

## **THE QUALITY AND THE MANAGEMENT OF HUMAN RESOURCES QUALITY WITHIN THE KNOWLEDGE BASED ECONOMY AND ORGANIZATION**

Muntean Laura, Titu Mihail Aurel, Oprean Constantin

1 „Lucian Blaga” University from Sibiu, laura.muntean@ulbsibiu.ro

2 „Lucian Blaga” University from Sibiu, mihai.titu@ulbsibiu.ro

3 Lucian Blaga” University from Sibiu, constantin.oprean@ulbsibiu.ro

**ABSTRACT:** Human capital functions within knowledge based organizations systematically and it represents a form of transversal capital to them. None of the organizational subsystems can function without human capital and nor does the quality subsystem. The interaction between the two subsystems manifests into two main directions that can be expressed as follows:

Total quality can only be achieved by using and highlighting the competences and skills held by the employees.

Achieving and highlighting human capital efficiency can only be done by means of an adequate, permanent and transparent usage of quality management tools and techniques.

Identifying the means of employing the tools and the techniques specific to the total quality management within the process pertaining to human capital management is mandatory for modern organizations.

**KEYWORDS:** human resources management, total quality management, human capital, competences, efficiency, knowledge.

### **1. THEORETICAL CONSIDERATIONS ON THE SUBSYSTEM REFERRING TO THE QUALITY OF THE HUMAN CAPITAL FROM THE VIEWPOINT OF THE TOTAL QUALITY MANAGEMENT**

The elements of the human capital subsystem are perceived within every subsystem of the organization. The subsystems of the organization cannot function without the competent human capital that holds the required knowledge and skills and that is motivated to achieve performance. In knowledge based organizations this represents the most valuable of resources.

From the perspective of the total quality management, human capital represents a lead transversal subsystem whose purpose is to sustain all the activities of the organization. As an acknowledgement of the importance of this subsystem within the standard SR EN ISO 9001:2008 the sub-chapter 6.2 had been allotted to human resources. From the human resources point of view, in accordance with this standard, the organization must undertake a series of actions referring to the competences, the training and the awareness of employees concerning the quality matter so as:

- to determine which are the competences the staff needs so that the activities they undertake influence favourably and meet the product requirements,
- to provide training opportunities as well as skills development
- to establish and carry out assessment actions,
- to ensure that the entire personnel is aware of the role, the relevancy and the importance of their activities
- to keep records of the studies, the trainings and the skills and expertise [7].

Within Chapter 6 The management of resources of SR EN ISO 9004:2010 Leading an organization towards sustainable success- an approach based on quality management, the personnel of the organization are treated as a highly important resource. In this context it is underlined that modern organizations bear the obligation to develop a working environment meant to encourage “individual development, learning, knowledge transfer and team-work”.

Attributes referring to human resources that need to govern within organizations that aim to achieve sustainable success, including knowledge based organizations, comprise action planning, transparency, ethical approaches and social responsibility[8]. The organizations bear a series of responsibilities towards their employees:

- transposing strategical and operational goals into specific individual objectives according to the role of each employee
- identifying constraints linked to the performance of each employee
- determining each employee to undertake their obligations and responsibilities that devolve individually on each and every one of them in meeting their objectives
- undertaking individual performance assessment against objective fulfilment,
- identifying means of improving individual skills,
- ensuring active participation of employees in forming work teams and promoting the unfolding of team activities,
- sharing information, knowledge and expertise held by employees.

Principles referring to competences enounced under SR EN ISO 9001:2008 on the topic of human resources had been taken over, developed and completed under SR EN ISO9004:2010 as follows:

- The identification of competences must be carried out on two temporal directions namely: *presently* by identifying the present competences available within the organization and required in order to meet the objectives and *for the future* meaning the identification of competences required to carry out long and medium-term objectives.
- Improving skills as a consequence of professional training undertaken must be assessed and furthered.
- Introducing motivation, acknowledgment and reward related systems based on performance assessment
- Developing career promotion systems based on competencies, performances and professional training skills
- Implementing systems meant to measure the level of satisfaction/dissatisfaction among employees starting from the total quality principle by which each employee assumes different status-roles within the production chain, namely that of supplier or client depending on the position they hold.

The analysis on the quality of the human capital subsystem needs to start from the definition of the **human capital** by which it is understood a sum up of the educational and biological capital that represents in fact the entirety of experiences, habits, skills, knowledge that may turn into sustainable capital with an aim to generate income. According to this definition, the employee-the human resource-is the holder of the educational and biological capital and the main responsible for the use and highlight of these attributes. The intensity by which each element of the human capital manifests within the activities undertaken is mirrored as added value to the final product.

