

One Man's Quality Crusade

by Steve Wichelecki
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H. James Harrington, Quality Magazine's 2009 Professional of the Year, is an innovative, ambitious leader who has dedicated his life to the evolution and dissemination of quality thinking.

H. James Harrington has been a vibrant part of the quality movement for more than half a century. He has held key positions at IBM, presided over associations, led multiple companies and produced a large body of writing. Harrington has travelled the world many times over proclaiming the quality gospel, advising governments and business leaders from many nations on quality practices.

Harrington, chief executive officer of the Harrington Institute (Los Gatos, CA) and Quality Magazine's 2009 Professional of the Year, has had a truly accomplished career, one that continues to flourish and today finds him applying quality practices to areas outside of the typical quality environment.



An Early Education in Quality



H. James Harrington speaks with a delegation from China that studied his approach to quality. Professor Yuanzhang Liu, a leading quality practitioner in China, led the 1982 delegation. *Source: H. James Harrington*

Harrington was introduced to quality thinking at an early age, through his father, who was chief inspector at IBM (Armonk, NY) during the 1920s and 1930s. Even before he started grade school, the conversation around the dinner table often was about quality problems at IBM.

During grade school, Harrington's father used control charts to average his test scores each month, and these averages directly factored into his reward system. For example, Harrington needed to maintain an average of 88% to reserve the privilege to go to the movies each week. "It was very, very meaningful for me," says Harrington. "I wanted to go back to the movies every week because they were serials. I was highly motivated to get good grades."

During this time Harrington also held many jobs, such as paper routes, picking fruit at farms and working at a shoe factory. On his 12th birthday, he began working at IBM, setting pins in the company's bowling alley, and that summer he began mowing lawns at the company. In 1947, after high school, IBM hired him as a full-time apprentice toolmaker.

The IBM Years

IBM's apprentice tool making school was a four-year institution that taught students tool design and how IBM functioned. In the early 1950s, Harrington became part of a team that helped design IBM's first just-in-time manufacturing system, while also taking night classes, which resulted in a bachelor's degree in electrical engineering.

After completion of this project, Harrington was assigned to IBM's Federal Systems Division's component reliability analysis department where he specialized in the development of magnetic device and magnetic component reliability analysis. When the federal contract that the department was working on was cancelled, Harrington was asked to be the quality representative to IBM's diode and transistor suppliers. He did not want to leave the development lab for a manufacturing environment, but there was no other option if he wished to remain an IBM employee. Harrington took the job.

Some years later Harrington was asked to establish a failure analysis laboratory for IBM, and then he was assigned quality engineering responsibilities for the Titan Missile Program. He also was assigned to IBM corporate headquarters where he was part of a team that developed a quality manual and standard quality reporting system.

In 1962 Harrington was transferred to IBM's facility in San Jose, CA, as the reliability expert tasked with applying the quality and reliability concepts used in the Titan Missile Program to an IBM process control system called the 1710. "We applied everything we were using in the military to a commercial project to see its impact," says Harrington. "It was interesting because IBM gave me an open budget, but they wanted a 10-time improvement in reliability."

The one-year project met all its objectives and the reliability of the 1710 improved by more than 18 times. Harrington says that this goal was largely accomplished through product and manufacturing process redesign, as well as improved vendor processes. "It literally saved IBM billions of dollars," says Harrington. "It completely changed the makeup of our quality system."



H. James Harrington discusses the importance of export quality at the 2006 Asia Pacific Quality Organization Conference in China. *Source: H. James Harrington*

Harrington then established the IBM Quality Research Center at the San Jose, CA, location, where, in 1964, he developed the poor-quality-cost system. This system broke with the conventional quality logic of the time, which did not consider the indirect effects of sending defective parts to the customer, such as customer-incurred cost, loss-of-reputation cost and lost-opportunity cost.



