




*About  
the  
Authors*

Dr. Berhe Habte-Giorgis, *Associate Professor in Marketing, has a B.B.A. from Haile Selassie University in Ethiopia, an M.S. from Loyola University, and a D.B.A. from Louisiana Tech University. His research includes marketing strategy and performance, and the application of marketing in the economic development of Third World countries. On breaks, he helps his native country of Eritrea as a consultant in the areas of civil service reform and the revitalization of the private sector.*

Dr. Jooh Lee, *Associate Professor of Management and MIS, holds a B.B.A. from Kook-Min University, and an M.S. and a Ph.D. in Management. He has published in such areas as strategy and policy, operations strategy, and R&D in the hi-tech industry. His primary research interests are executive compensation, product differentiation, and comparative studies across countries, particularly with respect to the U.S., Japan, and Korea.*

# *Implications of Total Quality Management in Higher Education*



*Berhe Habte-Giorgis and Joob Lee*

## **Abstract**

*The article reviews the literature in the development of Total Quality Management (TQM) as a philosophy of management to meet the shifts of business and government organization and management. The purpose is to see its application to higher education.*

*Although TQM has helped American companies close the quality gap vis-a-vis their foreign competitors, its incremental nature makes its usefulness limited. The time has come for fundamental change, such as re-engineering of the organization. Similarly, in higher education, TQM can serve as a stepping stone towards drastic change in the content and delivery system.*

## *Introduction*

The 1980 NBC TV story "If Japan Can, Why Can't We?" kindled American business interest in quality management. The program helped America discover Edward Deming, considered by many the guru of quality management. Deming's statistical approach to quality control, known as TQM (Total Quality Management), helped Japanese manufacturers improve the quality of their products and succeed in the world market. American manufacturers, especially those in the automobile industry, adapted TQM, and within one decade closed the quality gap between Japanese and American cars.

During the same period, another revolution was taking place in American government. This movement, spurred by tax revolt, strove for small government. Initially, the goal was reducing the size and power of government. Soon, it was realized that reduction or downsizing alone was no guarantee of acceptable performance. Quality management was slowly introduced into government (Osborne & Gaebler, 1993; Hunt, 1993).

Pressure to change has also been building in higher education. Many institutions realized that unless they provided quality service to their clientele, their survival would be at stake. TQM is emerging as the tool of choice of most educational institutions. The purpose of this paper is to examine the usefulness of TQM and to outline the process for its implementation.

### *Causes of Change*

Both business and government sectors had to change when the paradigm on which thinking and practice in their respective areas shifted. The same principle applies to higher education.

The modern economic organization of industrial society is barely two hundred years old. At the beginning of the Industrial Revolution, Adam Smith introduced the concept of division of labor to increase productivity. Work was to be planned and supervised from the top, and workers performed repetitive tasks. Thus, the hierarchical model of business organization emerged.

Underlying the old paradigm of business was a major societal paradigm, which viewed the "universe as a mechanical system composed of elementary building blocks (the influence of Cartesian philosophy and Newtonian physics)" (Capra, 1993).

Frederick Taylor, an engineer with a railway company, developed time and motion studies to increase productivity. His approach, known as scientific management, treated the worker as a cog in the giant industrial machine, whose job could be defined and directed by appropriately educated man-

agers, administering a set of rules. That is, workers did not need to exercise any imagination or individual innovation because such actions would only serve to disrupt the process carefully set by management (Bonstingl, 1992).

Henry Ford's assembly line process and the management and organization to make huge plants function as smoothly as clockwork are the culmination of the development of the division of labor. General Motors' Sloan created the division form of organizational structure to enable him to effectively manage many plants and divisions. The combination of Adam Smith's division of labor, Taylor's scientific management, Ford's assembly line, and GM's organization dominated American and global management thinking for a long time. The superiority of American products went unchallenged until the Japanese began to produce high-quality but low-priced products in the 1960s. That is when signs of paradigm shift started appearing.

According to the new paradigm of business, hierarchy is being transformed into "internal enterprise units." Divisions and departments in the hierarchical system are reengineered to serve internal and external customers. The new organizations achieve accountability for results while "creative entrepreneurship is encouraged to flourish" by using strict financial control but granting operational autonomy (Halal, 1994).

