Diploma in

Managing Quality in Higher Education

Contents

A QUALITY FRAMEWORK FOR HIGHER EDUCATION

Quality is a complex concept. Its meaning varies with different people and organisations. Its definitions range from the conventional to the more strategic. From the conventional perspective, a quality item is one that "wears well, is well constructed, and will last a long time".[79] Traditional management views quality as synonymous with goodness, elegance, excellence, or "I know quality when I see it".[80] However, for managers doing business in a very competitive global marketplace, the strategic definition, which is "meeting the needs of customers," makes more sense. Strategically, quality has been defined as follows:[81]

- Performance to the standard expected by the customer – Fred Smith, CEO of Federal Express.
- Meeting the customer's needs the first time and every time – General Services Administration.
- Providing our customers with products and services that consistently meet their needs and expectations – Boeing.
- Doing the right thing right the first time, always striving for improvement, and always satisfying the customer – U.S. Department of Defense.

David Garvin, in his book *Managing for Quality*, identified five principal approaches to defining quality.[82] They are transcendent, product-based, user-based, manufacturing-based, and value-based. The transcendent approach equates quality with "innate excellence," a property which is considered absolute and universally recognisable. According to this view quality cannot be defined but "you know it when you see it".[83] It is understood only after exposure to a series of objects that exhibit its characteristics.

The product-based approach views quality as the presence or absence of a particular desired attribute. The greater the amount of a desired attribute a product or service possesses, the better its quality. The manufacturing-based approach, on the other hand, defines quality as conformance to a set of requirements or specifications and "making it right the first time".[84] Any deviation from these requirements or specifications implies lack of quality.

According to the user-based approach, quality "lies in the eyes of the beholder".[85] The quality of a product or service depends on its ability to satisfy the preferences of individual consumers. The user-based definition is one that is highly subjective. The value-based approach defines quality in terms of cost and price. A quality product or service is one that "performs or conforms" at an acceptable cost or price.

There is no single definition of quality that is accepted universally. There are as many definitions of quality as there are books and authors. Nevertheless, its various strategic definitions share the same common elements:[86]

- *Quality involves meeting or exceeding customer expectations.*
- *Quality applies to products, services, people, processes, and environments.*
- *Quality is an ever-changing state – what is considered quality today may not be good enough to be considered quality tomorrow.*

Quality, based on the aforementioned common elements, may be defined as "a dynamic state associated with products, services, people, processes, and environments that meet or exceed current expectations".[87] This definition asserts that quality changes with time and circumstances. It also stresses that "quality applies not just to products and services provided, but also to the people and processes that provide them and the environments in which they are provided".[88]

DISAGGREGATING PRODUCT QUALITY

Product quality can be decomposed into eight dimensions or categories.[89] They are performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Decomposition provides a descriptive framework that leads to a better understanding of the concept. It allows for research, test, and discussion of quality. The dimensions further provide a framework for examining a product or a service.

1. *Performance.* Performance refers to the primary operating characteristics of the product. It normally involves objective and measurable product and service attributes and combines elements of product-based and user-based approaches just described. Whether performance differences can be translated into quality differences depends on the circumstances as well as on individual preferences.

2. *Features.* Features are secondary characteristics that augment the basic operation of a product or service. Like performance, features involve objective and measurable product and service attributes. They are usually measured in terms of variety and the strength of their appeal. Compared with other dimensions, features are more volatile as they can quickly turn into one of the product's primary characteristics over time. In many instances, it is difficult to draw the line between a product's performance and features. Whether product or service characteristics are primary or secondary depends largely on the degree of importance attached to them by the user. Whether feature differences are perceived as quality differences depends normally on individual preferences.

3. *Conformance.* Conformance is the extent to which the product or service meets established specifications or standards. When a product is designed, certain numeric dimensions or specifications are established such as capacity, speed, size, durability, etc. These specifications are normally allowed to vary within an allowable range known as tolerance. If a product dimension falls within the tolerance limits, it is said to conform.

4. *Reliability.* This dimension reflects the probability of failure or malfunction of a product over a specified period of time. It also reflects the probability of a service not being delivered consistently over time. Reliability increases in significance as maintenance, downtime, predictability or timeliness becomes more important to the customer.

5. *Durability*. Durability has both technical and economic dimensions. From a technical viewpoint, durability is the amount of use of a product before its physical deterioration. From an economic angle, it refers to the amount of use of a product before such product breaks down and replacement is preferred over continued repair. With products that cannot be repaired, the technical life and economic life are the same. With products which can be repaired, the users compare the expected costs of future repairs with the investment in and operating expenses of a newer, more reliable model. Durability and reliability are closely related. A product that fails frequently is more likely to be replaced earlier than one that is more reliable.

6. *Serviceability*. Serviceability refers to the speed, courtesy, competence, and ease of repair of a product. Examples of measures of serviceability are mean time until a service representative arrives, mean time to repair, average number of service calls required to correct problems, and mean waiting time to speak to a customer-service representative when calling about problems.

7. Personal behaviour such as courtesy particularly in the handling of complaints is often the most critical aspect of perceived serviceability and can be a powerful competitive advantage.

