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THE RELATIONSHIP OF THE TOTAL QUALITY MANAGEMENT WITH THE DESIGN OF JOBS AND ITS INFLUENCE ON EMPLOYEES

STUDENT: SANDRA SÁNCHEZ TRIBALDOS

TUTOR: JUAN CARLOS BOU LLUSAR

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ABSTRACT

The Quality Management has been one of the topics that most interest has had in the field of the study of organizations in the last years. The following paper analyzes the relationship between quality management and design of jobs taking into account how this affects the behavior of employees in the organization. Thus, it has analyzed what human resources practices are the most suitable for the implantation of total quality system. Later, the variables that affect the design of jobs proposed by Hackman and Oldham (1976) are determined. Finally, it is shown the importance of the design of jobs for human factor. Along with the theoretical review of the different theories two empirical analyses have been carried out. This paper study the effects of quality management on employees and how companies with a higher level of quality management involve in major measure their employees in some human resources practices. Also it has been analyzed the relationship between the variables of design of jobs and the human factor in the company "Unión de Mutuas".

Keywords: Human Factor, Total Quality Management, variable of jobs design and employee behavior.

1. Introduction

The Total Quality Management has been considered as a strategy that allows to improve the quality of products and services, and thereby the productivity of organizations. Zairi (2002) defines total quality management (TQM) as "an integrated, continuous and professional system based on the commitment of employees and the high management and in collaboration with customers where confluence the needs of all of them."

A Quality Management System requires the participation of all members of the organization, since all employees are responsible for complying the quality requirements. Therefore, the implementation of a system of TQM must include the design of policies and actions that promote autonomy and self-control among employees. It has been indicated that in the Total Quality Management must be taken care the social aspects must be taken care by means of the management of human resources (Bou y Beltrán, 2005).

Many companies that have implemented a Total Quality System have obtained a high business growth and improvements in the results in last years (e.g., Hendricks y Singhal, 1997; Easton y Jarrell, 1998). In the literature it has analyzed how the Total Quality Management can influence the performance of the organization, by contrasting in many studies a positive relationship. This way, for example, Easton and Jarrell (1998) have verified how an effective implementation of total quality management improves in long term the profitability, while works such as Hendricks and Singhal (1997) focus on comparing companies that have won awards related to quality and how these get higher performance related to the ordinary results of the activity.

Nevertheless, in spite of its popularity, it is checking that quality systems are not always producing the expected effects. Not always to implement a Total Quality System generates improvements in business performance (Camisón, Cruz y González, 2007: 1092). In spite of the great popularity that enjoys practices of total quality management (TQM) and of these results, there is uncertainty as to its ability to create value. There are evidences that prove the existence of failures in implementing the Quality Management System. For example, Lawler, Mohrman and Benson (2001) demonstrate a decrease in Fortune 1000 companies which implement and/or maintain initiatives of quality management. Between the most important reasons of this fact it is the inability of the quality systems to change the attitudes and values of the members

of the organization with the goal of achieving the necessary commitment to obtain greater performance and continuous effort in the improvement of the processes and products (Lawler, Mohrman and Benson, 2001). These studies raise the need of an internal congruence between the requirements of total quality management system and other subsystems of direction (Dowerty, 1996, Soltani, et al. 2004).

Some causes related to the failure of the quality management depend on aspects related to the human factor, such as lack of commitment and resistance to change or the resistance to acquire new responsibilities (Flood, 1993). Employees already have habits acquired by time and they reject any new form of work. Moreover they do not feel committed above all because they do not understand that means to them the quality or they are not motivated to support to senior management.

In order prevent this from happening, some authors like Wilkinson, Redman, Snape y Archington (1998) suggest that organizations should implement a quality management system to adopt specific approaches of human resources management so that employees are more committed and they are willing to achieve the objectives and continuous improvement of the organization. The participative management that promotes the total quality management system supposes that they assume the ability to take decisions.

Some works have studied the relationship of human resources management with the quality management systems (Lawler, 1994), how human resources practices can affect this system (Bou y Beltrán, 2005), and what practices are "ideal" and its influence on the members of the organization. Different studies have demonstrated to recognize that human resource practices can influence positively on organizational performance (Balkin y Gómez- Mejía, 1987; Huselid, 1995; Frey et al., 2000; Khatri, 2000). Nevertheless, there are few studies that have commented the relationship between total quality system and design jobs (Blackburn y Rosen, 1993; Merino, 1999; 2001).

In this study we will focus on the importance of jobs design and its characteristics more favorable to implement a total quality system. The design of jobs is important, since it involves involving the persons in their tasks and increase their talent and ability to achieve good results. For it, first thing that is required is to understand what is the design of jobs and on what they are based to design it correctly. In this way, it will show how it affects each of the variables that allow designing a job.

The design of a job involves the identification and description of the tasks to be performed, the technical methods to apply, machines, tools and materials to use, as well as persons with whom the occupant of the post will relate (Chiavenato, 1983; Walker, 1992). Following Hackman and Oldham (1975) are five the variables to consider in the job design: variety of skills, identity of the task, autonomy, importance of the task and knowledge of the results of work.

Very few companies have present that the job also requires design and a viable profile for the person who holds it. A wrong job design work is the main source of demotivation, dissatisfaction and low productivity of human resources (Malik, 2000).

This work presents a dual objective. First, check the importance of Human Resources in Total Quality System, in addition to analyze what HR practices are congruent with the principles and orientations of Total Quality Management. According to Crosby (1979), workers must be made aware regarding to topics related to quality management. The management of human resources is important for quality management systems, since the quality is responsible of the members of the organization and so that it can achieve the continuous improvement of quality it is necessary that all members of the company are committed.

The second objective is the importance of the design of jobs, to contribute to see how it affects the implementation of a quality system to each of the variables that allow designing a job and if the companies that carry out these practices obtain better results in terms of quality.

The structure of the work is the following. In the first part, it will be defined that it is a Total Quality System, the reasons why it does not give the expected results, the importance of the human factor, and it will identify that human resources are the most appropriate to increase the commitment of members of the organization and to achieve an improvement of the system. Special emphasis it is dedicated to the design of jobs. In the second part, it will be defined that it is design of jobs, characteristics or variables that influence the design and the importance of design of jobs for the human factor. In the third section, it will be analyzed the influence of quality management system on the design of jobs and how this affects employees of the organization. Finally, an empirical study will be done and it will comment the conclusions, the implications about the behavior of employees and proposals for future studies.

For it, it will be realized a theoretical review of the design of jobs and practices that must be carried out for a good implementation of a quality management system.

2. The importance of the human factor in Quality Management

Quality Management has been defined of diverse ways (see table 1). Hansson and Klefsjö (2003) define the management of the quality as a system of direction in continuous change, which is based on a set of values, methods and tools whose main objective is increase the satisfaction of external and internal client with a reduced quantity of resources. Flynn, Schroeder and Sakakibara (1994) define total Quality Management (TQM) as an effort integrated to achieve and maintain products of high quality, based on the maintenance of the constant improvement of processes and prevention of mistakes at all levels and in all functions of the organization , aiming to achieve and even to exceed the expectations of the consumers. Oakland (1989) conceives Quality Management as an approach to improve the effectiveness and flexibility of the whole organization and a method to involve everyone in the organization in the processes of improvement. Other authors (Belohlav, 1993; Garvin, 1988; Stahl and Grigsby, 1997) understand that TQM is a strategic option to achieve competitive advantages in costs and differentiation through actions oriented towards the customer and the cohesion of all resources of the company.

Ishikawa (1954), a key piece in the birth of this new human approach of the management of the quality, promotes a model primarily directed toward people rather than statistics, since it is necessary involve all members, not only to top management. Also, Juran (1991) incorporates two aspects related to personnel management and proposes leadership and formation as the only variables necessary for the implementation of the model.

This overview of quality management is adopted by Evans (1992), who defines total quality management as "the initiative in business management focused on people whose goal is continuous customer satisfaction in the way most efficient as possible. It is a systems approach, and an integral part of corporate strategy, works horizontally across all functions and departments, involves all employees, from the highest to the lowest of the organization, and extends beyond the borders of the company to include customers and suppliers. Emphasizes into learning and continuous improvement as key to competitive success". Therefore, it is considered that the adoption of systems of Total Quality Management can be beneficial to the organization. It produces a continuous improvement that provokes major efficiency, reductions of costs, and a

major satisfaction of the customers, which can contribute to greater benefits (Hammer and Stanton, 1999; Harry and Schroeder, 2000).

The previous definitions suggest that there is a high content of human resource management and it must have a perspective different from the traditional. However, a limitation is that none of the orientations talk about specific practices. Quality scholars have established the importance of the human factor is for the improvement and implementation of models of Total Quality Management (Deming 1982). In addition, it insists on that no organization can survive without good persons, persons who are continuously improving. People design and improve processes that they themselves carry out and control it. Managers must obtain the commitment of people to design, to control and to improve processes so that they remain productive. The result of all this is a high quality (Richard y Walton, 1985).

As stated in the review of the literature on the critical factors, the commitment of all staff is very important to implant successfully the management of the quality. Empowerment is a way of achieving this involvement; it requires a high degree of involvement in which employees take decisions and they are responsible for their results (Conger and Kanungo, 1988). It is a form of transfer of authority to give empower to the employee, always accompanied by information, providing to him all the necessary elements that allow him to attend and solve all situations that arise him at their level.

Table 1: Definitions of quality management

Author	Definition
Hansson y Klefsjö (2003)	Increasing the satisfaction of client with a reduced quantity of resources.
Flynn, Schroeder y Sakakibara (1994)	Exceeding the expectations of consumers through the maintenance of the constant improvement of processes and prevention of mistakes.
Oakland (1989)	Improving the effectiveness and flexibility of the whole organization.
Belohlav (1993); Garvin (1988); Stahl y Grigsby (1997)	Achieving competitive advantages in costs and differentiation through actions oriented towards the customer.
Ishikawa (1954)	Involving all people of the organization..
Juran (1991)	Leadership and training as the only variables necessary to implement the model of TQM.
Evans (1992)	Continuous customer satisfaction in the way most efficient possible.

Source: Own elaboration

2.1 What practices of HR are best suited to implant a system of total quality?

The relationship between quality management and human factor suggests that the implementation of any quality initiative requires effective management of the human resources. The behaviors and attitudes of employees are critical to the quality management and management of human resources is the main instrument to influence the behaviors and attitudes (Schonberger, 1994).

It was noted that human resources can become a source of competitive advantage for the organization, but for this, human resource practices must develop the potential of his personnel and guide their behavior in the same direction that the organizational objectives (Wright, McMahan, y McWilliams, 1994). Thus, the implementation of a quality management system involves all employees of the organization requiring their participation and commitment.

In this way, management must trust on their employees and create the enabling environment to have employees motivated (Steininger 1994). This will facilitate that the

employees elaborate goods and quality services (Schonberger, 1994). In this sense, a company capable to create quality staff is halfway to produce a quality item (Imai, 1989). This situation will influence positively the quality of the company and will improve the satisfaction of the customers. Therefore, human resource plans can be integrated with quality plans (Blackburn y Rosen, 1993; Evans y Lindsay, 1999). However, in practice there is little integration between both (Cruise, 1995) because companies that implant quality systems are focused on their technical aspects, and they give less attention to humans (Moreno, 1993a; Lam, 1995; Van der Wiele et al., 1996).

Of the contributions of the "gurus" of the Quality also is gathered the idea that the Management of the Quality has important implications on the Human resources management (Deming 1982). From the moment that quality becomes the responsibility of all members of the organization and its achievement depends on the commitment of each individual, Human Resources become a key factor for the success of the quality initiative. To achieve this commitment and effort of employees to improve products, services and processes, it proposes to give self-control and some degree of autonomy to the lower levels of the organization, therefore, it aims to create a climate of trust that facilitates transparent communication and the identification of the employee with the goals of the organization (Wilkinson et al., 1998). If it gives major responsibility to the employee, this one will experience intrinsic motivation and he will commit with the goals of the organization.

