IN ELECTRONIC EDUCATION, DOES TOTAL QUALITY EXIST IN THE EXPERIENCES OF THE CUSTOMER RATHER THAN THE ASPIRATIONS OF THE SUPPLIER?

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ABSTRACT

Total Quality Management (TQM) is a systems approach to management that aims to continuously increase value to customers by designing and constantly improving organizational processes and systems. However, TQM has been so slow to migrate from industry to the campus mainly because many academics still see TQM as a fad or buzzword. This paper looks at whether total quality exists in the experiences of the customer rather than the aspirations of the supplier and how far this is true in electronic education. E-education is a generic concept embracing e-learning, e-management and e-administration. It is in this holistic context that institutions should address the issues if there is to be a coherent transition from traditional practice to one that exploits the potential of e-business. It is therefore imperative that the culture of most universities and technological universities will have to be transformed if quality improvement efforts are to be successful. Following will be a discussion of the role of TQM in education, the identification of customers and suppliers in e-education, and whether culture might pose a problem to TQM in e-learning.

Key words: E-learning, TQM, education management, culture, customer, supplier.

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INTRODUCTION

Total Quality Management (TQM) is a systems approach to management that aims to continuously increase value to customers by designing and continuously improving organizational processes and systems. Total Quality involves all employees and extends backwards and forwards to include the supply chain and the customer chain. Management is the reaction and continuous improvement of organizational systems that, when used by organizational members, leads to increased value for the customers of its products or services. Continuous improvement is required in an internationally competitive world characterized by rapidly changing technology and customer demands for higher levels of value. As a business strategy, TQM focuses first and foremost on consistently satisfying customers and their needs. The primary focus is the customer and not the competitor, as in competitive strategy (Stahl, 1995).

This paper looks at whether total quality exists in the experiences of the customer rather than the aspirations of the supplier and how far this is true in electronic education. This will be done through a discussion of the role of TQM in education, the identification of customers and suppliers in e-education, and whether culture might pose a problem to TQM in e-learning.

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THE TQM GURUS

TQM is a system that seeks to realign the mission, culture and working practices of an organization by pursuing continued quality improvement. This process, which is founded on individual attitude and effort in quality improvement, emphasizes a commitment to satisfy the needs of the customer both inside and outside an organization. It does not set out to meet a pre-defined quality goal but rather seeks continually to improve quality by a process of research, evaluation and feedback.

Banks (2000) highlights several gurus of the field. First, W. Edwards Deming was the first American quality expert to teach Japanese managers methodically about quality. Deming's theory of management is based on a humanistic philosophy, with the belief that all people are educable, that they want to do a good job and that they deserve respect. The philosophy values the self-esteem of those who learn and those who teach. The core values of Deming's theory of profound knowledge are an appreciation for a system, some knowledge of the theory of variation, a theory of knowledge, and some knowledge of psychology. He states the purpose of a business in his Four Cornerstones principle, which is to stay in business and to create jobs, to expand the market, to continually improve, and to grow intelligently.

Deming's famous fourteen-point principle for TQM in business is to establish constancy of purpose, adopt the new philosophy, cease dependence on mass inspection, end the practice of awarding business on price tag alone, constantly improve every system, institute training, institute leadership, drive out fear, break down barriers between staff areas, abandon slogans, eliminate numerical quotas, remove barriers to pride of workmanship, promote education and self-improvement, and take action to accomplish the transformation.