8. *Aesthetics.* Aesthetics pertains to how a product (or service) looks, feels, sounds, tastes, or smells. It is related to the user-based approach to quality. A very subjective dimension, aesthetics is purely a matter of personal judgment and a reflection of individual preferences.

9. *Perceived Quality.* Very often consumers do not have complete information about a product or service. They therefore rely on indirect sources of information such as the various tangible and intangible aspects of the product as well as signals from the organisation. Typical sources of information include organisation or brand information, image, advertising, warranties, and guarantees. Reputation is considered to be one of the primary contributors to perceived quality. It is often used by consumers as an anchor point from which to evaluate an organisation's products or services.

DISAGGREGATING SERVICE QUALITY

Service can be defined as "any primary or complementary activity that does not directly produce a physical product".[90] Quality in service may be defined as how well customers perceive their expectations to have been met. "If quality is to be measured, a subjective assessment must be used to determine whether the experience was a pleasant or an unpleasant one".[91] Managing for quality in services is often challenging because their production typically requires a high degree of customisation. No two services are exactly alike. Many service attributes are intangible; therefore, they cannot be stored, inventoried or inspected prior to delivery.[92] Because of this intangibility, it is often difficult to obtain hard data relating to services. Production and consumption of services often occur simultaneously. This means that the service must be done right the first time. Customers tend to be more intimately involved in the production of services. Such customer contact increases the variability in the provision of the service and makes it more difficult to control. Each of such contact can be considered a moment of truth.[93]

The nature of services makes it challenging for service providers to fully understand and apply quality principles in their operations. However, a number of service quality dimensions have been developed to measure service quality performance. A number of these dimensions are listed below:[94]

a) Time – the amount of time a customer must wait
b) Timeliness – the service is performed as promised
c) Completeness – all items are included in the order
d) Courtesy – frontline employees greet each customer cheerfully
e) Consistency – services are delivered in the same fashion for every customer, and every time for the same customer
f) Accessibility and convenience – the service is easy to obtain
g) Accuracy – the service is performed right the first time
h) Responsiveness – service personnel react quickly and resolve unexpected problems

DEFINING TOTAL QUALITY

According to Ciampa, total quality can be defined in at least three ways.[95] One is by focusing on the unifying principle that forms the basis for everything that the organisation does. That unifying principle can be summed up simply as total dedication to the customer. A total quality organisation is fully dedicated to the satisfaction of its customers. All employees are involved, and all activities of the organisation are designed and implemented in such a way that the requirements of the ultimate customers are met, and their expectations exceeded.

Another way of defining total quality is "to describe the outcomes that a TQ quality company strives for; the major results of the various activities its people seek to create or enhance.[96] Customers in a total quality organisation are loyal because their needs are being met and their expectations are being exceeded. The total quality organisation minimises the time to respond to customer problems and needs and market opportunities. It also minimises costs by eliminating or minimising tasks that do not add value to the organisation. The total quality organisation fosters a climate that supports and encourages teamwork and provides a more satisfying, motivating, and meaningful work for employees. It encourages continuous improvement of all aspects of the organisation.

The third way of defining total quality is to describe the various tools, techniques, and elements that lead to desired quality outcomes. A number of these tools are taken from Quality Control, Quality Assurance, and Reliability Engineering and are employed to make the process for providing goods and services more predictable. Tools and techniques from Just-In-Time are utilised to minimise production cost and time. A number of elements from Organisational Development such as work climate, teamwork, management skills, innovation, and employee participation are also involved. Finally, elements of leadership are necessary to provide guidance, create a vision, and foster a climate which encourages teamwork and participation in decision making.

Geotech and Davis defined total quality as "an approach to doing business that attempts to maximise the competitiveness of an organisation through the continual improvement of the quality of its products, services, people, processes, and environments."[97] They further outlined the distinctive characteristics which differentiate total quality from other approaches to doing business. These characteristics are as follows:

1. *Customer focus.* A total quality organisation seeks to satisfy its customers, both external and internal, by meeting their requirements, exceeding their expectations, and giving them lasting value. External customers define the quality of the product and service delivered while internal customers define the quality of the people, processes, and environments associated with such product or service.

2. *Unity of purpose*. Total quality requires a unity of purpose founded on a clear and widely understood vision. A quality organisation nurtures total commitment from its employees. It fosters excellence in work and a family-like attitude in human relationships.

3. *Obsession with quality*. A total quality organisation involves all of its personnel to deliver quality goods and services which will meet or exceed customers' requirements and expectations. When an organisation is totally dedicated to the customer, good enough is never good enough. It continually seeks to improve its product and service offerings.

4. *Use of scientific approach*. Total quality relies on the scientific approach not only in structuring work but also in making decisions and solving problems related to that work. A quality organisation does not merely rely on hunches but uses hard data in setting benchmarks, making improvements, and improving performance.

5. *Long-term commitment*. Total quality is not just another management innovation or fad that will soon pass away. It is a whole new way of doing business that requires a whole new organisational culture. Building and maintaining a quality organisation takes time and demands a long-term commitment from both management and workers.

6. *Teamwork.* A total quality organisation encourages teamwork and partnerships with its workers, suppliers, regulation agencies, local communities, and other stakeholders. By minimising or eliminating internal competition, it is able to focus its energy on improving quality and external competitiveness.

