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The Future of Quality Management

Changes during the next two decades will require a new top manager: the chief enterprise integration officer.

by Forrest W. Breyfogle III

The future approaches with the force of a level-five hurricane, making businesses reconfigure their strategies, reorganize their structures, and reinvent their processes. Unless they adapt, once-dominant businesses will become marginal players, and weaker ones will be swept into the dustbin of history.

Recognizing the challenges ahead, businesses of all sizes in all industries will be making far-reaching changes. Many of these will focus on integrating enterprise excellence, an area with enormous potential. Look for the emergence of a new member of senior operating teams to emerge at corporate levels during the next two decades: the chief enterprise integration officer (CEIO).

The CEIO will contribute by helping the entire organization achieve the three Rs of business: doing the right things right at the right time. Reporting directly to the chief executive officer, the CEIO will help create a new kind of organization, one that's resilient enough to survive domestic and international market turbulence, satisfy customers' increasingly critical demands, and accelerate the pace of improvement in all its functions.

Following is a profile of the new business organization that will evolve during the next two decades.

New emphasis on measurement

Dissatisfied with results produced by today's scorecards, businesses will adopt new types of these measuring tools. In many organizations, scorecard metrics lead to counterproductive results. In some cases, decisions based on irrelevant or incorrect data fail to justify or support corporate strategies. In the future, management will adopt measurement and improvement systems that will orchestrate day-to-day activities to produce a true alignment to business needs.

Essential for survival in the future will be a system that does more than just monitor overall operations for management. It should also provide the entire workforce with information that can be used consistently up and down the line to make sure everyone's performance directly supports corporate strategies or becomes a target for corrective action. In other words, only what matters will be measured, and every metric will have an owner who can justify its relevance to an organization's bottom line.

Futurists are fallible

Forecasting the future has always been chancy. Despite being widely anticipated, the paperless office, underwater cities, and widespread commuting by personal helicopter haven't materialized. Nevertheless, it can be thought-provoking and often entertaining to consider futurists' predictions. Here are a few from Robert Gellman, a Washington-based privacy policy consultant.

Automated highway readers will record all vehicle trips, and every car will be required to have a transponder. This system will collect special fees for using congested roads, eliminate parking meters, and prevent unwanted people from driving in certain areas. A black market will emerge in cars registered to dead people.

Using a computer will require registration by means of a token, fingerprint, or other identification device. Everyone will have to maintain a personal web page with basic contact information. All money exchange will be electronic and permanently tracked. The health and insurance industries will try to control costs by monitoring food purchases. There will be a black market in unregistered junk food.

The red-yellow-green scorecard, which has provided insufficient information and led to costly wrong behavior, will become history.

Roadmaps

The pressure of international competition to provide maximum, measurable, predictable, and sustainable bottom-line results will increase for all levels of management. To achieve these, a management system called integrated enterprise excellence (IEE) will integrate excellence throughout an organization by including all lean and Six Sigma projects as well as providing a roadmap to make this possible.

The enterprise roadmap will help organizations select more productive projects and provide a no-nonsense, integrated value-chain measurement and analysis system to help orchestrate day-to-day work activities and target overall process-improvement efforts.

This management system will be effective not only for viewing high-level operational and corporate business metrics, but also for providing the tools to solve tough problems. For example, it could help a company use design of experiments to solve an elusive quality problem for a chain of fast-food restaurants, or help a company eliminate a series of interrelated facilities with complicated interactions and improve process flows, thus improving the bottom line.

This system will provide methods to develop and coordinate a basic set of statistical and nonstatistical tools. The process will enable management to meet growth goals, maximize cash flow, nurture innovation, develop responsive supply-chain dynamics, respond accurately to customer needs, improve employee performance, prevent firefighting, avoid surprises, and predict financial results.

Selected checks and balances will stay in place regardless of management turnover, changes in competitive conditions, or the economic climate. In taking lean Six Sigma and the balanced scorecard from an individual project orientation to a new level throughout an enterprise, this roadmap will identify flaws in all operational processes and determine whether a process itself is flawed. New systems will be designed with preventive actions in place to avoid firefighting.

This new approach will use the familiar Six Sigma define-measure-analyze-improve-control project steps to pursue a corporatewide, integrated management system up and down the value chain.