The definition of the role to be played by each of the members of the organization and the way how it want them to act, is conditioned by the way in which management defines the mission of the organization and its results, by the management of the technical system and by the design of the structure of the organization. In turn, the definition of jobs determines both the design of the context in which it is carried out, as the choice of policies applicable human resources: criteria of selection, systems of assessment of the performance, incentive systems and how to influence the members of the organization from the area of the management. Therefore, it is possible to affirm that design of jobs is the link between two areas of investigation intimately related: organizational design (structure and processes) and Human Resources policies.

The practices of Human Resources (selection processes, evolution of performance, training, salaries etc.) determine, in large measure, the experiences of individuals in organizations. Each of these activities represents a choice of the

organization on how to treat employees, who to hire, who will be promoted, who will receive an increase in pay etc. Likewise, each of these practices has a great influence on the choices made by individuals regarding the organization: decision to participate, degree of effort, period of permanency. Management activities of human resources contribute, therefore, to the configuration of the relationship between the organization and its employees (Rousseau and Greller, 1994).

The literature indicates that there is a positive relationship between quality management and the human resources (Blackburn y Rosen, 1993; Wilkinson et al., 1997; Bayo-Moriones y Merino Díaz, 2001). Therefore, it is necessary that the human resource strategies facilitate the motivation of the employees (Steininger, 1994).

Likewise, the European model of quality management states that the organization must develop the potential of its persons and encourage their involvement in the activities of the company. For it, the organization can develop and manage policies of personnel; these policies align with the strategy of the company, to promote the participation of employees of an individual and collective way in the activities of improvement and to facilitate the vertical and horizontal communication. All this can influence in the motivation and satisfaction of the employees like shown in the figure 1.

The implication is an element necessary for the success of a quality system, however, to get it, it is necessary that there exists an identical management of human resources to the new situation of the company (Collard, 1992).

Figure 1: Influence of System of Total Quality Management and HR practices on employees



Source: Own elaboration as from Powell (1995), Hackman y Lawler (1971); Gómez y Mejía (2001), Rousseau y Greller (1994), Wilkinson et al.,(1998), Deming (1982), Wright, McMahan, y McWilliams (1994).

2.1.1 Human Resources practices in a context of Total Quality Management

The literature on human resources has identified the existence of some "best practices" which are based on certain principles and values as shared commitment (O, Dell, 1996), relationships of long term work (Cappelli y Crocker-Hefter, 1996), equality on the treatment towards employees (Schuler y Jackson, 1987a) and especially consciousness to promote employees fully identified with corporate culture (Devanna et al., 1984). Many of these principles and values are consistent with total quality (Blackburn y Rosen, 1993) and with the need for human resource practices create a suitable climate for quality improvement.

Now then, the policies of human resources have to be implemented an integrated way to get better results in quality. In this paragraph are described a set of practices of Human Resources that have an orientation towards the Total Quality. In the Table 2 summarize its principal characteristics.

One of the practices that must be carried out is the recruitment and selection. It is a set of design variables of great importance, since, of its correct joint depends on the endowment of human capital of the company (Wright, McMahan y McWilliams, 1994).

The **recruitment** is the set of processes orientated to identifying and attracting persons with the knowledge, skills and attitudes adequate to perform a certain role (Chiavenato, 1983; Gómez- Mejía et al., 1997, 2001; Werther y Davis, 1991). It is about of a process orientated to identify persons whose qualities (knowledge, skills, attitudes and values) are compatible with the strategy of the company, the quality approach adopted, the nature of work to develop and the culture of the organization.

To define recruitment policy are essential three elements (internal or external candidates for the company, criteria of search and channels of recruitment).

The recruitment of employees inside the organization presents as advantage the development and retention of the human resources that already are integrated to the company. In addition, it allows preserving a homogeneous workforce, which is important when the company wants to retain and to take advantage of the knowledge and experience accumulated in the company, promote confidence relations and sustain an intense internal communication (Aoki, 1990; Asanuma, 1994; Baron y Kreps, 1999). On the contrary, when the competitive strategy requires the attraction and recruitment of talent, the origin of recruiting candidates will be external (Pfeffer, 2001).

The criterion of search will focus on work or on the characteristics of the person, and within these, in the knowledge, skills or attitudes. Also in the design of these variables the strategy of the company is taken into account. This way, companies that base the relationship with their workers on trust and commitment, they will give priority to criteria related to the values, beliefs and attitudes of the individuals and their compatibility with those of the company (Baron, 2001; Baron, Burton y Hannan, 2000). On the contrary, when the capabilities to develop require talent acquisition, are the knowledge and skills accredited the predominant criterion (Baron, 2001; Pfeffer, 2001).

The selection of the channel of recruitment (internal circulars to employees of the company, news, employment agency, recommendations and references etc.) must be consistent with the information sought about the candidates. For example, when the search criterion is attitudes, employee references are the best channel (Baron y Kreps, 1999; Dessler, G., 1993).

Selection is the process through which a person is chosen to play a role, which becomes a member of the organization (Chiavenato, 1983; Gómez- Mejía et al., 1997, 2001). To define this politics of Human Resources two elements of the process are identified: selection techniques and criteria of selection.

Selection techniques can be classified into three groups: trial periods, suitability tests and interviews (Werther y Davis, 1991). Trial periods are appropriate when there is no way to know if the skills and attitudes of candidates are appropriate (Baron y Kreps, 1999). Interviews are a good selection technique when it comes to assessing the interpersonal skills of the individual and his capacity of react to unexpected facts. Finally, when it comes to assessing a few physical or intellectual skills easily observable and related to performance of task, the test and suitability tests are appropriate.

The criteria of selection constitute from the perspective of quality management, a key element in the incorporation and retention of people with appropriate skills. Thus, when the company seeks talent, knowledge tests will have a preponderant place; on the other hand, if what matters are the skills and attitudes, the emphasis will be on performance tests and in interviews of provocation of tension and problem solving. When the quality system implanted affects in the customer service as a key factor of success, are the attitudes of the candidate and his compatibility with the rest of the team the criterion with more weight (Baron y Kreps, 1999; Baron, 2001).

The need of systematic and careful internal recruitment (Waldman, 1994) that promotes behaviors and attitudes towards the quality (Dale, 2003) and a process of selection orientated towards the culture (Blackburn y Rosen, 1993), promotes the potential of the individual and not the deficit of skills (Soltani, Meer y Gennard, 2003). It is important the development of teamwork within the organization, for this reason the participation plays an important role, as well as the own job design.

The **design of jobs** must be made clear and explicit way (Blackburn y Rosen, 1993; Schuler y Jackson, 1987 a), with tasks increasingly wide and therefore with major enrichment (O'Dell, 1996). According to Capelli y Crocker-Hefter, (1996);

Blackburn y Rosen (1993); Schuler y Jackson (1987); O'Dell (1996), it must design wide and pre-established jobs and long-term relationships. Also there must be formalization in the processes of planning and organization of Human Resources (Huselid (1995); Snell (1992). In addition, employees will have great autonomy to carry out their tasks (Arthur (1994): Blackburn y Rosen (1993); Cardy y Robbins (1996); Schuler y Jackson (1987)). Thereby, it provides greater employee participation in decision making (decentralization) (Arthur, 1994; Blackburn y Rosen, 1993; Cardy y Robbins, 1996; O'Dell, 1996; Schuler y Jackson, 1987 a y b). There are several studies that demonstrate how companies with implantation of quality systems have greater internal flexibility (Escrig, et al., 2007). This practice of human resources will be analyzed in more depth in the following sections.

Another important question is the relative to **training** policies that it should be implemented. This one must be extensive and continued to all the members of the organization (Schuler y Jacson, 1987a), with a focus towards the quality (Blackburn y Rosen, 1993). Training is basic to develop quality management (Ishikawa, 1990; Bowen y Lawler, 1992b) and has been the policy of human resources most treated by the defenders of the quality. In the practice, organizations that implant quality system give training to their employees. It becomes necessary that the training is evaluated to improve processes and employee training (Oakland, 2004). Therefore, training will be one of the questions to be promoted in the companies with an orientation towards continuous improvement (Cardy y Robbins, 1996; Finegold y Mason, 1996; Pfeffer, 1981).

As for **promotion**, this policy has been little treated by the literature. In general, when a quality system is implanted no great change is perceived in the opportunities of promotion (Lam, 1995). Nevertheless, the orientation of the quality system means giving greater emphasis to the multifunctional career and, in some cases, to the horizontal reassignments (Bowen y Lawler, 1992b) because managerial roles change from one oriented to the direction and the control to other one based on coaching (Evans y Lindsay, 1999).

Regarding **assessment systems**, assessment systems are the set of formal processes of identification and measurement of the performance of individuals, groups and units within an organization (Gibson, Ivancevich y Donnelly, 1994; Gómez-Mejía et al., 1994). There is a division between the defenders of the philosophy of quality. On the one hand, Deming (1989), Gerst (1995) y Starcher (1992) point out that the assessment of individual performance is negative for the organization and must be

eliminated, as recognition that it implies. On the other hand, many companies carry out some form of performance assessment generating positive effects on quality and productivity (Crosby, 1987; Imai, 1989; Juran, 1990; Prince, 1996). In this context, in general, the literature indicates that the system of assessment and recognition can be efficient if it is based both on individual and collective achievements (Blackburn y Rosen, 1993; Waldman, 1993, 1994; Simmons et al., 1995; Kluge, 1996; Campbell et al., 1998) since, the processes are not managed by a single individual. Therefore, this approach implies establishing a system to keep a balance between individual and group assessment. This approach also involves an assessment of the performance orientated to the development of skills and to provide a feedback to employees that fosters the continuous improvement process (Bou & Escrig, 2005).

In this sense, Schonberger (1994) proposes that the performance assessment must be multidirectional (including colleagues, suppliers, customers, etc.), rather than on judgments of the management, and be formed by a set of rewards that can be not monetary and monetary. For their part, Evans and Lindsay (1999) propose a system orientated towards best practices and continuous quality improvement. Therefore, assessment systems have to be standardized (Cardy y Robbins, 1996) and focused on the skills and abilities of individuals with high employee participation (Inhara, 1997) and using so much individual and group criteria (Schuler y Jackson, 1987 a y b; Soltani, Meer y Gennard, 2003).

Regarding **compensation systems**, these can be defined as the set of quantifiable rewards that an employee receives for his work (Gómez-Mejía L. R., Balkin D. y Cardy R. L.; 2004). It is emphasized the equity between employees, recognition of the results of the group and of the attaining of skills, more than remuneration based in the achievement of Individual objectives. The recognition system must encourage cooperation and teamwork (Bou & Escrig, 2005). The policy of assessment of the performance has to be linked with the wage policy to reward the improvement of the quality obtained by the group (Blackburn y Rosen, 1993; O'Dell, 1996), predominating over high wages (Arthur, 1994; Blackburn y Rosen, 1993) and using high, participatory and public tangible and intangibles incentives (Blackburn y Rosen, 1993). Also it will be promoted the teamwork, the high degree of commitment of the employees and the low rotation (O, Dell (1996)).

Therefore, Human Resources policies focused towards quality differ from traditional Human Resources practices (O'Dell, 1996) that have carried out the small and medium enterprises and suggest flexible forms of human resource management to

achieve improvements in the total quality. It is about to ensure success in quality results using appropriate human resources practices, that give a greater importance to the employee and the climate of collaboration and commitment and not only economic results (efficiency).

Through the implementation of these practices of human resources, satisfaction and commitment is improved among the employees. The implementation of these practices can create value through a greater understanding of customer needs, improving internal communication and problem solving, including through a greater commitment of employees, who are more motivated and committed to the company, and through the establishment of stronger relations with suppliers, and thereby helping to reduce errors and losses (Powell, 1995).