7. *Continual improvement of systems.* A total quality organisation continually improves its systems in order to improve the quality of its products and services.

8. *Education and training.* Education and training are vital to the continual improvement of people in an organisation. It is through these that people who learn to work hard learn how to work smart. The workers learn to master their jobs better and expand their capabilities through continuous improvement of their technical skills and professional expertise.
9. *Freedom through control.* In a total quality organisation, freedom comes as a result of well-planned and well-implemented controls. By standardising processes and reducing variation, everyone in the organisation has more time to spend in eliminating problems, discovering new markets, and improving quality.

10. *Employee involvement and empowerment*. Involving employees especially those who are closest to the work in question, increases the likelihood of a better decision, a better plan, and a more effective improvement strategy for the entire organisation. Empowering employees means involving them in ways that give them a real voice in decision making especially in the improvement of work processes directly under their control.

Total quality stresses the importance of quality in every aspect of the organisation.[98] Ishikawa best expressed this broader and more holistic view of quality by stating that "narrowly interpreted, quality means quality of product. Broadly interpreted, quality means quality of work, quality of service, quality of information, quality of process, quality of division, quality of people, including workers, engineers, managers, and executives, quality of system, quality of company, quality of objectives, etc."[99]

Masaaki Imai[100] further suggested that *in its broadest sense, quality is anything that can be improved. When speaking of "quality" one tends to think first in terms of product quality. When discussed in the context of KAIZEN strategy nothing could be further off the mark. The foremost concern here is with the quality of people. The three building blocks of a business are hardware, software, and "humanware." Only after humanware is squarely in place should the hardware and software aspects of a business be considered. Building quality into people means helping them become KAIZEN conscious.*

The November 1992 report from the Total Quality Leadership Steering Committee, a group of American companies formed to encourage higher educational institutions to teach and practice quality, suggested the following definition of total quality:

Total Quality is a people-focused management system that aims at continual increase of customer satisfaction at continually lower real cost. Total Quality is a total system approach (not a separate area or programme), and an integral part of high-level strategy; it works horizontally across functions and departments, involves all employees, top to bottom, and extends backwards and forwards to include the supply chain and the customer chain. Total Quality stresses learning and adaptation to continual change as keys to organisational success.

The foundation of Total Quality is philosophical: the scientific method. Total Quality includes systems, methods, and tools. The systems permit change; the philosophy stays the same. Total Quality is anchored in values that stress the dignity of the individual and the power of community action.[101]

Notwithstanding the various definitions set out above, there is no single concise definition of total quality that fits all organisations. Although a considerable area of agreement has already been established, total quality has not yet become a standardised set of concepts.

DIFFICULTIES IN IMPLEMENTING TOTAL QUALITY

Since the 1950s, more than two dozen managerial techniques have waxed and waned. The list reads like a Who's Who of Business Hype. The list includes such words and phrases like Theory Z, Matrix, Managerial Grid, Tgroups, Entrepreneurship, Demassing, One-Minute Managing, Corporate Culture, Karlow, MBWA, Portfolio Management, Restructuring, Excellence, Quality Circles, Wellness, Decentralisation, Value Chain, Zero Based Budgeting, Strategic Business Units, Experience Curve, Diversification, Management by Objectives, Conglomeration, Brainstorming, Theory X and Theory Y, Satisfaction/Dissatisfaction, and Decision Trees. Most of these concepts while very helpful did not last because they focused on only certain aspects of the organisational process and not on the organisation as a whole.

Total quality (TQ) adopts a holistic approach to managing an organisation. Nevertheless, as an approach to management, it does not always work in organisations adopting it. Although its principles have the potential to revolutionise the way an organisation is managed, a number of barriers exist that could prevent the philosophy from being fully implemented. While it is true that many have experimented with the approach and have become world class competitors, it is also true that many have not experienced the same measure of success. Much can be learned from their experiences. John Macdonald, the person recognised as a pioneer in bringing the quality revolution to Britain cited ten principal reasons for its failure.[102]

1. **Lack of management commitment**. This is perhaps the most cited reason for the failure of any quality initiative. Very often, managers have treated quality improvement as a short-term undertaking rather than as a never-ending process. Sometimes management is reluctant to change their paradigms or old habits. Macdonald pinpoints however that perhaps it was not commitment that was lacking but rather comprehension on the part of the managers.[103] It is relatively easy for them to be committed at the beginning of any programme without or with little understanding as to what they are supposed to be committed to. Many managers especially from the top fail to realize that TQ starts with them, that they must "walk the talk" if they have to cause others to behave differently. They fail to realise that TQ requires a change in the roles, responsibilities, and behaviours of every participant in the organisation. Managers can demonstrate unparalleled enthusiasm from the beginning and give rousing speeches about quality but if they don't "walk the talk" their quality initiatives are bound to fail.

