Third Generation Quality Movements: from the *stricto sensu* technique to organizational sustainability models

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Abstract

Purpose - Quality is (not mistakenly) one of the most discussed themes in the production management arena. This article analyses, based on literature review, the evolution of the quality concept, focusing on the called "third generation quality movement", which is inspired by organic and relational premises, and it is observed completely associated with the postulates related with the organizaqtional sustainability concept. As conclusion, it is noticed that the evolution of the concept justifies the creation of organizational self-assessment sustainable models.

Methodology/Approach – The methodology used in these study was based on the comparative analysis of literature review, referenced in national and international books, journals, monographs and thesis, related with all the concepts associated with sustainable excellence models, quality and organizatinal sustainability .

Conclusion/Findings - According to the analysis of the presented material and based on the observed tendencies in large Brazilian and international organizations, it is true that the evolution of the organizational management systems to the called third generation of quality is going to be a natural movement. Therefore, related to sustainable organizational management is suggested a gradual review of the actual organizational performance

assessment, recommending, not only considerer the economic-financial criterions in the assessment , but also include social and environmental criterions in this assessment.

Key-words: *Corporate Sustainability, Quality, Sustainable Development, Excellence Models.*

Paper type - *General review*

1. Introduction

The study of Quality, as well as its basis, models and applications is one of the most common themes of discussion in the industrial engineering field, either in the academic or professional area. Its early principles of evolution, usually associated with corporate practices, makes the movement of quality one of the most relevant and fertile objects of scientific investigation, making possible purely technic analysis, like statistical sampling, and also extrapolations concerning future themes like the third generation Quality movement.

This article aims to propitiate a brief contextualization of the evolution of quality, focusing on the so-called third generation quality movement, inspired by organic and relational premisses, oriented by the organizational sustainability.

2. Literature Review

2.1 The evolution of the concept of quality

It is noticed that the concept of quality has been affected by changes and revisions throughout the years (see figure 1). Jonker (2002), (2003), Lau (1999), Mcdonald (2002) and Van der Wiele, Dale & Williams (1997) indicates that, in the beginning, the quality concept was seen as a mere control accomplished by a pure and simple final product inspection.

This concept evolves and starts to be considered as a merely statistic control, using product sampling techniques to assure this quality. In its next step, the concept starts to be known as quality guarantee, because all the company functions are seen as important parts of its success/failure of the organizational quality. In his newest concept, the quality starts to be treated as a strategic function of the organization and to be known as total quality management (TQM).

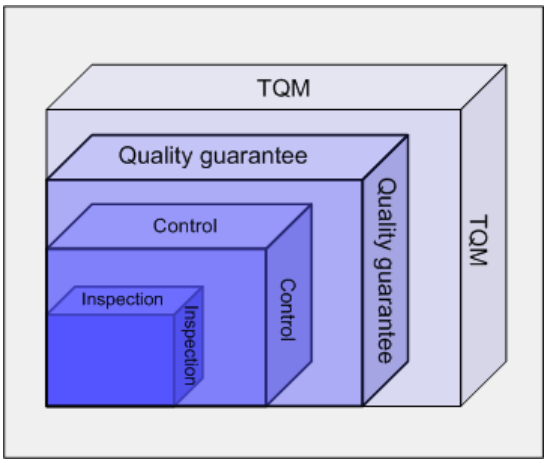

Figure 1: Evolution of the quality concept
Source: (Van der Wiele et al. 1997)

To Jonker (2003) these changes in the concept of quality – from product-oriented view to a relationship-oriented view between the product and the organization, define two generations of the so-called quality movements. Jonker characterizes them as a hard-line quality movement (first generation of product-oriented) and as a softer quality movement (second generation oriented to organization as a whole).

To Karapetrovic & Willborn (1998c), the quality does not happen in a aleatory way, it is planed , sketched, created and improved; the result is a systematic effort to reach a wished purpose. However, for the development of a quality dimension, a quality system must be used. These authors characterize a quality system as an interrelated group of processes that work in a harmonious manner to reach and exceed all the clients` expectations related to their demands or requirements, that is also known as total quality management (TQM).

Jonker (2003) indicates that TQM can be considered as a management philosophy that seeks the continuous improvement of the organization, throughout the insertion of concepts associated to quality in all its processes, functions and sectors of the organization (Lau et al. 1999), increasing his efficiency, efficacy and competitive advantage, guaranteeing in thsi way the success of the organization.

