



## THE IMPROVEMENT OF ORGANISATIONAL LEARNING PROCESS WITH TOTAL QUALITY MANAGEMENT\*

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### Abstract

The objective of this paper deals with the influence exerted by TQM on the capability to promote the process of organisational learning, as one of the competencies that the introduction of TQM helps to develop. We discuss the extent to which the critical factors of TQM favour both the *exploration* of new knowledge that can modify organisational behaviour, and the *exploitation* of current learning.

**Key words:** TQM, organisational learning, process of learning, exploration, exploitation

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### 1. JUSTIFICATION AND OBJECTIVES OF THE STUDY

An important part of the literature on quality considers the introduction of *Total Quality Management* (TQM) to be a strategic option capable of having a decisive effect on results and on the competitive position of the organisation (Grant et al., 1994; Powell, 1995; Reed et al., 1996; Lee et al., 1999; Terziovski and Samson, 1999).

Nevertheless, a good number of the studies that have dealt with this influence present some limitations, both in their methodology and research design, and in the specification of the concepts they use. Among these limitations, one important problem that appears all too frequently is that of *universalism*, as many of these studies put forward universally valid causal relationships. Faced with this problem, there is a need to establish a methodology oriented toward the identifi-

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\* This paper was accepted for publication in this special issue of *Estudos de Gestão – Portuguese Journal of Management Studies* as a result of a selection criterion that elected it as one of the most significant papers in its field, from those presented at the XIIth Jornadas de Gestão Científica, na Universidade da Beira Interior, Covilhã, Portugal. Therefore, it did not pass our ordinary double blind referee process as it happens in our regular issues.

cation of the variables that play a part in the relationships between TQM and the results, and to analyse the mechanisms by which they exert this influence.

We therefore consider that the *Competencies-based Perspective* provides a useful theoretical basis to understand the value of TQM as a strategy that can explain the differences in results obtained by firms. In accordance with this theoretical standpoint, the positive effects of TQM on performance will be due to the generation or enhancement of a set of distinctive competencies that arise as a consequence of the firm's involvement in a TQM initiative. As claimed by Winter (1994), Powell (1995) or Savolainen (2000), TQM can contribute to the sustainability of competitive advantage by encouraging the development of competencies that produce socially complex relationships, are steeped in the history and culture of the firm, and generate tacit knowledge. This reasoning is based on the assumption that the improvement of the firm's competencies is the main force that gives rise to the beneficial effects that the introduction of TQM has on the competitive position. In other words, the competencies act as mediating variables between TQM and the improvement of results.

The capability to promote the organisational learning process appears as one of the distinctive competencies that TQM helps to develop. Organisations that follow a TQM strategy learn, as they incorporate patterns of continuous improvement and knowledge creation. This is made possible by following a structured process of resolving problems, as a result of the codification of knowledge and other ways of distributing knowledge, or by drawing on the lessons to be learned from processes of self-assessment. The results of different studies, among which those of Barrow (1993:39), Wruck and Jensen (1994:248; 1998), Sohal and Morrison (1995), Youssef et al. (1996), Hill (1997:84), Senge (1999), Bisgaard (2000), Pool (2000:376) or Terziovski et al. (2000:23) are worth highlighting, provide backing for these ideas and indicate that learning is an output that results from the effective implementation of TQM. Even in specific studies that examine the knowledge of the firm, such as that of Spender and Grant (1996:6), TQM is referred to because of the important role it has played in recognising that tangible assets are not the most valuable in a firm, but rather the way in which they are used and combined with individual and organisational knowledge.

Given the contributions made by previous studies, the objective of this paper is to examine the influence that the introduction of TQM can eventually have on organisational learning.

In order to accomplish these objectives, the concepts of TQM and of organisational learning are defined from a *Competencies-based Perspective*. We then present the theoretical arguments that enable us to defend the relationship between TQM and the capability to promote the organisational learning process.