2. **Lack of vision and planning**. There is a tendency for some who were converted to the total quality paradigm to rush off where others hesitate to tread and expect others to blindly follow. Unfortunately, they have only vague ideas of where or what their destination is, how to get there, and what they need on their journey. Their conversion to the new philosophy is so total that they have no time even to define the vision and plan how to achieve that vision. But the path to total quality requires an organised approach. The organisational leader needs to have a clear idea where the destination is and then communicate this clearly to all the participants. Setting the vision and planning are essential requirements of the quality management process.

3. **Satisfaction with the quick fix**. There is a tendency for some executives to adopt certain quick-fix methods to improve quality within their organisations. A number of these methods have been part of the overall quality management process of world class organisations. Each of these methods, however, will only work well if set within a new operating environment conducive to their success. Without the necessary cultural change, they will become stale stand-alone programmes. One such well-known example is the adoption of quality circles (which are very popular in Japan) by Western management. When the quality challenge posed by Japan became recognised overseas,Western managers and consultants rushed to that country to learn the secret of its success. They thought they found that one secret formula – quality circle – without delving into the real quality issues. In their quick-fix minds, a quality circle was simply a group of workers working with their supervisors to draw fishbone diagrams that would solve all their quality problems. It was simple to organise with responsibility placed squarely on the workers so the idea appealed to Western managers. A few years later, they were puzzled and at the same time dismayed to find out that the latest import from Japan was not working in the new environment. They put the blame in the difference in attitude between the Japanese and the Western worker. While this allegation was partly true, they failed to realise that this difference in attitude was caused by the difference in the behaviour of the respective managements. Quality circles are doomed to fail if they are not seen within the context of the overall quality process and managers do not fully understand their role in the said process.

4. **The process became tool bound**. While many tools abound, ranging from relatively simple measurement and process analysis tools to very sophisticated statistical ones, to support the improvement strategy some organisations become so obsessed with them that they forget that these are only a means to an end. If people are so preoccupied with them that they have only little time left to do their real work, the quality initiative is bound to suffer.

5. **Quality too constraining**. TQ takes a holistic approach to managing an organisation. In this context, the term quality takes on a broader meaning which covers a whole host of managerial theory. Without this understanding, the word quality will be constraining and can become an obstacle even before the quality initiative starts. A number of executives do not see quality from a strategic perspective but rather see it as something that can be delegated to the quality department and an expense item that needs to be controlled. They fail to understand that quality is something that should permeate everything that happens in an organisation.

6. **Satisfaction with customer satisfaction**. Some organisations consider themselves successful when they are rated high in their customer satisfaction indices. While they celebrate their victories and rest in their laurels, the environment is changing around them and they fail to focus on the future needs of their customers. A competitive company must focus its quality strategy on both the current and future needs of its customers.

7. **Culture change versus project approach**. As there are many gurus and writers on the subject of quality, it is natural that each one of them will have different emphases on how best it could be implemented. There is a danger though that the overall philosophy is being artificially divided into two competing implementing strategies namely "the culture change route" (often attributed to Deming) versus the "project approach" (often attributed to Juran) by consultants who want to differentiate their product from others. Such polarisation will only lead client organisations to perilous grounds.

8. **Quality management became institutionalised**. Introducing total quality often requires a creation of an initial infrastructure that would plan, facilitate, and support the process of change. Once the philosophy has permeated throughout the organisation, its job is complete and all the organisational participants take the responsibility for managing and improving quality. Unfortunately, in some organisations, the initial infrastructures become permanent fixtures ultimately responsible for quality. Not surprisingly, the normal structure of the organisation continues throwing its quality problems to the "quality people" and the philosophy does not permeate the operation of the entire organisation.

9. **The people were not really involved**. Another source of failure is the inability of management to engage workers in the quality transformation. Unless they understand that their principal role is to help their workers, such transformation will not likely happen.

10. **Lack of real business measurables**. One important catchphrase of quality is "what you cannot measure, you cannot manage". Unfortunately, all too often, many quality management processes are not measured in a meaningful way. In many instances, some companies believe that such techniques as the cost of quality (COQ) is all there is to measure the quality process. At the initial stage of the implementation process, the COQ may be helpful to help organisations understand what is going to cost them for not pursuing quality. However, at the end of the day, the deficiencies, which are the real causes of problems, are the ones that must be addressed and must be the basis for measuring improvement.
    "Growing" total quality requires patience because the philosophy will not thrive in a culture which values ready-made, quick-fix menus. TQ farming requires "planting, tending, watering, fertilising, weeding, and attention".[104] Although the basic principles, methods, tools, and directions are available, every organisation must build its own TQ infrastructure.

    Unwillingness to change both at the personal and organisational level also impedes acceptance of total quality. Participants sometimes react to the introduction of TQ as if it is the latest gimmick or an "old wine in new bottles" coming from the top of the organisation.[105] They believe that if they wait long enough, this latest fad will pass over and they can then get on with their usual business. TQ will not work in organisations where participants are reluctant to change their paradigms or old habits.