Some studies on industrial psychology speak of the rule of reciprocity (Gouldner, 1960), when an employee recognizes that managers take into account his needs, care about their insights and value their contribution to the organization, then the employee in correspondence tends to work with more dedication (Bishop, et al., 2000; Eisenberger et al. 1986; Wayne et al., 1997).

Table 2: Characteristics of human resources practices according to the total quality system

PRACTICES OF HUMAN RESOURCES	CHARACTERISTICS ACCORDING TQM
RECRUITMENT	<ul style="list-style-type: none"> • Internal recruitment is preferred. • Values and attitudes over skills and knowledge. • Means with which to catch persons with certain approach of life, internal circular letters and agents related to the organization, employees, former employees, suppliers, clients.
SELECTION	<ul style="list-style-type: none"> • Periods of test and interviews that participate managers and future peers. • According to the criteria, skills of the individual are preferred (team).
DESIGN OF JOBS	<ul style="list-style-type: none"> • Clear and explicit. • Wide tasks. • Formalization in the processes of planning and organization. • Autonomy of employees. • Decentralization.
TRAINING	<ul style="list-style-type: none"> • Extensive and continued to all members.
PROMOTION	<ul style="list-style-type: none"> • Few changes. • Multifunctional career. • Horizontal reassignments.
ASSESSMENT SYSTEMS	<ul style="list-style-type: none"> • Standardized assessment systems and focused on skills and attitudes, not only in outcomes. • Assessment of the contribution to group results. • Assessment according to individual and group criteria. • Feedback to employees.
COMPENSATION SYSTEMS	<ul style="list-style-type: none"> • Related to the system of assessment. • Incentives and salary according to skills. • Incentives based on the contribution to the group.

Source: Own elaboration as from Bou y Escrig (2005), Schuler y Jacson (1987a), Huselid (1995), Pfeffer (2001), Baron (2001), Blacburn y Rosen (1993), Schuler y Jackson (1987 a), O'Dell (1996), Schuler y Jacson (1987a), Bowen y Lawler (1992b), Bou y Escrig (2005), Schonberger (1994), Inhara (1997), Cardy y Robbins (1996).

3. Job design and employee behavior

3.1 Job concept

A **job** is the precise location occupied by a person within a company. A job not only involves the occupation of a physical space, but also the performance of a role that uses diverse tasks to accomplish certain goals (Chiavenato, 1992).

Chiavenato (2000, p.291, 292) defines a job as "a unit of the organization, whose set of duties and responsibilities distinguish it from other charges. The duties and responsibilities of a charge which corresponds to the employee, who performs it, provide the means for employees contribute to the achievement of the aims of the organization. "

Therefore, an organization first before beginning to work must define its goals, in order to identify the jobs that are required to be able to achieve them. This is what is called **design of jobs** and is a task performed by the Human Resources department, which must achieve the effective creation of a comfortable job, clear and capable of satisfying the needs of the one who realizes it to avoid later problems such as working rotation.

3.2 Concept and evolution of jobs design

Traditionally, the design of jobs has referred to the specification of activities, methods and relations of work necessary to satisfy the requirements of technical, social and personal character of the occupant of the post and needs of performance of the organization (Chiavenato, 1983; Walker, 1992).

Mondy (1997) indicates that job design consists of determining the specific activities that must develop, methods used to develop them, and how the job is related to other works in the organization.

According to Gómez-Mejía (2001), job design is the process of organization of the work through the necessary tasks to perform a specific charge.

Therefore, the design of a job involves the identification and description of the functions or tasks that have to perform, the technical methods to be applied, machines, tools and materials to be used and the persons with whom the occupant of the post is related (Chiavenato, 1983; Walker, 1992).

This traditional definition of jobs design focused on the functions and how to perform them currently has some shortcomings (Lawler, 1994). Nowadays, the works suffer big changes and employees should have flexibility to adapt to the changes that taking place. Therefore, assign to the workers fixed activities not make much sense (Lawler, 1996). Because of it, now it is more important that jobs are designed depending on the skills, attitudes and knowledge instead of the activities and tasks (Lawler, 2000). In this way, people will be the basic element and not the jobs.

Considering that each job requires different skills, qualities and skill levels, is necessary an effective planning of human resources that takes into account these requirements for jobs. For this purpose, nowadays, managers must invest more of their time preparing teams responsible for designing of key jobs in the company.

Other elements to consider are both the ability and availability of employees, furthermore of take into account the social environment. The degree of acceptance of an employment is also influenced by the demands and expectations of the social environment. A skillful designer will give to the jobs that he designs characteristics that it make desirable (job enrichments¹). "If jobs are designed well and are performed properly, the organization is on track to achieve its goals "(Werther y Davis, 1990: 66).

3.3 Variables of the design of jobs

One of the approaches commonly used for the study of the characteristics of the job is *the Model of the Characteristics of Job*, initially proposed by Hackman y Oldham (1975). Such model specifies how the interaction between a set of job characteristics and individual differences of the occupants (in knowledge, skills, etc.) influence on motivation, satisfaction, productivity and trends of abandonment.

¹ Job enrichment is a common motivational technique used by organizations to give an employee greater satisfaction in his work. An enriched job gives the employee more self-management in his duties.

Hackman y Oldman (1976) identify five variables (see figure 2) that represent features to consider to design a job, based on the idea that employees will be more motivated and more satisfied with their work when this one has certain basic characteristics. Therefore, these authors came closer to determine how the work can be structured in order that individuals are unceasingly and intrinsically motivated. These characteristics contribute to create the conditions that allow employees to experience critical psychological states related to labor beneficial results, including a great work motivation.

The first variable is the **variety of skills**, which is the degree to which the job requires for its implementation a variety of different activities, therefore, requires employees use various qualities, skills and talents (horizontal specialization). When the task requires different skills for its execution, is increased the sense of competition of the subject and is generated commitment, but the greater the perceived routine, less stimulating will be and less commitment will be generated (Hackman y Oldham, 1975; Antón, 1999). The lack of variety can produce boredom, which in turn leads to mistakes, fatigue and accidents. On the contrary, when a job is based on various skills of an employee, this may encounter on the job a great personal meaning, even if the work is not of great importance (Hackman, 1976).

The second variable is the **identity of the task**, which is the degree in which a person can do the work from start to finish with a visible result. The identity of the task is high when the individual works from the beginning to the end of a project and he can see tangible results (Hackman y Oldham, 1975; Antón, 1999).

The third variable is the **importance of the task**, which is the degree to which the job has a substantial impact on the lives or work of other persons in the immediate organization or in the external environment, that is, the work has recognition by others. The work is more satisfactory if people believe that it makes the difference and it is providing something of value to peers, to the organization or the community in general. A greater importance perceived, greater commitment (Hackman y Oldham, 1975; Antón, 1999).

The fourth variable is **autonomy**, which is the degree to which a person who carries out the work has freedom, responsibility, independence and discretion to organize his work, decide how to do it and control the outcome. Therefore, autonomy is the degree to which the worker feels free and independent at work to take decisions related to his duties, in addition, he accompanies a sense of responsibility on the

realized work and his results, in this way, it is generated the sense of competition that facilitates the development of commitment (Hackman y Oldham, 1975; Antón, 1999).

And finally, **knowledge of the results of work**, which is the degree in which the performance of the work provides to the individual clear and direct information about his effectiveness and performance (feedback). When to employees are not provided feedback on their performance, they have few reason to improve their performance. The Information can come directly or through other persons (clients, colleagues or supervisors) (Hackman y Oldham, 1975).

These five variables are summarized in an overall concept called **Motivating Potential Score (MPS)**. Motivating Potential Score is an integrated tool used by work evaluators to assess the capacity of a job to motivate. MPS model was develop to reflect the psychological state of worker, motivational characteristics of the work, and personal attributes that influence response to challenging and complex jobs (Hackman & Oldham, 1975). The tool is useful in informing managers concerning employee performance motivation and the need for job redesign².

The Model of Characteristics of the Work, of Hackman and Oldham (1975, 1976, 1980), allows to obtain the so-called “Motivational Potential Score” (MPS), which is interpreted as the total value of the employment perceived by the employees in terms of their content motivational. Therefore, this is a mathematical index that measures five aspects of motivation i.e. variety of skills, identity of tasks, importance of the tasks, autonomy and feedback.

The formula of MPS is equal to:

$$\frac{((\text{Variety of skills (VS)} + \text{Identity of tasks (IT)} + \text{Importance of the tasks (IMT)}) / 3) \times (\text{Autonomy (A)} \times \text{Feedback (F)})$$

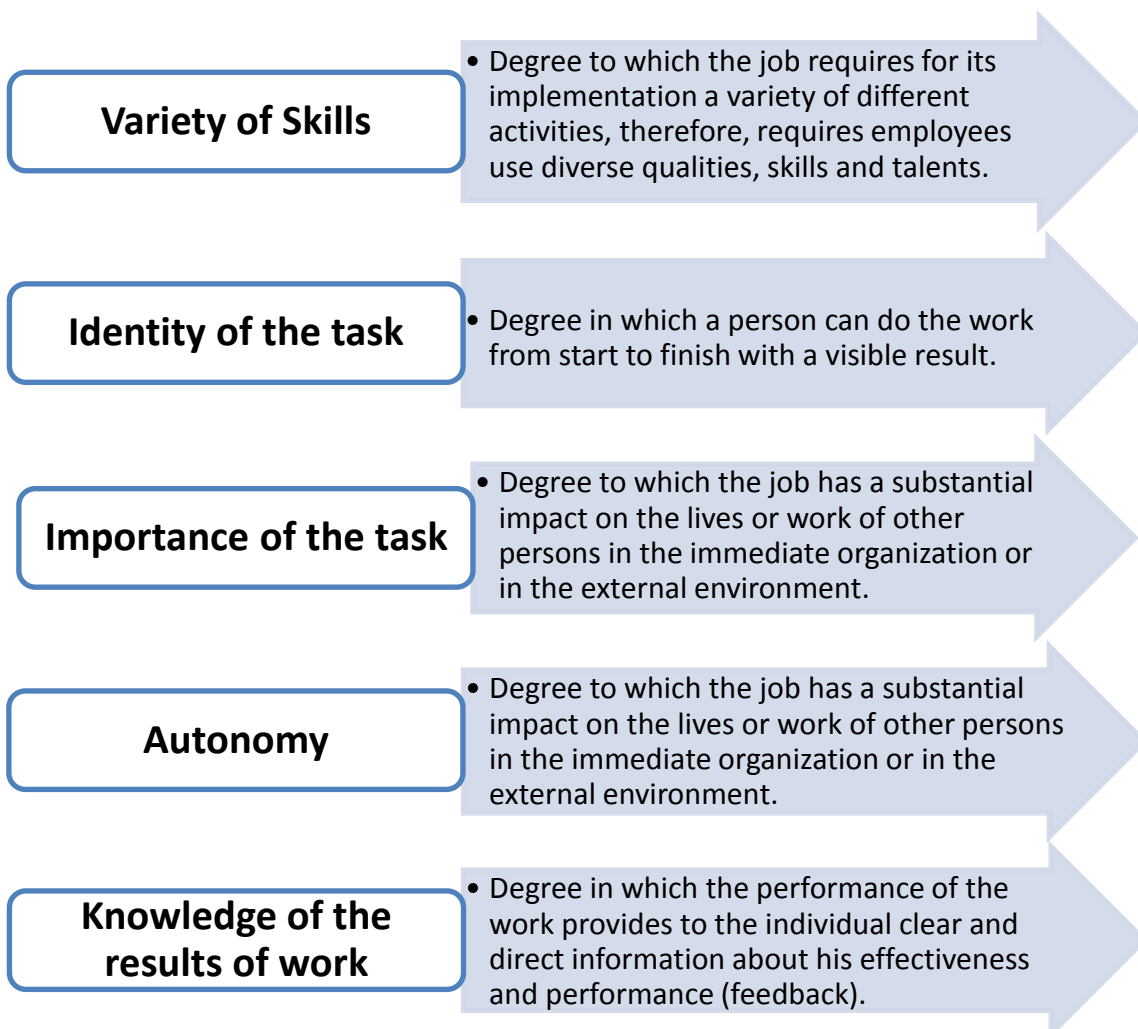
The necessary condition in order that a high motivation exists is that three critical psychological states are present. These critical states will be explained in the next points.