Conventionally the management of human resources represents an assembly of actions undertaken by the management of the organization so as to ensure the needed human resource, their training and development and their preservation in order to meet the desired set objectives. According to the modern vision, the human resources management represents the process that brings to harmony the environment, the organization, the position and the employees, so that employees touch on the desired level of satisfaction while organizations fulfil their objectives [1]. Human resources specific processes may be synthesized as follows:

- Job tailoring
- Recruitment and personnel selection
- Personnel assessment
- Reward systems implementing

- Motivation and satisfaction
- Training and learning
- Communication systems

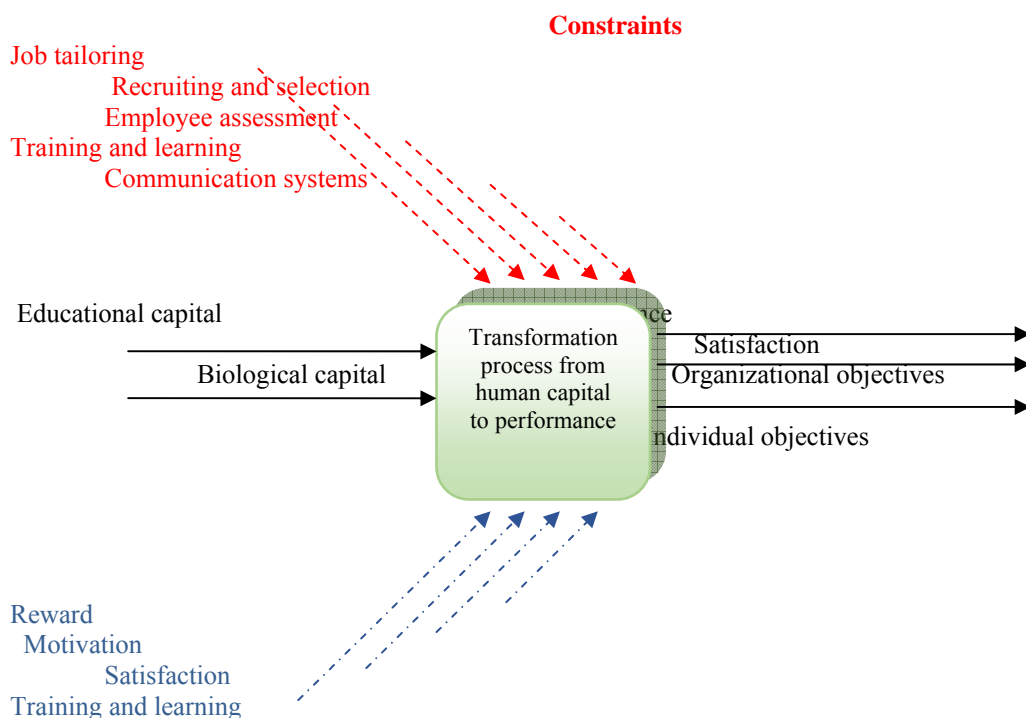
These processes gain new interpretations and approaches looked upon from the two perspectives that of the total quality management and that of the human capital management. Redefining them draws upon the quality management specific premises that each process must be documented in compliance with the requirements-standards specific to the field on one side and on the presumption that the employee represents an individual value-holder entity. In the table below the contents of the human resources management processes are depicted from both points of view:

**Table 1.** Redefining the contents of the specific processes of human resources management

<b>Classic human resources management processes</b>	<b>Redefining specific human resources management processes according to the total quality management of human capital</b>
Job tailoring	<p>From the total quality management perspective, job tailoring represents the result of transposing the strategic objectives and process related objectives into individual objectives and associated plans. The management has the obligation to identify the characteristics of the human capital (educational capital - competences, skills, aptitudes, experiences and biologic capital) required to complete and meet individual short and long term objectives and to highlight the individual responsibilities in harmony with the collective responsibilities and have them documented into two document categories: specific HRM job description sheets and operational procedures and specific TQM work instruction sheets.</p> <p>Human capital management aims at attracting trained human capital in achieving performances by inducing the acceptance of the responsibility towards the results among employees and by guiding them towards a judicious usage of the resources set at their disposal.</p>
Recruitment and personnel selection	<p>The personnel selection and recruitment process turns from the TQM (total quality management) perspective into the process designed to identify the required present and future competences, to identify the available competences within the organization as well as those that need to be further acquired. Such an approach is surely rigid for the detachment from the assembly that forms the specific human capital of each employee's competencies may not be effectively carried out. Thus the approach should be broadened and should be more complex so as to take into account the employee along with their entire capital both biological and educational.</p>
Personnel assessment	<p>Human capital assessment is a complex process wherein not only individual performances of the employee are to be followed upon but also their capacity to perform in the future after their taking part in various forms of training and learning sessions. In this same context the assessment can only be carried out against the degree of individual objective fulfilment. In the evaluation of the personnel, attention should be paid not only to the work-related performance but also to the entire assembly of factors that influenced the completion of the performance indicators, and respectively all the elements that form the educational and biologic capital.</p> <p>The personnel assessment process is an independent process, carried out by means of some assessment questionnaires drafted in accordance with the individual objectives. These offer an important volume of information and records. The interpretation of this information is not relevant unless it is carried out by comparison against elements that refer to employee reward, motivation and satisfaction measuring systems.</p>
Reward systems application	<p>Powerful individualisation within the human capital concept lead to the elimination of discriminatory perspectives, each person being valued for their own educational and biologic capital. The reward system aims at maintaining the level of achieving individual objectives as a consequence of their acknowledgement.</p> <p>Reward systems fall into two large categories: direct systems of a pecuniary nature and indirect ones that may take the shape of social protection programs, rewards linked to the work environment, to the restoring of the labour force, rewards linked to non-worked time [1].</p>
Motivation and satisfaction	<p>The motivation of the human capital determines the level of the added value brought by the employee to the production process, but this is not a one-on-one relationship since in obtaining the added value there is a sum of factors that need to be taken into account.</p>

	Thus, there are cases, for instance, when there is motivation but there is no competence, or cases when the employee is not motivated, yet the level of competence and understanding of the task determines the achievement of performances complying with indicators. Motivation, satisfaction and involvement are highly inter-laced. These form up a triangle wherein psychological and physiological passive states as motivation and satisfaction determine the occurrence of implication as an active state characterised by the exchange between the employee and the organization. TQM underlines the need for a continuous analysis of the satisfaction level among employees, considering it a barometer of the level of the motivation within employees and a means of measuring their commitment to achieving their individual objectives.
Training and learning	Organizations that have undertaken the human capital concept invest in the development of their employees and expect that this investment be returned to their organization as added value to their work. In other words, not only is creativity appreciated but it is also encouraged to unfold plenary.  From the perspective of the TQM the training of employees and the learning process observes the continuous improvement principle. The results of the training process need to be quantifiable, to be mirrored as added value in future actions undertaken by the employees, and to be measured through assessments.
Communication systems	Within TQM communication systems bear a pronounced formal character. The existence of documents comprising the organizational objectives along with individual objectives, job descriptions and operational procedures, training planning matched against organizational needs as well as records on the unfolding of specific human capital related processes are drafted in compliance with highly thorough standards. From the perspective of the human capital communication systems do not resume to formal communication but are rather more informal without taking such a documented shape, being less stark and more approachable. A highly important role in the human capital management is played by the training of the teams in the sense of uniting employees with complementary skills so as to meet the organizational objectives.

Approaching human capital from the perspective of the total quality management had often been criticised by the sociologists, psychologists and HR specialists because of the pressure that the rigidity of the system puts upon the employee. These critics consider that the principles that govern the TQM suggest inflexibility and totalitarianism [4]. The negative effects that may arise are fear of failure [2], loss of self-confidence, decrease in motivation, a permanent tension felt by the employee, the existence of restrictive measure narrow down the creativity, the appearance of a tendency to cover up nonconformity [6], professional burn-down. The subsystem of the human capital quality is represented as follows in figure 1.



**Figure 1.** The subsystem of the human capital quality

## 2. TECHNIQUES IN THE FIELD OF QUALITY EMPLOYED IN HUMAN RESOURCES MANAGEMENT SO AS TO BOOST PERFORMANCE

The development of techniques and tools in the field of quality management had been initiated by the Japanese scientists that proposed in the second half of the 20th century the widespread usage of these techniques so as to solve quality related issues within Japanese factories. The preoccupation to develop these techniques and tools supposed the involvement of the human capital in this process from several points of view:

- Training the human capital so as to acquire the habits required for the correct usage of the quality management specific techniques and tools. Furthermore, it is extremely important that each employee holds the capacity to identify the opportunity of appropriately using these tools
- The employed personnel's acquirement of the habit required for the correct use of the techniques and tools that are specific to quality management but mostly to use correctly the information that they provide.
- Establishing and promoting an organizational culture oriented towards quality that enables the employee to adopt a pro-quality attitude and the openness to approach tools and techniques that are specific to the quality field.