TQ is a holistic approach to managing an organisation. Choosing to use only this or that part of TQ is bound to fail. "TQ is a complete diet of which everyone in the organisation partakes".[106] Feigenbaum, often considered as the father of TQ, has identified ten benchmarks which are keys to successful implementation of TQ in modern organisations.[107] Organisations which have tried TQ but failed will likely find the cause of their failures in the following ten benchmarks.[1]

- *Quality is a company-wide process…. It is a systemic customer-connected process that must be totally and rigorously implemented throughout the company and integrated with suppliers.*
- *Quality is what the customer says it is…. If you want to find out about your quality, go ask your customer.*
- *Quality and cost are a sum, not a difference. They are partners, not adversaries, and the best way to make products and offer services quicker and cheaper is to make them better.*
- *Quality requires both individual and teamwork zealotry. Quality is everybody's job, but it will also become nobody's job without a clear infrastructure that supports both the quality work of individuals as well as the quality teamwork among departments.*
- *Quality is a way of managing. Good management used to be thought of as getting the ideas out of the boss's head into the hands of the workers. Today we know better. Good management means personal leadership in empowering the quality knowledge, skills, and attitudes of everyone in the organisation to recognise that making quality right makes everything else in the company right.*
- *Quality and innovation are mutually dependent. The key to successful new product launches is to make quality the key to a new product (or service) development from the beginning…. The customer can't seriously tell you his likes or dislikes until he sees or uses the product.*
- *Quality is an ethic. The pursuit of excellence, deep recognition that what you are doing is right, is the strongest human emotional motivator in any organisation and it's the basic driver in true quality leadership. Quality programmes based solely on charts and graphics are never enough.*
- *Quality requires continuous improvement. Quality is a constantly upward moving target. Continuous improvement is an in-line, integral component of a quality programme, not a separate activity, and is achieved only through help, participation, and involvement from all the men and women of the company and its suppliers.*
- *Quality is the most cost-effective, least capital-intensive route to productivity. Companies have blindsided their competition by changing their productivity concept from M-O-R-E to M-O-R-E-G-O-O-D.*
- *Quality is implemented with a total system connected with customers and suppliers. This is what makes quality leadership real in a company, the relentless application of the systematic methodology that makes it possible for a company to manage its quality rather than to just have it happen.*

Tom Peters summarised the reasons for failures of many quality programmes as: "They have a system without passion, or passion without a system."[109] Many of these failures can be avoided. According to Macdonald, "the key to lasting success lies right at the start of the journey to continuous improvement."[110] He cited the effectiveness of the original assessment and the comprehensiveness of the plan to manage the change as the real basis for a successful quality journey.

THE BALDRIGE QUALITY AWARD FRAMEWORK FOR EDUCATION

Total quality or quality management requires a major transformation in the way organisations operate. It demands a great deal of time and hard work. Nevertheless, the reward for all this effort is not the Baldrige Award or any award for that matter. The prize for embracing total quality is staying in business and remaining a successful organisation. The Baldrige Award criteria make no attempt to define quality. Nevertheless, they identify an array of areas where organisations will want to be competent in order to be successful. How to achieve these competencies is left to the discretion of the individual organisation?

The Baldrige Criteria

The Malcolm Baldrige National Quality Award was created by Public Law 100-107 designed to forge a public-private partnership in order to promote quality among American organisations.[111] It represents the highest level of recognition that an organisation can receive.[112] The award was designed to "promote awareness of quality as an increasingly important element in competitiveness, understanding of the requirements for quality excellence, and sharing of information on successful quality strategies and the benefits derived from the implementation of those strategies".[113] According to Hart and Bogan, the award was created to promote the following four goals:[114]

- Help stimulate organisations to improve quality and productivity for the pride of recognition while obtaining a competitive edge through increased profits;
- Recognise the achievements of those organisations that improve the quality of their goods and services and provide an example to others;
- Establish guidelines and criteria that can be used by businesses, industrial, governmental, and other organisations in evaluating their own quality improvement efforts; and
- Provide specific guidance for other organisations that wish to learn how to manage for high quality by making available detailed information on how winning organisations were able to change their cultures and achieve eminence.

The Baldrige criteria consist of seven major categories which are further divided into a number of examination items and areas to address. The seven categories are evaluated separately. The categories, however, are linked to one another and together they function as a system. The seven categories, as applied to education, are described in detail below.

1. *Leadership.* This category examines how school board members and administrators create and sustain clear and visible quality values along with an administrative system to guide all activities of the school toward educational excellence. It also examines the institutional governance system and program to fulfill its legal, ethical, and social responsibilities.

2. *Strategic planning.* This category examines how the school's planning process and key quality requirements are integrated into overall business planning. It also examines how strategic goals and action plans are implemented and modified, and how progress is measured.

3. *Customer focus.* This category examines how the school engages its students and other stakeholders and how it listens to their voices, builds relationships with them and uses customer information to improve its products and services.

4. *Measurement, Analysis, and Knowledge Management.* This category examines the scope, validity, analysis, management, and use of data and information to drive quality excellence and improve competitive performance. It also examines the adequacy of the data, information, and analysis to support improvement of the school's customer focus, services, and internal operations.

5. *Workforce focus*. This category examines the key elements of how the school develops and realises the full potential of its workforce to pursue quality and performance objectives. It also examines the school's efforts to build and maintain an environment for quality excellence conducive to full participation, and personal and organisational growth.

6. *Operations focus*. This category examines the systematic processes used by the school to pursue ever-higher quality and performance. It examines the key elements of process management, including design, management of process quality for all work units and suppliers, systematic quality improvement, and quality assessment.