Paradigm shift was not limited to the business sector. The classical hierarchical form of Weberian organization and management of government was changing fast with the American tax rebellion and the view that less government is better.

Osborne and Gaebler view the present state in American government as a crisis that takes place when a shift is about to take place. As they maintain, "hierarchical, centralized bureaucracies do not function well in the rapidly changing, information-rich, knowledge-intensive society and economy of the 1990s. They are like luxury ocean liners in an age of supersonic jets: big, cumbersome, expensive, and extremely difficult to turn around" (1993). Political thought is divided between the New Deal paradigm and the laissez-faire para-

digm. The two chief American parties are trying to bring solutions to the country's problems by resorting to old methods; however, the two approaches do not address the public's need for quality and choice.

Academia is experiencing its own version of paradigm shift. The old paradigm was teaching-oriented. Quality was measured by performance on examinations. Specifying the number of course hours a student must take to complete a program became a major control tool and was used as a surrogate measurement of learning. This academic situation is similar to the hierarchical organization of business, in which control is the focus—and not customer satisfaction.

Change in business and government paradigms is forcing change in academia. Quality-oriented businesses are very particular about the quality of people they hire. If schools do not train prospective employees with the requisite skills, then business will have to find its own means of training its employees. When businesses are concerned about cutting costs, there are fewer corporate donations for research and for academic programs. Government budget cuts mean less money for higher education. Colleges will have to find means of controlling their costs because there is a limit to which tuition can be increased without denying accessibility to the majority of American students.

College tuition increases have been 25% higher than the Consumer Price Index for the years between 1980 and 1993. By 2001, annual tuition is expected to be \$3,728 at four-year public colleges. In the same year, tuition, room and board for the top private universities is expected to reach \$36,297 (Gales, 1994).

Innovations in the delivery of education are, perhaps, the most serious challenge to the existing system of higher education. Distance learning, now in its introductory stage, will grow at an exponential rate. About twenty universities are offering degree programs on the internet (CNN, Headline News, Nov. 29, 1995). National Technological University (NTU), a graduate engineering university without a campus,

offers engineering courses to 100,000 subscribers via digital video satellite at one fourth the cost in traditional settings. It may not be too long before prestigious schools—with money, technical capability, and support—undertake such instructional systems at affordable prices. When this happens, many colleges and universities will become obsolete (Gales).

What is happening in the academic world is beyond TQM or incremental change in quality and process. Distance learning involves total reengineering of the process. In the information era, it is to be expected that the most fundamental change will take place in the area of information. Education is a process of learning, which can be loosely defined as accumulation of information. Thus, although TQM was successfully used in business and government to meet the demands of shift in paradigms, up to a certain extent, they now have to resort to more drastic tools of reengineering their process and management (Hammer & Champy, 1994). Hence, TQM will be analyzed here for its usefulness as a stepping stone towards fundamental change in the content and delivery of higher education.

### *What Is TQM?*

The definition of TQM varies according to the background and expectations of the people using it (Gehani, 1993). Although TQM is associated with Deming, many standard processes in TQM include the contributions of Juran, Crosby, Ishikawa, and others. Using common features in all its variations, TQM can be defined as a philosophy of management—having its own set of tools and techniques—which strives to produce high quality products to satisfy customer needs on a continuous basis.

Hunt (1993) combined Deming's 14 points (1982), Crosby's 14 steps (1979), and Juran's 7 points (1988) into people-oriented and technical tasks. People-oriented tasks include building top-management commitment, initiating teamwork, and improving quality awareness. Technical tasks include measurement of quality, recognition of cost of quality, taking

corrective action, and continuous improvement of process.

Defining features of TQM are customer orientation, the use of specific tools, and culture. One major difference between TQM and ordinary quality control tools is TQM's focus on meeting customer expectations. Quality may be defined by various groups, including the producers, distributors, and end-users. All these groups, including suppliers, are defined as markets for TQM purposes. When it comes to determining quality, the final customer prevails.

