.** Schools will be transformed from classrooms into intelligent tutoring systems by the application of interactive media. This technology will adjust instruction to the needs and interests of each individual student to make learning more effective and fun. This innovation may reverse the current trend towards more teamwork and heterogeneous grouping in public schools.

• **Digital revolution.** The digital revolution will focus society on its value system: how it works together effectively and behaviors that facilitate efficient work both within and across organizational structures. Attention will be focused on trends that decentralize, globalize, harmonize, and empower work.

• **Values.** A return to "family values" will also occur, as the home becomes a center for both work and family.

What do we really know about the future?

We identified eight driving forces that will shape our future:

(1) **Partnering.** Superior products and services will be delivered through partnerships, ranging from strategic alliances to mergers and acquisitions. Companies will become more adept at choosing the right partner to accelerate the application of knowledge—the fundamental reason for partnership.

(2) **Learning systems.** The use of advanced technologies will speed knowledge transfer in education.

(3) **Adaptability and flexibility.** The velocity of change is increasing in society; so adaptability, flexibility, and the ability to manage change are becoming increasingly important. We will have to discover simpler solutions to deal with the increasing complexities of an ever-changing environment.

(4) **Environmental stability** . We will start to act on a truly global basis to stabilize and preserve the natural environment, as we realize that the actions of local groups are insufficient to preserve the ecosystem as a whole.

What do we really know about the future? continued

(5) **Globalization.** The shrinking globe will continue to shape our economic, political, and social environment. There will be continuing growth of trade unions, such as NAFTA and the European Union, as nations realize that they will have to band together to have the economic strength needed to compete. The electronic transfer of money across international borders obviates the local governments' role in taxation. A more global perspective is going to be required to prevent sub-optimization. Whether real or virtual, the battles of the future will be fought not over land borders, but over electronic ones.

(6) **Knowledge focus.** Knowledge will become the prime competitive and wealth creation factor. The Internet explosion has underscored the significance of an organization's knowledge and the value of intellectual assets as a commercial property. Peter Drucker and other management guru's have heralded the next business age as the "age of knowledge." Knowledge begets knowledge as each organization finds ways to grow its knowledge base and capitalize on its internal intellectual assets. As manufacturing grows less important and is pushed off-shore to "developing nations," the developed world finds more of its business emphasis placed upon service industries and knowledge creation industries (research and development). A critical assumption related to knowledge is that the manufacturing base of a country is the best indicator of its development. The future emphasis will shift toward service, and manufacturing will no longer be a valid indicator of wealth generation capability.

(7) **Customization and differentiation.** These will continue to grow in importance; as Tom Peters said, "We'll...be building in lot sizes of one for all customers." This level of product differentiation is going to become even more important to growing sales, so we'll have to find ways to deal with this potential dilemma by learning to both customize products and mass produce them at the same time so that we can operate most efficiently. Product specialization will be delivered in what we call the "soft side" of the product, rather than the "hard side." An example of this is what is called a software radio: all of the features are located in a microchip that can be programmed to perform any radio telecommunications function.

(8) **Shifting demographics.** The social values and ethnic makeup of our society will continue to change. This driving force will create a leveling effect across national boundaries as nations compete via e-commerce across national boundaries. The shift in values and ideals will span across generations and around the world (age groups are not normally distributed by country). Many times the transition between two generations results in a social riff that separates parent from child and leads to alienation of one or both parties. (I hope that this change will occur more smoothly than it did from my father's generation to mine.)

Scenario planning and option analysis

When we began to construct our scenarios, we realized that no amount of "futuring" would allow us to see the road ahead clearly. What matters though is that they are a helpful way to consider what *could* happen. We wanted to look at the second and third order implications of coming changes, so that we could build

Scenario planning and option analysis, continued

barriers to prevent any unwanted outcomes, and build bridges to allow desired outcomes to become true.

This study also led us to understand the importance of our critical assumptions. It is imperative that leaders understand the assumptions upon which their business rests. If they don't, no matter how good their strategic planning is, they won't know when those assumptions have been nullified until it is too late. Bayesian thinking and conditional logic need to be brought into use by senior management to prepare them to live and work adaptively in a chaotic world. There need to be explicit trigger points in business planning processes that cue managers when the future trends that they anticipate and have used as a basis for planning have been suspended and they need to seek alternative directions.

When the future unfolds into reality, scenarios are no longer important; the options that have been studied in the past provide clues to define boundary conditions for the set of future decisions. The choices of the future are determined by the deliberations in our past. Scenarios help us to think conditionally about future choices and ASQ used four scenarios to help think about what could become reality. These four potential realities provided a breadth of alternative futures that ASQ's strategic planning team considered to test how well its plans would fare under different conditions.