7. *Results.* This category examines the school's performance and improvement trends in all key areas – student learning and process outcomes, customer-focused outcomes, workforce-focused outcomes, leadership and governance outcomes, and budgetary, financial, and market outcomes. It also examines current performance levels relative to those of world-class achievers.

CORE VALUES AND CONCEPTS IN THE BALDRIGE CRITERIA

The Baldrige criteria are built upon a set of core values and concepts which integrate overall customer and company performance requirements. These core values and concepts as applied to an educational setting are:

Customer-Driven Quality

Quality is defined by the customer, not the provider. A school's management system therefore must focus on product and service characteristics that bring value to the customer and lead to customer satisfaction. Such characteristics should differentiate the organisation's products or services from competing offerings. Customer-driven quality is a strategic concept which is directed towards retention of customers and expansion in market share.

Leadership

Senior leaders or administrators must create for the school a customer orientation, clear and visible quality values, and high expectations. A substantial personal commitment and involvement is required to reinforce these values and expectations which extend to such areas as public responsibility and corporate citizenship. Through visible personal involvement, senior leaders serve as role models for everybody in the organisation. They help reinforce the values set and encourage leadership at all levels of management.

Continuous Improvement

Continuous improvement should be the overriding theme in all that a school does internally and externally. It needs to be embedded in the way that the school functions. The term applies to both incremental and "breakthrough" improvements. Improvements may take any of the following forms: (1) enhancement of value to customers through new and improved products and services; (2) reduction in errors, defects, and waste; (3) improvement in responsiveness and cycle time performance; (4) improvement in productivity and effectiveness in the use of all resources; and (5) improvement in the school's performance and leadership position in fulfilling its public responsibility and serving as a role model in corporate citizenship.

Employee Participation and Development

All employees must work together to produce a quality product or service that meets customer requirements. This cooperative effort should be evident throughout the product's or service's life cycle, from initial design to final delivery. The success of the school depends increasingly on the skills and motivation of its work force. Employee success depends increasingly on the availability of opportunities to learn and practice new skills. These skills can be developed through investment in education, training, and other continuing growth opportunities.

Fast Response

A quality organisation strives to provide a faster and more flexible response to customers' requirements. Improvement in this area often requires simplification of work organisations and work processes. Such improvement can be monitored by measuring the time performance of time processes.

Design Quality and Prevention

Quality should be built into the design of products and services and into the production processes. The costs of preventing problems and waste early during the design stage are much lower than correcting them "downstream." The organisation needs to carry out stage-to-stage coordination and integration of functions from basic research to the delivery of final goods and services. Continuous improvement and corrective action need to emphasise intervention at early stages in processes for maximum overall benefits of improvements and corrections.

Long-Range Outlook

To achieve quality and market leadership, the organisation needs to develop a strong future orientation and a willingness to make long-term commitments to all its stakeholders. A major part of the long-term commitment is the development of employees and suppliers, fulfillment of social responsibilities, and commitment to be a corporate role model. Over the long run, successful organisations are able to anticipate customer needs and expectations, technological developments, changing customer segments, evolving regulatory requirements and community/societal expectations, and strategic moves by competitors.

Management by Fact

Modern management must be based on facts, not anecdotal evidence. Objective data on customer satisfaction must be obtained from a variety of sources which include published surveys, third-party consultation, and customer satisfaction surveys. The use of data and analysis also involves the creation and use of performance measures or indicators. These indicators are measurable characteristics of products, services, processes, and operations that are used to track and improve performance. As part of the on-going improvement process, the measures or indicators themselves are evaluated and changed whenever necessary.

Partnership Development

Partnership development may be internal or external. Internal partnerships include the promotion of labour-management cooperation and the creation of network relationships among the different units of the organisation to improve flexibility and responsiveness. External partnerships include cultivating relationships with customers, suppliers, and other business organisations to capitalise on each other's strengths and capabilities.

Corporate Responsibility and Citizenship

Corporate responsibility refers to what the community or society expects from an organisation. The term encompasses business ethics and the protection of public health, public safety, and the environment. A quality organisation goes beyond mere compliance in meeting all governmental laws and regulatory requirements. Corporate citizenship refers to an organisation's leadership and support of publicly important purposes including corporate responsibility. These purposes might include environmental excellence, resource conservation, community services, and the like.

THE QUALITY CHALLENGE IN HIGHER EDUCATION

The practice of quality management is no longer new to higher education. In recent years, the literature has documented its value to higher education through the experiences of institutions that have embraced and implemented the philosophy. Tuttle wrote:[115]

Colleges and universities are under increasing pressure as a result of both external and internal forces. The environment is changing rapidly, and higher education finds that its management structure and its culture make change very difficult. Nevertheless, the forces are creating change in institutions at an unprecedented pace. A growing number of colleges and universities are embracing total quality for the same reasons that led industry and government to embrace it: Existing management systems are outmoded and can no longer ensure success in an increasingly competitive market.

