CHAPTER 2

Total Quality In Organizations

Teaching Notes

This chapter introduces the concept of quality in production and service systems and develops the idea that quality is central to effective operation of these systems. Students should be encouraged to develop an understanding of the fact that quality is not an "add-on" to organizational processes, but that it is "a way of doing business." Key objectives should be:

- To reinforce the importance of a total quality focus for effective operation of manufacturing and service systems, including support systems. This includes developing an understanding of systems, which are defined as the functions or activities within an organization that work together for the aim of the organization.

- To examine the concept of “systems thinking,” which is critical to the application of quality, because it supplies organizational linkages that help to align various functions, in order to meet the needs of customers and stakeholders.

- To study the role that quality plays in each component of a manufacturing firm’s production and business support systems and to show how they are linked together as a system of processes to support organizational objectives.

- To develop the view of a production and service systems that focuses on lateral relationships, as opposed to the traditional hierarchical view of organizations.

- To differentiate between production and service organizations, as well as their similarities, and to highlight the differences in service organizations that must be addressed when designing and implementing quality assurance systems.

- To show that quality in manufacturing and quality in services must be approached differently in terms of employees' responsibilities and type and use of technology.

- To understand how total quality has been adopted in government, health care, school systems and universities, not just in manufacturing and service organizations, and the growing importance of performance excellence in all of these sectors.

- To understand why small businesses and not-for-profits have been slow to adopt quality initiatives and to emphasize that are many successful small businesses and nonprofits, which have shown that quality initiatives can be successfully accomplished.

ANSWERS TO QUALITY IN PRACTICE KEY ISSUES

Service Quality at The Ritz-Carlton Hotel Company, L.L.C.

1. The value of focusing on the Gold Standards for The Ritz-Carlton is that employees don't have to ask about what is important to the firm, or what the broad, general criteria for evaluation are going to be, from year to year. These are known by everyone and do not change. As pointed out in the case, this allows the employees to think and act independently with innovation for both the benefit of the company and the customers.

2. The character-trait recruiting instrument (mentioned earlier in the chapter) is used in an attempt to match the right person to the right job within the hotel. The benefits are that it sends a message to employees that the company is serious about choosing high quality personnel to fill each position. Another critical benefit of this instrument revolves around not what the company can teach the employee, but what the employee can give to the company. Every person brings unique qualities and characteristics. Through careful screening and training, employees can be placed in positions for which they are most suited and capable. Assuming that the instrument is well designed, the employees will tend to be more satisfied, take more pride in their work, be more likely to be productive and enhance the quality image of the company. Also, the instrument would need to be monitored over time to determine if it was actually predicting success on the job for the people who scored high.

   In the past, this careful screening process took as much as 21 days to complete, but has now been reduced to three days. It is obvious that The Ritz-Carlton is still recruiting and retaining high quality employees. This can only mean that the firm systematically studied each step in the recruiting/hiring process (especially the predictive capability of the recruiting instrument), found out which steps were "critical to quality," and eliminated the non-value added steps.

3. Information technology supports the company's values by providing extensive customer information in a timely and efficient manner. By profiling guests, employees can provide service that is "tailored" to the needs of individual customers. The company uses

information technology to both monitor standards and also to enhance the quality of services. Every employee is involved with these systems. By gathering data on quality performance, The Ritz-Carlton can see where the improvements are paying off and where more improvement is needed.

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Kenneth W. Monfort College of Business

1. Monfort College of Business' (MCB) mission and vision are stated as:

   MCB's Mission - Our mission is to deliver excellent undergraduate business programs and related learning opportunities that prepare students for successful careers and responsible leadership in business.

   MCB's Vision - Our vision is to build a reputation of excellence in Colorado and beyond for preparing future business leaders and professionals.

   Their mission and vision drive their two long-term strategies that guide its actions: a positioning strategy of high-quality and low-cost (i.e., exceptional value), and a program delivery framework of *high- touch, wide-tech*, and *professional depth*.

   It is important for any business to link its mission and vision to organizational processes in order to achieve alignment that assists employees in knowing how to make daily decisions that advance organizational goals and plans, as well as giving customers and stakeholders assurance that the organization will focus on their importance in achieving performance excellence, as well.

2. MCB's philosophy of continuous improvement guides employee behavior and has been key to attaining the mission and vision of the College. MCB's commitment to an overall organizational focus on continuous performance improvement and the significant progress made toward development and deployment of this systematic approach, has been driven externally and internally. Externally, UNC requires a regular cycle of program review and evaluation, and AACSB accreditation maintenance (which also requires continuous improvement) are both strong external drivers. Internally, drivers include the commitment of MCB leadership to performance improvement and a strategic planning system, including Key Performance Indicator (KPI) goal sets, the Educational Testing Service and Educational Benchmarking, Inc. survey feedback, and the integration of a Malcolm Baldrige-based assessment system. Also included in this framework is the development of a student-centered process, the availability of emerging and existing technologies, the encouragement and support from university leadership, and a series of

program accomplishments that have been contagious in creating expectations for continued performance improvement.