The Fruits of Knowledge (Scenario One)

The "base case" scenario

This is a "base case": the linear extrapolation from the status quo to the year 2020. The fundamental elements of quality management, (such as basic problem solving and the methods of total quality management) have been instrumental in realizing the benefits promised by the new knowledge society. Yet there are companies, countries, regions that have still "not got religion." The economic boom of the '90s never led to a crash as many feared; instead information technology and the rise of the new knowledge economy "rewrote economic textbooks." The quality principles were applied to these new realities to devise new theories by a new group of economics. The heightened awareness of the quality principles spurred many companies to deep-seated reforms and more sustainable economic health. Global organizations, such as the International Monetary Fund, took the cue and began requiring the adoption of the quality principles as a condition of economic assistance.

Technology remains the driver of change. In 2013 e-commerce eclipsed all other forms of commerce combined. The quality movement contributed to the runaway growth of e-commerce by helping to devise international protocols and standards that are used to facilitate, regulate, and safeguard commercial transactions.

Convergence of information technologies and the propagation, integration and cross-referencing of knowledge bases have lifted many vocational specialties to new heights of achievement. The human genome project, for example, has been combined with longitudinal data (cross-society trend analysis) and holistic approaches

The "base case" scenario, continued

(using both traditional and nontraditional medicine) to yield customized, prevention-oriented health care.

Information technology has finally fulfilled its social promise. Machine knowledge now exceeds human knowledge: more appliances than people are now on-line, and some expert systems outperform human logic.

Technology has intensified human strife, bringing many new voices to the table, and introduced many new thorny ethical questions, such as gene splitting. While these dialogs began during the early 1990s, they were engaged on the fringe of society. At this time however, these issues have moved into the mainstream and have become issues that divide political parties and create ethical and moral problems in large segments of society. More and more people have become loners, relating to the larger world only electronically as technology becomes a source of solace and alternate reality.

Globalization has sidelined many organizations; the remaining leading organizations are learning organizations. Knowledge management is considered an essential subset of quality, systematizing the capture and just-in-time transformation of knowledge into bottom-line value.

Mergers and alliances have completely transformed the business landscape. Today's companies are so modular that they are more aptly termed "value chains." Each consists of a major brand-holder supported by thousands of niche partners and micro-enterprises. This organizational structure was created to maximize the intellectual property and contribution of the members of the "value partnership."

Quality practices have enabled the production of "customized experiences" for history's most demanding customer base. Aging Baby Boomers, the day's largest and wealthiest demographic group, expect sellers to provide "systematic delight" geared towards their personal values, tastes, and goals. Much production is now done in lots of one; other products are released in beta and customized for their specific buyer.

Companies are now expected to be exemplary citizens of their communities; the quality principles have been used to develop social responsibility measures. Workers fall into two categories: those who are free to work where they like, and those that are tied to a location. In either case loyalty between the two is nearly nil. Quality professionals are fewer in number but higher in status. The Global Society for Performance Excellence (formerly ASQ) is at the crest of this wave, helping professionals and nonprofessionals carry quality's message throughout society.

Back to the Past (Scenario Two)

The quality movement dwindles with unhappy results

The world of 2020 is one where economic and environmental disruptions, ineffective leadership, and social fragmentation have created a vicious circle. The quality movement has diminished, due partly to institutional cost cutting, disenchantment with its outcomes, and the profession's own failure to grasp the seriousness of the situation. The profession has dwindled to near extinction; ASQ has closed its doors.

The quality movement dwindles with unhappy results, continued

This sorry outcome began back in the stock market crash of 2003, when the high tech bubble finally burst, sapped by persistent recessions in Japan, Indonesia, and Brazil. Many middle class investors found themselves bankrupt—and unemployed. The inequities between small numbers of wealthy and increasingly large and desperate masses triggered breakdowns in cooperation and communication across all social dimensions.

The Internet, defenseless against organized terror, has become a playground for hackers and hate groups, and a vibrant black market in personal and security data. Most individuals, and increasingly most utilities, have moved "off 'Net." A coalition of governments has declared war against the information pirates, and people have rallied to "take back the 'Net."

Technology research and development has spun out of control, with labs and companies ignoring ethical and quality standards in their pursuit of quick profit. Although quality professionals could not have averted all these trends, they could have injected a critical note of sanity. The quality movement could have framed the debate on crime's root causes and their elimination. More broadly, they could have applied the quality principles to the new knowledge economy and financial institutions.

Ecological disasters have piled up like other disasters. Thousands of companies began ignoring EPA regulations since funding cuts forced the agency to curtail regulation.