## 2. TOTAL QUALITY MANAGEMENT AND ORGANISATIONAL LEARNING

To analyse the relationship between TQM and the capability to promote the organisational learning process, first we will attempt to determine the main characteristics associated with the concept of Total Quality Management and to define the concept of organisational learning that will guide the rest of the study.

### 2.1. The concept of Total Quality Management (TQM)

Total Quality Management can be understood as a strategic action that focuses on managing the total organisation to provide clients with products or services that satisfy them, through the mobilisation of the individuals and management leadership. Reviewing some of the most important work in the literature (Dean and Bowen, 1994; Sitkin et al., 1994; Kanji, 1996; Wilkinson et al., 1998; Oakland, 2000) enables us to identify four dimensions that include all the practices and techniques that allow TQM to be introduced into an organisation.

*Customer orientation (CO):* The customer's satisfaction represents a common goal for all the activities carried out by the organisation. Contact with the customer is essential and is fostered by flatter structures and setting up systems to gather information about customer satisfaction, complaints or suggestions.

*Continuous improvement (CI):* Continuous improvement must be a part of the management of all the firm's processes, activities and operations. This precept captures the desire to improve and control results, "doing things right the first time", which also reflects the desire to learn and experiment. In order to do so, extensive gathering of information, systems analysis and feedback are required to isolate problems and direct employees' attention toward those that have been detected. The most effective means of improvement involves following a systematic procedure of planning, execution and evaluation. In order to accomplish this, it is essential to standardise the functioning of the processes, use different improvement tools, obtain indicators of performance, and gather information through benchmarking and self-assessment.

*Focus on people (FP):* This is based on the assumption that nonmanagerial employees can make important contributions when they have the necessary power and preparation (Dean and Bowen, 1994:395). It holds that work efficiency increases if workers are more motivated, if they take on responsibilities and have initiative. What is emphasised, then, is the need to get members of the organisation involved in TQM. This entails promoting training, empowerment, teamwork or setting up channels of communication to obtain information and knowledge and make it known to people.

*Global vision of the organisation (GV):* Understanding the organisation as a total system includes the need to develop TQM throughout the whole organisation,

with the adoption of a cross-sectional approach through the traditional organisational functions. Management participation and linking quality planning with business strategy are important. In the same way, association relationships with suppliers and other external agents are also promoted.

## 2.2. The stimulation of the organisational learning process as a distinctive competency

The concept of *organisational learning* has been studied by many disciplines within the social sciences and this has led to the richness and fragmentation of the literature on the subject. Among the most important authors to have analysed organisational learning we find Argyris and Schon (1978), Fiol and Lyles (1985), De Geus (1988), Senge (1990), Dogson (1993), Kim (1993), Miller (1996) or Crossan et al. (1999). Most of these studies consider that organisational learning comes from individual learning (insight and innovative ideas occur to individuals), although it takes shape in social learning, as we will now go on to explain.

For Lado and Wilson (1994) learning is a part of the transformational competencies, and takes place when individuals respond to a work-related stimulus in a different and qualitatively better way than they did when faced with a similar situation in the past. These better responses, with time, reduce the variability of employees' behaviour and have an effect on improving productivity. In other words, as time goes by employees acquire a more thorough knowledge of the tasks they are to carry out and of their obligations and responsibilities in the workplace, which enables them to develop and perfect the abilities needed to do their work in a more skilful and efficient fashion.

Thus, individuals are the ones that learn, but *organisational learning* is more than the sum of the individual instances of learning, since these are institutionalised in the form of rules, procedures or routines. The individual learning process derives in the generation of a set of routines (Nelson and Winter, 1982), which constitute the main system by which the knowledge of the organisation is stored and they determine the regular patterns of behaviour that are going to condition the way of acting in any given moment. Routines are what make up the organisational memory and appear as a concept that is independent of the individuals that carry them out, as they are capable of overcoming changes in individual actors (Levitt and March, 1988). In consequence, from a social approach, *organisational learning* is understood to be a collective phenomenon.

This approach to learning hints at two key elements in its definition. On the one hand, we find a cognitive component, since learning produces changes in the level of knowledge. Learning comes about in answer to a stimulus, as the consequence of experimentation or by submitting people to new ideas. On the other

hand, a behavioural component is also introduced from the moment it involves changes in behaviour and in the results obtained.