In addition to Deming, there are other significant contributors to the field of TQM. Joseph M. Juran built on Deming's work. Unlike Deming who placed importance on management's role of leadership through service and the recognition of the human spirit, Juran's main message to the Japanese managers was that quality control is an integral part of management at all levels, not just the work of specialists in quality-control departments. Juran defines quality as "fitness for use or purpose" and argues for that definition instead of conformance to specification. He developed his TQM trilogy process around Quality Planning which is the process for preparing to meet quality goals, Quality Control or the process for meeting quality goals during operations, and Quality Improvement which is the process for breaking through to unprecedented levels of performance. In education this can be the planning, control and improvement of new technologies. From Juran's concept of quality as utility, we have on the flipside Kaoru Ishikawa. He is known as the "Father of Quality Circles" for his role in launching Japan's quality movement in the 1960s. Interestingly, he argued that the American management style whereby "management manage and people do" could not be grafted onto Japanese work practices. He suggested a blend of the best of the American and Japanese practices be fused with traditional European craftsmanship—bringing craftsmanship back to groups rather than individuals. This can be especially important in the neutral platform that e-education offers, where power becomes increasingly decentralized.

Yet another TQM guru with a twist in principle is Philip B. Crosby. Though acknowledging Deming's emphasis on statistics and Juran's engineering methods, he differentiates himself from the other two citing his zero-defects goal as something practical,

reasonable and achievable. He stresses that quality is conformance to requirements. It is achieved by prevention and cannot be measured by indexes. In e-education, this can be simple preventive measures as a suitable virus protection programme. The final noteworthy TQM proponent is John S. Oakland. His recent contribution to the quality field is to further integrate TQM into a company's strategy. His model can be summarized in five points, i.e. identifying customer–supplier relationships, setting up a system to manage processes, changing the company culture from what it was to a TQM culture, improving communications company-wide, and demonstrate commitment to quality (Bank, 2000).

Additionally, Storey (1994) reminds us of Deming's stress on the human spirit through his concept of profound knowledge is powerful in the field of education. Education, is after all, about the growth of the individual to be a positive contribution to society. The argument presented by the author is that top managers need to recognize this importance and cannot delegate the role of leading the TQM initiative to subordinates. Without their active leadership, the efforts to introduce a programme may succeed for a while but will not last. With reference to basic literature on TQM and, in particular, TQM success factors as well as the criteria proposed by the Malcolm Baldrige National Quality Award, Owlia and Aspinwall (1997) list ten factors that were found to be critical in TQM implementation. There must be top management commitment and strategic planning. An organization for quality needs to be the objective in addition to employee involvement and team working. Next, training for quality, design management and process management are important. There must also be supplier quality management, information together with analysis, and customer focus and satisfaction.

THE ROLE OF TQM IN EDUCATION

However, what does a school have in common with a factory or an insurance brokerage? The answer is that they are all organizations, and all exhibit the same basic characteristics, whatever their objectives (Greenwood and Gaunt, 1994). The particular characteristics of a school may be summarized thus: a school is not a factory, education is the "product" but cannot be seen, and the customers are pupils, parents, employers, and society. TQM's entry into higher education has followed four main routes, i.e. through the membership of university governing bodies by businesspeople or people who have themselves experienced the benefits of TQM; via business and engineering departments which have been teaching TQM; following pressure from the government which has encouraged higher education institutions to serve more students without the corresponding increases in resources; and through the rapid diversification of functions of many universities, including competitive contract teaching and research (Owlia and Aspinwall, 1997).

More and more companies are sending business schools the message that MBAs who are not trained in TQM may be passed over for recruitment. However, TQM has been so slow to migrate from the manufacturing industry to the campus mainly because many academics still see TQM as a fad or buzzword. Since quality is not usually considered a research topic, few incentives exist for staff to pursue it as a discipline. TQM's cross-functional nature also works against its acceptance, since the university environment encourages individual rather than group performance (Jorgensen, 1992).

The implementation of total quality will call for a major transformation of organizational values, norms, structures and processes. Some factors may make it even more difficult to successfully carry out these efforts at universities. One factor is the dual organizational structure of tertiary institutions, i.e. the division between administrative and academic functions. Another is the intensive divisionalization among faculties where loyalty to the discipline or department usually takes precedence over loyalty to the faculty, not to mention the entire university. Finally, often there is a division of responsibility, with top management focusing on external issues and abdicating a leadership role within the institution. Without active support from top management, it is difficult to initiate and successfully implement an institution-wide total quality programme (Vermeulen, 1997). Further, barriers to applying TQM in higher education are related to the highly generic and idealistic mission of the institutions, the lack of agreement on the meaning or implications of quality, and the academic freedom and tenure, which have resulted in an administration having relatively limited control over key personnel.

