CHAPTER -2

Literature Review
A literature review is an evaluative report of information found in the literature related to your selected area of study. The review should describe, summarise, evaluate and clarify this literature. It should give a theoretical base for the research and help you (the author) determine the nature of your research.

An investigation of the total quality management survey based research published between 1989 and 2000: A literature review (ISSN: 0265-671X)

There has been a plethora of published research related to total quality management (TQM) in the last few decades. However, very few studies focused on cataloguing critical factors of TQM. One of the objectives of this literature review was to investigate the state of TQM by examining and listing various TQM factors identified based on survey studies conducted in different countries and published in a variety of journals over the past decade. An examination of 76 survey studies that used an integrated approach to TQM showed that the TQM factors could be grouped under 25 categories. An analysis of the 347 survey based research articles published between 1989 and 2000 using these 25 factors as a framework revealed the most frequently covered TQM factors in the literature. Another goal of the paper was to analyse the objectives of these articles by year and type of journal they were published
in to determine the trends in TQM survey based studies and recommend future direction for
research. The analysis showed that the objectives of the 347 studies could be grouped under
six categories.

The TQM Magazine: Vol. 8 N0.4  Pareto analysis of critical success factors of total
quality management: A literature review and analysis(ISSN: 0954-478X)

Purpose– The purpose of this literature review is to identify and propose a list of few vital
critical success factors (CSFs) of total quality management (TQM) for the benefit of
researchers and industries.

Design/methodology/approach– Even though there has been a large number of articles
published related to TQM in the last few decades, only a very few articles focused on
documenting the CSFs of TQM using statistical methods. The main objective of this literature
review is to investigate and list the CSFs of TQM according to the descending order of
frequencies of occurrences. The domain of review is the scale development studies and the
TQM effect versus performance measurement studies. The review period is between 1989
and 2003. Rigorous statistical reliability tests and validity tests were conducted during these
studies to factorize the CSFs and hence these studies were chosen for the literature review.
Finally, the quality tool “Pareto analysis” was used to sort and arrange the CSFs according to
the order of criticality.

Findings– An examination of 37 such TQM empirical studies resulted in compilation of 56
CSFs. Implementation difficulties exist to operationalize such a large number of CSFs in
organizations. This study analysed and sorted the CSFs in descending order according to the
frequency of occurrences using Pareto analysis. A few vital CSFs were identified and
reported. The results of this study will help in a smoother penetration of TQM programs in organizations.

Practical implications– In future, the researchers in quality management may develop models to measure and sustain the level of implementation of TQM in industries. CSFs are the essential constructs based on which further statistical analysis can be carried out. The present study will guide the researchers in selecting the reliable set of CSFs for empirical studies. Industries can benefit by adopting the results of this study for effective implementation of TQM.

Originality/value– This paper presents a solution to the difficulties hitherto faced by the organizations in operationalizing the very large number of CSFs proposed by the various empirical studies published in TQM during the last two decades.

**Focusing on key elements of TQM – evaluation for sustainability** *(ISSN: 0954-478X)*

Without sustainability TQM initiatives are usually doomed to fail. The essence of TQM is continuity over time and integration of quality management initiatives into daily organizational operations. The purpose of this paper is twofold: to define what are the key priority elements of TQM on which companies need to focus and to present an evaluation tool based on these key elements that can be used to assess the extent of progress of TQM. The tool encompasses ISO 9000 as well as TQM elements, bearing in mind that they should complement rather than conflict with each other. The research context is the Kingdom of Saudi Arabia, a less developed country where the issue of sustainability is even more crucial than in fully industrialised countries.

**Critical success factors of TQM implementation in Hong Kong industries** *(ISSN: 0265-671X)*

Total quality management (TQM) is an integrative management philosophy aimed at
continuously improving the performance of products, processes and services to achieve and exceed customer expectations. This paper provides an empirical study on the identification of the critical success factors (CSFs) of TQM implementation in Hong Kong industries. Through a thorough and detailed analysis of the literature, 11 success factors with 72 elements were identified to develop a questionnaire. These items were empirically tested by data collected from 32 companies in Hong Kong. A factor analysis was carried out that identified seven CSFs with 38 elements of the implementation of TQM. These factors were shown to be reliable and valid and offer new insights into the understanding of TQM success factors in Hong Kong industries.