TQM relies on statistical quality control, out of which it evolved. Specific data reduction and display tools that have been found useful are the control chart, the Pareto chart, the fishbone diagram, the run chart, the histogram, the scatter plot, and the flow chart. These tools help identify problems and their causes. Using better tools is not in any way precluded.

Culture refers to the values held by all members of the organization. In the final analysis, the outcome of TQM will depend on whether TQM culture gets deeply embedded in the organization or not. To be effective, the ideals of meeting customer needs by subscribing to TQM must become the "guiding principles." Leadership by top management is needed to define the philosophy of the organization. This philosophy is later translated into policies and programs. Top management can promote a TQM culture by setting the example (Sashkin & Kaiser, 1993).

Despite its widespread use, TQM is criticized for its shortcomings. The first concern, expressed by academics, is the lack of a theoretical basis. To them, TQM is simply "the transformation and improvement of management. No theory describing, explaining, and predicting the impact of the Deming management method has been presented" (Anderson, Rungtusanatham, & Schroeder, 1994).

Proponents of process reengineering blame it for not going far enough to address the need to change or eliminate processes, if the situation demands. TQM involves "fixing the pieces instead of redesigning the process by which the company's work gets done" (Hammer & Champy, 1993; Long & Vickers-Koch, 1995).

TQM is also criticized for being production-oriented, and, though claiming to meet customer expectations, it still remains an inward looking engineering tool. TQS (Total Quality Service) is the tool that "gives customer satisfaction highest priority." Hence, service-rendering organizations, such as institutions of higher learning, should apply TQS and not TQM (Perotti, 1995; Choppin, 1994; Troy & Schein, 1995).

### *Implementation of TQM*

TQM requires a concerted effort by the whole organization. To give it credibility and effectiveness, the CEO of the organization has to be directly involved in guiding the program (Sashkin & Kaiser, 1993; Jablonski, 1993).

The first step requires the creation of a "Blue Ribbon Committee" headed by the CEO and usually assisted by a consultant. The Committee conducts an in-depth quantitative and qualitative study of the organization, its culture, and how it is compatible with TQM. The outcome of the Committee's work is a report with recommendations on whether the organization should pursue TQM. If the decision is to adopt TQM, a long-term council, headed by the CEO, is created to develop plans and ensure implementation. Usually, top-level managers and staff from various levels of the organization, including union representatives, are council members.

The council defines quality standards and objectives to be achieved. In the case of an institution of higher learning, the faculty have to focus their attention on excellence and how to achieve it. This is probably one of the most difficult stages. Faculty reaction "that everything is being done to achieve excellence" is a sign of resistance to the proposed change. The most effective way to combat such resistance is by creating awareness. Speakers from other universities and from within may conduct seminars and workshops on quality management (Cyert, 1993; Barrier, 1994).

Cross-functional teams are created to tackle problems identified in the study. Membership of the teams should include people with expertise in the various aspects related to quality



management. At least one person from the activity or area that is the subject of the team's work should be included in the team.

No matter how effective the various committees are, TQM's success eventually depends on the participation of the rank and file. All employees should be empowered with the authority, information, and resources they need to identify problems and develop solutions. Training of existing employees and care in hiring only employees who will fit the requirements of the job are essential for TQM's success.

### *Application of TQM in Education*

If colleges and universities wish to continue to use TQM effectively, they must connect TQM to the processes of teaching and learning, faculty research, and institutional management. In the areas of education and research, TQM is not included in the courses that professional schools offer because it is not considered worthy of academic attention. As a result, "instead of providing leadership to business firms in this area, the American academic institutions, including most business, public affairs, and engineering schools, are tending to follow practice rather than lead it" (Cyert, 1993).

College and university administration should have little problem applying TQM because of the similarity between its work and that of business management. Administration here includes resources that may be located within the academic division.

Successful implementation of TQM requires that terminologies used in TQM not be taken literally when applying them to the academic environment. They may have to be modified to fit the campus context. Once an understanding is reached on the definition of principles, then the process will lead in the right direction (Bosner, 1992; Likins, 1993). Otherwise, troublesome issues, such as whether we refer to students as customers, will consume valuable time and energy.

Many schools are experimenting with one form of quality improvement program or another. However, there is little documentation available that shows the process they followed

and their achievements. The AACSB has embarked on a massive benchmarking program for schools of business. When the results are known, it may be possible to discover the success of the quality improvement programs followed by schools in the study.