2.2. Evolution of the concept of quality: Third Generation Quality Movement

According to March (1999), Edwards, the first president of ASQ (American Society for Quality), indicates that the statistic techniques should not be focused only on the economic arena, but could also be used in other fields, like the social one. March (1999) and Zairi (2002) points that Juran also emphasizes the importance of quality serving the society. Zairi (2002) points out that Deming also extends the concept of quality, expressing that quality is not just oriented for client's satisfaction but also is looking for all the interested parts satisfaction (stakeholders).

Jonker (2002) points out that the concept of quality can have a connotation of "trash", which means that it can be applied to any object, process, function or organization,

initializing a change in the concept definition, that was first focused only on the product, for a concept of totality, embracing all the organization. Jonker (2003) indicates that Foley's studies (1997) *in* (Jonker & Foster 2003) were the first to shows the importance of the relationships between the quality movement and the several interested parts of the organization (clients, suppliers, shareholders and employees), these studies did not considered all the interested parts of the organization, because the external interested parts where excluded.

Another evidence of change on the focus of the concept of quality can be found in (Hoyle 1994) *in* (Jonker & Foster 2003). The author defines that the quality of the organization can be visualized through three levels: [1] product and services level (clients` satisfaction) [2] business quality level (internal view - increase of the efficiency and efficacy of the organization, through society and environmental care); and, [3] Organizational Quality level (external view – Strong relationships with the environment and society.)

This same idea is reinforced by Van Marrewijk (2004) and Karapetrovic & Jonker (2002) indicating that the new objective of business is the creation of value and synergy, where the business focus not only on the clients, but in all the interested parts, including in this vision the social and environmental aspects. These new proposal indicates the importance of the inclusion of the concepts associated with the corporate social responsibility and corporate sustainability in the organization. Van Marrewijk shows that the corporate sustainability and corporate social responsibility concepts can be build though the basis of the quality management and excellence models concepts.

Karapetrovic & Jonker (2002) indicates that the quality management system can be visualized as a subsystem that pertains to a major system, where a series of other systems are included, all been oriented to the satisfaction of the several interested parts of the organization (stakeholders). Jonker (2002) also refers to the importance of the inclusion of the socio-environmental factors into the quality management systems, „Jonker indicates that the incorporation of this factors (social and environmental) , marks the beginning of a new concept called third generation quality movement, defining it as MQM (Modern Quality Management).

Wilkinson (1999a) points out that organizations, besides focusing on the satisfaction of their clients` needs, should start to worry about other kinds of factors like: well-being of their employees, work environment, the impact that the products and services produce in the neighborhood and local communities, as well as the effects caused by the use and discard of these products or services.

Wilkinson also points that the interested parts themselves are becoming more and more worried with those kinds of things, and that is the motive why the organizations are using different methodologies and tools to guarantee the satisfaction of their clients as also of all the others interested parts. This situation, implementation of a series of methodologies and tools – may bring to the organization the necessity to have a all branch of management systems. Wilkinson (2001), in his paper, proposes the utilization of a single integrated management system (IMS) embracing all the methodologies and tools associated with quality, environmental and society aspects of the organization.

In this same line of thought, Waddock & Bodwell (2002) indicates that, due to the

pressure of the several interested parts and also the globalization movement , organizations are beginning to include other factors besides the economic in their management decisions, been this the reason why they are starting to implant management systems that can help to manage the relations with all the different interested parts (stakeholders). To Waddock & Bodwell these new management systems are starting to co-exist in the organization with the quality management systems. For this reason, the above authors propose an expansion of the concept of TQM to the concept of TRM (Total Responsibility Management), that starts to contemplate the necessities and requirements of all the interested parts that interact with the organization (stakeholders) forming just one integrated management system that will consider the social, environmental and quality aspects of the organization.

We can conclude that the so-called third generation quality movement is based on the inclusions of social and environmental variables into the actual organizational management models. Jonker (2002), Van Marrewijk (2004) and Waddock & Bodwell, (2002) indicate that the changes in the organizational management systems should start through the changes in the organization pillars (values, basis, view, mission), transforming the organization as a whole, defining new ways of work, new purposes and goals, and also new evaluation tools that will have to include the evaluation of the social and environmental factors. This idea is reinforced by Castka (2004) who defends the idea that whatever the management model implemented in the organization, it should be treated as a change in the organizational philosophy, embracing all the aspects that exists in the organization (values, principles, strategies, process and so on) .