**Performance measurement as an obstacle to TQM** (ISSN: 0954-478X)

Describes the results of a survey which shows that there is a gap between managers’ understanding of the importance of using performance measures, and the actual performance measures used. Argues that an inappropriate performance measurement could be a major cause of failure in the implementation of total quality management.

**A systemic view of organisational change and TQM** (ISSN: 0954-478X)

While total quality management (TQM) has been widely applied in the management of change, and is likely to remain a priority into the next century, failure rates at times above 75 per cent give cause for concern. The study on which this paper is based has reviewed TQM as an approach to change management. Four interrelated classifications of organisational change are presented: change as structure (or “functional change”), process, values, or power distribution. Of these, it is contended, TQM adequately addresses only process change, with incidences of failure closely correlated to the application of process-based TQM techniques in change contexts characterised by structure, values or power. This study suggests that, for TQM to be applied successfully, either an approach is required which adequately addresses
all types of change context (a so-called “systemic” approach), or its application needs to be restricted to those contexts where process dominates.

The impact of “soft” and “hard” TQM elements on quality management results (ISSN: 0265-671X)

The research Project is co-funded by the European Union – European Social Fund (ESF) & National Sources, in the framework of the program “HRAKLEITOS” of the “Operational Program for Education and Initial Vocational Training” of the Third Community Support Framework of the Hellenic Ministry of Education.

Purpose– The purpose of this paper is to explore the relationships between “soft” and “hard” TQM elements and quality management results.

Design/methodology/approach– Empirical data were drawn from 370 Greek companies using the questionnaire method. Confirmatory Factor Analysis was used to examine constructs’ reliability and validity, while the relationships between them were examined through Structural Equation Modelling.

Findings– The study proved that quality improvement and the consolidation of the company's market position are influenced mainly by adopting “soft” TQM elements and secondarily “hard” TQM elements.

Research limitations/implications– The fact that the study was based on quality managers' perceptions and the participation of companies from all sectors creates limitations, but also future research orientations.

Practical implications– To achieve benefits and obtain a competitive advantage, which is of major importance for the sustainability of a company, quality design, control and improvement tools are not enough and the adoption of a TQM culture is primarily required.
Originality/value—The study describes in a reliable and valid way a model which consists of “soft” and “hard” TQM elements and quality management results.


When Mueller Chemical Company's biggest customer, Ameriton, demanded that MCC install a total quality management system five years ago, the effort seemed worth it. Morale improved dramatically at the German company, as did quality and productivity. But now, in this fictional case study, Ameriton has gone bankrupt. As a result, MCC has had to cut its work force, and senior managers are meeting to decide whether TQM should be part of the downsized MCC. Horst Koblitz, director of TQM, and Division Manager Eva Stichen both vote yes. Stichen's division, which never supplied Ameriton, has turned its process-control system into the company's best thanks to TQM. The division is more cost-efficient, product defects are nearly nonexistent, and its safety record is spotless. As Koblitz notes, Ameriton's failure is no reason to abandon all that MCC has built. Furthermore, shareholders and customers would think that MCC was panicking. MCC just needs to tailor its TQM program to a smaller organization. But CFO Georg Becker doesn't think MCC has the time or resources for fine-tuning. And as he sees it, that might be just as well. The distractions that came with TQM took MCC away from its goal of becoming the chemicals market leader in Europe. While the company organized teams, developed measurement systems, and filled out quality reports, its competitors took away much of the market share MCC was after. TQM was a good long-term approach, but it didn't come with a plan for MCC's current situation. And CEO and Chairman Dieter Mueller won't compromise; TQM must either stay or go.