The lid blew off a brewing backlash against globalization. Alliances among nations, customers, and suppliers have begun to break down. In global companies, knowledge management has been replaced by knowledge hoarding, organizational pyramids, and functional silos.

Forced to cut corners, most organizations have frozen quality efforts wherever they could. Most governments have become increasingly bureaucratic and hard to do business with. Not surprisingly, quality in every sector has slid drastically. Although centers of excellence remain, they are islands in a sea of mediocrity.

The Sustainability Show (Scenario Three)

Marshalling the quality movement

This scenario shows a paradigm shift in progress: sustainability is the central organizing principle for society. Quality is recognized as the best tool kit for achieving sustainability, and its principles, tools, and techniques are ubiquitous. However, much of this progress has been achieved at the price of stronger, larger government. There is a foreboding rise in paternalism and authoritarianism.

Two decades of worldwide turbulence have pushed global society to a search for sustainability. At the turn of the century, all the bad habits of the Industrial Age seemed to bear rotten fruit at once. Years of rolling environmental crises, economic meltdowns, social violence, and economic terrorism finally led citizens to turn en masse to government.

The United Nations has effectively become our world government; national

Marshalling the quality movement, continued

governments are stronger too. Public order is tighter, crime has declined, and social networks have strengthened.

Accompanying this has been a worrying decline in civil liberties and freedom of information. The wild west days of the Internet are over—taxes, access charges, and cyberporn censorship have won the day.

Baby Boomers have begun to exit the world stage; Generation-Xers are bringing a shrewd realism and a preoccupation with civic order to the public realm. Generation-Yers, now in their 20s and 30s, are vigorous advocates of teamwork, rationalism, and institution building. So far the effects are largely positive.

Many governments have applied quality internally, becoming more globally oriented, agile, customer focused, and technology capable. An entire body of knowledge is emerging around the application of the quality principles to governance in a knowledge-based society. In the U.S. and European Union, public companies include quality in their shareholder reports, and the U.S. appointed its first secretary of quality.

Quality's mandate has been extended to include quality of life in the broad context of community and the environment. In organizations, Six Sigma has become standard practice in all sectors.

The technical tide has turned away from R&D for profit's sake, towards "appropriate" technologies that support social and environmental wellness. Capitalism now aims for "good growth." Free markets are guided by win-win principles, enforced by rules and regulations. A universal currency devised by quality professionals, issued and administered by the new global treasury, has eliminated currency trading while still allowing local markets to set value. The electronic wallet, crypto-technology and Internet-based access accelerated this ability to shift to the universal currency.

Global society is mobile; employment is managed globally through the Internet, which some view as dangerously "big-brotherish." Corporations and governments share an uneasy alliance. Government regulation is significant, but it is addressed to the ends rather than the means. Companies that fully reshape themselves for sustainability become inherently agile and knowledge-enabled.

The Garden of Quality (Scenario Four)

The quality movement fulfills its promise

In this scenario we have progressed from allowing technology and business to drive society, to subordinating technology to human and biospheric well-being. Quality has been the key to this transformation. The quality movement has shifted from inspection, to control of work processes, to a new focus on measurement and Six Sigma. The emphasis has moved up the value-added chain from operations (doing things the right way), to strategy and vision (doing the right things the right way). Quality has been embraced throughout our lives, radically reshaping society at every level by the use and application of the analytical tools and humanistic quality methods to integrate all of society's elements into a cohesive effort to better all

The quality movement fulfills its promise, continued

aspects of goodness throughout the society.

The techniques of quality improvement have been applied solving the ecological legacies of the 20th century. Technology has been integrated into virtually every aspect of life, connecting generations and cultures. Values and vision statements guide the processes and identities of most organizations. Once organizations felt, "We are interdependent and should cooperate." Now they feel, "We are one and should co-create." Large organizations use quality measurements and reporting systems (later generations of SA 9000, Natural Step, and ISO 14000) to manage change. Knowledge of quality improvement tools is expected of all knowledge workers, and everyone is considered a knowledge worker.

Most individuals enjoy strong self-esteem and respect, and self-actualization is seen as one of society's chief purposes. Society is more pluralistic than ever as it fragments peacefully along affiance lines. Government institutions are minimal and nimble, and are focused on common services. Governments have learned to watch their step, as today's citizens aren't tolerant of inefficiency, dogmatism, or high-handedness.

Continuing use of the quality tools is predicted

Of the four scenarios I've just described, the "Fruits of Knowledge," an extrapolation of today's status quo, was voted the most likely; while the "Garden of Quality" scenario was voted the most desirable. Common to all four scenarios was the recognized need for basic and advanced quality and statistical methods. What was uncommon was the degree of use and acceptance of the tools.