Individual lean Six Sigma projects will be selected based on their contribution to the bottom line. No longer will projects be selected in isolation of each other, with improvements being made everywhere except along the organization’s critical success paths. No longer will projects focus on harvesting low-hanging fruit, only to see improvement efforts stall soon after.

All projects will truly integrate lean and Six Sigma methodologies. Scattered and individual pursuits to improve efficiency and quality where needed ¾or not ¾will be avoided if they waste corporate resources that are required elsewhere.

There will be no Six Sigma without lean, no lean without Six Sigma, and no individual projects that don’t support a company’s corporate strategies and financial goals. This will be true regardless of whether the environment is manufacturing or transactional in nature. All other process improvement tools will be fully integrated.

Innovation

Innovative discipline will be routinely integrated with analytics in a balance appropriate for the organization’s particular culture and strategy. Every product and service developed will have an identified market that’s been researched, with the potential clearly understood and the required marketing capabilities available.

All work will be data-driven and standardized to reduce variability and improve quality. Data will replace hunch, instinct, and emotion. There will be zero-level ambiguity regarding internal and external customer requirements. Material and information flows will be seamless, not uncoordinated or scattered individually throughout an organization.

Statistical and visualization tools will be used with maximum effectiveness throughout the value chain. Everyone will have the information needed to perform assigned tasks optimally because software will allow even nontechnical employees to use data.

Critical operational processes will be inherently flaw-free when this discipline is put in place along with a with firm management discipline that's pursued faithfully and professionally. Organizations will be able to more easily distinguish between special cause variability and the far more prevalent common cause variability, and marshal resources to combat common cause variability by moving from unproductive firefighting to fire prevention.

Leadership

New corporate management structures that include a CEIO will produce leaders who are teachers, and teachers who are leaders *and* professionals.

Managers at all levels will have a full understanding of the Y = f (X) equation. They will no longer believe processes improve simply by setting goals.

Business performance data will be presented in terms that everyone can understand. For example, "The process is predictable with a 2-percent nonconformance rate that costs the business $200,000 monthly."

Decision making will always be based on high-level metrics not bounded by calendar year or quarters. Measurements will be made at two different levels. At the operational level, thorough measures of operational components such as defective rates, lead times, on-time deliveries, development times, and safety will be conducted. At the corporate level, there will be more accurate and predictable measures of factors that affect finances, such as return on invested capital, operating income, and net profit margin.

Accounting irregularities will be relics. There will be zero potential for improper movement of resources from one entity to another. Employees will no longer avoid responsibility or use metrics to hide productivity shortfalls rather than monitor them. In short, problems like those reported in the press about Dell, Enron, and other companies will be a thing of the past.

CEO compensation won't be tied as much to the company's stock price, and the CEO's efforts to promote its value, but influenced more by performance toward true and effective governance.

In contrast with what many businesses experience today, gains from this integrated, enterprisewide structure will be perpetual. The system will stay in place whether there are changes in management, the environment, or the economy.

New corporate responsibilities

The CEIO will emerge from the ranks of today's Master Black Belts. Certification for Master Black Belts will require a new curriculum, one already emerging at future-oriented training providers. The CEIO will have an equal footing with the chief financial officer, chief information officer, and corporate or operating officers responsible for marketing, manufacturing, and human resources.

The CEIO will be the officer in charge of the overall enterprise measurement, analysis, and change management system. This is because, more than any other company leader, the CEIO will be best positioned to provide, stimulate, and leverage the agility that businesses will need to accommodate the accelerating changes that will characterize business survival during the next two decades.

Tomorrow's business environment

Two decades from now, the business environment will bear little resemblance to what we see today.

Much has been written about opportunities for marketing to the millions of consumers in emerging markets. Attention should be paid as well to the huge market potential in our own country: the rich older U.S. citizens whose population is growing rapidly and whose life expectancy is increasing.

Outsourcing of manufacturing, design, and transactional processes will accelerate. But the CEIO will also have to anticipate other upcoming challenges: restraints on business that may be placed by foreign governments, policy changes by the U.S. government to soften outsourcing's disruptions in our labor market, and the higher cost of shipping goods to the United States due to the increasing cost of oil.