2.3 Models´ implementation towards the third generation quality movement

We can evidence a tendency to the expansion of the concept of quality (TQM) for an embracing concept where the relationships of the organization with the environment and the society can be evaluated. However, it is important to question the insertion the insertion of these new variables in the organizational management concept.

Karapetrovic (2003) and Dale & Wilkinson (2001) refer to the existence of several research and papers oriented to the analysis of different ways of moving from the second to the third generation of quality, indicating the necessity to define ways of helping the organizations with the implementation of these new ways of management.

Dale & Wilkinson (2001) demonstrate the existence of two possible ways of passing to the third generation of quality. The first one occurs through the integration of several management systems into a major integrated management system that will embraces all the management systems (quality systems, environmental management systems and also health & security management systems) in one. The second one occurs through the expansion of the concept of TQM, where the social and environmental factors would be considered been part of all other client's need, so not only client requirements will be accomplished, but all the interested part (stakeholders) requirements will be accomplished.

Karapetrovic follows Dale & Wilkinson's ideas, indicating that this passage to the third generation of quality can happen through two different ways of movement directly associated with the quality concept definition.

Karapetrovic (2003) defines quality as the ability that the organization possesses to satisfy the client necessities. Analyzing this definition, Karapetrovic indicates that the first way in this evolution (from the second to the third quality movement) happens when the organization not only seeks to satisfy its clients needs, but also all the interested parts needs. The second way of movement occurs due to a a change in ability to satisfy the clients necessities – this ability turns a simple satisfaction of the client's need to a full excellence satisfaction of that same need (see figure 2).

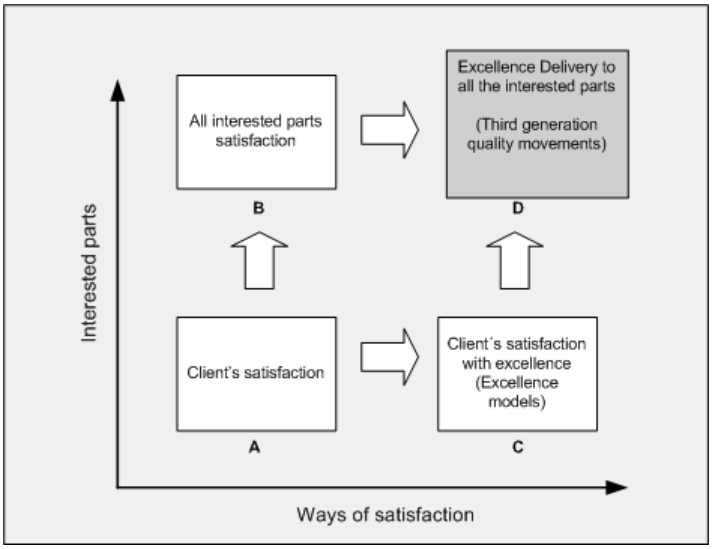

Figure 2: Evolution of the third quality movement
Source: [(Karapetrovic 2003)

When figure 2 is interpreted, it is observed, in the first path, that the organization starts satisfying some clients` needs through the implementation of some management system (point A); in the moment that the organization starts worrying about other interested parts (establishment of other systems as ISO 14000, OHSAS 18001 and others), the organization evolution begins, passing through point A to B. In the moment that the organization realizes the necessity of a integrated management system (IMS), a transition would have happened from point B to point D, distinguishing the third generation of management systems.

The second way of transition happens when the organizations initiates its pathway to excellence (total satisfaction of clients` needs), passing from point A (quality management system) to point C (excellence system focused on the client). In such case, when the organization starts worrying about the satisfaction of other interested parts besides their clients, it would be passing through point C to point D, characterizing the third generation of quality.

Another line of thought is presented by Keeble (2003), Searcy (2006) and Neely (2000a) pointing out a existence of a third way of transition to achieve the satisfaction of different interested parts. This third way would happen across a dialogue with the different interested parts, identifying, through this dialogue, their requirements and necessities of these stakeholders, the appreciation of this necessities would have an important roll in the

strategic planning of the organization and at its operational processes. Among this new alternative, the Karapetrovic scheme can be reformulated, incorporating a new transition, that would happen directly between points A and D (see figure 2).

With the incorporation of this new vision, can be identified three transition movements from the second generation of quality to the third generation of quality: (see figure 3):

a) Through the integration of different management systems that exists in the organization;

b) Through the extension of the excellence concept to excellence concept that includes the social and environmental aspects;

c) Through the dialogues with different interested parts of the organization.