A conceptual framework for TQM implementation for SMEs (ISSN: 0954-478X)

The proposed framework for TQM implementation in SMEs described in this paper centres
on three main elements: the “quality toolbox”, “general methodology” and the “central co-ordinating body”. It is believed that the adoption of TQM in SMEs must not be a fully blown approach but a gradual progression and selection of appropriate “quality tools and initiatives” as and when necessary, with the ultimate aim of continuous improvement in the organisation. The suggested methodology consists of a series of activities which can help towards making a selected quality initiative become a permanent feature of the organisation. The proposed framework is intended to be non-prescriptive and the adoption of a quality initiative to be dependent upon the needs and priorities established by the company. Concludes with a discussion of, and the proposed future direction for, this research.

Implementing TQM in Engineering and Construction (James L. Burati, Jr., Member, ASCE; and Thomas H. Oswald)

Seventeen major companies involved in the engineering and construction (E&C) industry (eight owners and nine contractors) were interviewed. The companies were selected based on their known successful implementation of total quality management (TQM). The intent was to collect and describe the proven best practices in TQM implementation in the E&C industry. While there was no single universal, cookbook approach to E&C TQM implementation, a general sequence of four implementation phases emerged as offering the best opportunity for successful implementation. These phases include: exploration and commitment, planning and preparation, implementation, and sustaining. In the exploration and commitment phase, senior management becomes aware of the need for change and selects TQM as the change mechanism. In the planning and preparation phase, a strategic quality deployment process is developed and top-down quality training is begun. In the implementation phase, training is expanded and teams are formed to implement pilot quality improvement projects. The sustaining phase is characterized by prevailing conditions in which TQM has been recognized as the way the company is managed.
Total quality management (TQM) is widely accepted as a means of obtaining and sustaining competitive edge. This study finds support for the proposition that TQM implementation correlates with quality performance. Behavioural factors (role of top management leadership, customer focus, human resource focus, and quality focus) as well as TQM tools and techniques (corporate planning, process focus, and information and analysis) contribute to the successful implementation of TQM. Also, the study finds that the size of the company (big or small), the company’s adoption of TQM, and the duration of a company’s experience with TQM affect the rigor of implementation and the resulting level of quality performance. However, the nature of the company (manufacturing or service) does not seem to have a significant effect on the rigor of quality management implementation and level of quality performance.

Total Quality Management (TQM) looks like being one of the management fashions of the 1990s. In this respect the academic and prescriptive literature on TQM is reviewed. The factors which have encouraged organisations to introduce TQM are discussed and some of the implications for the management of labour outlined. It is suggested that TQM is consistent with a move towards human resource management.

Purpose– The purpose of this paper is to determine the relationships between the total quality management (TQM) factors and organizational performance.
Design/methodology/approach– A research project was carried out in 370 Greek companies, using the questionnaire method. Exploratory and Confirmatory Factor Analysis were applied to assess the measurement model reliability and validity. The relationships between the latent constructs were examined through Structural Equation Modelling.

Findings– The TQM factors revealed by the study were the quality practices of the top management, employee involvement in the quality management system, customer focus, process and data quality management and quality tools and techniques implementation. According to the findings, these factors significantly affect the companies' performance with respect to their internal procedures, customers, market share and the natural and social environment.

Research limitations/implications– The subjective data being dependent on the perceptions of the quality managers and the fact that the sample companies came from different sectors constitute the limitations of the present study.

Practical implications– Given the increased rate of the companies that adopt quality assurance standards, the organizational performance improvement as well as the competitive advantage in the market can be obtained through a valid quality management model, as specified by the TQM principles.

Originality/value– The paper describes a reliable and a valid TQM model and a way for a company to lay the foundations for business performance improvement.

Models of organization and total quality management: a comparison and critical evaluation, barbara a. Spencer

Total quality management (TQM) is examined in relation to the mechanistic, organismic, and cultural models of organization in an effort to bridge the gap between TQM practice and management theory. These models provide diverse analogues for explaining the management
of organizations and highlight different issues concerning the practice of TQM. The article also suggests that research on TQM practice has potential to expand the understanding of these management models.