Although quality management has proven to be successful in business and military communities, its transition to education has been somewhat gradual. It had to be adapted to the unique traditions and operations of institutions of higher education. Lewis and Smith aptly described the environment which was conducive to the adoption of the quality management philosophy in higher education.[116]

Four assumptions reflect the environment in which higher education operates, now and in the future:
(1) conditions and conventions within the environment are changing,
(2) they are changing faster than they have changed in the past,
(3) changes will continue to rapidly occur as we progress into the twenty-first century, and
(4) sensitivity to these changes is imperative and their implications for colleges and universities must be anticipated.

Attempts to implement the quality management philosophy in the educational setting have met some resistance especially from academic areas. Many of those involved in higher education believe that quality is already being practiced. However, there are a number of factors in the educational scene which challenge this assumption.

First, quality as it is traditionally defined in higher education is being challenged by many outside academia. Many colleges and universities still hold the historic view that they are the preservers, transmitters, and generators of knowledge. This view, however, conflicts with what the general public expects of their graduates with regards to the job-related value of higher education.

Seymour commented that in the United States, "the disconnect is real between what our colleges and universities produce in terms of learning and outcomes in their graduates and what industry requires."[117] "We are buying instruction and service and higher education is selling research".[118]

Second, changing economic conditions have caused concern among the general public about career opportunities and economic well-being. John Akers, former chairman of IBM once stated, "Education isn't just a social concern, it's a major economic issue. If our students can't compete today, how will our company's tomorrow?"[119] There is real public concern about access to higher education as a means toward employment and economic security. In the past decades, tuition and other costs associated with higher education have increased substantially except in those countries where education is heavily subsidised by the government.

Third, students, parents, legislators, employers, and other stakeholders are bringing a customer orientation to their assessment of higher education. They "expect of higher education what they demand elsewhere: better service, lower costs, higher quality, and a mix of products that satisfy their own sense of what a good education ought to be".[120] The customer orientation has helped to facilitate the outcomes assessment movement in higher education.

Fourth, perception of quality in higher education has diminished. Many groups inside and outside of academia believe that this loss of confidence is partly due to the tendency of colleges and universities to protect their own disciplines and culture without sufficient regard to the requirements and expectations of their stakeholders. Chaffee and Sherr described this environment as follow:[121]

Every [*U.S.*] *college and university is for quality. Every accreditation self-study documents quality. Every set of admission requirement promotes it. Every faculty member grades for it. Every promotion and tenure committee screens for it. Everyone is for quality…. Yet the last decade has brought unprecedented public demand for higher quality in colleges and universities…. External agencies and the public have lost confidence: We might be "for" quality, but in many eyes we do not "do" quality (brackets supplied).*

Lastly, higher educational institutions are beginning to realise that they are operating in an era characterised by increasing complexity, novelty, uncertainty, and advances in technology never previously imagined and experienced. These forces have helped to increase the gap between the quality desired by people and the quality of products and services being delivered. Technology enabled stakeholders to compare the quality of other educational systems with their own, subsequently causing the "quality desired" curve to rise at an accelerating pace.

QUALITY DEFINITIONS IN HIGHER EDUCATION

There are as many approaches to defining quality in education as there are in defining the quality of a manufactured product or delivered service.[122] The differences in the approaches make it very difficult to develop a common approach to educational quality. Before an assessment of quality can be carried out in higher education, it is important that its essential nature is basically understood. Green asserted that it is not possible to have "a single substantive definition of quality."[123] Bonvillian and Dennis noted that after decades of debating the virtues of quality in higher education, there are still no commonly accepted standards.[124] Although each person may have some understanding of what quality is, the concept is still difficult to explain. In many cases quality has an elusive character and is often determined by how one believes his or her personal needs and expectations have been met. The following summarises some of the different concepts that have been used to assess quality in higher education.

The Traditional Concept

Quality is traditionally associated with the provision of a product or service that is unique and outstanding and which bestows special status on the owner or user. Such high standards of quality can only be achieved at a great cost to the user. In higher education, the traditional concept of quality is often associated with most people's perception of the world's top-notch universities in terms of the "distinctive and special student experience that they provide, and in terms of the graduate and research output".[125] However, if all institutions of higher learning are to be judged by the same criteria used to judge the world's prestigious universities, most would be rated poor quality. This concept of quality is therefore not much of value in assessing quality in higher education as a whole.

Conformance to Specifications or Standards

According to this concept, a quality product or service is one that conforms to a specification or standard. The term "standard" is used as a "yardstick" or a basis for measuring a required characteristic of a product or service. Applied to higher education, this definition provides all institutions an opportunity to strive for quality as different standards can be set for different types of institutions.

This model has a number of drawbacks. It tells nothing of the criteria used to set the standards. A product or service which conforms to standards may still be perceived as having low quality if the standards are not in line with what the user considers as significant. The model is essentially static in that it implies that once a specification is set it does not need to be reconsidered. This is not however the case in the real world. As society changes, specifications or standards need to be revised to reflect new circumstances. The model also implies that standards are easily measurable and quantifiable. This may not be the case in higher education where the term "standard" may be defined in a different way. When used to mean "excellence or high standard" the definition becomes unclear. Green elaborates on this problem as follows:[126]

A concern that standards are dropping may be taken to mean either that the level of achievement required to pass a course has been lowered, or that students are achieving a lower level of performance even though the standard (in the more neutral 'yardstick' sense of the term) remains the same.