3. A visit to the Baldrige web site (www.baldrige.org) helps to identify several "best practices" that MCB employs that might be useful to any college or university for improving quality. Some of these are:

    a. Clearly state mission, vision, and values focused (in the case of MCB) on undergraduate education. Values are "spelled out" for each academic component of instruction, scholarship, and service.
    b. Combine hi-touch and wide-tech – small class sizes combined with technology infrastructure. This provides for many opportunities for experiential learning, while helping students to learn about using the latest existing and emerging technologies enabling them to make a seamless transition into the workplace after graduation.
    c. Recruit faculty with professional depth – professors have a mix of academic credentials and professional experience, with executives-in-residence having had senior leadership positions in business and industry.
    d. Build and maintain facilities that support and enhance the mission and vision of the college. Up-to-date offices, classrooms, meeting spaces, auditorium, and dining facilities are supported by technology infrastructure features such as computer labs, electronic finance trading center, and a wi-fi system throughout the building.
    e. Develop governance and administrative systems that meet or exceed local, state and federal guidelines, in addition to those of regional and national accrediting agencies, such as the Association to Advance Collegiate Schools of Business (AACSB).
    f. Design processes and standards for excellence that serve to allow the organization to recruit and retain high quality, seasoned, and professionally experienced faculty; recruit, retain, and satisfy high-quality students; and develop and uphold a reputation in the marketplace through managing external relations, effective communications, and strengthening partnerships.
    g. Develop an effective performance improvement system through regular cycles of review and improvement, designed around the Baldrige process.

ANSWERS TO REVIEW QUESTIONS

1. A system is the set of functions or activities within an organization that work together for the aim of the organization. Systems thinking is critical to the application of quality, because it supplies organizational linkages that help to align various functions, in order to meet the needs of customers and other stakeholders.

2. Quality has moved beyond technical issues such as reliability, inspection, and quality control in manufacturing, because of changes in the economy and in society. **Some of these concerns center on the increasing focus of businesses on service and knowledge creation and management.**

3. Quality concerns of each major function within a manufacturing system vary, as follows:

   Marketing and Sales - Effective market research and solicitation of customer feedback are necessary for developing quality products.

   Product Design and Process Engineering - Here technicians must make sure products are not over- or under-engineered. Over-engineering results in ineffective use of a firms resources and lower products. Under-engineered products poor process designs result in lower quality as well.

   Purchasing and Receiving - The purchasing department must ensure that purchased parts meet the quality requirements specified by product design and engineering. Receiving must ensure that the purchased items that are delivered are of the quality that was contracted for by purchasing and that defective parts are not received.

   Production Planning and Scheduling - The correct material, tools, and equipment must be available at the proper time and in the proper places to maintain a smooth flow of production.

   Manufacturing and Assembly - Quality must be built into a product; it cannot be inspected into it. Proper control of labor, materials, and equipment is necessary to achieve high quality.

   Tool Engineering--Tools used in manufacturing and inspection must be designed and maintained for continual production of a quality product. Tool performance should be consistently monitored so that worn or defective tools can be identified and replaced.

   Industrial Engineering and Process Design - Must work with product design engineers to develop realistic specifications of quality. In addition, they must select appropriate technology, equipment, and work method that will produce quality products.

   Finished Goods Inspection and Tests - If quality is built into the product properly, inspection should be unnecessary. Some inspection based on random sampling, or 100 percent inspection of critical components, is still necessary to ensure that no defective items reach the customer.

Packaging, Shipping, and Warehousing - Logistic activities that protect quality after goods are produced.

Installation and Service - Users must understand the product and have adequate instructions for proper installation and operation.

4. Business support activities must aid in quality production in their own separate ways, but still remain aligned with the organizations purpose, objectives, goals, and plans. Key business support activities play a role in sustaining quality as follows:

   General Management--Top managers must provide leadership that motivates the entire organization, develop strategic quality plans, and ensure that quality initiatives are present in every process and involve very individual in the organization.

   Finance and Accounting--Finance must authorize sufficient budgeting for equipment, training, and other means of assuring quality. Financial studies can help expose the costs of poor quality and ways of reducing it. Accounting data are useful for identifying areas for quality improvement and tracking the progress of quality improvement. Financial and accounting personnel can also apply quality improvement techniques to improve their own operations.

   Human Resource Management--Human resource managers must ensure that employees have the proper skills, training, and motivation to do quality work, and that they are recognized and rewarded for such. They must also be given the authority and responsibility to make critical quality decisions when necessary.

   Quality Assurance--Because managers may lack the technical expertise necessary for performing needed statistical tests or data analyses, a separate quality assurance department may be essential, consisting of quality specialists to perform these studies on a regular basis.