**Total Quality Management, Organizational Commitment, Perceived Organizational Support, and Intra-organizational Communication, Myria W. Allen, Robert M. Brady**

As the Total Quality Management (TQM) movement sweeps through American businesses, much of the practitioner-oriented TQM literature discusses ways to improve intra-organizational communication while enhancing employee attitudinal organizational commitment and perceived organizational support. This study investigates such claims comparing employee responses from an organization which was not implementing TQM with those from two organizations which were implementing TQM. Organizational commitment and perceived organizational support were significantly higher in the organizations implementing TQM. Employees in the organizations implementing TQM indicated more positive employee-top management and co-worker communication relationships, as well as more quality information from top management. Further, these communication elements explained more of the variance in organizational commitment and perceived organizational support in the organizations implementing TQM. However, different communication elements were important in commitment and perceived organizational support regressions depending on the TQM or non-TQM setting.

**The relationship between total quality management practices and operational performance(Volume 17, Issue 4, June 1999, Pages 393–409)**

Total quality management (TQM) has been a widely applied process for improving competitiveness around the world, but with mixed success. A review of the literature revealed gaps in research in this area of quality/operations management, particularly in the area of
empirical testing of the effectiveness of TQM implementation. The aim of this study was to examine the total quality management practices and operational performance of a large number of manufacturing companies in order to determine the relationships between these practices, individually and collectively, and firm performance. We used a large data base of 1200 Australian and New Zealand manufacturing organisations. The reliability and validity (construct, content, and criterion) of the practice and performance measures were evaluated. Our study showed that the relationship between TQM practice and organisational performance is significant in a cross-sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance. Some but not all of the categories of TQM practice were particularly strong predictors of performance. The categories of leadership, management of people and customer focus were the strongest significant predictors of operational performance. This is consistent with literature findings that behavioural factors such as executive commitment, employee empowerment and an open culture can produce competitive advantage more strongly than TQM tools and techniques such as process improvement, benchmarking, and information and analysis.

Components of successful total quality management

Purpose– According to the literature, quality management consists of a set of components: critical factors, tools, techniques and practices. The purpose of this paper is: to identify the components of total quality management (TQM), in order to make them known to managers and thus facilitate successful quality management implementation, and to show the situation of 106 ISO 9000 certified firms concerning these components.

Design/methodology/approach– In order to achieve this objective, a literature review and a survey based on 106 ISO 9000 certified firms in Spain were developed.
Findings–The results reflect that certified firms must develop their people orientation and use techniques and tools to a higher extent in order to progress towards total quality.

Originality/value–The value of the paper is point out which TQM components are important to successfully implement TQM and identify the situation of these components in ISO 9000 certified firms in a particular area.

**Total quality management, ISO 9000 certification and performance improvement** *(ISSN: 0265-671X)*

Records the research on the relationship between TQM, ISO 9000 certification and business performance improvement. The research is based on a survey conducted in Norway. Finds that the TQM criteria (or enablers) such as quality leadership, human resource development, quality information, etc. contribute to the improvement of customer satisfaction and business performance. However, none of these TQM enablers can guarantee enhanced performance. It is these enablers as a whole that contribute collectively to the improvement of performance. The study also finds that ISO 9000 standards are partially related to the implementation of TQM and the improvement of business performance. The recommendation is that ISO 9000 should be incorporated with the philosophy and methods of TQM.

**The benefits of total quality management** *(Volume 25, Issue 2, March 2001, Pages 217–220)*

In this article, we will review the implementation of the ISO 9000 quality system in the Department of Nuclear Medicine. We will also discuss the benefits of working with the ISO 9000 standards and explain why we have shifted our focus from ISO 9000 towards the EFQM model. After an introduction concerning Total Quality Management and the EFQM model, we will describe how we have used the EFQM model to date and how we intend to implement TQM in the future.
Total Quality Management Implementation and Competitive Advantage: The Role of Structural Control and Exploration (February 1, 2001 vol. 44 no. 1 158-169)

The authors explored the relationship between the degree to which total quality management (TQM) practices were adopted within organizations and the corresponding competitive advantages achieved. They found relatively strong support for this relationship. In addition, their data showed some support for the moderating influence of organizational structure on TQM implementation effectiveness. Specifically, two measures of organizational structure, labelled “control” and “exploration,” were found to offer independent and interdependent influences on the financial performance of firms implementing TQM programs.