The U.S. government has followed the example of the Japanese by initiating award programs that recognize companies that demonstrate superior improvement in quality. The Malcolm Baldrige National Quality Award was created by the U.S. Government in 1987 to recognize companies that achieve high quality performance. The award is given to the best in manufacturing, service, and small business. Seven evaluation criteria are used: leadership, information and analysis, strategic quality planning, human resources development and management, management of process quality, quality and operational results, and customer focuses and satisfaction. Each criterion is assigned points, with the maximum (30%) allocated for consumer satisfaction (Jablonski, 1993).

The International Standards Organization's ISO 9000 established by European Community countries tried to assure quality of products traded between member countries. Companies are required to have a quality control system in place that is working effectively. Also, they have to prove that their suppliers are accredited under ISO 9000. Now, many non-EC countries, such as the U.S., subscribe to these standards, making them de facto international standards (Riswadakar, 1995).

Emphasis on quality has gone far beyond the business sector. In the federal government, the President's Award for Quality was created for recognizing government agencies that render quality service (Hunt, 1993; Jablonski, 1993). Beginning in 1996, institutions of higher learning will be included in the competition for the Malcolm Baldrige Quality Award. Many schools are already making intense preparations to earn this recognition.

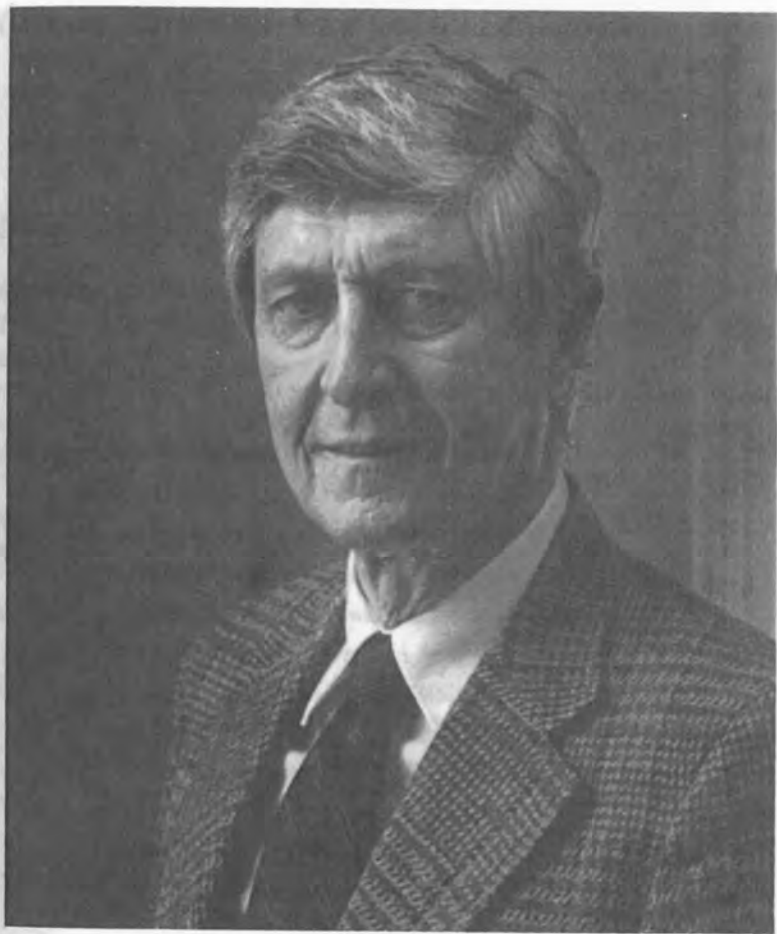
An important national recognition of quality education is the accreditation for business programs by AACSB. Recently, the

group changed its emphasis from assessing by means of specific numeric standards to measuring continuous improvement. The new approach, although not strictly TQM or TQS, is mission driven and includes many TQM principles.

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*Leo Beebe, Founding Dean of the School of Business Administration, served as Dean from 1977 to 1985. He is Chairman of the Board and CEO of K-Tron International, Inc.*