A Brief History of Quality

Recognizing the past while anticipating future customers' needs

TO BECOME REACQUAINTED with the fundamentals on how quality and innovation work in tandem and to understand how these powers must be harnessed together, it's helpful to occasionally look back at where we've been and where we're headed.

As you see in the headline—borrowed from the title of Stephen Hawking's modern classic, *A Brief History of Time*[1]—I want to offer a brief synopsis of the individuals, issues and events that shaped the history of quality and discuss how innovation must be intertwined with this ever-evolving discipline and way of thinking.

Many say the modern quality movement in the United States originated after World War II when the world was regrouping from so many unthinkable horrors. The United Nations formed in 1945, the International Organization for Standardization (ISO) in 1947 and the American Society for Quality Control (ASQC) in 1946.

ASQC seemed to be a natural assemblance of quality professionals who wanted to retain the camaraderie they had found during the war years. The year 1946 is actually captured in the current ASQ toll-free number, 1-800-248-1946.

In those days, quality was about nuts and bolts stuff, and it's no coincidence that the first thing ISO standardized were nuts and bolts after the chaos caused by nonstandard threads in World War II.

Throughout the 1950s, however, quality prophets such as W. Edwards Deming and Joseph M. Juran were largely ignored as North America went through a post-war manufacturing boom. The quality prophets went to Japan where their message was appreciated.

In 1973, the price of oil shocked everyone as it moved from $2 to $4 a barrel to nearly $15 a barrel. Industry—already obese and inefficient—reacted by cutting costs. Metaphorically, industry tried to lose weight by cutting off its arms and legs, crippling itself in the process.

The U.S. auto industry, in particular, saw the influx of Japanese vehicles that were built through a mysterious method called "quality." In 1979, Philip B. Crosby published a book with the provocative title, *Quality is Free*,[2] and Deming was featured in an NBC documentary in 1980 called "If Japan Can … Why Can't We?"[3]

Quality management erupted through the 1980s and 1990s, and organizations became immersed in a desperate rush to learn about quality. Crosby preached about how quality is the price of entry to the market, and Deming reminded us that survival is not mandatory.

The quality management professional was swept along by these developments as ASQC membership began to mushroom and ISO collected the new body of knowledge into a document called ISO 9001.

ASQC dropped the "C" in 1997 and formally changed its name to ASQ, recognizing the scope of quality had broadened. In all of this euphoria, many of us forgot what this was all about, and others made heretical statements such as "the word 'quality' gets in the way."

The delivery of quality became the primary goal of a well-run organization that knows who its customers are, what they want and sets direction to meet their needs. In truth, this is all about making the organization succeed by delivering on the promise to the customer.

However, as we know, the customer is a fickle beast and its needs change. Today, customer needs are changing faster than ever.

A brief history of innovation

If you look at the spikes in knowledge growth through history, you'll notice they are getting closer. Ancient Egypt spiked in 3000 B.C., for example, and the effects of that knowledge explosion lasted for more than half of our recorded history until 1000 B.C.

The Greco-Roman knowledge explosion spiked with Alexander and Aristotle in 400 B.C. This lasted less than a thousand years, until the fall of Rome in the fourth century. We emerged from the Dark Ages with the Renaissance and the work of artistic giants such as Leonardo da Vinci and Michelangelo.

A mere 300 years later, the industrial revolution arrived, and the next big spike in knowledge growth (1880-1920) was the era of the inventor. As the United States emerged from the carnage of the Civil War, communities across the country started to

grow and the Industrial Revolution gathered steam along with business and trade.

Henry Ford saw that the demand for speedy travel would not be fulfilled with faster horses, Alexander Graham Bell knew that the need to communicate would not be solved with the telegraph, and Thomas Edison realized the shortcomings of oil and gas lighting in the home.

Just 100 years later, we are living in the innovation generation and experiencing another explosion of knowledge through IT. We are in an age in which people are expecting us to innovate. It's not just nice to come up with new ideas. Customers and consumers are expecting it—and are actively "chasing cool."[4]

The first person to write about innovation was, ironically, Niccolò Machiavelli.[5] In this century, economist Joseph A. Schumpeter was the first person to address innovation in depth when he discussed destructive innovation in 1942,[6] and Peter Drucker introduced the concept of innovation to business in 1955.[7] Drucker was again controversial when he said there were only two functions that mattered in business: marketing and innovation.