Total quality management: origins and evolution of the term (ISSN: 0954-478X)

The focus of this paper is to trace the origins of the term TQM and clarify the different definitions employed by academics and practitioners. Feigenbaum and Ishikawa are perhaps the greatest contributors to the development of the term. The other recognised quality management gurus such as Crosby, Deming and Juran have shaped the dimensions, practices and mechanism which underpin the concept, but it is noted that none of these three actually uses the TQM term. TQM started to be used in the mid-1980s and only became a recognised part of the quality-related language in the late 1980s. The paper also analyses the key dimensions of TQM and traces their origins.

A three-dimensional perspective of total quality management (ISSN: 0265-671X)

Total quality management (TQM) is not a unique single program, but rather a combination of many linked concepts. While TQM requires a company-wide approach and support, the application of TQM can vary depending on the level of management and company function involved. This paper offers a three-dimensional perspective of TQM, including the philosophical, strategic, and measurement dimensions that together will comprise all essential
concepts for TQM. Most management and literature today emphasise only the philosophical dimension of TQM. This paper suggests that all levels of management need to do more than embrace the philosophy of TQM and all three dimensions of TQM must be harmoniously blended and thoroughly considered for TQM to succeed.

**The impact of total quality management on innovation: Findings from a developing country** *(ISSN: 0265-671X)*

**Purpose**–The purpose of this paper is to investigate the relationship between total quality management (TQM) practices and innovation performance in the Vietnamese industry context.

**Design/methodology/approach**–The method of confirmatory factor analysis was applied to refine TQM and innovation scales for empirical analysis in Vietnam. The structural equation modelling method was applied to test the theoretical models.

**Findings**–This study confirms the results of previous studies that considered TQM as a set of practices. It confirms that TQM – considered as a set of practices – has a positive impact on the firm's innovativeness. It discovers that not all TQM practices enhance firm innovativeness. Only leadership and people management, process and strategic management, and open organization showed a positive impact on the firm's innovation performance.

**Research limitations/implications**–The sample was not random. Future research should select different random samples to allow for more generalization of the results. The study assessed the concept of “newness” with the company boundaries. Future research should measure “newness” within the boundaries of the specific industry. The unclear evidence found in this study on the impact of the firm's education and training policy on innovation needs to be further investigated.
Practical implications– The findings are useful for business managers in developing countries such as Vietnam, who want to enhance business performance through implementing TQM practices that support their firm's product and services innovation efforts.

Originality/ value– The study has contributed to develop a measurement system of TQM practices and innovation performance that facilitates more quality management research in developing countries. It has contributed to clarifying the disputed relationship between TQM practices and the firm's innovativeness, and shows empirical evidence in Vietnam to confirm that the TQM practice set deployed by a firm has a positive impact on its innovation performance.

The impact of human resource management practices on the implementation of total quality management: An empirical study on high-tech firms (ISSN: 0954-478X)

Purpose– The perceived advantages of the implementation of TQM are generating improved quality and efficiency, increasing customer satisfaction, thus improving competitiveness. However, there is a high failure rate in the implementation of TQM. The key issue in this regard is that companies have devoted relatively little attention to human resources management (HRM). Several academics and practitioners have asserted that synergy and congruence among HRM practices are critical to the implementation of TQM. However, there is relatively little empirical evidence to support this contention. The purpose of this research is to conduct an empirical study on high-tech firms, in order to analyse the impacts of HRM practices on the implementation of TQM.

Design/methodology/approach– In this study, a research framework related to HRM practices, TQM practices, and quality performances was developed. Based on the framework, a questionnaire was designed and sent to the HR managers or chief executive officers (CEOs)
of high-tech companies in Taiwan to investigate the effect of HRM practices on the implementation and practice of TQM.

Findings– The study confirms that HRM significantly affects TQM practices. The study concluded that HRM practices have a significantly positive effect on the implementation of TQM. Implementing HRM practices can also have a significant effect on employee and customer satisfaction. It also positively affected “employees' quality awareness” and “corporate image”. The quality performances were also significantly affected by the implementation of TQM.

Research limitations/implications– The research limitation is that the empirical study was on high-tech firms in Taiwan only. However, the framework can be easily extended to other industries if survey results are available.