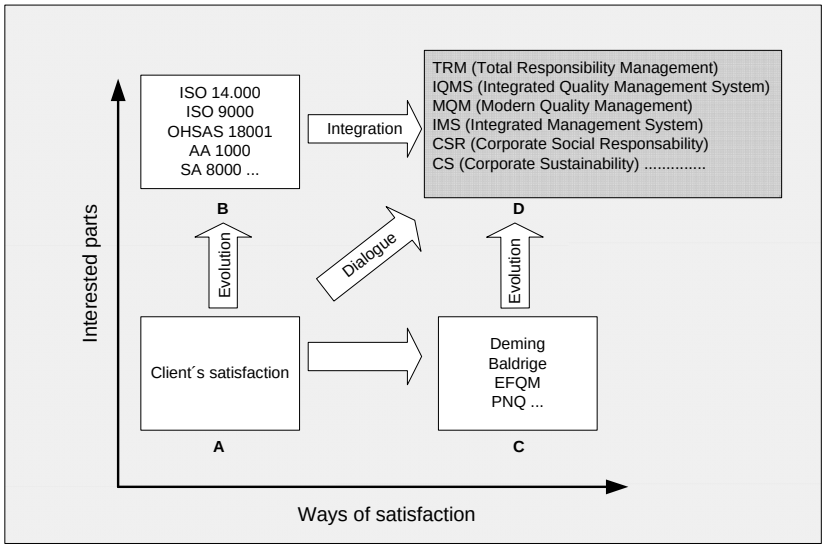

Figure 3: Three paths to the third quality movement
Source: Adapted from [(Karapetrovic 2003)

2.3.1 Third Generation of Quality through the integration of management systems

Karapetrovic & Jonker (2004) show that integration, across the use of different norms (management systems) can be done either by the creation of a new norm that will contemplate, quality management , environmental and health and security management aspects into a generic management system standard (GMSS) or by the integration of different norms existing in the organization (IMS – Integrated Management System).

Wilkinson & Dale (1999b) go deeper in this ideas of Karapetrovic & Jonker, indicating the existence of three models for the integration of these different norms:

- Management system evolution model presented by Renfrew& Muir (1998) *in* (Wilkinson & Dale 1999b);
- Model of Karapetrovic & Willborn (Karapetrovic & Willborn 1998a), known as classical model of the ISO;
- Integration model presented through two similar ideas, the first one from MacGregor (MacGregor Associates 1996) *in* (Wilkinson & Dale 1999b) and the second one presented by the ISO/TAG 12 (1998) *in* (Wilkinson & Dale 1999b).

2.3.2. Management system evolution model by Renfrew e Muir

To Wilkinson & Dale (1999b), the model of Renfrew & Muir is based on an evolution of the different norms implemented by the organization. The authors explain that almost all the organizations starts implementing one or some of the norms (management system): in the specific case of this paper we will use like a example the ISO 9000 implementation (see figure 4) , this implementation is defined as stage 0 of the model.

Whith the implementation of this norm, another stage begins (stage 1), that is the incorporation of other norms into the organization (ISO 14000, OHSAS 18000 and others); the next stage (stage 2) is referred to a semi-integration of the existing norms (known as ISO Matrix). This integration identifies the similarities in the different procedures of th norms,. The third stage gives to the organizations a view of the different procedure that can be integrated (identified in the previous stage). The fourth stage corresponds to the integration of this procedures into one integrated procedure, passing in this way to the last stage (stage 5), which talks about the creation of an integrated system, that would have all the procedures defined and implemented in organizational processes.

