

## A REFLECTION ON THE FUTURE OF THE QUALITY MANAGEMENT PARADIGM IN THE EU

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### ABSTRACT

In recent years, the Quality Management Paradigm has successfully taken root in the European Union's business environment. Quality management besides being a multivariate issue including matters from management and economics till engineering may be called a global knowledge in permanent bubbling. This theoretical article is an eclectic effort to analyse the evolution of the Quality Management Paradigm. More specifically, the article deals with this management Paradigm evolution and change according to the present and future expected business environments.

**Key words:** Management Paradigms, Quality Management Paradigm, Total Quality Management, European Union.

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## 1. INTRODUCTION

The Quality Management Paradigm has successfully taken root in the European Union's business environment (Dale, 2007; Camisón *et al.*, 2006). According to Barker (1992), a paradigm is "a set of rules and regulations (written or unwritten) with two objectives: (1) to establish or define boundaries; and (2) to rule or behave inside the boundaries in order to be successful" (Barker, 1992). In traditional management, usually there is a system of principles, concepts, and philosophies that rule business (examples: Code of Ethics of many professionals like doctors, auditors or lawyers).

Based on this concept of paradigm and projecting it into a quality management system some quotations must be considered. First of all the quality of goods and services has always been a societal concern. Dooley (1994) has considered the evolution of the discipline of *quality* as a model of paradigm development. Using a narrative approach, he considered three epochs within the evolution of the discipline:

1. *Pre industrial paradigm of caveat emptor*<sup>2</sup>. At the time the reputation of the artisan was measured through the quality characteristics of the product. Trademarks, guilds, and punitive measures were used to defend the interest of the consumers.
2. *Industrial paradigm of quality control*. The industrial revolution (18<sup>th</sup>/19<sup>th</sup> century) raised the level of product and process complexity. A boom of production occurred. A new quality paradigm of *quality control* was born, evolving a broader set of changes. At the time scientific management theory was in force. Consequently the development of basic quality practices arose. Practices like sampling inspection, the use of statistical methods, standardization techniques became quite familiar. From that time these tools kept along in use. During the twentieth century they were developed as techniques of *quality control*. By the end of this century global competition forced organizations to become equally concerned about the improvement of quality under a performance perspective just like they had been about the control of quality. A third paradigm came into force – *Total Quality Management (TQM)*.
3. *Postindustrial paradigm Total Quality Management*. *TQM* brought the awareness and practice of quality principles to a new level, and emphasized events and facts like organizational learning and participative management. Furthermore, the paradigms of *quality control* and *TQM* can be seen as niche responses to local environmental con-

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2. Caveat emptor is a Latin phrase that means 'Let the buyer beware.'

tingencies in the previous paradigm (Dooley, 1994). A new way of management knowledge associated to a standard that does not make a standardized knowledge.

## 2. THE PARADIGM OF TOTAL QUALITY MANAGEMENT

A number of different environmental changes led to the widespread adoption of the TQM principles within the European Union. The development of these principles developed tools, techniques, and methodologies. Global competition, brought both technical and political changes, and made competition more intense. This has touched deeply the organizations as to their competitive power. Although professionals in quality have long advocated the importance of product excellence: "Superior product quality is the key to the continued economic health of the nation today" (Feigenbaum, 1966, p. 81) it took some time, however, to recognize the strategic importance of quality to firm success.

A new emphasis on benchmarking competitor performance, attending to customer satisfaction, and focus on new product development was created. In general, the new emphasis on strategic quality management placed new demands on the organization, in terms of market research, benchmarking, life-cycle costing, and measurement of customer satisfaction (Garvin, 1988). In the 1980's and 1990's corporate leadership began to strongly espouse the importance of quality. Organizational quality practices also become the benchmark requirement for supplier certification, started by Ford with the Q101 program (Dooley, 1994). By that time at a national level, the European Economic Community set forth organizational quality system standards which must be met in order for firms to access EEC's markets. As stated by Marquardt, et al. (1991, p. 25) "The ISO 9000 series embodies comprehensive quality management concepts and guidance...The ISO 9000 series was published in time to meet the growing need for international standardization in the quality arena and the wide adoption of third-party quality systems certification schemes."

The changes that took place in the practice of quality under the paradigm of *TQM* are too numerous but they can be summarized as described in Table 1.

**Table 1. Paradigm of TQM (situation before and after TQM)**

Before TQM	After TQM
Responsibility of the Department supported by top management	responsibility of everyone, in particular, of management
Product is different	Product is competitive
Quality in physical products	Quality for health and for R&D and teaching and physical products
Analysis of the failures	Benchmarking and best practices dissemination
Quality placed on the production line	Executive line authority
Treatment of non conformities – correction measures	Methods of continuous improvement
Product is reliable	Customer satisfaction is global having KPI associated as to management performance

Source: own, adapted from Dooley (1994).