   Legal Services--The legal department must ensure that the firm follows all laws concerning product labeling, packaging, safety, and transportation, that all warranties are properly constructed and written, that the firm satisfies its contractual requirements, and has proper procedures and documentation in place in the event of liability claims against it.

5. Service is defined as: "any primary or complementary activity that does not directly produce a physical product -- that is, the nongoods part of the transaction between buyer (customer) and seller (provider).” Service firms are organizations in industries and sectors including: hotels and lodging places, and establishments providing personal, business, repair, and amusement services; health, legal, engineering and other professional services;

membership organizations. Real estate, financial services, retailers, transportation, and public utility organizations are generally considered service firms. Basically, they include all nonmanufacturing organizations except such industries as agriculture, mining, and construction. Quality in services is important because poor service often leads to lost customers (up to 35% per year) and therefore lost income. Retaining customers can mean a profit increase because it is more cost effective to retain them than to acquire new customers. Companies with long-time customers can financially outperform competitors with higher customer turnover even when their unit costs are higher and their market share is smaller.

6. Performance standards in service organizations are equally as important as specifications in manufacturing firms. Services must also "meet or exceed customer expectations." Customer needs are often more difficult to identify and quantify in services, because individual customers are different and bring their own wants and needs into the definition of what is good or excellent quality. They demand a higher degree of customization, rather than standardization, which is common specification in manufacturing. See the answer to question 7, below, for other differences between manufacturing and service organizations.

7. Differences between manufacturing and service organizations are significant, yet both types have activities that fall into manufacturing and service categories. The contrasts between service and manufacturing quality include:

    - Customer needs and performance standards are difficult to quantify in services.
    - The production of services often requires a high degree of customization.
    - The output of many services is intangible, unlike manufactured goods.
    - Services are produced and consumed simultaneously.
    - Customers must often be involved and present during the performance of the service process.
    - Services are more labor intensive, where manufacturing is more capital intensive.
    - Many service organizations handle large numbers of transactions.

8. Employees need information technology as a tool for providing quality service in today's fast-moving business environment. Information technology is essential in modern service organizations because of the high volumes of information they must process and because customers demand service at ever-increasing speeds. Intelligent use of information technology improves quality and productivity, and also leads to competitive advantage, especially when technology is used to better serve the customer. At the Ritz-Carlton Hotel Company, L.L.C., a corporate-wide database is used to record customer preferences, previous difficulties, personal interests, and preferred credit cards of each of more than 800,000 customers. Thus, front-desk employees can determine that a customer needs a

non-smoking room, prefers non-scented soap, and often travels with a small child who will need a crib.

9. Quality in health care has long been recognized as a high priority issue. Since the early 1990's the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has required CEO's to be educated on continuous quality improvement (CQI) techniques. In 1999, health care was added as a category under which such organizations could apply to win the Malcolm Baldrige National Quality Award. Interestingly, there were no winners in this category in the 1999 or 2000 application years. Many individual providers have successfully pursued quality as a strategic objective for a number of years. However, there are still a number of issues in the national health care system that suggests that major changes are still needed.

10. In the area of quality implementation, the President's Advisory Commission (see Bonus Materials on the Premium website for details) made a number of recommendations related to the need for health care organizations to adopt basic principles of total quality including: a) a focus on customers (items 2, 3, and 4 of the Advisory Commission's recommendations in this chapter), b) participation and teamwork (items 7, 11, and 12), and c) a process focus supported by continuous improvement and learning (items 6, 8, 9, and 10). Developing the infrastructure, including strategic planning and leadership was targeted in items 1, 2, 3, and 7. Other infrastructure issues, including customer relationship management, human resource management, process management, and data and information management, were either specifically address or implied by the recommendations.

11. Despite several notable successes, most educational organizations, as is true for health care organizations, have been slow to systematically attack the problems of educational decline. In 1999, education was added as a category under which such organizations could apply to win the Malcolm Baldrige National Quality Award. There were no winners in this category in the 1999 or 2000 application years. That changed in 2001 when three educational institutions (2 school systems and a regional university) won the Award. The major quality initiatives taken at each of the following organizations include:

    a. Mt. Edgecumbe High School - use of TQ concepts to improve school processes. Has made radical changes in the traditional grading system to emphasize student responsibility for quality.

    b. Brazosport Independent School District - emphasizes the ability of all students to learn, regardless of socioeconomic background. Uses TQ concepts of quality-based improvement strategy, data-driven decision-making, and empowerment to meet customer requirements to improve school processes.

c. Hunterdon Central Regional High School (NJ) - emphasizes a focus on a diverse curriculum, supported by clear district aims. Uses quality management extensively as an assessment tool and employs TQ concepts to develop improvement strategies, manage process change, and ensure customer focus.

d. Oregon State University - use of TQ (they call it CQI - Continuous Quality Improvement) to improve administrative processes. Specifically, made major improvements in project management in the physical plant area.

e. Northwest Missouri State University - developed a systematic and comprehensive approach called COQ - Community of Quality, to measure "talent development" by the value that the university adds to the students, faculty, staff, and region. In 1992, they began to develop a Baldrige-based approach, based on 10 key quality indicators (KQI's) that drive planning, evaluation, and improvement of curricular, and co-curricular programs and processes.

f. Babson College - applied quality management to four areas, including: 1) teaching the principles of quality management; 2) curriculum as a whole; 3) research in quality management; and 4) using quality management as a way to run the institution.