A number of studies agree about the existence of this duality within the concept of organisational learning. Thus, Huber (1991: 91) considers learning to be the processing of information resulting in a change in the range of potential behaviours; an organisation learns if it acquires knowledge that is recognised as being potentially useful to the organisation. Dosi et al. (1992) see learning as a process by which experimentation and repetition allow tasks to be performed more efficiently and quicker, and new production opportunities to be identified; this process generates knowledge, which resides in routines. Other authors, such as Fiol and Lyles (1985), Garvin (1993), Kim (1993) or Crossan et al. (1999: 524) also express themselves in the same terms. Moreover, Crossan et al. (1999) state explicitly that organisational learning links cognition and action, and that this aspect differentiates it from the concepts of "knowledge management" or "intellectual capital", both of which emphasise the cognitive component.

Following on from this work by Crossan et al. (1999), and making use of the contributions made by March (1991), learning requires a balance between what has previously been learned (*exploitation*) and the assimilation of new learning (*exploration*). In other words, on the one hand, we can find a kind of learning based on the *exploitation* of the key competencies and the routines that exist within the organisation. This learning enables individuals to detect deviations or errors in their execution and thus make adjustments in order to reach the predetermined standards of performance. On the other hand, however, it is possible to find generative learning (Senge, 1999), which allows the employees to *explore*, to question themselves about the relevance of the standards of execution and the rules of working, and to reconsider their own actions. This second type of learning must allow the ability to renew or revitalise to be developed within the organisation. To do so, the unlearning of routines and the renewing of competencies are of vital importance.

In short, attaining the two types of learning resolves the differences between two tendencies that are apparently conflictive –continuity and change–. Thus, when we refer to organisational learning in this study, we understand it as the process by which two different phenomena are harmonised within the organisation: a) certain guidelines on behaviour are followed in the organisation which enable employees to interpret and resolve particular experiences or problems –the routines that govern behaviour are exploited–; and b) a dynamic process is carried out, that allows information from complex events to be integrated, providing the generation of new knowledge. This second kind of learning is the one, which alters the existing mental models in the firm and the existing routines and, consequently, allows for the renewal of the organisational memory. In short, we consider learning as a dynamic process that enables knowledge and skills to be created, absorbed and used to accomplish changes in behaviour.

### 3. THE EFFECTS OF TOTAL QUALITY MANAGEMENT ON THE CAPABILITY TO PROMOTE THE ORGANISATIONAL LEARNING PROCESS

For Cole and Mogab (1995) the principles and practices associated with TQM uphold a model of organisation they call the “*Continuous Improvement Firm*”, which means a firm whose organisational rationality is the internal generation of improvements in all its products and organisational processes, and the promotion of change. This model of firm favours continuous learning because it develops a culture that exalts continuous improvement, innovation and the acceptance of change, which are essential elements in TQM. Thus, a TQM strategy creates and strengthens an atmosphere that allows the learning process to be carried out.

With the aim of analysing this relationship, we will make use of the model of organisational learning put forward by Crossan et al. (1999). The choice of this model is justified by the fact that it does not limit itself to analysing the new knowledge that is incorporated into the organisation as a consequence of the learning process. Instead, and at the same time, it includes the need for what is learned to be applied in the strategic context of the organisation and to be relevant to this context.