Quality moved from being the responsibility of the quality department to be the responsibility of everyone, in particular, management: product quality is not any more a product differentiator but a competitive advantage (Porter, 1987); the importance of quality comprehends, beyond physical products, services, information, health care, education, government, and religion; issues of learning, training, education, and self-management came to the forefront of practice; benchmarking and other methods of learning “best practices” came to be in use; organizations define a executive line authority for quality; methods considering the continuous improvement of the quality process were developed; organizations recognized the importance of focusing all their activities on customer requirements and Key process indicators are established to evaluate firm’s management performance.

### 3. THE FUTURE OF THE PARADIGM OF TOTAL QUALITY MANAGEMENT

A Kuhnian<sup>3</sup> model of paradigm evolution would predict that if the current quality paradigm of *TQM* continues, then more context-specific theo-

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3. According to Kuhn, “A paradigm is what members of a scientific community, and they alone, share.”. Unlike a normal scientist, Kuhn held, “a student in the humanities has constantly

ries and models will be developed that refine the more generalized existing knowledge base. We can already see this happening along a number of fronts, because it appears that the effectiveness of certain TQM activities may be dependent on the environment in which the organization finds itself in. A international Quality study from Ernst & Young (1992) done in a large scale, over 500 companies (global), indicates that certain TQM practices may be more or less valid depending on different factors (see Table 2).

**Table 2. Ranges of quality and TQM practices findings**

Ranges of quality	Better performance
low quality performers,	a focus on teams, customer contact, empowerment, process simplification, design quality, and inspection
medium range performers	a focus on wide-scale process improvement, training, supplier involvement, metrics, design of new products, and a quality vision
high range performers	a focus on leadership, benchmarking, total employee involvement, strategic quality, innovation and product niche and a highly visible quality vision

Source: own from Dooley (1994).

For low quality performers, a focus on teams, customer contact, empowerment, process simplification, design quality, and inspection present better results; for medium range performers, a focus on wide-scale process improvement, training, supplier involvement, metrics, design of new products, and a quality vision had best approach; and for high range performers, a focus on leadership, benchmarking, total employee involvement, strategic quality, innovation and product niche and a highly visible quality vision worked best.

This proposition that the holistic mechanisms of TQM, which tend to be rather mechanistic and deterministic in nature, may not be well-suited for environments where a high level of adaptability is required is supported by recent developments in the field of complexity theory (Dooley, Johnson, and Bush, 1995). Kauffman's work (1995) suggests that organizations are best optimized by optimizing semi-autonomous "patches", loosely coupled

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before him a number of competing and incommensurable solutions to these problems, solutions that he must ultimately examine for himself." (*The Structure of Scientific Revolutions*).

together. Kauffman's work also suggests that the customer should be "listened to" most of the time, but not all of the time. Similar arguments from innovation scholars exist (Christensen, 1997).

Kauffman's model of evolution on rugged landscapes suggests that a process that has complex interactions between the variables associated with it cannot be easily optimized. Thus, one prediction is that *the models and theories associated with TQM will become more context-specific*; in management theory terms, this means a growing emphasis on contingency and configuration theories (Doty, Glick, and Huber, 1993).

As concepts and practices of TQM will become so deeply embedded in ordinary organizational practice the function of quality may be "dissipated". Thus, a logical prediction is that *the quality discipline will die*. Juran (1995) argues against this, noting that the notion of eliminating the quality professional is just as absurd as the notion of eliminating accountants or quality specialists or other kind of experts.

Another way in which the quality discipline is going to be developed and broaden its scope, within the existing TQM paradigm, is the *focus on the enterprise and/or the community*. One can examine trends in both academia and industry practice over the last century and note that efforts have successfully been undertaken by the parts. As to the environment of the companies the community is something very important. Green manufacturing efforts and ISO 14000 concerns, reveal a part of the social responsibility of the firms. That is the reason why many quality professionals involved in the implementation of ISO14000 environmental assurance programs do it as a consequence of ISO9000 quality practices.

The next obvious level of scope is that of the enterprise. One can already see this trend by the growing interest in enterprise requirements planning (ERP) and supply chain management. It can be predicted therefore that in the near future, a growing number of efforts will be focused on improving the quality of the enterprise, and this may represent the next paradigm of the quality discipline, predicting that the methods and theories that need to be used, will differ significantly from the existing ones.