The similarities between K-12 educational approaches and those in colleges and universities are that quality management is generally applied to address strategic issues and administrative processes in both types of organization. Business and education partnerships at all educational levels have become more common, with the businesses providing funds for such areas as installing classroom technology, pedagogical research, and forums for discussion of quality in education. A number of differences between K-12 and colleges and universities are evident, however. Because administrators have more control over classroom activities and methods in K-12 schools, they and the classroom teachers often collaborate to use TQ tools and activities to improve classroom performance. Thus, the Koality Kid approach has been a valuable way to encourage student participation in classroom learning and process improvement. In universities, administrators have less control over what professors do in their classrooms. So the impact on the core processes (teaching and research) has been less than in K-12 schools, even in those universities, which have strong administrative support for TQ.

12. Small businesses and nonprofits have been slow to adopt quality initiatives because of perceived costs, lack of quality expertise in the organizations, and to a degree, lack of role models of successful small businesses.

13. There are several things that could and should be done inside and outside of small business and non-profit organizations to promote quality. First, owners and managers

should familiarize themselves with quality issues and how they impact competitiveness. Next, they should become familiar with the small business and non-profit winners of Baldrige Award, such as Texas Nameplate, Karlee, Branch-Smith and the City of Coral Gables. Third, they need to develop some in-house systems through a combination of training employees and cost-effective consulting, perhaps by a university or through publicly offered seminars. Fourth, they need to get started on their quality journey. Finally, they need to encourage other nonprofit organizations to apply for the Baldrige Award using the guidelines for this, the newest category.

14. In the federal, state, and local government sectors, quality improvement efforts have had mixed success over more than a decade. Some of the quality initiatives that have been taken at each of the following organizations include:

    a. The federal government - improvement of processes, productivity, and costs through the National Performance Review (NPR), was developed in the Clinton administration under the leadership of former Vice-President Al Gore. A number of new federal quality awards were created to recognize accomplishments in this effort. In 2002, the PQA was redesigned to recognize Federal agencies that best achieve the objectives of the President's Management Agenda (PMA).

    b. City of Madison, WI - applied Deming theories to city operations, such as the city garage, resulting in streamlined operations, reduced "red tape" and reduced cost of operations.

ANSWERS TO DISCUSSION QUESTIONS

1. This exercise is designed to get the student to think about the service community and how service processes work (or don't work) there. Some examples might include a one-hour photo shop (time); FedEx's package delivery service (timeliness); Amazon.com's wide variety of products that promotes "one-stop" shopping (completeness);

2. The differences between manufacturing and service organizations, listed in Review Question 7, are evident in schools and hospitals in various ways. For example, in schools, determining what a "good" student is creates difficulties, particularly for learning disabled students, gifted students, and "average" students. These categories often drive the need for customization of curricula. Obviously, the output is intangible, and such services are produced and consumed simultaneously. These and other differences between manufacturing and services show up in hospitals. For example, customers must be involved and present when brain surgery is done to relieve the symptoms of Parkinson's disease. Services in the operating room are labor intensive, when a large surgical team is involved in performing a heart transplant. Large numbers of transactions

are involved when a patient has a major infection that requires a long hospital stay, many procedures, and many medicines to be administered on a day-by-day schedule.

3. Answers will vary; however, this should be an easy topic for most students to discuss. Students will tend to dwell on poor quality service, first. You may have to probe student's memories to have them relate some "good quality" stories. For example, one of the authors stayed in a hotel that was operated by a large eastern university. The desk employees (probably students in hospitality management) were polite and well trained, and the bed in the clean, well-furnished room was comfortable. However, after arriving late at night and settling into bed, the antiquated heating system went through loud cycling changes every 10 or 15 minutes. The switching on and off of the system, accompanied by hisses and bangs, left the customer, who was too tired to change rooms, with a fitful night of sleep. He went to the checkout counter the next morning and complained about it, asking for a reduction in the room rate. To his surprise and delight, the young clerk said, “We’ll just cancel your bill!”

4. Student answers will vary, depending on their experiences. For example, some universities have automated registration processes, either via telephone or web-based technology. Many universities are installing integrated Enterprise Resource Planning (ERP) systems to integrate support processes for planning, budgeting, enrollment management, etc. Often, in a web-based system, students will be able to retrieve grades for courses right after they are posted, view their transcript to see what courses have been taken or still need to be taken, and post their e-mail to friends and professors. Many professors are putting assignments, grades, PowerPoint slides, or whole courses on the Web to improve service to students.