It is therefore important that the term "standard" be defined and applied clearly when assessing quality in higher education.

Fitness for Purpose

This is the definition of quality adopted by most analysts and policy makers in higher education. According to this model, quality is gauged in terms of whether or not a product or service meets its stated purpose or purposes. This definition of quality has a number of advantages over the previous ones. First, it provides a means for determining the specification for a product or service. Second, it allows for reconsideration of the appropriateness of the specification over time. Third, it allows analysis of quality in higher education at various levels.

One drawback in using "fitness for purpose" as the definition of quality is the lack of consensus on what the purposes of higher education should be. Different interest groups may have different opinions on the issue. Another question is who should define the purposes of higher education. It is also possible for higher education to have multiple purposes some of which may be conflicting with each other.

Effectiveness in Achieving Institutional Goals

This concept focuses on evaluating quality in education at the institutional level. An institution is said to have high quality if it "clearly states its mission (or purpose) and is efficient and effective in meeting the goals that it has set for itself ".[127] Each college or university determines its own definitions of quality and standards and establishes its own quality assurance system. It is then evaluated by an audit committee to check whether the institution is successfully achieving its stated aims and objectives. This model is broader than the "fitness for purpose" definition and includes other areas such as effective management and resource usage efficiency in the evaluation of quality in higher education.

Meeting Customers' Stated or Implied Needs

This definition of quality places high emphasis on identifying and meeting customers' needs. The customers' future needs are translated into measurable characteristics and then products or services are designed and delivered at a price the customer will pay. A number of difficulties arise from defining quality as meeting customers' needs particularly in higher education. Questions remain as to who the customer of higher education is or who should define quality in higher education. Taking the student as the customer poses a number of difficulties. Although students' needs can be easily identified and met, the quality of student experience goes beyond this. According to Green, "the heart of the education service is the relationship between the lecturer and student in the teaching and learning process."[128] Lecturers and students are both parts of the production process and are both producers and customers depending on the circumstances. Consequently, the standards of quality are difficult to state and to maintain.

Another criticism is that students or customers in general may not always be placed to determine what quality is or whether it is present.

A Practical Definition of Quality for Higher Education

There is no single, all-encompassing definition of quality that meets the needs of all stakeholders in higher education. Different interest groups have different priorities and needs. Although their understanding of quality may differ, they may not necessarily be right or wrong. Quality therefore should not be considered as a unitary concept but a multiple one. Based on this concept, a school which may be considered a high-quality institution when evaluated according to one factor may be a low-quality one when gauged by another. Green suggested that "the best that can be achieved is to define as clearly as possible the criteria that each stakeholder uses when judging quality, and for these competing views to be taken into account when assessments of quality are undertaken."[129] Bergquist proposed that a comprehensive and useful definition of quality in higher education must include all four sets of criteria: input, output, value-added, and process-oriented.[130] These four sets of criteria must be considered equally important in developing a modern definition of quality for education.

Quality is the extent to which an institution successfully directs adequate and appropriate resources to the accomplishment of its mission-related outcomes and that its programs make a significant and positive difference in the lives of people associated with it and that these programmes are created, conducted, and modified in line with the mission and values of the institution.

Quality Applications in Higher Education

It is not clear when or where the term total quality management was first applied to higher education. Gareth Williams noted that this phenomenon seemed to have happened spontaneously in different organisations in the United States and in the United Kingdom in response to some financial pressures on institutions of higher education. Schools have found themselves being increasingly required to behave like commercial enterprises in a fiercely competitive market.[131] There was also additional pressure from the government, especially in the United Kingdom, to provide mass education to students without corresponding increases in resources.

Total quality management was presumed to have entered higher education via four main routes.[132] One way was membership in the governing bodies of colleges and universities by business people who have had the first-hand experience of implementing the quality management philosophy in their own businesses. Corollary to this were the initiatives from the business sector toward the effective use of total quality in higher education. This is especially true in the United States. Since 1989, leading companies like Xerox, Procter & Gamble, Motorola, and Texas Instruments have sponsored Total Quality Forums for colleges and universities. The primary aims of these initiatives were twofold: "to encourage the application of total quality to teaching, curriculum, and research, with major initial emphasis on colleges of business and engineering," and "to encourage the application of total quality in running colleges and universities."[133]

The second route was via the Business Studies and Engineering departments of colleges and universities where the subject of quality management was taught. The academic staff saw the potential benefits of introducing this concept to the management of their own institutions. The third route, especially in Britain, was through explicit pressure on higher educational institutions by the government to provide mass higher education without corresponding increases in resources. Although the British government did not expressly advocate the use of quality management in higher education, its emphasis on quality in teaching and learning as well as on service efficiency and cost effectiveness favored management approaches that can readily be shown to deliver these outcomes. The fourth route may have been the rapid diversification of functions of colleges and universities. Traditional quality assurance approaches like informal peer review which often focused on regular award bearing courses and conventional academic research were often not adequate to attend to all these functions in the face of fiercely competitive and market-driven world of contract teaching and research.[134]