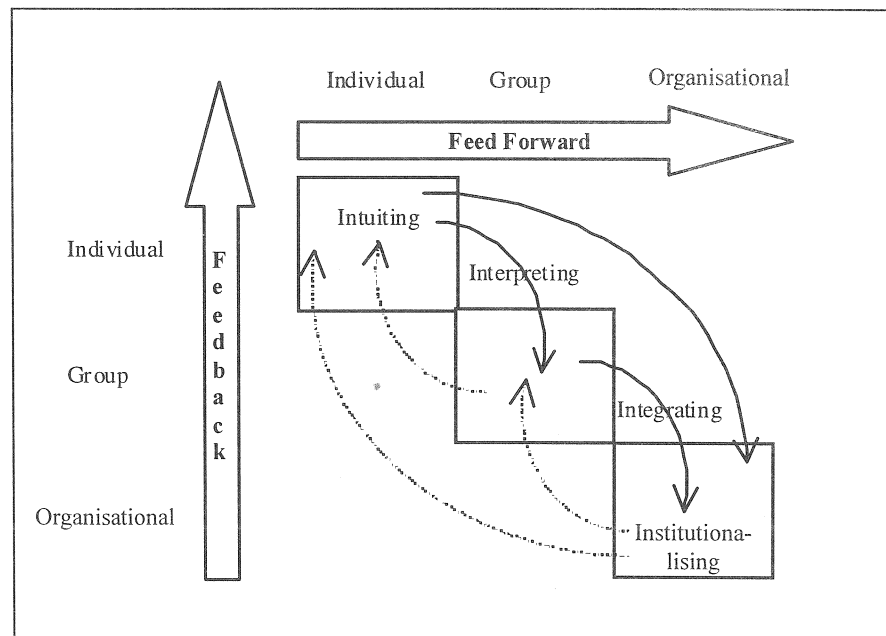
The model proposed by these authors starts out from the premise that organisational learning is multilevel: individual, group and organisational. Moreover, it takes into account the existence of four intermediate processes underlying the learning process itself, which make it possible to move from one level to another. As can be seen in Figure 1, the *intuiting*, *interpreting*, *integrating* and *institutionalising* are the sub-processes that allow learning on an individual level to become group learning and, finally, organisational learning.

The process of organisational learning involves a tension between the use of what has previously been learned (*exploitation*) and the assimilation of new learning (*exploration*) (Crossan et al., 1999). In the model, this tension is reflected in the process of *feedback* and *feedforward*. *Feedback* involves exploitation by individuals and groups of what has been previously learned, and which has been institutionalised in the form of organisational routines. *Feedforward* refers to the transference of new learning from individuals to the organisation, which will lead to the modification of existing assumptions and to the absorbing and fixing of new learning.

By means of these two processes (*feedback* and *feedforward*), the dynamic vision of organisational learning is illustrated, since cognition affects action and vice-versa (Crossan et al., 1999). In other words, the organisation assimilates new knowledge and creates new capabilities through intuiting, interpreting and integrating (*feedforward*). This knowledge is institutionalised and has an effect on the behaviour of the organisation; institutionalising ensures that the new actions are based on the routines that have been created. Through *feedback* employees

FIGURE 1

## Organisational Learning as a Dynamic Process



Source: Crossan et al. (1999: 532)

exploit the established routines and, by means of experience and learning by doing, a new understanding is generated. This new knowledge can trigger off a new cycle of intuiting, interpreting, and integrating, generate new learning and favour a renewal of the organisation.

Having completed the review of the model of Crossan et al. (1999), we will now analyse the extent to which TQM affects both the exploration of new patterns, or new possibilities of behaviour (*feedforward*), and the exploitation of routines (*feedback*).

### 3.1. Exploration of new routines (*feedforward*)

Total Quality Management promotes the process of organisational learning since the commitment to its key elements leads to actions that play an important role in the generation of an organisational memory. TQM enables the knowledge held by individuals to be shared by others, either tacitly or by its being extracted and, to a certain extent, formalised for use by the whole organisation. Total Quality Management is the quest for improvement in organisational routines by means of a special procedure for resolving problems, which is based on the active collabo-

ration of those involved in its performance (Winter, 1994). Thus, TQM provides a new way of converting latent opportunities into observable opportunities that can become improvements. According to Rusell (1993) and Dodge et al. (1994), TQM encourages the search for the root of problems and the introduction of possible solutions into the memory of the organisation, so that they are institutionalised and can be used as a guide in decision-making (we could say a new standardisation is reached).