5. The Internet has played a tremendous role in improving service quality, especially as it relates to the dimensions of: Time, timeliness, completeness, consistency, accessibility and convenience, and accuracy. Some dimensions are not so obviously present (or feasible to manage), such as courtesy and responsiveness. Other web sites may take as long as, or longer, than their mail-order or “bricks and mortar” competitors, simply because they have not been prepared to deal with the high volume, or process requirements, of their new dot.com businesses. Good web sites do a better job than the poor ones, of course.

6. Texas A&M’s approach to “incentivizing” faculty to pay attention to the needs and desires to their student clients has been controversial, to say the least. The advantages are that faculty who are part of the program will try to identify the “voice of the customer” and try to design their course materials and delivery system to meet student needs. They may also design pre-and post-learning assessment measures and try to ensure that they are valid and reliable. In addition, they will pay attention to complaints and the complaint

management process. The major drawbacks, as many professors will point out, is that the results from the student evaluations may simply reflect that the "winning" professors are those who usually come out on top in any such "popularity contests." They may not be the "outstanding" teachers, if multiple measures were used.

7. This set of thought-provoking questions should generate a great deal of discussion. You are encouraged to read the referenced article by Turner (the author). Briefly, these are his takes on the answers (with some editorial comments by this writer, shown as **ed**.):

    a. This statement is true, because a school without standards is of no value to the consumer (the student).
    b. This statement is basically true, because the focus must shift from telling the student (as customer) to work harder to that of helping the majority of students succeed.
    c. This statement is also true, so it puts a premium on communication up and down the supply chain to find out what your suppliers need to provide you with, and what you need to provide your customers with.
    d. This statement is basically true, because the focus must shift from telling the student (as customer) what they must do, to allowing them leeway to choose what is best for them. (Note: there may be need for some restrictions on this freedom as it relates to attendance, especially if group processes are part of the regular class work. - ed.)
    e. This statement is true, according to the author. (But the objective may have to be restated as: "Completing the content with adequate understanding of the concepts." - ed.)
    f. This statement is true, because learning should be a two-way street. "Old" and "new" faculty members have a lot to learn from each other. However, the author applies the caveat that these visits should be for improvement, not evaluative purposes.
    g. This statement is held to be true by the author, however, he implies that a "future oriented evaluation" of experienced faculty is desirable, and "new instructors need to be monitored and discussions aimed at improving current performance."
    h. This statement is also true, and is shown by greater variability in distribution of grades. The narrower the distribution, the smaller the "luck factor." This answer also can be related to the "Red Bead" experiment, discussed in a later chapter.

8. At Amazon.com, service quality depends on breadth of product offerings, speed, and efficiency of operations. Information technology is much more important than at Barnes and Nobles bookstores. Training of customer service representatives is much different for e-commerce versus store representatives, as well. Of course, Barnes and Noble, which also has a web-based business, has to compete along the same dimensions as Amazon in

e-commerce. However, Barnes and Noble can provide services not offered by Amazon because of their bricks-and-mortar infrastructure. For example, they might give customers incentives to use one or the other form of delivery (store vs. door), depending on available capacity in either "bricks or clicks". Also, if an integrated information system is well developed, store employees who waited on a customer may be able to find information on customer preferences that could be used to increase in-store sales. Additionally, Barnes and Noble has developed a process that allows customers to buy over the web and then pick up the items at a store and avoid shipping costs.

9. Student answers will vary. For example, a member of the family of one of the authors was berated and humiliated in a doctor's office for being 15 minutes late for an appointment, even though she had written the appointment on her calendar, and even called to verify the appointment two weeks in advance. When she complained to the office manager, he said, "I can't do anything about it, because it's your word against the employees' word." As an example of excellent service, a local hospital has streamlined outpatient processing for such activities as routine blood testing. A sign tells clients to: "Please inform a manager if you have been waiting more than ten minutes for service." Anecdotal evidence indicates that the manager rarely, if ever, must be so informed.

10. Student answers will vary. As we learned in Chapter 1, Total quality is based on three fundamental principles:

    1. A focus on customers and stakeholders
    2. Employee engagement and teamwork by everyone in the organization
    3. A process focus supported by continuous improvement and learning

    The President's Advisory Commission presented 12 basic recommendations, including:

    1. National aims for improvement of health care quality should be established, accompanied by appropriate, specific objectives for improvement.

    2. Core sets of quality measures should be identified for standardized reporting by each sector of the health care industry.

    3. All sectors of the health care industry should support the focused development of quality measures that enhance and improve the ability to evaluate and improve health care.

    4. A widespread and ongoing consumer education strategy should be developed to deliver accurate and reliable information about health care quality to consumers and encourage them to consider information on quality when choosing health plans, providers, and treatments.