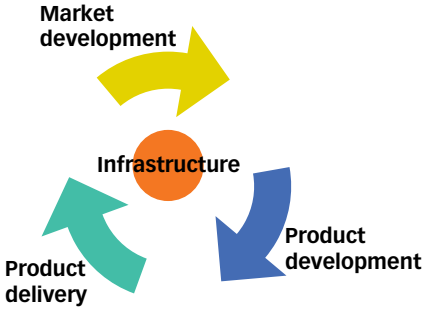
Business process areas

For business success in the future, we must think about tomorrow's customers and what their needs will be. We tend to focus on today's customers and address their immediate concerns. Business also has focused inwardly, and this has caused us to neglect the future. Figure 1 shows the four primary business process areas:

1. Market development.
2. Product development.
3. Product delivery.
4. Infrastructure, which holds the process areas together.

In the last half of the 20th century, business focused heavily on improving delivery of its products and services. Business demonstrated this inward focus by investing in just two of the four main business process areas: infrastructure (through investment in IT) and product delivery (through investment in quality management).

Business process areas / FIGURE 1



For a business expecting long-term success, the investment in delivery and infrastructure must be balanced with investments in market development and product development. That means investment in innovation.

Unfortunately, business has not positioned itself well for innovation. At the end of the 20th century, business focused on improving the delivery of existing products and services, and less on developing new markets and new products. As a result, quality management has frequently become internally focused.

The harsh reality is that if a product or service has become outdated, the effort to improve its delivery efficiency is totally wasted. Innovation is about developing the products and services that the market needs tomorrow, and is driven by the need for convenience, not by technology.

Finding a cool new idea—while it may be interesting and exciting—has no value unless the idea solves a real problem. Even then, new ideas only will be adopted if they are easy to adopt.

Quality and innovation

The true quality professional recognizes there are always customer needs that have not been met. To completely fill the needs of the customer, we must seek to deliver a solution that's probably beyond the existing capabilities of our organization. The quality professional with vision wants to address these unfulfilled needs and does this by innovating. We find innovation opportunities when we go to the customer to learn which needs have not been fulfilled.

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People have been schooled over the last 30 years to "do it right the first time."[8] However, if you are not doing the right things and your product or service has become outdated or matured, your effort to improve efficiency is wasted. Innovation is about developing the right things—the products and services that the market needs tomorrow.

Culture clash

I'm often asked, "How do we develop an innovation culture?" This is a challenge because much of what organizations have implemented over the last 20 years can inhibit creativity in innovation.

The second reason for difficulty is that

there are, in fact, two cultures.

Culture is based on behavior, and the creative phase of innovation requires the behaviors of exploration, collaboration and experimentation. We explore less because we have become attached to our desks and computer screens.

Although we think otherwise, we collaborate less because the bandwidth of e-communication is far less than the bandwidth of interpersonal communication. We experiment less because we have become increasingly risk averse. Creative behaviors must be restored.

The coexistence of creative behavior and an execution culture—getting things done—requires careful managing. It's too easy for the execution culture to kill the creative culture.

Supporting these behaviors, the community of innovation is something for an organization to consider in the early days of culture development. This community grows the knowledge and understanding needed for the organization and individual projects. ASQ did this with its Innovation Interest Group, which grew rapidly into the Innovation Division.

Innovation never stops

We must set direction for innovation and make tough decisions on which ideas to pursue. Direction is derived from market need and the organization's core competencies. Rest assured, that direction will change. You start the change by focusing on a product, service or market segment with declining revenue.

As the innovation process starts working, the organization must understand the process is a cycle. The lifetime of knowledge shrinks in periods of rapid innovation, and as the pace of change increases, we are becoming increasingly aware of the need for speed and that innovation never stops. QP

REFERENCES AND NOTE

1. Stephen Hawking, *A Brief History of Time,* Bantam, 1988.
2. Philip B. Crosby, *Quality is Free,* Penguin Books, 1979.
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4. Noah Kerner and Gene Pressman, *Chasing Cool: Standing Out in Today's Cluttered Marketplace,* Atria Books, 2014.
5. Niccolò Machiavelli, *The Prince,* Antonio Blado d'Asola, 1532.
6. Joseph A. Schumeter, *Capitalism, Socialism and Democracy,* Harper, 1942.
7. Peter Drucker, *The Practice of Management,* Harper, 1954.
8. Crosby, *Quality is Free,* see reference 2.

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