In other words, TQM makes it possible to trigger off what Crossan et al. (1999) call a process of *intuiting* –the preconscious recognition of the possible ways of acting an individual has at his or her disposition, and which is the result of the personal flow of experience–; of *interpreting* –the explanation and transmission of ideas between individuals with the aim of achieving socialisation with other people–; of *integrating* –the development of a shared judgement between individuals that makes coordinated action possible through mutual adjustment–; and of *institutionalising* –the process that ensures that the newly created routines are made clearly known, are accepted and have an effect on the organisational behaviour–.

Firstly, with regard to *intuiting*, TQM makes it possible to trigger off this embryonic sub-process. A TQM initiative motivates individuals to continually reconsider the way they work, and to be sharper and subtler in their work because they have access either to information and new ideas from clients or to the well-known PDCA cycle. This tool involves a continuous cycle in which the results from previous experiences enable employees to discern new ways of doing things from which they can learn new skills.

Secondly, as regards *interpreting* and *integrating*, TQM allows the necessary exchange of experiences, either by enhancing teamwork or by establishing suitable channels of communication, so that individual learning is distributed throughout the whole organisational structure and memory. In this way, a new form of behaviour is established in the organisation. TQM facilitates these intermediate processes when it is possible to break away from the traditional authoritarianism and excessive hierarchical structures, as well as when thought is combined and behaviour is coordinated on all the different levels of the organisation. As pointed out by Hill (1997:86), teamwork exposes employees to new ideas and encourages them to think about the nature of their work in a different way. Moreover, as stated by Chiles and Choi (2000: 197), TQM also provides the institutional mechanisms needed to express the shared ideas. In other words, TQM facilitates the dialogue that is necessary for knowledge to be externalised through cooperation and communication among all the employees.

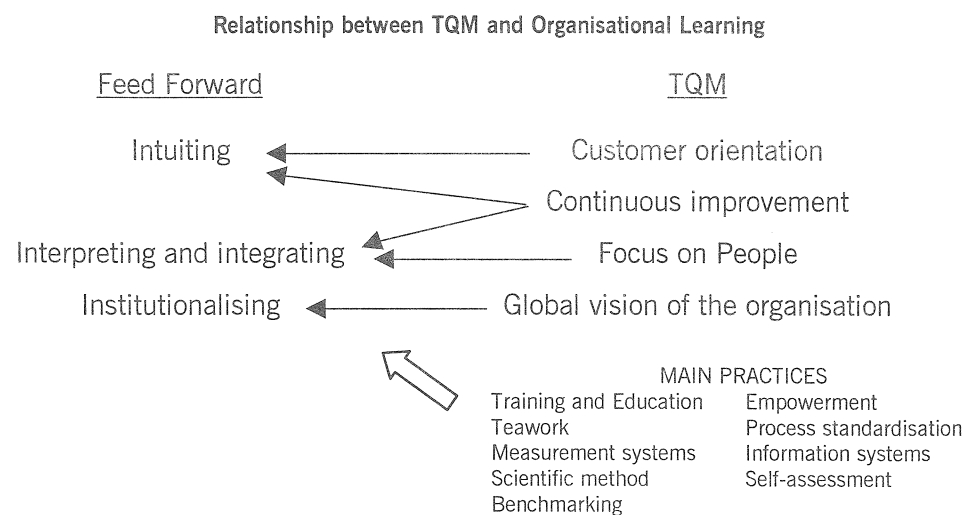
Finally, TQM contributes to the *institutionalisation* of the newly learned patterns of behaviour since it involves a cultural change that emphasises the application of the new routines that have been generated. The management leadership,



as the promoter of a TQM initiative, will enable the learning to last, to establish itself formally and to be accepted throughout the organisation.

These four intermediate processes, which are necessary for the generation of learning, can be linked to the use of practices associated with the principles that make up TQM, since the purpose of these practices is to share, codify and systemise the knowledge and the skills within individuals into patterns of collective behaviour. The practices and activities that follow are especially important. Figure 2 summarises the main practices associated with TQM that allows the organisational learning process to be stimulated.