² Job redesign is a popular term in management research and is commonly applied in improving motivation and productivity of workers.

As shown in the formula, an increase in either the central dimensions will increase the MPS; but because of the multiplier relation between its components, if any of the three main components of the MPS is low, the resultant MPS also will be low.

Therefore, the model predicts that when motivating potential score increases, the critical psychological states are positively modified and from there it increases the level of internal motivation, the degree of general satisfaction, the level of effectiveness in performance, and lowers the level of absenteeism and abandonment of staff (González, 1995a). In particular, the model specifies that enriching certain elements of jobs alters people's psychological states in a manner that enhances their work effectiveness.

Figure 2: Variables of design of jobs



Source: Own elaboration as from of Hackman and Oldham (1975), Antón (1999), Hackman y Oldham (1976).

3.4 Importance of the jobs design for the human factor

Job characteristics theory proposed by Hackman and Oldham (1976) establishes that in order that an employee has a high degree of internal motivation, he must have satisfied three types of personal development needs, what is called "**critical psychological states**". Hackman & Oldham (1976) relate five characteristics of jobs with critical psychological states as shown in Figure 3. Critical psychological states refer to the positive effects that have on the individuals the fact of perform well in a work. Serve it as internal incentives that motivate people to continue doing things right. It constitutes a cycle of positive motivation based on internal rewards. These psychological states were proposed to improve the intrinsic motivation of the employees, job satisfaction, job quality and performance, while reducing staff turnover and absenteeism.

The three critical psychological states that are affected by job characteristics mentioned above are: experienced meaningfulness, experienced responsibility and knowledge of the results.

The **experienced meaningfulness** is the degree to which the employee feels that his work is important, valuable and that is worth, which is obtained through the first three variables that define a job, so consider that he possesses variety of skills, identifying the tasks he performs, and he finds a meaning to these tasks. It is not about that an employee performs all tasks in his job, but rather that he can perform adequately a good number of them, so he can develop various capacities, skills and knowledge that allow him to escape the monotony and boredom. For example, if an employee has full knowledge about the results of work, but he experiences such a trivial task or he does not feel any personal responsibility for the results of work, motivation will not be high.

The **experienced responsibility** is the degree to which the employee feels personally responsible for the results of his work and for the results that he has produced, since he enjoys autonomy. He should feel responsible for the achievement obtained, perceiving that this one is based on his effort or initiative, which gets for having autonomy (fourth variable). To the extent that a job has a great autonomy, results depend increasingly on their own efforts, initiatives and decisions, rather than the adequacy of management's instructions in a manual of procedures of work. In such circumstances, the employee must feel a strong personal responsibility for the

successes and failures that he experiences at work. For example, if an employee feels fully responsible for the work results in a significant task, but not of how well it is carrying out, it is doubtful that he experiences internal rewards that it may encourage to the self-generated motivation.

And the last psychological state is **the knowledge of the results**, which is the degree in which the employee normally understood if he is performing his labor effectively or not. This depends on the fifth variable of jobs design (feedback). When this information does not exist, the worker will have few motives for doing that his performance improves. With these guidelines he carries out his work, which will produce a number of deviations or successes regarding anticipated. The feedback allows him to incorporate that information to the actual performance.

The more these psychological statements are presented, major will be the motivation, performance and satisfaction of individuals, and minors will be the absenteeism and the probability that employees leave the organization.

In later revisions of the model, Hackman, J. R. (1980), Oldham, G. R., & Hackman, J. R. (1980), Hackman, J. R., & Oldham, G. R. (1980), Hackman, J. R. (1981), Oldham, G. R., & Hackman, J. R. (1981), Oldham, G. R., & Hackman, J. R. (2005) include a moderator variables to critical psychological states, which explain why employees in similar jobs may present individual differences very marked, being able to influence in the job variables and in the personal and organizational outcomes. These are: knowledge and skills; satisfaction with the work environment and the need for self-realization.

The knowledge and skills of the person expresses to us the degree in which the employee has the appropriate knowledge and ability to carry out successfully the work.

The satisfaction with the labor context is the satisfaction of the individual with a number of elements of the work environment (pay, security, peers, supervision, etc.). Employees are able to value and respond to the inherent richness to work when they are satisfied the moderators factors, however, the motivating potential of job to cause intrinsic motivation can be influenced, since workers will focus their attention on the problems that present contextual factors.

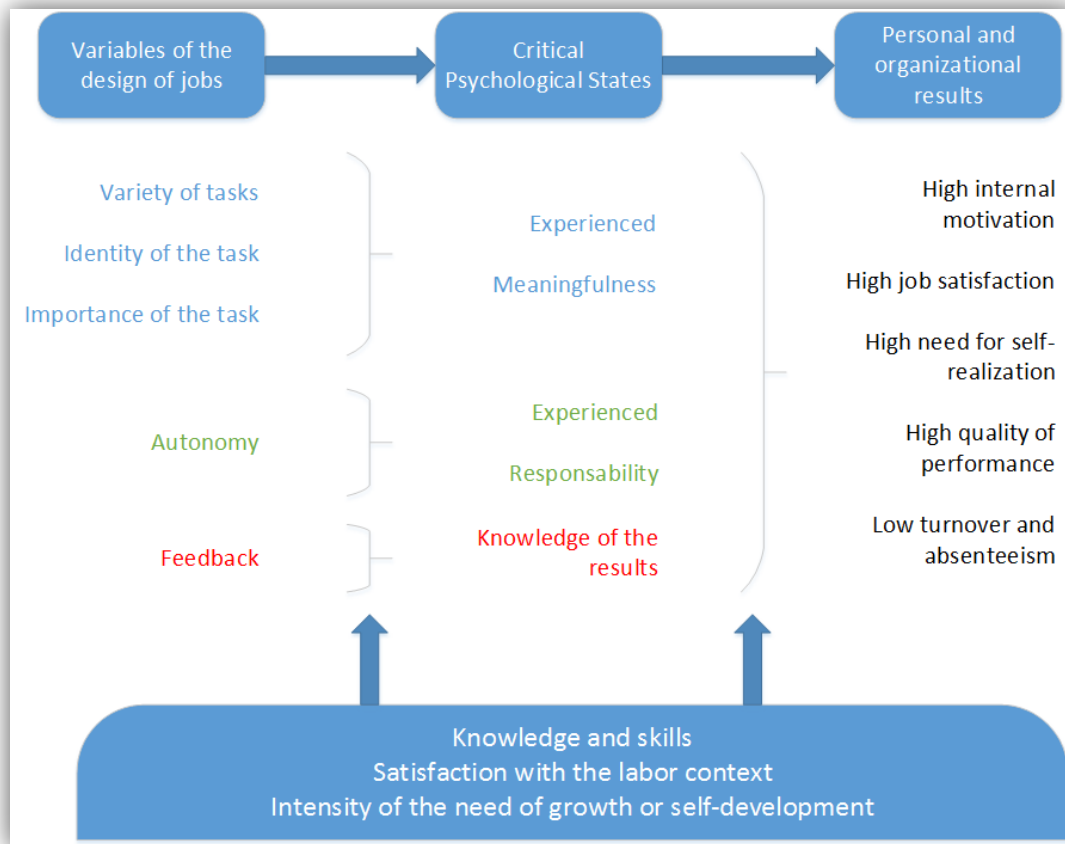
By last, only workers who have high **need of growth or self-growth** will respond positively to critical psychological states. In consequence, the degree of

satisfaction with the factors of the context and the need of self-realization modulate the relationships between the basic characteristics of tasks and the wished results of the work.

The advance experienced by a worker on critical psychological states, it would act as a multiplier factor in his internal motivation, his labor satisfaction, quality of work done, in the decrease of the absenteeism and desire of change of employment, satisfaction of the need for self-realization as individual and organizational results.

A job that has some characteristics that allow an employee experiment the three critical psychological states generates an internal reward that keeps motivation. These rewards come from having a job in which the person can learn (knowledge of results), he can see that has done a good job (experienced responsibility) and that he worries (experienced meaningfulness). This situation derives in certain beneficial results for the organization: high internal motivation, high satisfaction in the work, high need for self-fulfillment and high quality of performance. The theory of the characteristics of job argues that jobs must be designed taking into account the characteristics that employees consider gratifying or motivating.

Figure 3: Critical psychological states



Source: Own elaboration as from of Hackman and Oldham (1976) "Motivation through the Design of Work: Test of a Theory, *Organizational Behavior and Human Performance*, Vol 16.2, pp250-279.

A study realized by Hackman and Lawler (1971) provides evidence that the characteristics of the jobs can directly affect to the attitudes and behaviors of employees at work. These authors suggested that employees should react positively to these basic dimensions (variety of skills, identifying of tasks, importance of the tasks, autonomy and feedback).

The study results generally supported the hypothesis that employees working in positions of jobs with high basic dimensions show high motivation for work, satisfaction, performance and attendance. In addition, Hackman and Lawler (1971) found that employees with high measures of growth needs and personal development respond

more positively to the positions of complex job that the employees with low need for personal growth³.

By contrast, when in an organization there are significant deficiencies in the design of jobs, may occur phenomena such as staff turnover, absenteeism, complaints, protests, low internal motivation, little satisfaction, poor quality of performance among others, so the design of jobs take time, since the functions of job design affect the entire organization.

³ Personal growth obeys to the needs of self-improvement experienced by each individual.

4. Influence of Quality Management System on jobs design

The Quality Management requires a work organization different from the traditional one and a different way of understanding labor relations of the organization. Three assumptions describes this way of understanding the relationships with employees:

- Humans feel attracted by perfection, the beauty and the precision (Hackman y Wageman, 1995).
- What is good for the organization should be good for the worker (Evans y Lindsay, 2000).
- If the job allows to know what it must do, have the autonomy to perform the work and it is provided with information that allows to know the result of it, then it gives necessary conditions in order that the result of the work has quality and provides satisfaction to who performs it (Shirley y Gryna, 1988).

These assumptions coincide with those of Hackman and Oldman (1980) when they affirm that if a worker understands the purpose of his task and its importance, he has the knowledge and necessary skills, he possesses autonomy to decide on aspects of his work and he receives relevant information about the result of his effort, he will be motivated to perform an effective and quality work.

Once established conceptual frame from which the Quality Management addresses the direction and the job design, it is considered how it affects the implantation of a quality system on each of the variables that allow designing a job (table 3).

As to the variable **variety of skills**, in the measure in which it proposes an extension of the variety of tasks to perform and the establishment of relationships internal supplier – internal customer, it needs to extend the base of knowledge and skills of employees to address their new responsibilities and to manage relationships with his internal customers. To extend the base of knowledge of the members of the organization it requires actions orientated to transmitting and sharing these knowledges and skills. Besides the actions of formation, also teams of work play a role fundamentally since in them interact narrowly persons who contribute diverse knowledge and experiences (Hackman y Wageman (1995).

With the approach of TQM, the base of knowledge, skills, attitudes and values is extended, including, in addition to technical knowledge (related to the task, safety

techniques, methods of evaluation and coordination), social or interpersonal skills (teamwork, administration of time, techniques of presentation of ideas, and of management customer relations). It also takes into consideration the personal competences in the aspects related with to know to be, that is, it is considered necessary that whoever performs a job in the organization shows a number of behavior and attitudes, and internalize a set of principles and values. Thus, it is proposed to extend three types of knowledge of workers: general knowledge on methods to improve quality; specialized knowledge to confront the assigned tasks; knowledge of the values, principles and guidelines of behavior necessary to satisfy customer (Camisón, et al., 2007).