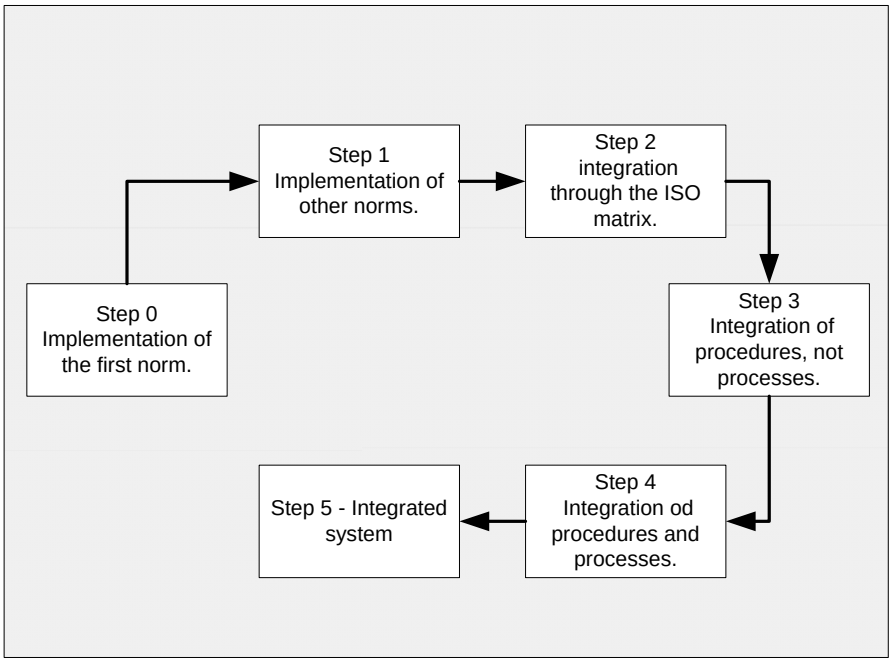

Figure 4: Adapted from the evolution model Renfrew & Muir
Source: Renfrew & Muir (Renfrew & Muir 1998) in (Wilkinson & Dale 1999b)

2.3.3. ISO Matrix Model of Karapetrovic e Willborn

The second stage of the model presented by Renfrew & Muir (1998) *in* (Wilkinson & Dale 1999b) refers to the ISO matrix integration. In this second stage, an association is done between the different norms´s sub-classes and the identification of the similarities in each one of them. Beechner (1997) and Wilkinson (1999b) presented and example of this work, making a comparison between the norm of the ISO 9000 and ISO 14000, indicating the common procedures of them.

Another aproach presenting the integration of managment systems is through the ISO matrix defined by Karapetrovic &Willborn (1998b), this authors indicates that the organization has to be considered like a system (see figure 5) and the management systems implemented in the organization should follow this systemic orientation. Wilkinson & Dale (1999b) indicate that the systemic vision of Karapetrovic & Willborn has seven stages (Requirement, System Drawing, Attribution, Construction, System Implementation, Exit, and; Assessment), which can be compared to the Deming PDCA cycle (Plan, Do, Check , and; Act).

Karapetrovic & Willborn indicates that, in this systemic vision, different management systems could be implemented and be treated in parallel, but always should be followed the seven stages defined in their model. They present an example of this idea indicating how the ISO 9000 e ISO 14000 implementation would remain using this model.

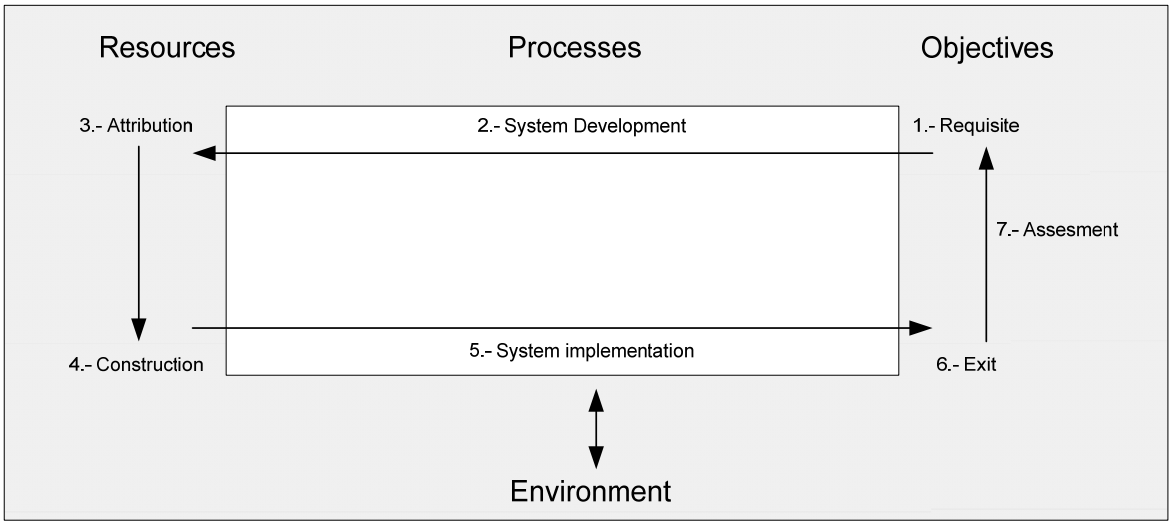

Figure 5 : Karapetrovic & Willborn Systemic view
Source : (Karapetrovic & Willborn 1998b)