FIGURE 2



### 3.2. Exploitation of routines (feedback)

In addition to favouring the *exploration* and the creation of new routines, TQM also allows the *exploitation* of existing capabilities in order to resolve problems and to act in a more efficient manner. Once learning has been institutionalised, it is possible to use it in a *feedback* process; the individuals interiorise this new learning and adapt it to each particular new situation and experience. In other words, the routines and procedures that have been institutionalised create a context that is used to interpret future experiences and to detect and correct mistakes. In this way, it is possible to put into practice what has been learned up to that moment.

The systemisation involved in TQM, the standardisation of processes and the establishment of work procedures, for example by means of the norms of the ISO 9000 series, means that individuals have a method of working and a set of standards of behaviour. They have procedures shared by all the individuals and which

specify the appropriate patterns of behaviour when dealing with a particular problem. In the same way, there are also information systems available that provide feedback data on performance. This data enables employees to detect deviations and to be able to carry out the adjustments needed to reach the predetermined standards. But perhaps the most important element here is the maintenance of the system. TQM guarantees the maintenance of the work procedures that have been set down by means of regular revisions carried out by inside and outside auditors.

Nevertheless, we must not forget that because learning has been institutionalised in the organisation, on occasions, it can be difficult to change. It can become perpetuated and may hinder the start of a new flow of *feedforward* learning, as well as the ensuing renovation of the organisation. From our point of view, TQM can contribute to reducing these problems and help the *feedback* to enhance a process of *exploration* and generation of new learning.

Likewise, one of the organisational changes that the introduction of TQM involves affects one of the basic organisational rules of conduct –the allocation of rights of decision–. More specifically, the authority to make decisions is allocated to those who possess the knowledge and skills this requires. In this way, the decision maker uses experience from the work itself as well as information on performance to begin a feedback process that, by making use of accumulated learning, can result in an improved response to problems. In other words, in organisations that have introduced a TQM strategy, the worker is not just a simple *task performer* but has access to the means to search for improvements and to make use of his or her creativity. In this context, individuals can start a new *intuiting* sub-process and set off a new learning process. Nevertheless, the process of *feedforward* that can be triggered off by TQM is essentially an incremental rather than radical change. The continuous improvement promoted by TQM leads to a change and learning that is mainly continuous and gradual. This process of learning, because of its being repeated over time, will achieve important transformations with respect to the initial position.

From the discussion on the relationship between TQM and learning, we can put forward the following proposition:

*“The implementation of TQM exerts a positive influence on the capability to promote the process of organisational learning and the better use of knowledge in the organization”*

#### 4. CONCLUSIONS

The research conducted indicates the importance of a TQM strategy to foster the organisation's capability to promote the process of organisational learning. As

pointed out by Winter (1994), Sohal and Morrison (1995), Rose and Ito (1996) or Youssef et al. (1996), we have defined that TQM introduces into the firm patterns of conduct that lay the grounds for promoting the generation of new knowledge and learning in the organisation. TQM facilitates the codification of the knowledge embedded in certain routines and in the minds of individuals. Moreover, it promotes the dissemination of knowledge throughout the organisation by means of the definition of standards and procedures, so that all the members of the organisation can understand it and carry out the ensuing improvements.

TQM makes it possible for people to share a series of priorities and tacit rules of behaviour, which specify the appropriate patterns of conduct to be followed when faced with a particular problem. This is made possible through pooling the experiences produced by teamwork or by the continuous improvement practices. In this way existing routines are exploited. Likewise, TQM, through the continuous process of planning, execution and evaluation that it uses to resolve problems, fosters exploration, the generation of new knowledge and new skills. This, in turn, facilitates the change of existing routines in a gradual or incremental fashion. Thus, TQM is understood as an institutional mechanism that enables the coordination of tacit knowledge that is spread throughout the organisation, thereby encouraging the establishment of a collective memory.

Future research must enable us to look deeper into the relationship between TQM and learning and test the proposition we have stated. Likewise, another possible way of furthering the work would be to study what type of TQM-associated practices are the ones that have the most specific effects on both kinds of learning.

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