Regarding the variable **identity of the task**, the implementation of a quality management system involves an extension of the variety of tasks assigned to each position, which facilitates that employee understands the purpose and transcendence of his work. The horizontal enlargement of jobs is usually accompanied by the previous formalization of processes, procedures and tasks, which facilitates the division of labor in logical units and endowed with sense.

With the approach of TQM it is imperative design jobs with a variety of tasks that allows visualizing and understanding the importance of the work done. In the measure in which is pursued satisfaction of customer and continuous improvement, it turns out fundamental that employee feels part of the company and understands the transcendence of his contribution on the final result of the same one.

Regarding the variable **autonomy**, if it wants to take advantage the knowledge base of employees, that they are involved in achieving of aims of the company and they assume full responsibility for their work and results, it is necessary to give them autonomy in order that they decide the best way to do it and controlling their outcome to obtain information on their performance, which allow them to modify and correct their guidelines for action. One question that has been discussed in the specialized literature is whether the implantation of a quality management system involves the cession of more autonomy to the worker. Do employees have more autonomy when all processes and procedures performed in the company are formalized?

According to Hackman and Wageman (1995), the approaches of quality management less advanced replace the direct supervision by the formalization of tasks and processes and from standardized processes and tasks it is possible to give of the worker the ability to control the outcome of his job.

With the approach of TQM, the employee can organize and plan his tasks, to choose the best way to make it and control his outcome to obtain information about his performance, which allows him to modify and to correct his guidelines of action.

Regarding the variable **importance of the task**, firstly, through standardization and documentation of processes and procedures, it identifies existing interdependencies, which facilitates its management. Secondly when team work is encouraged and it implants equipment oriented to solve of problems and the continuous improvement or groups self-directed, it is incremented the need and intensity of interactions since it increases the number of interdependencies of team.

With a focus of TQM, when it is promotes the intense and widespread use of the team works, the reciprocal interdependences and of team will be increase.

Finally, the variable **of knowledge of the results of work (feedback)**, the quality management assumes that in order that the worker perceives that he controls his tasks and he takes responsibility for the result, it is necessary that he receives immediate information about his performance. For this, it is proposed to remove all obstacles that interpose between the worker and the flows of feedback which measure the result of his actions.

With an approach of TQM, the employee must have access to information about his performance in the organization that explains the performance of the processes and procedures in which he participates. Facilitating to employees this information it pretends to take advantage their base of knowledge and promote their ability to analyze problems, propose solutions and develop alternatives (Hackman y Oldham, 1980).

Therefore, the implementation of a quality management system supposes an increase in the number and variety of skills assigned to each post; the extension of the base of knowledge, skills, attitudes and personal values required for its performance; the transfer of autonomy to decide how executing the work and to control its results; the intensification of the interdependences of team, and the increase of direct and immediate feedback on work outcomes. A summary of the implications of the implementation of quality management system on design of jobs shown in Table 3.

A job that adjusts to the conditions exposed in the Table 3 fulfills the necessary requirements to motivate to whom performs it and he allows to enjoy a work well done, or he feels fully responsible for an incomplete or deficient work. Some results of this

way of designing and directing the work are: the satisfaction achieved with the performance of the same one; the satisfaction that generates learning and personal growth and greater efficiency in the performance (Hackman y Oldham, 1980). Hence, there is a direct relationship between a place of work well-designed and quality of results since these affect directly on worker satisfaction (Hackman y Oldham, 1980).

Table 3: Repercussions of the implementation of TQM on design of jobs

Features of the jobs design	Total Quality Management System
Variety of skills	Training actions. The employee needs the knowledge, skills, attitudes and personal values necessary to perform his tasks correctly.
Identity of the task	Decrease in the degree of horizontal specialization. The employee performs more tasks that allow him to finish a complete portion of working with an identifiable output.
Autonomy	Employee organizes and plans his tasks, how to perform them and he controls the result obtained. He gets information about his performance that allows him to modify his guidelines for action.
Importance of the task	Reciprocal and group interdependencies are encouraged.
Knowledge of the results of work	The employee obtains information about his performance and operation of business area in which develops his tasks to analyze problems and propose solutions.

Source: Own elaboration as from of Hackman y Wageman (1995), Hackman y Oldman (1980), Shirley y Gryna, 1988.

5. Study of the relationship between possession of a quality certificate and Human Resources practices

Table 4: Mean analysis

HR PRACTICES	TQM	Mean	Frequency
TRAINING	Company with quality certificate	5,8089147	172
	Company without quality certificate	5,1317757	107
PROMOTION	Company with quality certificate	5,3859649	171
	Company without quality certificate	5,1588785	107
ASSESSMENT	Company with quality certificate	5,4147287	172
	Company without quality certificate	5,1900312	107
COMPENSATION SYSTEM	Company with quality certificate	5,2221893	169
	Company without quality certificate	5,0482866	107
DESIGN OF JOBS	Company with quality certificate	5,8331384	171
	Company without quality certificate	5,2791277	107

Source: Own Elaboration

Table 5: Analysis of Variance

Analysis of Variance (ANOVA)						
HR PRACTICES	Source of variability	Sum of Squares (SS)	Degrees of Freedom (DF)	Mean Square (MS)	F	P-valor
TRAINING	Between groups	30,24571	1	30,2457065	29,23	0,0000
	Within groups	286,6539	277	1,03485145		
PROMOTION	Between groups	3,394043	1	3,39404325	3,19	0,0750
	Within groups	293,3254	276	1,06277312		
ASSESSMENT	Between groups	3,330463	1	3,33046324	2,25	0,1345
	Within groups	409,5521	277	1,47852727		
COMPENSATION SYSTEM	Between groups	1,981409	1	1,98140942	2,18	0,1410
	Within groups	249,1098	274	0,90915995		
DESIGN OF JOBS	Between groups	20,20096	1	20,2009269	16,1	0,0001
	Within groups	346,1978	276	1,25433989		

Source: Own Elaboration

The table 4 shows the degree of use of Human Resources practices of companies with and without a quality certificate. In the table 5 it is analyzed whether these differences are significant by means of an Analysis of Variance (ANOVA). The null hypothesis (Ho) to contrast is if the differences between the means of different groups (companies with quality certificate and company without quality certificate) are statistically significant. On the other hand, the alternative hypothesis (H1) stipulates that the differences between the means are significant. In the analysis, not to reject the null hypothesis implies that the differences between the means of the groups are not significant.

Ho = no existen diferencias significativas

H1= existen diferencias significativas

In relation with the analysis of means between the company groups, the Table 4 shows that, regard to the practice of **training**, companies that possess a quality certificate offer, on average, more training for their employees (5,808) major that the companies without quality certificate (5,131); that is, they provide more resources to training of their workers. These companies with total quality initiatives offer more intensive training programs and continuously both for new employees as for existing employees. In this way, it is intended to improve skills and technical skills of employees in their tasks and also for the resolution of problems. Moreover, not only they acquire knowledge and skills for their jobs, but also for other positions in the company. As shown in Table 5, the analysis of variance indicates that the null hypothesis (Ho) (F (29,23), p-value <0.05) is rejected having evidence that the greatest differences are inter-group against intra-group. Therefore, we can conclude that there are significant differences between companies that have a quality certificate and companies that do not have it.

As for **promotion** practice, companies with quality management initiatives have a superior mean in regards to the promotion of workers (5,385) with regard to the firms without quality certificate (5,158). Therefore, in these companies when an employee wishes to promote, he has more opportunities to ascend to more than one position. In addition, in general, internal promotion is a basic aim for the employees of these companies. As the analysis of the variance indicates, differences that exist in the practice of promotion between companies that possess quality certificate of those that it does not possess it there are not significant, as shown the statistical F-Snedecor=3,19 with a p-value (0,0750), top at the significance level 0,05.

Regarding **assessment** practice, companies with quality certificate have a higher average (5,414) in this practice, that is, more performance evaluations of employees are carried out in companies with quality initiatives. They perform employee assessments based on their behavior with high frequency, with the goal of contributing to their development. According to the analysis of variance, the results obtained show a statistical F-Snedecor = 2.25, and a p-value of 0.1345, top at the significance level (0, 05). It is observed, therefore, that the differences between companies with quality certificate of those which do not possess quality certificate are not relevant in the

practice of human resources performance evaluation. Therefore, both companies with and without quality certificate, perform periodic and formalized assessments to employees to improve their development.

As regards the practice of **compensation**, companies with quality certificate have more into account this practice, since they possess a higher average (5,222) than companies without quality certificate (5,048). Although among companies with quality initiatives and without quality initiatives it is not appreciate significant differences in the compensation system, since the statistic $F = 2.18$ is lower than 3.84 and p-value = 0.1410, is greater than the level of significance (0,05).

Finally, as to the **design of jobs**, companies that possess a quality certificate have a higher mean in the practice of design of jobs (5,833) with respect to the companies that it does not possess (5,279). Therefore, as shown in the table, in this case, there are significant differences between both companies, since the statistical $F = 16.1$, and p-value = 0.0001, is lower than 0.05. That is, companies with quality management initiatives dedicate more time and resources in the design of jobs.

5.1 Conclusions and limitations

This work is a first approximation to the study of the relationship between the companies that are implied with quality management and possess a certificate of quality and human resources practices. According to the results obtained in this study between different companies, practices in which there are significant differences are training and job design. Companies with quality initiatives value more these practices and they provide more time and resources in them for the good functioning of the organization.

Regarding training, companies with quality certificate offer more training programs to employees of an intensive way helping them to acquire new abilities and skills and greater quickness in the resolution of problems. In addition, thanks to the training that they acquire they can perform new tasks not only in their workplace, but also in other positions of the company. In the practice of design of jobs, these companies spend more time in specifying of tasks that employees must realize and the necessary skills, but allowing freedom to employees to carry out them to their own way and even defining themselves the tasks. According to McElwee and Warren (2000), it

is possible to conclude that the true quality begins for recognizing the value of the worker and manage him as a good professional and not only as a one more resource.

One of the main contributions of this study and which is derived from the review of the literature in quality management is the definition of the principal policies of human resources chord with quality management models. The authors on quality management attach great importance to the human factor but not always they determine exactly what policies must be implemented in companies that help to achieve better results. The problem is that the majority of the companies do not put in practice all these policies defined orientated towards the quality, but they put into practice only some of them, thus finding a lack of congruence between them and thereby obtaining acceptable results in terms of quality but not optimal.

This work also presents some limitations that should be taken into account in the interpretation of the results. Although it has been carried out a review of the principal authors on this topic it should go deeper into other variables that also affect the results of quality and not only those related to human factors such as business strategy. In addition, this study has analyzed the congruence between the model of quality management and human resource policies but there are other functional areas of the company that have not been studied and that can give similar results. For future research it can analyze the congruence between trade policies that carry out the company, organizational policies and even financial policies.

6. Study of the relationship of variables of design of jobs with employee behavior

The sample is constituted by 38 persons belonging to the company Unión de Mutuas of Castellón.

The questionnaire realized measures the variables that relate to the richness of the job (variety of skills, identity of task, importance of the task, autonomy and feedback) and employees behavior.

The questionnaire consists of 42 items and it was applied mainly to the personnel of department of computing to know how they conceive the characteristics of their jobs and the motivation, commitment and involvement in their areas of labor performance.

The **motivation** was measured using the scale of measure proposed by Warr, P. B., Cook, J.D. & Walll, T.D. (1979). This scale is formed by 6 items that assess different facets of job (mood in job, personal satisfaction, pride of a job well done ...). The items are evaluated using a Likert scale with five alternatives, from 1 "totally disagree" to 5 "strongly agree".