THE "CUSTOMERS" AND "SUPPLIERS" IN E-EDUCATION

E-education is a generic concept embracing e-learning, e-management and e-administration. It is in this holistic context that institutions should address the issues if there is to be a coherent transition from traditional practice to one that exploits the potential of e-business (Wilson, 2001). In applying TQM to Northwest University and discussing the principles of parsimony, key trends were identified. First, the emerging global economy will give rise to a global community characterized by increased communications across national borders, not only in business, but also in education, entertainment, science and the arts. Second, technology will penetrate even deeper in our daily lives. Third, information increasingly will become the capital, or raw material, of economic activity. The ability to receive, analyze and transmit information in oral, written and numeric form will be crucial. The need for specialists will increase since nearly every successful enterprise operates within a rather narrow market niche. Finally, the rate of change in all areas will accelerate. Those who have learned how to learn will be best equipped to capitalize in such an environment (Hubbard, 1994).

E-learning refers to the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance. It is based on three fundamental criteria. First, e-learning is networked, which makes it capable of instant updating, storage/retrieval, distribution and sharing of instruction or information. Second, it is delivered to the end-user via a computer using standard Internet technology. Third, it focuses on the broadest view of learning—learning solutions that go beyond the traditional paradigms of training, i.e. it goes beyond Computer-Based Training (CBT) to include the delivery of information and tools to improve performance (Rosenberg, 2001).

Each company is a customer to its supplier and a supplier to its customers, so it does not make sense to think of a company as only one or the other (Evans and Dean, 2000). Suppliers are those companies that provide the organization with goods and services that help them satisfy the needs of their own customers. Suppliers play a vital role throughout the product development process, from design through distribution. Suppliers can provide technology not internally available, early design advice, and increased capacity, which can

result in lower costs, faster time-to-market, and improved quality for their customers. In turn they are assured of stable and long-term business. Three governing principles describe customer–supplier relationships under total quality: recognition of the strategic importance of customers and suppliers, development of win-win relationships between customers and suppliers, and establishing relationships based on trust.

There are several types of customers and suppliers. External customers purchase the product, financially supporting the organization. Internal customers are employees to whom other employees pass on their work. External suppliers are the people outside the organization who sell the material, information or services to the organization. Internal suppliers are employees who pass on the work to other employees. The goal in identifying external-customers' needs should be to exceed customer expectations. Identifying internal-customers' needs is a matter of ensuring that employees who depend on one another as individuals, as well as departments that depend on each other as units, communicate their needs to one another continually. Customers define value through product/service quality, service provided by the organization, the organization's personnel, the organization's image, selling price of the product/service, and overall cost of the product/service. A customer-driven organization can be recognized by its reliability, assurance, tangibles, empathy and responsiveness (Goetsch and Davis, 2000).

THE PROBLEM OF "CUSTOMER" IN HIGHER EDUCATION

Higher education has a number of complementary and contradictory customers. Four parties of potential customers are the government, administrators, academics and the actual consumers (the learners, their families, employers and society as a whole). The needs and desires of these various higher education customers may, in some circumstances, conflict with each other and this could be problematic for institutions which attempt to produce strategies that satisfy these needs effectively and efficiently. Further, students can be considered either as customers (with courses as the higher education products) or as products, with the employers being the customers (Conway et al., 1994). Whichever is chosen will have important implications for the correct identification of institutions' customers, i.e. students or potential employers, and, thus, for the strategic planning process.