2.3.4. Discussion of Macgregor model (Integrated) and ISO/TAG 12 model (Lined up)

The integration models defined by MacGregor (1996) and ISO/TAG 12 (1998) *in* (Wilkinson & Dale 1999b) does an integration of the norms across two similar ways: the first one, defined by MacGregor, is known as integration model and proposes the creation of a central nucleus that will contains all the similar requirements and procedures of the norms that already exist in the organization and also of the future norms could come to exists, all the requirements and procedures that wont fit in this nucleus would stay in specific nucleons created for each norm.

The second model of integration is defined by the ISO/TAG 12 group (Technical Advisory Group 12) of ISO (International Organization for Standarization) and is known as lined up model. In this model, opposite of the previous one, would not have a central nucleus, but specific management systems for each norm, all of them working in parallel (like how exists today). The difference about the norm implementation is about the fact that each management systems would have a high degree of compatibility between each of the norms (as a example ISO 9000 and ISO 14000). Under this approach, the common elements of each norm would be similar in all the norms, allowing an easier way of implementation.

2.4. The third generation of quality through the extension from the excellence concept to the sustainable excellence concept.

Excellence is seen as a synonym of TQM, the excellence or TQM concept is applied into organizations through the different BEM (Business Excellence Model) models existing in the world. These models present a methodology that, through the use of an self-assessment tool, help the organization to measure his degree of adherence with respect to the focused model. Through the incorporation into this models of the concepts associated with the sustainable development approach (due to stakeholders pressure or competitive structure of the market) the third generation of quality concept could be constructed

Edgeman, in his article "*Measuring Business Excellence: an expanded view*" (Edgeman 2000) exposes a general vision of the proposal of an excellence model that considers, beyond quality, social, environmental and technological factors. Edgeman called this model "BEST Business Excellence", in which BEST refers to four basic components of the excellence sustainable model proposed by him: B –Biophysical; E – Environmental; E – Economic; S – Societal e T – Technology (Hensler & Edgeman 2002). This model, according to Edgeman, tries to combine the concepts of sustainable development with excellence models.

Edgeman indicates that the basis of excellence models (or the measurement of the performance) is found in the principles and criterions defined in his model, and, through them, the organization will be able to orientate the pathway to excellence. He also indicates that his model is based on the insertion of socio-environmental principles and criterions. Across them, the organization could evaluate the degree of adherence to entrepreneur sustainability based on BEST (B – Biophysical; E– Environmental; E – Economic; S – Societal e T – Technology).

This relation between sustainable principles and excellence models can be found in the model of McAdam & Lambert (2003). For them, the organization should identify principles and sustainable actuation values (see figure 2-9), which would permeate all the organization processes and structures (planning, processes and results). The definition, application and measurement of these principles should be done taking into consideration different social actors with whom the organization interacts.

McAdam & Lambert (2003) use these concepts to define an extended excellence model. This model is base on the incorporation of socio-environmental sub- criterions into the actual excellence models criterions. The sub- criterions that have to be inserted, according to the authors, should consider each one of the three organizational responsibility levels defined by Wood (1991) :

a) Legitimacy : society expectations refers to all the organizations, due to their role like economic institutions;

b) Organizational: society expectations are specifically with the organizational behavior, taking into concern what it does and produces;

c) Individual:society expectations is about people that works and interacts with organization.

McAdam & Lambert propose these sub- criterion because an evaluation of socio-environmental factors would happen in all organizational processes. McAdam & Lambert reject the socio-environmental assessment through the incorporation of a new criterion (for example, sustainability criterion), because this will disrupt the assessment philosophy, since the organization would only be evaluated through this new criterion and not through all their organizational process.

In this same line of thought , Garvare & Isaksson (2001) points out that the actual excellence models evaluate the behavior of an organization, mainly oriented to the

economic factor. In this kind of model, its foundations and values guide the organization to have an exclusively economic assessment, promoting the satisfaction of only one the stockholders and clients. Based on this idea, the authors propose and expansion of the excellence models, so that all the satisfaction of all the stakeholders could happen. So, he proposes the expanded excellence model.

The expanded excellence model, defined by the authors, is based on two main premises:

a) The organization can be characterized by four types of processes, where three of them are considered facilitating processes (management, operation, support) and one is considered a result process (result).

b) The expanded excellence model can be built using the triangle "person – organization – society", in which the organizational excellence should promote individual, organizational and societal excellence.