In 2004 H. James Harrington signed a partnership agreement with Sheikh Khaled Bin Zayed Al Nahayan to establish Harrington Middle East in Dubai.
Source: H. James Harrington

Throughout the 1970s and 1980s Harrington had a hand in developing many innovative quality initiatives at IBM. To counter the time delay and reduce the cost associated with assembling computer systems for customers, Harrington helped develop a field-merged process. At that time, the common practice was for all computer components to be assembled and tested before delivery to the customer. In the field-merged process, certain computer components could be exempt from this final testing, provided that they met a very stringent performance objective.

“That was advanced thinking at that time,” says Harrington. “Our competition was putting together total systems, which gave us a very good competitive advantage. It would save us a good two months in shipping and reduce costs tremendously.”

Harrington also was involved in IBM’s development of process compatibility. The end result of which ensured not only that all components—regardless of where on the globe they were manufactured—met the same quality requirements, but also that unfinished product could be moved to different facilities around the world and the manufacturing process would remain seamless.

“This started in the late 1970s—the process benchmarking philosophy that is so popular today,” says Harrington. “All key production processes were completely benchmarked every six months.”

Around this time IBM realized the importance of concurrent engineering in the design phase of a product. The company pulled together a team from all IBM locations comprised of engineering and manufacturing employees, the goal being a better synergy between engineering and manufacturing.

“At that time engineering was very separate from manufacturing,” says Harrington. “They’d get the design complete and throw it over the wall to manufacturing. So what we were doing was engineering the product for the final production line, rather than engineering it from a technician standpoint only.”

Harrington’s part in this effort consisted of developing a process certification procedure, which evaluated processes as they moved from stage to stage, from design through mass production. The process could not advance to the next stage until the quality assurance department granted clearance.

In the early 1980s Harrington was part of a team at IBM that developed the business process improvement concept. At this time IBM’s production processes were producing exemplary performance; however, support organizations, such as accounting, procurement and maintenance, were lackluster. In an effort to achieve equal performance across the board, the team began applying quality techniques used in manufacturing to these other business areas. The approach identified, flowcharted and streamlined major business processes, reducing cycle times and cutting costs.

Role at ASQ

Harrington joined the American Society for Quality Control (ASQC), known today as the American Society for Quality (ASQ), in 1962. He was an active member and worked his way through the ranks, eventually being nominated president-elect in 1984, and serving as president from 1985 to 1986 and then as chairman from 1986 to 1987. “It was a 20-year project,” says Harrington. “I held about 20 different chairmanships during that period.”

During the early 1980s Harrington served as chairman of ASQ’s international chapter, a chapter that he helped grow into what he says is still the society’s largest. While chairman of the chapter, Harrington established the World Crusade for Quality, which he says is perhaps his greatest life achievement. This “crusade” found Harrington leading an international group of quality professionals on more than 12 occasions. They toured the world, lecturing in both developed and developing countries on modern quality practices. The group worked in concert with local quality associations to organize the lectures.



Preferring high-quality items in his personal life, H. James Harrington takes his 1952 Mercedes 300SL out for a spin. *Source: H. James Harrington*

Because the speakers did not ask for compensation for their lectures, the revenue from the conferences went to the local quality associations. Harrington says that this often turned out to be a major source of income for young quality associations in developing countries.

"It was a very significant introduction to quality throughout the world," says Harrington. "It gave ASQ an international presence rather than just a local one."

The crusade spread quality culture throughout the world and aimed to improve relations between host countries and the United States. The tours led to Harrington being appointed honorary quality adviser to the Chinese government; he also was inducted to Singapore's hall of fame for helping develop quality systems within the country. In the United States, his international efforts led to President Bill Clinton appointing Harrington to serve as an Ambassador of Good Will.

As honorary quality advisor to the Chinese government, Harrington was brought to China four consecutive years to train 150 of the country's top chief executive officers each time. "Each year there'd be a different group of executives, and I had them for two weeks to teach them quality," says Harrington. "So we ended up with most of the major chief executive officers, presidents and government officials having the same vocabulary and training in quality."