5. Information on health care quality should be developed to meet the needs of consumers.

6. Interested parties should work together to develop a health care error reporting system to identify errors and prevent their recurrence.

7. Health care organizations should provide strong leadership to confront quality challenges.

8. Organizations should become skilled at using and learning from quantitative information to measure progress toward quality improvement.

9. Organizations should commit themselves to continuous improvement and the elimination of waste.

10. Organizations should make a commitment to reduce error and increase safety.

11. Organizations should build long-term relationships with all stakeholders.

12. Organizations should commit themselves to fundamental change in their work environment, involving and empowering all employees.

As is evident, the themes of the recommendations are: measurement for error reduction, continuous improvement and waste elimination, meeting consumer needs and educating consumers, building relationships and working with partners, leadership to confront quality challenges, and a commitment to employee involvement and empowerment.

11. Student answers will vary, depending on their experiences. For example, several years ago, one state moved from a system where people were required to pick up license tag renewals, in person, to a combination of the old system and a new mail-in system. By "de-personalizing" the mail-in part of the system, people who are too busy to go to the local license bureau can now mail their payment in, and receive the license renewal tag within a few days, without the "hassle." Those who wish to do so, can still use the face-to-face system, but long waiting lines have been virtually eliminated.

SUGGESTIONS FOR PROJECTS, ETC.

1. This project should provide students with insights into how the various functional areas are related to one another. Depending on the amount of cross-functional work that is done, students may have difficulty identifying "departments" with some functions. For example, many companies have now done away with departments of industrial engineering and process design. A central group at corporate headquarters may do purchasing.

2. If some of the students in the class do project 1 and others do this project, it can provide a very interesting contrast. Most service businesses, even very small ones, are highly dependent on their information technology and employee know-how in their efforts to provide quality service. Perhaps more rare will be the firms that have long-range improvement plans that integrate employee skills and evolving technology into the organization's strategy.

3. There is reason to believe that Deming's view of a production system can be applied, with appropriate modifications, to university or health care organizations, as well as manufacturing. However, despite several notable successes, many university and health care organizations have been slow to systematically attack the problems of declining efficiency and effectiveness in their organizations.

4. This project is an extension of the previous project. Students will often find major improvements being made in certain processes in various units, such as intensive care, radiology and imaging, purchasing, etc. However, widespread employee involvement efforts are likely to be somewhat rare. In professional areas, such as nursing and operating room processes, continuous improvement efforts are neither systematic, nor widespread, although this is beginning to change.

5. In colleges and universities, administrators may be interested in improving support processes and reducing costs, but often are unwilling to grapple with the more difficult areas of classroom and direct academic unit improvement. Therefore, students are likely to find systematic improvement efforts in place in such areas as maintenance, student registration and support services, and in administrative processes. In academic units, curriculum design and assessment is sometimes the subject for continuous improvement discussion among faculty members.

6. Findings will vary here. If your state is among those that have made "educational reform" efforts, you may find that approaches to make the school system's structure more participative and team oriented have been implemented. Some clues might be "site-based" councils, composed of teachers, administrators, and community members, open classroom school buildings (sometimes featuring the first three years of school, without first, second, or third grade divisions), "portfolio" student assessment methods, etc. Other systems might have few improvement efforts or quality initiatives.

7, The case studies on the ASQ website provide some interesting insights into how quality concepts can be, and frequently are integrated into both classrooms and administration in K-12 and college educational setting.

8. Answers will vary, based on student analysis. AQIP's website will provide a different perspective on methods and trends in promoting quality in colleges and universities.

9. This is an extension of a previous project, suggested in #6, above. Students might be encouraged to obtain a copy of the Baldrige Educational Criteria for Performance Excellence, for comparative purposes (found at http://www.quality.nist.gov). The 2009-10 criteria are available in the Baldrige folder on the Premium website.

10. This exercise is designed to get the student out into the government community to see how TQ processes work (or don't work) there. Students may be surprised to find how accessible local politicians and managers are to them. A source to contact for information on where "leading edge" quality improvement efforts are taking place may be political science professors at your university, who are often actively involved with local and regional governmental units.

11. This is a project similar to #9 and #10, above, but related to nonprofit organizations. These could be churches, charitable agencies, such as Goodwill, or youth agencies such as Boy Scouts or Girl Scouts. A source to contact to find out where "leading edge" quality improvement efforts are taking place may be social work professors at your university, who are often actively involved with local and regional units.

ANSWERS TO CASE QUESTIONS

I. The Nightmare on Telecom Street

1. This experience seems all too familiar to most of us. The points of failure are: 1) the number of phone rings before pickup; 2) possibly, the annoyance of having to deal with an automated system, rather than a human operator; 3) use of overlapping categories at the first two stages [What if you're going with a company group? going to an international conference?]; 3) long delays on hold; 4) asking for a card number that you were not warned earlier that you would need; 5) requiring highly personal information (4 digits of a social security number), for no apparent reason; 6) having an emergency number, without defining what an "emergency" is; 7) requiring re-statement to the human representative of the card number and social security codes that were already used by the system; 8) being told at the end of the automated process that he has reached the wrong human representative, through no fault of the customer's; 9) being transferred back into the automated loop by the human operator, rather than being given preferential treatment, due to a harassing experience.