Therefore, a number of other changes and improvements to the practice of TQM within the European Union are likely to occur:

- the need for classical, human-centered SPC (statistic process control) will diminish with the advances in automation, feedback control, and automated diagnosis;
- the growing interest in "knowledge management" systems depend on the strength of information technology in order to share knowledge across space and time (Dooley, Skilton, and Anderson, 1998).

Resources can be made explicit and shared, however, can also be imitated. Since the ultimate value of the firm depends on knowledge that cannot be imitated, it is reasonable to assume that knowledge which is tacit and not easily imitated, as opposed to explicit, will grow in importance. For this reason we might expect that quality systems will increasingly focus on tacit knowledge;

- TQM's focus usually on segments or cliques of customers not on individual customers. The growth of "one-to-one" marketing, increasing flexibility in production and logistics, product postponement, and ecommerce will support the goals of mass customization being able to serve the needs of individual customers. Quality systems will need to increasingly focus on the management of individual customer requirements;
- the constant improvement of quality in a particular market segment makes it increasingly difficult for a firm to create new value with its products. There has been a wave of interest in applying quality concepts to "special" processes, such as new product development, supply chain management, and information systems. This is likely to be followed by a wave of interest in new process and service development; quality efforts on the areas of government and education will likely be new areas for quality improvement efforts;
- increasingly the most important issue will not be quality leadership, product quality, process quality, or service quality it will be information quality;
- it is perhaps this last item that deserves the most attention in terms of how the discipline of quality might change in a more significant manner; internet will make a shift to a new paradigm for it is a very hard and difficult area for quality because it has direct influence in the present world of business. The attention to quality of service on the Internet must also include the user: the total quality package includes the physical network, the devices attached to nodes of the networks, and the customers using the information/computing devices (Baumann *et al.*, 1999). The issue of Internet quality of service is an example of the real change for a New Paradigm of quality.

Aggregating, in Table 3, these most important ideas, in the roots of a change from a Quality Paradigm to a New one.

**Table 3. New paradigm of TQM**

<b>New paradigm of TQM</b>
<i>growing emphasis on contingency and configuration theories</i>
<i>function of quality somehow dissipated</i>
<i>quality discipline: focus on the enterprise and the community</i>
<i>SPC (statistic process control) will diminish with advances in automation</i>
<i>quality systems: focus on tacit knowledge</i>
<i>management of individual customer requirements</i>
<i>interest in new processes and services development</i>
<i>information quality</i>
<i>quality of service: Internet and the world of business</i>

#### 4. FINAL DISCUSSION AND CONCLUSIONS

As the supply and distribution chains within the European Union and all around the world become more and more complex, the business world is less like an organized hierarchy and more a complex adaptive system (Dooley, Johnson, and Bush, 1995; Choi and Dooley, 2000). These reasons make the alert for a change. The paradigms of TQM based on predictability, control and linearity may be or seem to be insufficient. Due to the above referred challenges the existing paradigm of TQM will be adapted to the different market environment and the new paradigm will emerge.

As stressed by Heras *et al.* (2008), one of the main challenges facing the Quality Management Paradigm in the European Union in general, and in Spain, in particular, is whether it can outlive passing trends and achieve genuine long-term continuity. Furthermore, the evolution of the Quality Management Paradigm is not without its risks; the Paradigm can change, and so can trends affecting the tools used to improve business management and promote competitiveness. Indeed, as Heras-Saizarbitoria (2011) points out, many of the players involved in the Quality Management Paradigm already seem to see it as saturated, and now favour the new Paradigm of Innovation. Although new management paradigms may be necessary, either because they highlight details that the others overlook or even because there is a psychological need for conceptual renewal (the need to renew motivation via a commitment to something new), as stressed by Heras *et al.* (2008) the newest new.

Concerning the new Paradigm of Innovation some relevant aspects must be taken into account. Apart from the traditional content related to the creation of new products or services and new processes, this new paradigm makes the promotion of innovative organizations. This innovation is based on management models capable of generating facilitating environments for creativity, while at the same time, developing dynamic systems that enable ideas to be transformed into products and services as efficiently as possible – concepts, as stressed by Heras *et al.* (2008), perfectly compatible with the ones transmitted through the Quality Management Paradigm.

Therefore Heras *et al.* (2008) pointed out that some challenging comments: constructing a new management paradigm that seeks to promote or foster in opposition to the previous paradigm, or which is based on the actual destruction of its predecessor, is a dangerous development. Particularly as such promotion is much more rewarding and far less frustrating if it is positive and has a focus on how the new vision complements are constructed from the inherited knowledge based.

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