While serving as president and then chairman of the ASQ, Harrington accomplished much, including the establishment of a magazine aimed at executives, a book program and Fortune Magazine dedicating an issue each year to quality. But Harrington says the greatest achievement made during this time was getting Congress and President Reagan to pass the Malcolm Baldrige Award.

Changing Career Paths



While president of ASQ, H. James Harrington presided over the 1986 ASQ Annual Technical Congress. From left to right: W. Edwards Deming (seated), H. James Harrington, Mason E. Wescott, Joseph M. Juran and Kaoru Ishikawa.
Source: H. James Harrington

After his tenure at ASQ, Harrington returned to IBM. However, the return was short lived. Six months at IBM made Harrington feel that it was time to move on and time to go into consulting. "I just sort of outgrew the job," says Harrington. At ASQ he enjoyed the resource of an advisory board comprised of leaders from a number of large corporations.

"I was working with a different level of people," says Harrington. "When I came back to IBM I didn't find my job as stimulating as it was in the past. When I was with ASQ, I found that there was a lot of good information out there that people who stay within one company miss."

Along with some colleagues, Harrington started Harrington, Hurd and Rieker (Los Gatos, CA), a consulting firm that focused on total quality management, strategic planning and business process improvement. By 1989, this company was doing very well and another consulting firm, Ernst & Young (London, England), offered to buy it. The offer was accepted, and Harrington took a position at Ernst & Young as its international quality advisor. In this capacity he worked to help the company's process innovation group develop concepts related to process redesign, process reengineering and change management.

After 10 years with Ernst & Young, Harrington left in 2000 and took the role as chief operating officer at Systemcorp (Montreal, Canada), a software company that made business management applications. Systemcorp was experiencing some financial troubles when Harrington took the job, but through applying good management principles, Harrington and his team were able to turn the organization around. Harrington says that what helped him here was his experience at Ernst & Young, which taught him how someone outside the quality department—such as a chief financial officer or chief executive officer—might identify uses for quality methodologies.

"I was able to take and apply quality principles as a chief operating officer would apply them, rather than how the vice president of quality would," says Harrington. "I've done that since, as a means to apply quality in a more sophisticated manner."

For example, poor quality costs in sales and marketing, says Harrington, far exceed poor quality costs in manufacturing. "The quality professional plays in manufacturing, which is not the place where the real costs are, where the real customer satisfaction level is," says Harrington. "Sales and marketing has a greater impact on customer satisfaction than the product."

Systemcorp was eventually sold to IBM, and Harrington went back into consulting, forming his own company in 2002, the Harrington Institute (Los Gatos, CA). "The Harrington Institute improves organizational performance," says Harrington. "We're not focused on quality, cost or schedule. We focus on overall performance. If a change doesn't improve the ROI, output per employee or customer satisfaction, then it probably shouldn't be made."

Performance, says Harrington, is the combination of quality, cost and schedule that provides the best return on investment to the investor and the highest level of customer satisfaction to the customer.

"With Six Sigma companies report on the dollars they save, and that's all I see reported," says Harrington. "I don't see them report on customer satisfaction. Many of the companies that are doing Six Sigma have customers who are more dissatisfied than they were before the Six Sigma process was introduced within the organization. We've got to have that balance. We've got to focus on performance."

Performance, says Harrington, improves under three conditions: It improves when productivity increases and quality remains constant; when productivity remains constant and quality increases; and when both quality and productivity increase together.

"And that's what you've got to do," says Harrington. "You've got to focus on that complete picture. Performance is what the executives focus on, it's what the investors focus on, it's what your customer focuses on. And if you reduce costs but do not share that with your customer, then you're not really improving performance from their standpoint."

In 2004 Harrington opened a Middle East branch of the Harrington Institute in Dubai, a city of the United Arab Emirates. In 2007 he worked with officials in Dubai to redesign the city's government.

"The government wanted to improve customer satisfaction while reducing cost and relying less on the tax payers' money," says Harrington. "That's where I see quality methodology going, expanding far from where we are normally thinking by leading the organizational alignment activities."