We'll see exciting new products and services mandated by rising customer expectations and made possible by analytics-based innovation. There will be speedier cycle times, mass customization, smaller inventories, and automatic orders and reorders. We can also expect new ways to enter orders, seamless delivery, and a sharp reduction in time between customer feedback and satisfactory problem resolution.

Indeed, a wide range of products will have built-in quality and reorder sensors. Even our dreadfully inadequate air traffic and health care industries will improve. The design for Six Sigma process will transition to a design of integrated enterprise excellence system. This system will play a far stronger role in business than it does today. Cost control will become critical as price transparency becomes increasingly clear.

Integrating operations up and down the value chain will result in more challenging supplier qualification requirements. More attention will be given to green manufacturing, workplace safety, child labor, animal welfare, and product safety.

Scorecarding will become more sophisticated. Scorecards will allow more penetrating drill-downs, empowering managers with new ways to improve processes, track the results, continually fine-tune, and manage mentoring and training. There will be continuing improvements of scorecards' desktop publishing tools. Using mouse-overs or right-click actions, managers will learn the source of each metric, how it was calculated, and who owns it. Scorecard formats will lead to less firefighting and more fire prevention.

Scorecards of the future will allow for easy chart annotation and tracking threaded discussions. The system will be fully web-enabled for design and use without resorting to software plug-ins that might be impeded by network firewalls. It will be unnecessary to initiate separate dashboard projects for different users.

CEIO leadership

Until recently, success in organizational improvements belonged to those who could control and continuously improve. Now, and increasingly during the next two decades, the future will include leadership by the CEIO.

About the author

Forrest W. Breyfogle III is the founder and CEO of Smarter Solutions Inc. (www.smartersolutions.com) *and creator of the integrated enterprise excellence measurement and improvement system. An ASQ Fellow, he's written widely and spoken at leading conferences. His books include* Implementing Six Sigma *(Second Edition, John Wiley and Sons Inc., 2003), for which he received the Crosby Medal. His upcoming book will describe the IEE system.*

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In a professional career spanning over a quarter century, Forrest Breyfogle has established himself as a leading edge thinker, a prolific author, an innovative consultant, a world-class educator, and a successful business executive. His work is documented in eleven books and over ninety articles on the topic of quality improvement.

A professional engineer, Forrest is also a member of the board of advisors for the University of Texas Center for Performance Excellence. He is the founder and CEO of Smarter Solutions, Inc., an Austin, Texas based consulting firm offering business measurement and improvement consultation and education to a distinguished list of clients worldwide, including BAMA, CIGNA, Dell, HP, IBM, Oracle Packaging, Sherwin Williams, Cameron, TIMET, and TATA. He served his country on active duty in the US Army for 2 years, and has played an active leadership role in professional and educational organizations. Forrest received the prestigious Crosby Medal from the American Society for Quality (ASQ) in 2004 for his book, *Implementing Six Sigma* (second edition). This award is presented annually by the American Society for Quality to the individual who has authored a distinguished book contributing significantly to the extension of the philosophy and application of the principles, methods, or techniques of quality management

He is a widely recognized authority in the field of management improvement and is a frequent speaker before professional associations and businesses. His earlier work in the field of management science has been widely acclaimed. A previous book, *Implementing Six Sigma*, sold over 40,000 copies and still ranks among the top Amazon books in Applied Mathematics/Engineering Statistics and Industrial Engineering /Quality Control.

He founded Smarter Solutions in 1992 after a 24-year career at IBM. The associates of Smarter Solutions specialize in helping companies throughout the world improve their bottom line and customer satisfaction through the implementation of techniques that are beyond traditional Lean Six Sigma and the balanced scorecard methodologies. His latest and most extensive work has been in the documentation of a new system of enterprise management, the Integrated Enterprise Excellence (IEE) system, in a series of four books. IEE provides a detailed roadmap that builds on and integrates the best practices of earlier disciplines like Six Sigma, Lean, TQM , PDCA, DOE, and TPS combined with innovative analytical tools to produce improvements at the highest level of an enterprise.

In addition to assisting hundreds of major clients in the wise implementation of improvement systems worldwide, Forrest has also developed over 300 hours of classroom instruction used to train executives, managers, and Black Belt practitioners to plan for, implement, and manage IEE systems. He also leads formal seminars and workshops worldwide.

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