While TQM as a successful managerial strategy is generally accepted in commercial organizations, its role in higher education is still controversial. From a theoretical point of view, customer orientation is a more problematic principle of TQM when applied to universities. This is because of the special nature of many academics whose motivation for work is often independent of market issues. Although this spirit should be regarded as having some value in scientific environments, it may also be detrimental. Disregarding the market has the danger of ignoring the real needs of consumers (Owlia and Aspinwall, 1997). Students are primary internal customers. External customers are as varied as the endeavours undertaken by individuals or society, i.e. the educational process affects every type of service and manufacturing industry, every level of governmental service, every institute of higher learning, and every community (Rhinehart, 1993).

A major barrier to adapting the quality approach to education, however, is the need for faculty to rethink the instructor–student relationship. In spite of the student/customer issue, the literature provides considerable support for the use of TQM in teaching (Barnard, 1999).

TQM focuses on satisfying the customer and seeking customer input about processes. This focus on customer satisfaction and participation in planning causes faculty to view the quality philosophy with justifiable suspicion. The delivery of educational services is unquestionably different from the traditional transactions that take place when buyers are assumed to have sufficient information about the product to make fully informed decisions. Higher education is a trust market where the relationship between instructor and student is more akin to a client relationship in which trust must exist because of the disparity of information between the parties. It is not education's purpose to please the customer, but to provide a learning environment that supports a mission of excellence in education. However, today's business students are or soon will be in a workplace where employees are considered internal customers, and authoritarian management has been largely replaced by open communication, participation in planning, and empowerment to make decisions (Barnard, 1999).

Analyzing TQM features in higher education case studies shows that the type of activities carried out in this environment is not so different from those in manufacturing or service sectors. The results are also similar, as successful experiences have shown increased customer satisfaction, higher productivity, and improved student and staff morale. This is because the TQM implementation so far has mainly focused on administrative sections of universities and colleges, and because functions like top management commitment, organization for quality, strategic planning, and training are universal in nature, regardless of the type of organization concerned. However, the implementations of features like supplier quality management, information and analysis (measurement), and design management seem to be different when adapted to this environment; this is confirmed by empirical evidences showing less success in these areas. While the concept of customer-orientation has centered on students, their role, together with that of other customers in academic processes, needs to be clarified (Owlia and Aspinwall, 1997).

Effectively, higher education is being transformed into a customer-service industry where the needs and expectations of the client become the focal point of the provider. Ironically, while the widespread deployment of e-technology has the potential to provide global access to information, in this new environment it is the student that reclaims the focal point—accessing information remotely, undertaking self-directed and self-monitored learning, and engaging with staff in a one-to-one relationship. The academic adopts the role of the mentor and advisor available to the student in the context of both learning support and as assessor of performance. This requires a revised approach to pedagogy, placing new demands upon university staff and necessitating revised service performance from a university's learning support infrastructure. We are seeing a new channel of business, where the customer accesses through a portal to products provided by universities. The portal is intended to provide further quality assurance comfort for the consumer, in addition to the brand strength of the provider. It is not only the processes within the universities that are being re-engineered; it is the higher education market itself. Whether it is the re-invention of an organization to address new markets or whether it is the adaptation of new technologies to address existing markets, the common feature is that of change. The implementation of such a student-centered system requires a transformation in organizational culture (Wilson, 2001).

The assurance of quality and standards is important. Higher education in a globalized economy implies cross-national purchaser–provider relationships, and brings to the fore the

following purposes for extra-institutional quality assurance: the provision of information to the public and other interested parties about quality and standards, the giving of credibility to awards (and hence to award holders), and the engendering of confidence in purchasers that they will be making a worthwhile investment when they enroll in a programme. Other purposes include accountability in respect of the investment of public money, clarity regarding the purposes of programmes, and last, but certainly not least, the enhancement of quality and standards. Higher education needs to review what it is seeking to achieve, and the means through which its aims will be attained. The mix of methods of the past, though successful in its day, is unlikely to be appropriate for the future. As costs rise and educational material becomes more readily available, so the modalities of learning and teaching in higher education will evolve. Institutions will have to find new ways of presenting their attractiveness, in which their commitment to quality and standards will be a significant component. The severe challenge for extra-institutional quality assurance is how to make itself an activity, which demonstrably adds value to institutional activities (Yorke, 1999). With the advent of e-education, higher education would be wise to realize that the concept of "customer" is valid, and its needs are to be addressed to ensure survival in this highly competitive field.