The success of the Harrington Institute has been far reaching and has even brought the company recognition on the television program "Heartbeat of America," a program that tells the success stories of American small businesses.

Currently, Harrington continues as chief executive officer of the Harrington Institute and also is chief operating officer of Define Properties, a construction company in Dubai. At Define Properties, Harrington has been using quality practices to improve the company's construction and sales processes.

"To me it's a real challenge to apply quality methodologies in the construction field," says Harrington. "The project we're doing is called SPICE: Streamlined Process Improvement for Construction Excellence. We're putting that in place; it will reduce the cycle time of putting up a 50-story building."



H. James Harrington is a prolific author, having written hundreds of technical reports, magazine articles and more than 35 books.
Source: H. James Harrington

Life Lesson and America's Future

With the expansive and varied career of Harrington in mind—a career that has touched many continents, cultures and professions—Quality Magazine asked the 2009 Professional of the Year what would he most like to impart to the reader of this article. The answer is heartfelt, but not surprising.

"The only thing that I'd want to emphasize is that people around the world are good. I've spent a lot of time in Iran. The people are great. It's the governments that are the problem."

Harrington, who also lectured in the former Soviet Union during the Cold War, says that governments need to apply quality principles as they are applied to businesses. "U.S. policies need to have quality applied to them," says Harrington. "It's one of the biggest opportunities we have in our profession. I travel around the world about 50% of my time and we are making more and more enemies and fewer and fewer friends. You just can't buy true friendship."

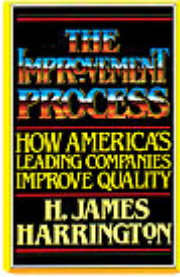
Harrington also says that America's largest challenge relating to the quality of its goods and services—and quality of life—is reliability. "We don't think about reliability as part of quality, but it is probably the most important part of quality," says Harrington. "Our problem is not making quality; it's reliability, and we've turned our backs on it."

Harrington says that this dearth of reliability explains why American dominance is slumping. He cites everything from the financial sector to the automotive industry, from the education system to the healthcare industry as suffering from this American lack of reliability. Harrington says the problem of reliability stems from poorly designed products and processes, and that a redesign in these areas would help bring America up to speed with the rest of the world.

Harrington's personal quality crusade shows no sign of letting up. He continues to innovate and advocate quality thinking, applying quality concepts to new areas, and asking us to reevaluate the way we look at quality today. **Q**

Editor's Note: To learn more about H. James Harrington, visit www.qualitymag.com to listen to the Q-Cast Podcast.

H. James Harrington the Author



Source: H. James Harrington

H. James Harrington is a prolific author, having written hundreds of technical reports, magazine articles and more than 35 books. His books "The Improvement Process" (1987) and "Poor-Quality Cost" (1987) were written from ideas he developed while working for IBM, and served as the bedrock for his first consulting firm, Harrington, Hurd and Rieker.

Harrington says he turned to publishing books as a way to keep up his credentials. While at IBM, Harrington says he wrote hundreds of technical papers. What frustrated him was that he would find the ideas he had developed in his technical papers in other people's books, which meant the published author would be credited with the idea, even though Harrington may have thought of it first. "As a defense method I started writing books," says Harrington. "And that turned out to be an excellent way of getting my ideas documented."

Of his many books, Harrington feels that "Total Improvement Management" (1995) is his most important. Total improvement management, or TIM, states that the key ingredients of an organization's many business systems can be combined into an enterprisewide plan for improvement.

Harrington says that the second and third books at the top of his list are "The Improvement Process" and "Poor-Quality Cost," respectively. Of "Poor-Quality Cost" Harrington says it is important because American businesses have not yet caught up with the book's concepts. "They do not consider the cost of the customer, and if you look at lost opportunity costs, it's just ridiculously high," says Harrington. "To follow that book would mean a complete transformation of the quality system in most companies."

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