All these aspects create the premises of employing the techniques and the tools pertaining to the quality management in the field of human capital management. In the 50s K Ishikawa proposes the usage of statistical techniques so as to maintain the quality grouped depending on the difficulty of their usage. Under this category fall: *The Pareto diagram, the cause-effect diagram, the check-list, the histogram, the correlation diagram, the control diagram*. Consequently, in the 70s, The Commission pertaining to the Japanese Union of Scientists and Engineers proposed the usage of 30 tools and creative and management techniques among which we encounter: *the affinity diagram, the relationship diagram, the matrix based diagram, the tree diagram, the arrow diagram, the decision diagram, and the factorial data analyses*. G Kanji and M Asher had counted up to 100 tools and techniques pertaining to total quality management [3].

Table 2 presents a synthesis of the most used tools and techniques specific to the total quality management as well as their usage in the field of human capital.

**Table 2.** Tools and techniques specific to the total quality management as well as their usage in the field of human capital.

Total Quality management specific tools and techniques	Definition	Usage in the field of human capital
<i>Classic tools and techniques used in quality management</i>		
Data registration sheet	Drafted for systematic data registration at a certain time as well as in the follow-up on their evolution in time	Individual employee sheet meant to record the personal data. The competences, knowledge and aptitudes tracking sheet The follow-up sheet on the evolution of the professional performance of the employee.
Charts (columns, bars, lines, circular charts, radial charts)	Charts are a means of representing quality related data. Graphical representation enables the comparison of values, the highlighting of time variations or of averages of certain values in the entirety of a process under analysis.	The analysis of all data referring to the personnel, their knowledge, their skills and competences as well as the analysis of their evolution matched against various parameters. Carrying out analysis on the professional performance evolution.
Gantt Chart	This type of chart implies a graphical representation of a sequence of processes in time.	Plans concerning the career evolution.
Histograms	This tool is used for a graphic representation of the distribution of	The analysis of the professional evolution within the larger

	an array of values so as to identify critical values. This instrument enables measure taking in view of improving quality.	institutional frame and the identification of critical points or vulnerable points of the human capital and the potential impacts on the institutional performance.
The correlation diagram	This type of tools is used to identify the correlations between two data categories. The correlation may be strong, poor or inexistent altogether.	The analysis of the correlation of information on the evolution of human capital reported to category variables, numerals or interval types.
The Pareto diagram	The tool allows the identification of the intensity of the distribution of the causes that engender the effects that manifest most frequently.	The analysis of the frequency of the causes that lead to medium or poor level performances. The analysis of attitudes towards work and the causes that lead to such manifestations.
The control diagram	These types of tools are used in the analysis of the repetitive continuous processes.	The analysis of the professional performances evolution as a consequence of continuous training processes.
The cause-effect diagram	Represents the tools used to identify and establish hierarchies on the causes that produce a certain effect	May be used in the analysis of any human capital related problem.
Process diagram	The tool is used to present graphically a process by using a series of predefined symbols, set in a specific order	The analysis of work processes. The analysis of specific human capital management processes.
Brainstorming	Represents a tool used to gather ideas on an established theme or an identifies problem.	The establishment of specific tools in the analysis of human capital. Identifying solutions to various specific problems linked to the human capital management process.
<b><i>Modern Techniques and tools in quality management</i></b>		
The affinity diagram	The tool allows the structuring of a large number of ideas in the context of complex situations	May be used in establishing specific tools for the analysis of the human capital following the application of the brainstorming method.
The relationship diagram	The tool allows the identification of the successive causes of a problem and the establishment of specific cause-effect pairs.	May be used in order to refine performance indicators and professional performance assessment criteria
The tree diagram	The tool allows the highlight of the objectives and the required associated actions so as to meet them.	
The decision diagram	The tool points at the way a process unfolds under clearly defined situations, taking into account all factors that may impact on the process and identifying the measures required in order to counter the perturbations.	Establishing procedures and actions for risk situations so as to cut down on their effects. Used mainly in the health and safety field

### 3. CONCLUSIONS

Human capital is characterised by dynamism and manifests differently depending on the constraints to which it is subjected during the performance achieving process. Within the context of the organization, the human capital functions systematically due to its capacity to grasp knowledge, due to transformation processes that occur within the human capital, due to the ability to respond to external stimuli such as constraints or motivational factors and to

adapt consequently their behaviour and mostly to render performance, to meet objectives- both personal and collective- and to generate states of satisfaction.