2. The answer to this is straightforward -- toss out the system and start over again! Given that an automated system is felt to be essential, each of the above failure points should be addressed and corrected.

II. U.S. Water Resource Agency - Flagstaff District

1. Even though the Flagstaff District is a public, non-profit government agency, it still has customers. These include virtually everyone in their geographic region who uses water. Some specific examples are commercial and recreational users of the waterways, locks and dams; people who live along the waterways, including farmers and resident who may be impacted by flood control and environmental protection actions; organizations for which it performs reimbursable projects; those affected by regulations; and, perhaps, indirectly, any organization or individual who uses water from the waterways.

2. The district might define quality in terms of meeting and exceeding customer expectations. In many ways, they operate a service business similar to utilities, such as a waterworks, gas and electric utility, etc. Their customers want to be able to use their services with the assurance that they will be treated politely, by knowledgeable client service people, with a minimum expenditure of time, using an easy-to-understand process, which is dependable and accurate, at an affordable cost. How could USWRA-Flagstaff use this definition to evaluate its success in "competing" with other entities? They could develop a customer-focused approach to delivering services such as regulatory oversight by developing streamlined operations for working with the regulated clients, putting requirements on a website (along with applicable forms), employee empowerment, reducing "red tape," surveying customers to determine satisfaction levels, and reducing costs.

III. Walker Auto Sales and Service

1. Issues that Daren is encountering or may encounter include:

   - Customer needs and performance standards are often difficult to identify and measure in services, primarily because the customers define what they are and each customer is different.
   - The production of services usually requires a higher degree of customization, so employees must tailor their services to individual customers
   - The output of many service systems is intangible, so service quality can only be assessed against customers' subjective, nebulous expectations and past experiences. (What is a "good" sales experience?)
   - Services are produced and consumed simultaneously, and many services must be performed at the convenience of the customer. Attention must be paid to training and building quality into the service as a means of quality assurance.
   - Customers often are involved in the service process and are present while it is being performed, or at least, in specifying their problems and needs prior to work being done on their car.

- Services are generally labor intensive, and the quality of human interaction is a vital factor for services that involve human contact. Thus, the behavior and morale of service employees is critical in delivering a quality service experience.
- Many service organizations must handle large numbers of customer transactions. Such large volumes increase the opportunity for error.

2. Action plans that Darren might consider developing must tailor the systems to the needs of various types of customers. He must ensure that he develops appropriate infrastructure, practices and tools to support his vision. These might include:

   a. Customer relationship management
   b. Leadership and strategic planning
   c. Human resources management
   d. Process management
   e. Information and knowledge management

   For example, car buyers have different needs from those who are coming in for shop service to their cars. For car buyers to be able to obtain a wide range of vehicles and options to evaluate, have access to available salespeople, enjoy a prompt greeting, and feel comfortable and un-pressured in reaching a buying decision, Darren must plan on exercising leadership and strategic planning to develop the required infrastructure. Because customers expect salespeople to be courteous, to be knowledgeable about the cars, to respect their time, and to honor verbal promises, courteous salespeople must be hired and trained to support customer relationship management, develop good processes, and work to improve systems through information and knowledge management.

   For repair and maintenance service, customers want to have the work explained appropriately, to be fully informed of any additional necessary work, and to have all work reviewed on completion. They want good time estimates and communications with the service department. Thus repair service people must not only be technically proficient, but also be customer focused, and understand and support the need for continuous improvement through information and knowledge management.

Bonus Materials

Quality in Practice - Toyota Motor Corporation, Ltd.

1. Toyota's guiding principles include:

   1) Honor the language and spirit of the law of every nation and undertake open and fair corporate activities to be a good corporate citizen of the world.

2) Respect the culture and customs of every nation and contribute to economic and social development through corporate activities in the communities.
3) Dedicate ourselves to providing clean and safe products and to enhancing the quality of life everywhere through all our activities.
4) Create and develop advanced technologies and provide outstanding products and services that fulfill the needs of customers worldwide.
5) Foster a corporate culture that enhances individual creativity and teamwork value, while honoring mutual trust and respect between labor and management.
6) Pursue growth in harmony with the global community through innovative management.
7) Work with business partners in research and creation to achieve stable, long-term growth and mutual benefits, while keeping ourselves open to new partnerships.

As stated in Chapter 1, “Whatever the language, total quality is based on three fundamental principles”:

- A focus on customers and stakeholders
- Participation and teamwork by everyone in the organization
- A process focus supported by continuous improvement and learning

It’s interesting to note that Toyota’s Guiding Principles focus on being a socially responsible, “world entity.” Customers and stakeholders are seen to be part of the society in which they live. Five of the seven principles speak explicitly of a global mission.