Practical implications– Overall, successful implementation of TQM can lead to an increase in customer satisfaction, and then benefit corporate image. It can also improve the satisfaction and quality awareness of employees. Enterprises that devote themselves to the implementation of TQM also need to perform HRM aggressively, if they are to increase the firm's performance significantly.

Originality/value– In this research, a conceptual framework related to HRM practices and TQM practices was developed, which is a valuable reference for future research. This study confirms the impacts of HRM practices on the implementation of TQM, and several key practices can be investigated.

Innovation, diffusion and adoption of total quality management (TQM)( ISSN: 0025-1747)

Purpose– The present paper seeks to establish, through literature reports, if TQM is still a management theory in vogue or now a management fad. To achieve this, the innovative
change process of TQM is examined, along the dimension of creativity, invention, innovation, diffusion and adoption.

Design/methodology/approach– The approach for data collection is basically secondary sources. The literature is extensively reviewed to arrive at the position presented in the paper.

Findings– From the reviews made it is argued that, although TQM looks faddish in graphical presentation of articles on TQM, it cannot be concluded that it is now a management fad. Though reports on TQM seem to diminish among popular press but academic scholars are still very much engrossed with empirical studies on TQM. This is based on the fact that many organizations still adopt and implement TQM and its diffusion is on the increase globally.

Research limitations/implications– The main source of literature for the presentation is the ABI-INFORM database. This might have reduced the generalizability of the findings in the present research. It is encouraged for other sources of literature to be explored.

Practical implications– It is implied from the present research that TQM is still a management philosophy in practice. Because it is diffused cross-culturally, it is encouraged for its adopters not to use it as a “canned technique” of management change. Rather the management ideas need to be adapted within specific organizational settings, putting into consideration employees' personality, organizational leadership styles, reward system, and other cultural practices. Implementers of TQM should endeavour to fully understand the antics of the management philosophy and implement accordingly. A clear understanding and training of personnel on TQM philosophy is pertinent for protecting it from becoming a management fad.

Originality/value– What is original about the paper is the conceptualization of TQM along the organizational change process. TQM is presented as an innovation and its diffusion and adoption processes are sequentially analysed.
The link between total quality management practice and organisational performance (ISSN: 0265-671X)

Tests the strength of the relationship between TQM practice and organisational performance with and without the covariates, company size, industry type, and ISO 9000 certification status. Analysis is primarily of a large random sample of manufacturing companies in Australia and New Zealand. The central finding of the study is that TQM tends to have mixed results when covered for company size and industry type. The relationship between TQM and organisational performance is not affected when covered for ISO 9000 certification status. Concludes that there are significant differences in the relationship between TQM and organisational performance across industry sectors and different size companies, particularly on the effect of defect rates, warranty costs and innovation of new products. The main implication of the findings for managers is that a typical manufacturing organisation is more likely to achieve better performance in employee relations, customer satisfaction, operational performance and business performance, with TQM than without TQM.

Six sigma seen as a methodology for total quality management (ISSN: 1368-3047)

Six sigma programs are raging through corporations worldwide, with some corporations citing savings in the $US billions resulting from six sigma implementation. Six sigma has both proponents and detractors with some arguing that nothing new is involved and others identifying it as revolutionary. The view espoused herein argues for six sigma as a methodology within the larger framework of total quality management – a blend of old and new in the sense that the tools of six sigma are often familiar ones, but are applied with an eye that is more strategically focused than historic use of those tools ordinarily indicates.

A working definition for total quality management (TQM) researchers (Volume 1, Issue 2, 1996, Pages 149–159)
Total quality management represents a movement which is revolutionizing the way business is done in the industrialized world. Using points of agreement between the writings of the quality gurus, this paper develops a definition of TQM to serve as a reference point for those interested in doing research on this important topic.

**Total quality management for sustainable development: Process based system models** *(ISSN: 1463-7154)*

Purpose– To highlight possible synergies between total quality management (TQM) and sustainable development (SD).

Design/methodology/approach– These synergies are viewed based on a management system framework consisting of values, methodologies and tools. Based on common values the methodology of process management is identified as a good base for describing organisational synergies of TQM and SD. Also, process management for improved sustainability is reviewed. Here, organisational sustainability is viewed as performance based on the triple bottom line (TBL) of economy, environment and social responsibility.