The functioning of this complex system within modern organizations must occur harmoniously, in sync with the other organizational systems and to respond to constraints generated by these other systems. Total quality management by its very formal and rigid nature exerts powerful influences upon the human capital leading thus to a new type of approach wherein emphasis is laid on aspects like:

- employees undertaking the commitment towards results,
- within the recruitment process the topic of recruiting the right persons is no longer at the heart of the matter but rather identifying the required present and future competences available within the organization and those that need to be further acquired. This type of approach has a depersonalization effect on the recruitment process as it becomes less flexible yet more objective based
- the identification of the capabilities of the human capital to perform in the future as a consequence of their having attended trainings and learning sessions. The assessment process does not aim solely to follow up on the performances but rather the assessment needs to become a barometer of the human capital capacity to evolve by knowledge grasping and mostly by turning tacit knowledge into explicit knowledge mirrored into the production process
- the valuation of each individual for their educational and biological capital. This fact is determined especially by the individual commitment towards results.
- commitment determined by the level of motivation and satisfaction acquired, is the milestone set forward for the exchange between employer and employee. The more committed the employee the more their performance tends to evolve, the higher the chances of the organization to reach their objectives
- the participation of employees to continuous trainings observes the principle of continuous improvement but only to the extent to which the knowledge grasped is turned to performance
- training the work teams. This process aims at employing people with complementary competencies so as to reach organizational objectives.

The total quality management disposes of specific tools and techniques with widespread applicability. Using them within knowledge based organizations becomes a must in the context when their decisional process is grounded on real-life information sets, collected accurately and scientifically. Applying these techniques and tools within the human capital management becomes mandatory in organizations that look upon knowledge as their main resource. The rigidity of these tools had often been criticised by sociologists, psychologists and HR specialists and mainly by the employees because of the pressure that it applies on the latter in their quality of human capital carriers. Nonetheless, the use of techniques and tools that are specific to the quality management system should be undertaken and should be looked upon as a conditioning operational and motivational element. The theory on behaviour reinforcement developed and sustained by the psychologist BF Skinner relies on the fact that human action is determined by stimuli to which the individual is subjected, so that to the extent that the stimuli that trigger directly the human action can be controlled, human behaviour associated to these stimuli can equally be controlled and directed. Studies have proved that the application of this motivational theory in the organizational context engenders rapid effects. The consolidation as process and the use from this point of view of the tools specific to total quality management may be perceived as positive, negative or neutral, according to judgments passed on the behaviour of the employee. The employer and the employee may have simultaneous, yet different, perceptions both on the tools and on the performances achieved upon applying these tools. Decreasing the effects of the psychological pressure but also obtaining a positive perception or at least a neutral one on the usage of these tools and techniques may be obtained by the management by applying some measure linked to:

- continuous pro-quality trainings for employees
- informing employees on the means and tools used
- ensuring confidentiality of personal data after having applied said tools and avoiding all harm towards the personal interest of the employees
- granting transparency in the decision-making process based on information gathered by applying the said techniques and tools
- engaging the employee in the decision-making process concerning the human capital.

#### 4. REFERENCES

1. Deaconu, A., Podgoreanu, S., Rașcă, L., *Factorul uman și performanțele organizației*, Editura ASE, București, (2004).
2. Juran, J., M., *Quality control handbook*, Mc Graw-Hill, New York, (1974).
3. Kanji, G., Asher, M., *100 methods for total quality management*, Sage Publications, London, (1996).
4. Olaru, M. *Managementul calității*, Editura Economică, (1999).
5. Olaru, M. și alții, *Tehnici și instrumente utilizate în managementul calității*, Editura Economică, (2000).
6. Orgonzo, I., *LES PARADOXES DE LA QUALITE*, Les Editions d'Organization, Paris, (1987).
7. SR EN ISO 9001:2008 *Sisteme de management al calității. Cerințe.*
8. SR EN ISO 9004:2010 *Conducerea unei organizații către un succes durabil. O abordare bazată pe managementul calității.*