Through these premises, the authors define both the values and the criteria of this new excellence model.

3.5. Third Quality Generation through the dialogue with different interested parts (stakeholders)

Under another vision of how this evolution could be done to reach the expanded excellence model, Keeble (Keeble et al. 2003); Searcy (Searcy et al. 2006) and Neely (Neely & Adams 2000a) points out, that this evolution can be reached through the dialogue with interested parts (stakeholders). Across this dialogue, the requisites and needs of the stakeholders are identified and implemented, either in the planning, operation or organizational results.

Keeble shows that different stakeholder that interacts with the organization manifest the will of knowing how that the organization is satisfying their needs and requisites. As examples, there are:

a) Investors willing to meet and know by evidences the actions associated with corporative governance, business strategy and risks management;

b) Clients that want to evaluate the origins of products and components utilized in their fabrication;

c) The employees look for life quality at work and companies that do not harm society (socio-environmental factors);

d) Requirements of the public and third sector, referring to the strategies and socio-environmental reports of the organizations.

Due to these facts, the organizations are realizing the importance of the application of the concepts associated with the sustainable development idea in their management. The existence of a number of principles / methodologies / tools, associated to organizational

sustainable development or corporate sustainable responsibility, makes the companies to loose their focus and utilize most of their time choosing the methodology or tool that most adequate to his organization (Keeble et al. 2003).

Keeble explains that the use of indicators is extremely important to know, measure the performance and line up the concepts of sustainable development into the organization. In this process, should not waste a lot of time choosing the right indicators, the time has to be used in the assessment process.

Keeble proposes a methodology to select the indicators that should be used, through the formulation of four questions:

a) Which are the most critical and relevant aspects for the organization?

b) Which are the commitments that the organization has to handle?

c) How is the organization going to compare its performance?

d) What are the expectations of the stakeholders?

Through these questions, the organization will be able to do a selection of the indicators that can be used. Keeble points out the existence of indicators that can measure the same situations, for that motive a procedure for the selection and filtering of the chosen indicators has to be implemented.

To Neely, (2000b), knowing the needs (demands) of the different interested parts is essential to the company, because the strategies will be structured and implemented focused in the satisfaction of these needs. In such a case, the authors propose a model called performance prism.

This is a three-dimensional model that has five faces (Neely & Adams 2000), the main ones are the satisfaction and contribution faces related to the different stakeholders (Clients, Employees, Suppliers, Government, Society) and the support ones, which are strategy face, processes and capacity faces.

To this authors, the organizational survival in the market will occurs only through the knowledge of stakeholder needs, where the satisfaction of these needs would happen across through organizational strategic implementations.

References

Beechner, A. & Koch, J. E. 1997, 'Integrating ISO 9001 and ISO 14001', *Quality Progress;*, vol. 30, no. 2, pp. 33-36.

Castka, P., Bamber, C. J. , Bamber, D. J. & Sharp, J. M. 2004, 'Integrating corporate social responsibility (CSR) into ISO management systems – in search of a feasible CSR management system framework', *The TQM Magazine*, vol. 16, no. 3, pp. 216-224.

Edgeman , R. L. 2000, 'Best business excellence: an expanded view', *Measuring Business Excellence*, vol. 4, no. 4, pp. 15-17.

Foley, K., Barton, R., Hulber, J. & Servasker, J. 1997, *Quality , productivity and competitiveness*, Standards Australia, Strathfield.

Garvare, R. & Issakson , R. 2001, 'Sustainable Development: extending the scope of business excellence models', *Measuring Business Excellence*, vol. 5, no. 3, p. 11.

Hensler , D. & Edgeman , R. L. 2002, 'Modeling BEST business excellence :The beginning', *Measuring Business Excellence*, vol. 6, no. 2, pp. 49-54.

Hoyle , D. 1994, *ISO 9000 Quality Systems Handbook*, Budford technical publishing, Bodeham.

ISO Technical Advisory Group 12. , *ISO 9000/ISO 14000 Compatibility*, [Online].

Jonker , J. 2002, 'Quality Beyond the Enterprise', *Measuring Business Excellence*, vol. 6, no. 3, pp. 31-35.

Jonker , J. & Foster , D. 2003, 'Third Generation Quality Management The role of stakeholders in integrating business into society', *Managerial Auditing Journal*, vol. 18, no. 4, pp. 323-328.