Findings– Findings were that process models can be used to structure the large number of indicators used to describe the TBL. This should improve the system understanding. To integrate TQM and SD, quality indicators should be added to the economic dimension. The system-based process models can be used to describe synergies between TQM and SD. The proposed framework forms a basis for further research of the possible synergies of TQM and SD.

Research limitations/implications– The research on synergies is limited on organisational sustainability.

Practical implications– Important practical implications are to introduce the process view into sustainability reporting and to include quality indicators in the economic dimension.
Originality/value– The paper highlights good possibilities for synergy in combining theory from TQM and SD which should have both a research and a practical interest.

**An empirical study of the ISO 9000 standards’ contribution towards total quality management** *(ISSN: 0144-3577)*

This paper presents the results of an empirical study on the contribution of ISO 9000 standards towards total quality management (TQM). The paper is a continuation of the authors’ research on the ISO 9000 standards effectiveness and capability as an entry key to TQM. The literature review of the above issue revealed the need for a formal empirical study to resolve the existing debate about the standards’ long-term contribution and true value to ISO 9000-certified companies. For the purposes of this study, a TQM measurement instrument was developed and tested for its reliability and validity to measure TQM performance improvement in certified companies in Greek industry. This performance improvement was then used to test the basic research hypothesis: “Can ISO 9000 standards provide a good first step towards TQM?” The results of the study are presented in eight basic TQM categories, showing the certified companies’ performance improvement in the basic elements of each category, and revealing their strengths and weaknesses on their way to TQM.

**TQM is supply chain management** *(ISSN: 0954-478X)*

Outlines the principles of total quality management (TQM) and theorizes whether they apply in supply chain management (SCM). Associates SCM with materials management, but observes that SCM, in association with other initiatives such as enterprise resource planning and electronic commerce, has been driving towards fully integrated supply chain management across organizational value chains, with cross-boundary focus on transaction cost reduction. Sees the TQM challenge as getting culturally diverse workforces to
collaborate in related continuous improvement. Believes appropriate performance measurements and metrics might assist this, but states firms need to adopt a balanced approach to goals, quality and management methods to maximize relationship capital. Asserts research is needed here, as in the SCM dimensions (partnership, information technology, operational flexibility, performance measurement, management commitment, and demand characterization) in relation to TQM application, and in other TQM/SCM areas (management role, influence of organizational structure, education and training, and cultural and behavioural issues).

**Total Quality Management & Business Excellence**

**Volume 14, Issue 10, 2003**

Total Quality Management in the higher education sector: A literature review from an international and Australian perspective (Volume 14, Issue 10, 2003)

In the past decade, much has been written about Total Quality Management (TQM) and Continuous Quality Improvement (CQI) in the manufacturing and healthcare industries; however, less attention has been paid to the application of these quality approaches in the higher education sector. This literature review will focus on higher education institutions in the US, UK and Australia to identify current quality management practices. The review, which will commence with the early TQM writings in higher education and proceed throughout the 1990s, will demonstrate that the degree of TQM development in education has not kept pace with that of TQM in the manufacturing and healthcare industries.

Conceptualizing total quality management in higher education(ISSN: 0954-478X)

In keeping with the socio-economic and cultural transformation that has placed newer demands on the educational system, in terms of greater responsibility and accountability and increased expectations by stakeholders, the system has been pressurized to shift its focus
from one in quantitative expansion to one with emphasis on quality. Such shifts and changes are being witnessed not only in the developed countries, but also in the developing countries of the world. The education system, and more so the higher education system in particular, in an attempt to react to the demands and ever increasing pressures from its stakeholders, finds itself in a market-oriented environment, with internal and external customers; wherein, “delighting the customer”, is the rule for survival in the long run. “Delighting the customer”, is the core message of total quality management (TQM) and, hence, there is a need to identify and apply the relevant concepts of TQM to each and every aspect of academic life; that is, to the teaching, learning and administrative activities. The paper is a theoretical attempt at conceptualizing TQM in education.

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