REASONS WHY CULTURE CAN BE AN ISSUE IN TQM AND E-EDUCATION

Although the development of the idea of total quality began in the USA at the turn of the twentieth century, it was not until the 1980s that TQM became highly regarded by all kinds of organizations. With the forces of globalization, internationalization and competition, there is a trend to achieve world standards. This aspiration for world-class standards is casting new meaning towards the indigenization efforts. It is likely that such world standards criteria will be tempered and coloured by unique national and cultural local nuances. This unfolding of evolving national and international realities could provide interesting and exciting opportunities for further in-depth research regarding educational administration and management. With the decline of Western hegemony and the pretension to universalism of the intellectual constructs that are part and parcel of it, and concomitantly with the rise and new assertiveness of various non-Western and Third World areas, has also come the demand for local, indigenous models of development. That there is a need to develop indigenous perspectives in understanding various sociocultural and psychological phenomena is obvious. There are also issues and phenomena, which are "relatively" universal and essentially not problematic in any way. Such issues involve constructs and processes that are agreed as "international standards" and "benchmarks" (Bajunid, 1996).

Davies and Finlay (2000), on analysing the application of IT to TQM processes in administrative and business operations in four institutions of higher education, found that the use of IT in a TQM environment required significant changes in organizational culture by a highly committed top management. IT has been identified as one of the critical success factors determining the impact of TQM on organizational performance, although how IT could be used to enhance TQM was never addressed. Although scholars have argued that management techniques are something that can be taught and learned across cultures, it is argued that in order to sustain learned behaviour, learning needs to reflect formative context. The low success rate of TQM practices in non-Japanese organizations illustrates that

universal answers rarely meet particular needs. The Japanese have been able to marry up Western mathematically and statistically based technique with Buddhist and Confucian philosophy. They have created veritable learning organizations, capable of adapting to change with extraordinary rapidity (Lessem, 1994). In fact, there are huge gaps between the East and the West, with Japanese companies leading the Western companies in their use of quality management practices (Dahlgaard et al., 1998). Notwithstanding the many positive aspects of the approach, TQM provides no panacea as there is no one way of doing anything, let alone one method of managing. An examination of Japanese management within local and transplant settings suggests that each management perspective has legitimacy and that each reflects social diversity, as exemplified by the differences among actors and the multiplicity of cultures within organizations. Differences in national formative contexts may often impact on the inter-relationship among business strategy, environmental and control system attributes, and strategic management. Similarly, an organization's formative context history and circumstance determine organizational success (Korac-Kakabadse and Kouzmin, 1999).

CONCLUSION

This paper has looked at the TQM gurus, the role of TQM in education, the "customers" and "suppliers" in e-education, the problem of "customer" in higher education, and the reasons why culture can be an issue in TQM and e-learning. Where customers are tied to a particular service provider, it is likely that their perception of quality will be driven by deeper perceptions of the value of the service to them. Since, in a sense, they have to make the best of it, they are more likely to be appreciative (or critical) of those aspects of the service that really affect them. A customer who knows that the relationship with the service provider is for a limited duration is rather less likely to give serious consideration to the deeper aspects of quality than a customer who knows that the relationship is likely to be long-term; the latter will tend to judge the service on more directly accessible issues. Only on the issue of complexity is the possibility of a distinction less obvious, but even here it could be argued that the customer of a complex service, such as global e-learning, is likely to be more insightful and discriminating (Galloway, 1998). Quality at the beginning of a relationship will most probably be judged on superficial indicators but as the relationship develops, these will diminish in importance as an awareness of the deeper and more substantive aspects of the service develops. For the service provider seeking to acquire long-term customers, every aspect of the service matters since customers always start as potentially short-term.