Implications for quality professionals

We looked at the implications of this study for quality professionals and for other users of quality improvement techniques. The pursuit of quality is changing, and must change. It has to become more innovative, flexible, and faster, while the requirement for quality professionals is diminishing. For example, out of 20,000 Six Sigma Black Belts trained since 1995, most are not quality professionals—they are people from line organizations. There is a projected 45,000 Black Belts to be trained over the next two years—again most will not be quality professionals. This represents a massive transfer of knowledge from inside the quality community to the world at large. The implication for quality professionals is that to stay viable we must become coaches for these new practitioners. Quality professionals will become a kind of process technologist who train others in the latest technology or cutting edge quality tools. This means we will have to become better educated, more collaborative coaches, able to work in situations where we don't have authority.

Quality professionals will need to expand their levels of competency: we need to be able to explain the basic lessons of statistics to executives and the details of the design of experiments to an engineer. We must master the fundamentals and learn how to apply them in diverse applications. We must not only know what a flowchart is, but also how to relate a block diagram into a probability map, and how to teach an organization to do statistical modeling based on flowcharting principles. This requires more "bandwidth"—and lifelong learning.

Implications for society

The implications of this study for society are that as the population continues to grow, the strain of providing the increasing amounts of basic water, transportation, energy, and communication services will increase. We hope that the tools and methods of process management and quality improvement will be applied to solve these problems. All types of organizations will come to value continuing growth, and they will provide opportunities for continuing learning and challenges for all people.

Society will also have to learn to think systematically and act globally. Currently, I live in the Tampa Bay area where none of the three local communities of Clearwater, Tampa, and St. Petersburg plan or talk together. That is not a model for success in any area. Quality methods can play a role in helping organizations improve communication and manage by fact, enabling them to create better solutions.

Implications for organizations

There are several implications for organizations. Today we see that leading firms adopt the quality tools more readily than many other firms. Indeed, with Six Sigma, we can see documented proof that better bottom-line performance is delivered and documented through objective means. We see that the shared knowledge of quality is going to be the culture and operating language of companies, producing better business results and healthier communities.

Organizations are starting to think systematically, although different functional groups may refer to it by different names. In human resources it is called organizational development; in the information technology group, systems analysis; and in finance, internal auditing. But all of them use the same principles and tool sets. Over the last three years we've seen business processes—the support services in organizations—being subsumed under one individual called the Chief Administrative Officer.

We will see all business managers taking personal responsibility and being held accountable for quality, not just holding quality organizations as responsible. DuPont Corporation embraced Six Sigma 16 months ago; at that point they had four core values in their organization—none of which focused on measurement or accountability. Now personal accountability has been emphasized so that "the way people work together" is not just hiding decisions behind the veneer of a team, but each individual taking the personal responsibility for their actions and contributions to decisions.

A "unified theory" of the quality field

We know that we need to become customer sensitive and market-driven, responsive, agile, flexible, and adaptable, carrying with us a sense of urgency. In the past we declared that the quality community was our customer, but we didn't know what to do with that customer. Now we know we need to research them, ask them questions, figure out how to partner with them. We need to diversify our membership and our approach to quality. We need to be more relevant, significant, and accountable to our members. We need to stay at the leading edge of our profession.

A "unified theory" of the quality field, continued

Above all we have to realize that we have to be altruistic, public minded, and ethical in everything we do. If we succeed, we might achieve what eluded Dr. Einstein—a "unified field" theory. This unified field will have no more warring factions or leading gurus. We need to become a caring community, not a dysfunctional profession.

There is only one obstacle to our success, and Pogo said it best, "I met the enemy and they is us." The reason for this is that too often people tend to hold onto their pasts more dearly than they should. We tend to build a collaborative fence around our profession's status quo. The only way to change that is to become more inclusive and to become better listeners—that change will mold the future of ASQ and the quality movement.

Author information

Gregory H. Watson is president of the American Society for Quality (ASQ) for 2000-2001 (ASQ headquarters is located in Milwaukee, Wisconsin). He is also the managing partner and president of Business Systems Solutions, Inc., an Academician with the International Academy of Quality, and a Six Sigma certified Master Black Belt. Previously he served as vice president for quality at Xerox Corporation, corporate director of quality at Compaq, and manager of the Quality Leadership Development Program at Hewlett-Packard. Mr. Watson has served as a judge for the Texas and New York State Quality Award Programs, the Florida Sterling Award, and the Air Force Quality Award. He has been a member of the board of examiners for the Malcolm Baldrige National Quality Award, and a corporate representative to the GOAL/QPC Research Committee.

Editorial assistance was provided by Carolyn Field.