The **commitment** was measured using the measure developed by Bal, P. M., Kooij, D. T., & De Jong, S. B. (2013) y Allen, N. J., & Meyer, J. P. (1990). This scale is formed by 8 ítems, that are evaluated though a Likert scale of five alternatives, from 1 "totally disagree" to 5 "strongly agree".

The **involvement** was measured by 7 items. The survey questions were extracted from Schaufeli, W. B. and Bakker, A. B. (2004); Salanova, M., Schaufeli, W., Llorens, S., Peiro, J., & Grau, R. (2000) and Bal, PM, Kooij, DT, & De Jong, SB (2013), with a scale of five alternatives, from 1 "totally disagree" to 5 "strongly agree".

The Table 6 shows the effect of Motivational Potential Score (MPS) on employee behavior. The obtained results show that MPS has a significant and positive effect on the commitment (0,0017; p-value < 0,05) and the degree of involvement of employees ((0,0360; p-value < 0,05). The effect on motivation is also positive (1.13), but not significant (p-value = 0.264). The existence of not significant relationships may be due to the fact the sample size is very small.

Table 6: Employee behavior

Comportamiento empleados	Nº	P-value	T
Motivación	38	0,2642	1,13
Compromiso	38	0,0017	3,40
Implicación	38	0,0360	2,18

Source: Own elaboration

Job characteristics were evaluated by the questionnaire Leonard, E.C. (2013). The variables of design of jobs (variety of skills, identity of the task, importance of the task, autonomy and feedback) were measured through 21 items with a scale of five alternatives, from 1 "very little descriptive" to 5 "very descriptive". Motivational Potential Score (MPS) was calculated as the product index, as Hackman y Oldham describe:

$$\text{MPS} = [\text{Variety of Skills} + \text{Identity of the Task} + \text{Importance of the task}] / 3 \times \text{Autonomy} \times \text{Feedback}$$

From the results obtained, it can be done diverse comments about the validity of the Model of Characteristics of Job. According to the Table 7, the variables that lowest score have obtained are: identity of the task, importance of the task and autonomy, being the feedback and the variety of skills those that have obtained the highest score in the questionnaire. The MPS is 64,99 in a range from 1 to 125, therefore, the overall result is positive. However, its reliability is not very high because the sample is small.

Table 7: Motivational Potential Score

	Variedad de habilidades	Identidad de tareas	Importancia de la tarea	Autonomía	Retroalimentación
Mean	4,31	3,7	3,97	3,96	4,11
MPS	64,99				

Source: Own elaboration

On the other hand, the Table 8 shows the relationship between employee's behavior (motivation, commitment and involvement) and the variables of the design of jobs.

Regarding to the **motivation**, the variables of the design of jobs are not significant, although in general are positive except the variable of autonomy.

As for the **commitment** of the employee, the variable of feedback has a significant effect (0,002, p-value < 0,05). Of the rest of variables, the variety of skills and the importance of the task have a positive effect and the identity of the task and autonomy negative, although not significant.

Finally, with regard to the **involvement**, none variable has a significant effect. Autonomy is negative, although not significant. The rest of variables does not have significant effect, but neither negative. When it works with a small sample is difficult to find significant relationships.

Table 8: Regression of employee behavior with the dimensions of the MPS

Variables	Motivacion		Compromiso		Implicación	
	Coef.	p-value	Coef.	p-value	Coef.	p-value
Variety of skills	1,15	0,258	1,08	0,286	1,86	0,072
Identity of tasks	0,27	0,786	-0,42	0,679	1,94	0,061
Importance of the task	0,91	0,372	1,61	0,118	0,47	0,639
Autonomy	0,117	-1,61	-0,46	0,648	-0,78	0,439
Feedback	0,133	1,54	3,37	0,002	1,09	0,285

Source: Own elaboration

6.1 Conclusions and limitations

The main contribution of this paper consists of showing evidence that motivation, commitment and involvement of the employees is related to the characteristics of jobs, which puts in evidence the need of deepen in theoretical and empirical studies, in order to facilitate to the personnel of human resources the alignment of the personal results with the results of the organizations.

The job enrichment can be implemented in the organizations to enhance desirable labor conducts, from the Model of Characteristics of Job of Hackman and

Oldham (1974, 1975, 1976, 1980); so it is proposed for other investigations operationalize all model, to study how different elements behave and to look for relationships, in order to have more approximation to the human factor and to provide the conditions for the development inside the labor area. Hackman and Oldham (1980) established that job characteristics would have a greater effect on the critical psychological states and on the results of the work in those persons who feel with greater competition for the job and greater need of personal growth.

In general, the relationship between job characteristics and employee behavior are not significant but it has a positive effect. A limitation that is appreciated in the study is that the sample is small; therefore it is very difficult to establish significant relationships.

7. Conclusions

The total quality management (TQM) has been one of the phenomena that more interest has aroused in the companies in recent years. According to Evans (1992) TQM is the initiative in business management focused on the persons, whose goal is continuous satisfaction of the customers in the most efficient manner possible. This paper reflects a review of the literature on personnel policies consistent with quality management and its influence on employees. Therefore, it stands out the importance of human resources to increase the level of TQM, that is, workers of an organization allow increasing the probability of successful TQM.

Many organizations that have implanted total quality system have improved its results and its competitive position. To make this possible, companies need that human resource practices and the requirements of system quality management are congruent, since some causes of the failure of TQM is due to human factors (motivation, commitment, involvement ...). Thus, when high management takes into account the needs of employees and values them, they will be more committed and motivated, it will improve internal communication and the resolution of problems.

The main HR practice that has been studied in this paper is the design of jobs. The jobs must be designed according to the skills, attitudes and knowledge of people. According to the model of the characteristics of job de Hackman and Oldham (1975), the variables to consider in the design of jobs are five: variety of skills, identity of tasks, importance of the task, autonomy and knowledge of the results of the work. Employees need to develop skills to improve their tasks, performing tasks with visible results, feeling that their work is beneficial for other persons of the organization, having autonomy to take decisions regarding their tasks and obtaining information about how it is doing his job. These variables influence on the motivation, commitment and involvement of members of the company. As a consequence, a job poorly designed causes demotivation and employees are less committed with the organization. In addition, if the three critical psychological states (experienced meaningfulness, experienced responsibility and knowledge of results) are present, there will be a high motivation and satisfaction of individuals and there will be less probability that employees leave the organization. The moderating variables of critical psychological states (knowledge and skills, satisfaction with the labor context and the need for self-realization) show the difference between individuals who have a similar job, influencing in the variables of job and personal and organizational results.

Thus, there is a relationship between a work place well designed according to previous variables and the quality of results of the organization, focusing on motivation and satisfaction of the employees.

Training is also one of the most important practices in organizations with quality initiatives. These companies provide continuously training to all members of the company to improve the processes that are carried out and skills of employees.

Also, companies that have implemented TQM offer greater autonomy and flexibility to employees in their jobs, that is, they are able to take decisions.

On the other hand, one of the studies realized contributes empirical evidence of how firms with quality certificate emphasize more on the relationship with its employees through human resources practices, especially in training and in the design of jobs, contributing more resources and time to carry out it.

A limitation is that often the companies do not carry out correctly some HR practices to motivate the employees in their jobs, therefore, it could also study different techniques to apply to carry out it.

Finally, the study of the relationship between the variables of design of jobs and behavior of employees, mainly a positive effect is observed. Although the results obtained are generally not significant because the sample is small and obtain meaningful results is very difficult. Therefore it has the limitation that has been done on a particular company, so that, future researches should focus on a larger sample of companies to ratify this relationship and identify what to do or what methods use to implement these aspects in the organizations. It is also proposed to study possible approaches to the human factor and provide the conditions for his development in the labor environment.

To conclude, the contribution of the work consists on the evidence that there are relationships between the total quality management and the design of jobs. In addition, labor motivation is related to the characteristics of the job, which makes evident the need to deepen on theoretical and empirical studies, to facilitate to human resources department the alignment of personal results with the results of the organization.

8. References

- ALLEN, N. J., & MEYER, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of occupational psychology*, 63(1), 1-18.
- ANTÓN, C. (1999). Las tres dimensiones del compromiso organizacional: Un modelo causal. Tesis doctoral no publicada, Universidad de Salamanca.
- AOKI, M. 1990. "Towards an economic model of the Japanese firm." *Journal of Economic Literature*. 28:1-27.
- ARTHUR, J.B. (1994): "Effects of human resource systems on manufacturing performance and turnover", *Academy of Management Journal*, vol. 37, pp. 670-687.
- ASANUMA, B. (1994), «Co-ordination between Production and Distribution in a Globalizing Network of Firms: Assessing Flexibility Achieved in the Japanese Automobile Industry». En Aoki, M. y Dore, R. (eds.), *The Japanese Firm: The Sources of Competitive Strength*. Oxford University Press, Nueva York, cap. 5, pp. 117-153.
- BAL, P. M., KOOIJ, D. T., & DE JONG, S. B. (2013). How do developmental and accommodative HRM enhance employee engagement and commitment? The role of psychological contract and SOC strategies. *Journal of Management Studies*, 50(4), 545-572.
- BALKIN, D.B. & GOMEZ-MEJIA, L. R. (1987): "Toward a contingency theory of compensation strategy", *Strategic Management Journal*, Vol. 8, pp. 169-182
- BARON, J. (2001), Aligning HR Strategy with Business Strategy. *Conferencia presentada en el IBM-Airtel Human Resource Center at the Instituto de Empresa, Madrid (enero)*.
- BARON, J. N. & KREPS, D.M. (1999), *Strategic Human Resources*. Frameworks for General Managers, John Wiley & Sons, Inc., Nueva York.
- BARON, J.N.; BURTON, M.D. & HANNAN, M.T. (2000), «El curso elegido: orígenes y evolución de los sistemas de empleo en compañías emergentes». En Carroll, G.R. y Teece, D.J. (eds.), *Empresas, mercados y Jerarquías*. Oxford University Press, México, cap. 16, pp. 454-492. Traducido del original en inglés Carroll, G.R. y Teece,

D.J. (eds., 1999), *Firms, Markets, and Hierarchies*. Oxford University Press, Nueva York.

BAYO-MORIONES, A. & MERINO-DÍAZ, J. (2001): "Quality management and high performance work practices: Do they coexist?", *International Journal of Production Economics*, Vol. 73, N. 3, 251-259.

BELOHLAV, J. A (1993), "Developing the quality organization", *Quality Progress*, Octubre, pp. 119-122.

BISHOP, J.W.; SCOTT, K.D. & BURROUGHS, S.M. (2000) "Support, commitment, and employee outcomes in a team environment", *Journal of Management*, vol. 26, pp. 1113 - 1132.

BLACKBURN, R. & ROSEN, B. (1993) "Total quality and human resources management: lessons learned from Baldrige Award -winning companies", *Academy of Management Executive*, 7 (3), pp. 49 -66

BOU, J.C, & BELTRÁN, I. (2005). Total Quality Management High-Commitment Human Resource Strategy and Firm Performance: An empirical Study. *Total Quality Management*, 16, 71-86.

BOU, J.C. & ESCRIG, A.B. (2005): "A model for evaluating organizational competencies: An application in the context of a quality management initiative". *Decision Sciences*, vol. 36, nº 2, pp. 221-257.

BOWEN, D. E. & LAWLER, E. E. (1992b): "Total quality-oriented human resources management", *Organizational Dynamics*, Vol. 20, N. 4, pp.29-41.

CAMISÓN, C., CRUZ, S. & GONZÁLEZ, T. (2007) *Gestión de la calidad: conceptos, enfoques, modelos y sistemas*, Pearson Educación, Madrid.