Participation and teamwork is emphasized in Principles 2, 5, and 7.

The process focus and process improvement is not explicitly mentioned, but underlies Principles 3, 4, and 6.

Toyota has shown itself to be capable of using total quality principles by establishing consistent standards of excellence, setting and communicating clear expectations, continuous improvement (as opposed to finding fault and blaming), looking at a work task as a process, involving all who have a stake in the outcome in the improvement process, measuring results, and recognizing and rewarding success – for bringing about change. Using a set of quality "tools," teams define a system (under the broad umbrella of the “Toyota Production System”), assess a situation, analyze causes, try out improvement theories, study results, standardize improvement, and plan continuous improvement.

The three principles of total quality appear to be well supported by an integrated organizational infrastructure, a set of management practices, and a set of tools and techniques, which all work together.

2. Just as SSM Health Care learned from manufacturing, other non-profit organizations might also learn from Toyota. Their constancy of purpose and customer focus is exemplary. Their attention to detail and use of kaizen continuous improvement methods has been documented time and time again. They use best practices and share new approaches rapidly among organizational units. They treat their workers as associates, and constantly seek suggestions for improvements from their partners. Education could pick up some ideas on how to become a "learning organization" from Toyota. Government could use some lessons in how to become more "customer friendly" and how to develop more effective and efficient processes. (See the SSM media case in the Bonus Materials).

Bonus Cases

Case - Shiny Hills Farms

1. The case describes the quality assurance (QA) function of Shiny Hills Farms, which seems to take a very traditional approach to "inspecting quality into" the product. The activities include controlling product weight, appearance and shelf life of the product. The emphasis is on QA specifications, monitoring procedures and temperatures, weights, USDA standards, and charting performance. Other departments do seem to have a concept of modern quality methods that could contribute to TQ. For example, R&D uses focus groups to help design products that meet customer needs. Engineering personnel are replacing lines with ergonomically correct designs, although this may be pointed toward productivity improvement, as opposed to quality improvement.

2. The case narrative and the answer to Question 1 show that the QA department sees quality as a "control" function. The TQ concept, with a high level of employee involvement and commitment, QA personnel serving as trainers and technical support people and the concept of internal customers seem to have little place at Shiny Hill.

3. Shiny Hill could improve its quality by focusing on both internal and external customer needs, reducing reliance on inspection, implementing continuous improvement concepts, promoting employee involvement. The culture of inspecting quality into the product and preventing defective products from reaching the customer should be replaced by the process control and self-monitoring to prevent any defective product from reaching the *next operation*, rather than the final consumer. However, the use of quality standards, sampling inspection, new product development with customer input, and continued progress toward ergonomic equipment design should not be discarded.

Case - Mercantile Stores

1. Mercantile views quality as part of their mission. Two aspects of this are to provide the highest level of customer service and a broad assortment of fashionable high-quality, high-value products. Information technology (*Quick Response*) was implemented to improve point-of-sale information needed by salespeople and inventory planning and control. This technology allows higher efficiency in "back-room" operations and also serves the customer better by ensuring that the right amount and type of inventory will be on the shelves when needed. Through the University Business School, everyone from sales associates to managers are trained and empowered to take responsibility and to make customer satisfaction a priority.

2. The emphasis in this case appears to be on internal quality, although a customer focus is evident. Components of *time, timeliness, consistency and accuracy* are certainly addressed by the new information system. However, *completeness, courtesy, accessibility and convenience, and responsiveness* are the responsibilities of people, more than technology. Thus internal quality is a necessary, but never a "sufficient" condition for excellent external quality. One must complement the other, based on a consistent mission and a customer focus.

Case - Child Focus, Inc.

1. Just as in any organization, profit or non-profit, it would be necessary to understand the environment, the infrastructure, and the degree of commitment to building a quality organization. I would want to ask:

    - What support for quality do you have from your leadership team and board of directors?
    - How have your mission and vision been developed, and how do associates see their impact on the organization?
    - How does your continuous strategic and tactical planning system work, who is involved, and what types of goals are set?
    - How do you train, empower, and reward your employees?
    - How do you develop and reward leadership in the organization?
    - What do you do in order to carry out continuous improvement of your processes?
    - How do you encourage and reward innovation among employees?
    - How do you measure performance versus goals, and provide feedback and correction?
    - What are the greatest three strengths and the three most challenging OFI’s at this point in the organization?

The advice to be given to the CEO would depend heavily on the answers to the questions above. For example, if she/he very knowledgeable about quality performance management systems, such as the Baldrige process, it might be beneficial to look into using that approach for quality planning and control. Otherwise, I might suggest that organizational leaders begin an intensive learning process, and look into having a quality consultant help the organization design a performance management system.