Karapetrovic , S. 2002, 'Strategies for the integration of management systems standards', *The TQM Magazine*, vol. 14, no. 1, pp. 61-67.

Karapetrovic , S. 2003, 'Musings on integrated management systems', *Measuring Business Excellence*, vol. 7, no. 1, pp. 4-13.

Karapetrovic , S. & Jonker , J. 2004, 'Systems thinking for the integration of management systems', *Business Process Management Journal*, vol. 10, no. 6, pp. 608-615.

Karapetrovic , S. & Willborn, W. 1998a, 'Connecting internal management systems in service organizations', *Managing Service Quality*, vol. 8, no. 4, pp. 256-271.

Karapetrovic , S. & Willborn, W. 1998b, 'Integration of quality and environmental management systems', *The TQM Magazine*, vol. 10, no. 3, p. 204.

Karapetrovic , S. & Willborn, W. 1998c, 'The system's view for clarification of quality vocabulary', *International Journal of Quality & Reliability Management*, vol. 15, no. 1, pp. 99-120.

Keeble, J., Topiol , S. & Berkeley , i. 2003, 'Using indicators to measure sustainability performance at a corporate and project level', *Journal of Business Ethics*, vol. 44, no. 2/3, pp. 149-158.

Lau, H., Pun, K. & Chin, K. 1999, 'A self-assessed quality management system based on integration of MBNQA/ISO 9000/ISO 14000', *International Journal of Quality & Reliability Management*, vol. 16, no. 6, pp. 606-629.

MacGregor Associates. 1996, *Study on Management System Standard*, British Standards Institution.

March, J. L. 1999, 'Applying Quality concepts to Community Issues', *Quality Progress*, vol. 32, no. 3, pp. 49-56.

McAdam, R. & Leonard, D. 2003, 'Corporate social responsibility in a total quality management contex: opportunities for sustainable growth', *Corporate Governance*, vol. 3, no. 4, pp. 36-45.

Mcdonald, I., Mohamed, Z. & Mohd., I. 2002, 'Sustaining and transferring excellence', *Measuring Business Excellence*, vol. 6, no. 3, pp. 20-30.

Neely, A. & Adams , C. 2000, 'Perspectives on Performance: The Performance Prism', in *Handbook of Performance Measurement*, Gee Publishing, London.

Neely, A. & Adams , C. 2000a, 'Perspectives on Performance: The Performance Prism.', *Measuring Bussiness Excelence*, vol. 4, no. 3, pp. 19-23.

Neely, A. & Adams , C. 2000b, 'The Performance Prism to boost M&A success', *Measuring Business Excellence*, vol. 4, no. 3, pp. 19-23.

Renfrew, D. & Muir, G. 1998, 'QUENSHing the thirst for integration.', *Quality World*, vol. 24, pp. 10-13.

Searcy, C., McCartney, D. & Karapetrovic, S. 2006, 'Sustainable Development Indicators for the Transmission System of an Electric Utility', *Corporate Social Responsibility and Environmental Management*, vol. 14, no. 3, pp. 135-151.

Van der Wiele, A., Dale, B. & Williams, A. 1997, 'ISO 9000 series registration to total quality management: the transformation journey', *International Journal of Quality Science*, vol. 2, no. 4, pp. 236-252.

Van Marrewijk , M. & Zwetsloot, G. 2004, 'From Quality to Sustainability', *Journal of Business Ethics*, vol. 55, pp. 79-82.

Waddock , S. & Bodwell , C. 2002, 'From TQM to TRM : Total Responsibility Management Approaches', *Journal of Corporate Citizenship*, vol. 7, pp. 113-126.

Wilkinson, G. & Dale , B. 1999a, 'Integrated management systems: an examination of the concept and theory', *The TQM Magazine*, vol. 11, no. 2, pp. 95-104.

Wilkinson, G. & Dale , B. 1999b, 'Models of Management System Standarts : A review of the integration issues', *International Journal of Management Review*, vol. 1, no. 3, pp. 279-298.

Wilkinson, G. & Dale , B. 2001, 'Integrated management systems: A model based on a total quality approach', *Managing Service Quality;*, vol. 11, no. 5, pp. 318-330.

Wood , D. 1991, 'Corporate Social Performance Revisited', *The Academy of Management Review;*, vol. 16, no. 4, pp. 691-718.

Zairi , M. & Peters , o. 2002, 'The impact of social responsibility on business performance', *Managerial Auditing Journal*, vol. 17, no. 4, pp. 174-178.