CAMPBELL, D.J.; CAMPBELI, K.M. & CHIA, H. B. (1998): "Merit pay, performance appraisal, and individual motivation: an analysis and alternative", *Human Resource Management*, Vol.37, N.2, PP.131-146.

CAPPELLI, P & CROCKER-HEFTER, A. (1996) "Distinctive human resources are firm's core competencies", *Organizational Dynamics*, 24 (3), pp. 7-22.

- CARDY, R.L. & ROBBINS, G. H. (1996) "Human Resource Management in a Total Quality Organizational Environment: Shifting from a Traditional to a TQ HRM Approach", *Journal of Quality Management*, (11), pp. 5-20
- CHIAVENATO, I. (1983), *Administración de Recursos Humanos*. McGraw-Hill, Madrid.
- CHIAVENATO, I. (1992): *Administración de Recursos Humanos*. McGraw-Hill, México.
- CHIAVENATO, I. (2000). *Administración de recursos humanos*. Santafé de Bogotá, Colombia: McGraw-Hill Interamericana.
- COLLARD, R. (1992): "Total quality: the roles of human resources", en M. ARMSTRONG [ed.]: *Strategies for human resource management: a total business approach*, pp.165-176. Londres: Kogan Page.
- CONGER, J. A. & KANUNGO, R. N. (1988), "The empowerment process: integrating theory and practice", *Academy of Management Review*, Vol. 13, N. 3, pp. 471-482.
- CROSBY, P. (1979). *Quality is free*. Nueva York: McGraw-Hill.
- CROSBY, P. B. (1987): *La calidad no cuesta. El arte de asegurar la calidad*. México: Compañía Editorial Continental.
- CRUISE, R. (1995): "Employee involvement in performance improvement. A consideration of tacit knowledge, commitment and trust", *Employee Relations*, Vol.17, N.3, pp. 110-120.
- DALE, B.G. (2003), *Managing Quality*, Blackwell Publishing, Oxford, 4th ed.
- DEMING, W. E. (1989): *Calidad, productividad y competitividad. La salida de la crisis*. Madrid: Díaz de Santos.
- DEMING, W.E. (1982), *Out of the Crisis. Quality, Productivity and Competitive Position*, MIT, Cambridge. Edición española: *Calidad, productividad y competitividad. La salida de la crisis*. Díaz de Santos, Madrid, 1989.
- DESSLER, G. (1993), «Value-based Hiring Builds Commitment». *Personnel Journal*, 72 (6), pp. 98-102.

- DEVANNA, M.A., FOMBRUM, C.J. & TICHY, N.M. (1984) "A framework for strategic human resource management". En FOMBRUM , C.J.; TICHY , N.M.; DEVANNA , M.A. (eds), *Strategic Human Resource Management*, John Wiley & Sons, Nueva York, USA.
- DOWERTY, W. (1996) "Assessment and self-assessment of total quality management in organizations, using knowledge based techniques", PhD thesis, Queen's University Belfast, Belfast.
- EASTON, G.S. & JARRELL, S.L. (1998): "The effects of total quality management on corporate performance: an empirical investigation", *Journal of Business*, Vol 71, pp. 253-307.
- EISENBERGER, R.; HUNTINGTON, R.; HUTCHISON, S. & SOWA, D. (1986) "Perceived organizational support", *Journal of Applied Psychology*, vol. 71, pp. 500-507.
- ESCRIG, A.B.; BELTRÁN, I.; ROCA, V. Y BOU, J.C. (2007) ¿La gestión de la calidad repercute en la flexibilidad laboral?, en *Libro de ponencias y pósters del VI International Workshop on HRM*, Jerez de la Frontera, 17 y 18 mayo
- EVANS, J. (1992) A report of Total Quality Leadership Steering Committee and Working Councils, Procter&Gamble, Milwaukee.
- EVANS, J.R. & LINDSAY, W. M. (1999): The management and control of quality, Cincinnati: South-Western College Publishing.
- EVANS, J.R. & LINDSAY, W.M. (2000), *Administración y control de la calidad*. 4.ª ed. Internacional Thompson Editores. México.
- FINEGOLD, D. & MASON, G. (1996) "National training systems and industrial performance: U.S.-European Matched plant comparisons" CAHRS Working Paper Series, wp 96-12, School of Industrial and Labor Relations, Cornell University, NY.
- FLOOD, R. L. (1993) Beyond TQM, John Wiley & Sons.
- FLYNN, B.B., SCHROEDER, R.G., & SAKAKIBARA, S. (1994). A Framework for Quality Management Research and an Associated Measurement Instrument. *Journal of Operations Management*, 11(4), 339-366.

- FREY, C. F.; BJÖRKMAN, I. & PAVLOVSKAYA, A. (2000): "The effect of human resource management practices on firm performance in Russia", *International Journal of Human Resource Management*, Vol.11, N.1, pp.1-18.
- GARVIN, D. A. (1988). *Managing Quality: The Strategy and Competitive Edge*. Nueva York: Free Press.
- GERST, R. M. (1995): "Assessing organizational performance", *Quality Progress*, Febrero, pp. 85-88
- GIBSON J.L., IVANCEVICH, J.M. & DONNELLY, J.H. (1994), *Las Organizaciones: comportamiento, estructura, procesos*. Addison- Wesley Iberoamericana, Wilmington, Delaware.
- GOMEZ- MEJÍA L. R.; BALKIN, D. B. & CARDY, R. L. (2001), *Dirección y Gestión de Recursos Humanos*. Prentice Hall, Madrid, 2.ª ed.
- GOMEZ- MEJÍA L. R.; BALKIN, D. B. & CARDY, R. L. (2004), *Managing Human Resources*. Upper Saddle River, NJ: Prentice- Hall.
- GOMEZ-MEJIA L. R. (1994), Executive compensation: A reassessment and a future research agenda. *Research in Personnel and Human Resources Management* 12: 161-222
- GÓMEZ-MEJIA, L.R.; BALKIN, D.B. (1997): *Gestión de Recursos Humanos*. Madrid: Prentice Hall.
- GONZÁLEZ, L. (1995a). Análisis de las relaciones causales propuestas en el modelo de las características del puesto. En L. González, A. de Torrey y J. De Elena (comps.), *Psicología del trabajo y las organizaciones, gestión de recursos humanos y nuevas tecnologías* (pp. 53-69). Salamanca: Eudema.
- GOULDNER, A.W. (1960) "The norm of reciprocity: a preliminary statement", *American Sociological Review*, 25, 161–178.
- HACKMAN, J. R. (1980) Work redesign and motivation. *Professional Psychology*, 11, 445-455.
- HACKMAN, J. R. (1981) Work redesign for organization development. In H. Meltzer (Ed.), *Making organizations humane and productive*. New York: John Wiley & Sons.

- HACKMAN, J. R., & LAWLER, E. E. (1971) "Employee reaction to job characteristics". The journal of applied psychology, 55(3): 259 – 286.
- HACKMAN, J. R., & OLDHAM, G. R. (1975) Development of the Job Diagnostic Survey. Journal of Applied Psychology, 60, 159-170.
- HACKMAN, J. R., & OLDHAM, G. R. (1976) Motivation through the design of work: Test of a theory. Organizational Behavior and Human Performance, 16, 250-279.
- HACKMAN, J. R., & OLDHAM, G. R. (1980) Work redesign. Reading, MA: Addison-Wesley.
- HACKMAN, J.R. & OLDHAM, G. R. (1974) The job diagnostic survey: an instrument for the diagnosis of job and the evaluation of job redesign projects. Yale University, Depart. of Administ. Sciences.
- HACKMAN, J.R. & WAGEMAN, R. (1995), «Total Quality Management: Empirical, Conceptual, and Practical Issues». *Administrative Science Quarterly*, 40 (2), pp. 309-342.
- HAMMER, M & STANTON, S. (1999): "How process enterprises really work", Harvard Business Review, Vol.77, N. 6, pp. 108-118.
- HANSSON, F. & KLEFSJÖ, B. (2003) "A core value model form implanting total quality management in small organizations", *The TQM Magazine*, vol. 15, nº 2, pp. 71-81.
- HARRY, M.J. & SCHROEDER, R. (2000): Six Sigma: the breakthrough management strategy revolutionizing the world's top corporations. New York: Currency.
- HENDRICKS, K.B. & SINGHAL, V.R. (1997): "Does implementing an effective TQM program actually improve operating performance? Empirical evidence from firms that have won quality awards", *Management Science*, Vol.43, pp. 1258-1274.
- HUSELID, M.A. (1995): "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, vol. 38, pp. 635-672.
- IMAI, M. (1989): Kaizen. La clave de la ventaja competitiva japonesa. México: Compañía Editorial Continental.

- INHARA, H. (1997) Human Resource Development in Japanese Companies, Asian Productivity Organization, Tokio.
- ISHIKAWA, K. (1954) Hinshitsu Kanri Nyumon, JUSE Press Ltd., Tokio. Edición Española: Introducción al Control de Calidad, Ediciones Díaz de Santos, Madrid, 1994.
- JURAN, J. M. (1990); Juran y el liderazgo para la calidad. Manual para ejecutivos, Madrid: Díaz de Santos.
- JURAN, J.M. (1991), Juran on Quality by Design, The New Steps for Planning Quality into Services: Planning, Setting and Reaching Quality Goals. Simon & Schuster Inc. New York, NY, USA.
- KHATRI, N. (2000): "Managing human resource for competitive advantage: a study of companies in Singapore", International Journal of Human Resource Management, Vol.11, N.2, pp. 336-365.
- KLUGE, R. H. (1996): "An incentive compensation plan with an eye on quality", Quality Progress, Vol.29, N.12, pp. 65-68.
- LAM, S.S. K. (1995): "Quality management and job satisfaction. An empirical study", International Journal of Quality & Reliability Management, Vol.42, N.4, pp. 72-78.
- LAWLER III, E. E. (1996): La ventaja definitiva: creando organizaciones participativas e innovadoras, Granica, Barcelona.
- LAWLER, E. E., III, MOHRMAN, S. A., & BENSON, G. S. (2001). Organizing for High Performance: The CEO Report on Employee Involvement, TQM, Reengineering, and Knowledge Management in Fortune 1000 Companies. San Francisco: Jossey-Bass.
- LAWLER, E.E. (1994), "Motivation in Work Organizations", San Francisco: Jossey-Bass.
- LAWLER, E.E. (1994), "Total quality management and employee involvement: are they compatible? Academy of Management Executive, Vol. 8 No. 1, pp. 68-76.
- LAWLER, E.E. (2000), «Pay Strategy: New Thinking for the New Millennium». Compensation & Benefits Review, enero-febrero, pp. 7-12.

- LEONARD, E.C (2013): *Supervision: Concepts and Practices of Management*, 12th Edition, Indiana University.
- MALIK, F. (2000): "Job Desing: Diseño del puesto de trabajo", *Revista Capital Humano*. No. 138, 2000. Madrid. Ed. Capital Humano, edición digital.
- MCELWEE, G. & WARREN, L. (2000) "The relationship between total quality management and human resource management in small and medium sized enterprises", *Strategic Change*, Nov, nº9 (7), pp. 427-435.
- MERINO, J (1999) "La gestión de la calidad total: implicaciones organizativas", pp. 145-148.
- MONDY, W. (1997): "Administración de Recursos Humanos". México. Edit. Prentice Hall Hispanoamericana, S. A, edición digital.
- MORENO, M.D. (1993a): "Training and the implementation of quality programmes by a sample of small medium-sized firms in Spain", *International Journal of Quality & Reliability Management*, Vol.10, N.3, pp. 6-19.
- O'DELL, C. (1996) "A current review of knowledge management best practice", *Knowledge Management 96 Conference*, Business intelligence, Londres.
- OAKLAND, J.S. (1989): *Total Quality Management*, Heinemann Professional Publishing Ltd, Oxford.
- OAKLAND, J.S. (2004). *Oakland and Quality Management*, Elsevier Butterworth-Heinemann, Burlington, MA.
- OLDHAM, G. R., & HACKMAN, J. R. (1981). Relationships between organization structure and employee reactions: Comparing alternative frameworks. *Administrative Science Quarterly*, 25, 66-83.
- OLDHAM, G. R., & HACKMAN, J. R. (2005). How job characteristics theory happened. In K. G. Smith & M. A. Hitt (Eds.), *Great minds in management: The process of theory development* (pp. 151-170). Oxford, UK: Oxford University Press.
- OLDHAM, G.R., & HACKMAN, J.R. (1980) *Work design in organizational context*. In B. M. Staw & L. L.