Universities need to adopt e-education or accept the consequences of the marketplace (Wilson, 2001). An important point which can be observed is the presence of a strong link between quality and market issues; higher quality can be gained through attracting more capable students and hiring higher quality staff, as well as absorbing more industrial grants which are all market related. This proposes the possible adoption of commercially based approaches such as TQM in a public sector like higher education (Owlia and Aspinwall, 1997). However, it takes at least four years for TQM to be fully embedded in the attitudes and working practices of all staff. Few commercial organizations are willing to sustain such a long-term approach (Vowler, 1993).

As TQM is holistic in nature, sources of theoretical insights will profit from including systems thinking, areas of management theory including organizational change, decision sciences and psychology (Holloway, 1994). TQM has received much criticism for being so readily embraced. Yet, it is precisely this broad acceptability and lack of opposition to TQM that can cause alarm bells to ring. Any organization that does not acknowledge painful choice-making, which tends to disguise or deny opportunity costs, and fails to recognize the loss of alternatives that flow from decisions, is in the last analysis not quite a "real" system. Nonetheless, the perception that gains can be realized without sacrifice is at the very heart of TQM. Participants consistently are led to believe that all they have to do is to do things differently, that is, to reform their procedures and processes, and significant improvements will follow. Thus, TQM threatens few in higher education and it should not astonish us that it has proven to be popular. The truth is that higher education institutions have excelled at announcing TQM campaigns but typically have been incapable of implementing them fully or reaping significant benefits (Koch and Fisher, 1998).

However, Yorke (1999) relates higher education to the labour market, noting that the pace of change in national and international economies requires higher education to encourage the development of people who can act effectively in turbulent circumstances. Further, quality and standards are open to interpretations that depend upon the interpreter's perspective. It is also argued that the extra-institutional scrutiny of quality and standards is appropriate where higher education is expected to respond to national needs, but that the method used needs to be adapted to institutional context.

The truly significant problems facing higher education today are the nature of the curriculum, uses of faculty time, how to restrain cost increases, cooperative relationships with business, governance and leadership arrangements, and most of all distance learning and the use of technology. TQM has precious little to say about these things and even erects subtle roadblocks to change in these areas because of its strong emphasis upon meetings, consensus and process over product. Further, Koch and Fisher (1998) suggest that it may turn out to be a costly approach to decision making because it is so time-intensive. Thus, while TQM appears to have been quite helpful to some business firms, it is only marginally useful in the rapidly changing, indeed revolutionary, environment that universities inhabit today. Realistically, TQM in higher education appears to be a process for doing what we do better; but what we often need is to do something different.

There is room for future research to address the link between e-education and culture. For TQM to be effective in e-education, its standards and processes need to include education's technological basis while working within each institution's organizational culture. The neutrality of technology cannot be separated from the cultural practicality of its application. Currently, many ideas are disseminated by thinkers whose ideas are widely received across national boundaries. To the extent that such ideas become international currency, they are "universal" and not culture or context specific (Bajunid, 1996). Such ideas include the borderless world, the global village, information technology, management information system, total quality management, and the learning organization. On a different level of conceptualization are the ideas of restructuring, reorganizing, downsizing, reinventing and re-engineering. These ideas constitute the form of interventions or designs for national, organizational or institutional development. There may be cultural and context specific differences in the substantive or content changes brought about in the organizations. Also, the processes of bringing about any changes will entail context and culture specific

learning, usually enlightened and understood by managers especially by case studies and local metaphors. The needs of people and countries vary widely and there is no one method or theory that will provide the answers to these varied needs.

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