- PFEFFER, J. (1981) *Power in Organizations*, Haper-Business, U.S. (1999) "Labour Market Flexibility. Do companies really know best?", *Research Paper Series*, nº 1592, Graduate School of Business, Stanford University, Stanford, CA.
- PFEFFER, J. (2001), «Fighting the War for Talent is Hazardous to Your Organization's Health». *Research Paper Series*, n.º 1687, Graduate School of Business, Stanford University, Stanford, CA.
- POWELL, T. (1995): "Total Quality Management as Competitive Advantage: A Review and Empirical Study", *Strategic Management Journal*, Vol. 16, N. 1, pp. 15-37
- PRINCE, J. B. (1996): "Building performance appraisal systems consistent with TQM practices", en S. B. Knouse [ed.] *Human resources management perspectives on TQM: concepts and practices*. Pp. 43-56. Milwaukee: ASQC Quality Press.
- RICHARD & WALTON (1985) "From Control to Commitment in the workplace" *Harvard Business Review*, 63, nº 2 mar/Abril, 77-84.
- ROUSSEAU, D.M & GRELLER, M.M. (1994): "Human resource practices: Administrative Contract makers". *Human Resource Management*, vol.33 (3), p.385-401.
- SALANOVA, M., SCHAUFELI, W., LLORENS, S., PEIRÓ, J., & GRAU, R. (2000). Desde el "burnout" al "Engagement" ¿Una nueva perspectiva?, *Revista de Psicología del Trabajo y de las organizaciones*, 16(2), 117-34.
- SCHAUFELI, W. B. & BAKKER, A. B. (2004). 'Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study'. *Journal of Organizational Behavior*, 25, 293–315.
- SCHONBERGER, R. J. (1994): "Human resource management lessons from a decade of total quality management and reengineering", *California Management Review*, Vol.36, N.4, pp. 109-123.
- SCHULER, R.S., & JACKSON, S.E. (1987a): "Linking competitive strategy with human resource management practices", *Academy of Management Executive*, vol.1, (3), pp. 207-219.
- SHIRLEY, B.M. & GRYNA, F.M. (1988), «Work design for self-control in financial services». *Quality Progress*, 31 (5) *Sociological Review*, vol. 25, pp. 161-178.

- SIMMONS, D.E.; SHADUR, M. A. & PRESTON, A. P. (1995): "Integrating TQM and HRM", *Employee Relations*, Vol.17, N.3, pp. 75-86.
- SNELL, S.A. (1992) "A test of control theory in strategic human resource management: the mediating effect of administrative information", *Academy of Management Journal*, vol. 35, pp. 292-327.
- SOLTANI, E., GENNARD, J. VAN DER MEER, R.B. & WILLIAMS, T. (2004) "HR performance evaluation in the context of TQM: a review of the literature", *International Journal Quality & Reliability Management*, vol. 21, n° 4, pp. 377 -396.
- SOLTANI, E.; VAN DER MEER, R.B. & GENNARD, J. (2003) "Performance management: TQM versus HRM-lessons learned", *Management Research News*, 26 (8), pp. 38-49.
- STAHL, M.J. & GRIGSBY, D.W. (1997) *Strategic Management. Total Quality & Global Competition*, Blackwell Publishers, Oxford.
- STARCHER, R. (1992): "Mismatched management techniques", *Quality Progress*, Diciembre, pp. 49-52.
- STEININGER, D. J. (1994): "Why quality initiatives are failing: the need to address the foundation of human motivation", *Human Resource Management*, Vol.33, N.4., pp. 601-616.
- VAN DER WIELE, A.; WILLIAMS, A. R. T.; DALE, B. G.; CARTER, G-; KOLB, F.; MORENO, D.; SCHMIDT, A. & WALLACE, M. (1996): "Quality management self-assessment: an examination in European business", *Journal of General Management*, Vol.22, N.1, pp. 60-73.
- WALDMAN, D. A. (1993): "A theoretical consideration of leadership and total quality management", *Leadership Quarterly*, Vol.4, N.1, pp. 65-79.
- WALDMAN, D. A. (1994): "Designing performance management systems for total quality implementation", *Journal of Organizational Change Management*, Vol.7, N.2, pp. 31-44.
- WALDMAN, D.A. (1994) "The other side of quality: soft issues and the human resource dimension", *Total Quality Management*, vol. 3 (3), pp. 323-329.

- WALKER, J.W. (1992), *Human resource strategy*, New York, McGraw Hill.
- WARR, P. B., COOK, J. D. & WALL, T. D. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology*, 52, 129-148.
- WAYNE, S.J.; CHORE, L.M. & LIDEN, R.C. (1997) "Perceived organizational support and leader-member exchange: a social exchange perspective", *Academy of Management Journal*, vol. 40, pp. 82-111.
- WERTHER, W.B. & DAVIS, K. (1991), *Administración de personal y recursos humanos*. McGraw-Hill, Madrid. Traducido de la versión original, *Personnel Management and Human Resources*. McGraw-Hill, Nueva York.
- WILKINSON, A., REDMAN, T., SNAPE, E. & MARCHINGTON, M. (1998) *Managing with Total Quality Management. Theory and Practice*. MacMillan, Nueva York, Hong Kong.
- WILKINSON, A.; GODFREY, G. & MARCHINGTON, M. (1997): "Bouquets, brickbats and blinkers: total quality management and employee involvement in practice", *Organization Studies*, Vol.18, N.5, pp. 799-819.
- WRIGHT, P.M.; MCMAHAN, G.C. & MCWILLIAMS, A. (1994), «Human Resources and Sustained Competitive Advantage: A Resource-based Perspective». *International Journal of Human Resource Management*, 5 (2), pp. 301-326.
- ZAIRI, M. (2002): "Beyond TQM Implementation: The New Paradigm of TQM Sustainability", *Total Quality Management*, vol. 13, núm. 8, pp. 1161- 1172.

APPENDIX A: Questionnaire about relationship of the variables of design of jobs and employee behavior



CUESTIONARIO SOBRE EL DISEÑO PUESTOS DE TRABAJO Y FACTOR HUMANO

Este cuestionario se ha elaborado para un proyecto final de grado de Administración de Empresas en la Universitat Jaume I. Se agradece mucho su colaboración contestando a las preguntas que aparecen a continuación, cuyo objetivo es realizar un estudio sobre cómo afecta el diseño de puestos de trabajo sobre los empleados en una organización. Respecto a la información facilitada se garantiza una total confidencialidad y anonimato, al ser los datos tratados de un modo global y no individualmente.

Utilice las escalas que se muestran a continuación para indicar si cada afirmación es una descripción exacta o inadecuada de su trabajo o del trabajo más reciente que haya realizado:

Muy descriptivo	poco descriptivo	Medio descriptivo	Muy descriptivo	
1	2	3	4	5

DISEÑO DE PUESTOS DE TRABAJO

Descripción	Valoración				
1. Tengo casi toda la responsabilidad para decidir cómo y cuándo el trabajo está correctamente realizado.	1	2	3	4	5
2. Realizo diferentes tareas utilizando una amplia variedad de habilidades y talentos.	1	2	3	4	5
3. Realizo una tarea completa desde el principio hasta el final. Los resultados de mi trabajo son claramente visibles e identificables.	1	2	3	4	5
4. Mi trabajo afecta al bienestar de otras personas de manera importante.	1	2	3	4	5
5. Mi superior me proporciona una retroalimentación constante sobre el trabajo que se realiza.	1	2	3	4	5
6. El trabajo en sí me proporciona información acerca de lo bien que estoy realizándolo.	1	2	3	4	5
7. Tengo muy poca libertad para decidir cómo se debe realizar el trabajo.	1	2	3	4	5
8. Utilizo una serie de habilidades complejas en el trabajo.	1	2	3	4	5
9. El trabajo es bastante simple y repetitivo.	1	2	3	4	5
10. Mis supervisores o compañeros de trabajo rara vez me dan retroalimentación de cómo estoy haciendo el trabajo.	1	2	3	4	5



11. Lo que hago es de poca importancia para cualquier otra persona.	1	2	3	4	5
12. Mi trabajo implica hacer una serie de tareas diferentes.	1	2	3	4	5
13. Los supervisores nos hacen saber cómo piensan que se está llevando a cabo el trabajo.	1	2	3	4	5
14. Mi trabajo está dispuesto de manera que no tengo la oportunidad de hacer una pieza entera de trabajo de principio a fin.	1	2	3	4	5
15. Mi trabajo no me permite la oportunidad de participar en la toma de decisiones.	1	2	3	4	5
16. Las exigencias de mi trabajo son muy rutinarias y predecibles.	1	2	3	4	5
17. Mi trabajo ofrece pocas pistas sobre si estoy realizando las tareas adecuadamente.	1	2	3	4	5
18. Mi trabajo no es muy importante para la supervivencia de la empresa.	1	2	3	4	5
19. Mi trabajo me da una gran libertad para realizar el trabajo.	1	2	3	4	5
20. Mi trabajo me da la oportunidad de terminar por completo cualquier trabajo que empiezo.	1	2	3	4	5
21. Muchas personas están afectadas por el trabajo que hago.	1	2	3	4	5

Fuente: Leonard, E.C. (2013): *Supervision: Concepts and Practices of Management*, 12th Edition, Indiana University.

Las siguientes preguntas hacen referencia a cómo se ve usted. Las preguntas se relacionan con su comportamiento típico en el trabajo. Por favor, seleccione la opción que mejor le describa, siendo:

Totalmente en desacuerdo		Ni acuerdo ni desacuerdo		Totalmente de acuerdo
1	2	3	4	5

MOTIVACIÓN (INTRÍNSECA)

Descripción	Valoración				
	1	2	3	4	5
22. Siento satisfacción personal cuando hago bien mi trabajo.	1	2	3	4	5
23. Mi opinión sobre mí mismo empeora cuando hago mal mi trabajo.	1	2	3	4	5
24. Me enorgullezco por el hecho de hacer mi trabajo lo mejor que puedo.	1	2	3	4	5
25. Me siento triste cuando desempeño mi trabajo peor de lo habitual.	1	2	3	4	5
26. Me gusta terminar la jornada con la sensación del trabajo bien hecho.	1	2	3	4	5
27. A menudo intento imaginar formas de desempeñar más eficientemente mi trabajo.	1	2	3	4	5

FUENTE: WARR, P. B., COOK, J. D. & WALL, T. D. (1979). Scales for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology*, 52, 129-148

COMPROMISO (AFECTIVO)

Descripción	Valoración				
	1	2	3	4	5
28. Disfruto hablando de mi empresa con otras personas.	1	2	3	4	5
29. Esta empresa significa mucho para mí.	1	2	3	4	5
30. Me siento emocionalmente unido a esta organización.	1	2	3	4	5
31. Me gustaría continuar el resto de mi carrera profesional en esta organización.	1	2	3	4	5
32. Me siento parte integrante de esta organización.	1	2	3	4	5
33. En esta organización me siento como en familia.	1	2	3	4	5
34. Siento de verdad, que cualquier problema en esta organización, es también mi problema.	1	2	3	4	5
35. Creo que podría estar tan vinculado a cualquier otra empresa como lo estoy a esta.	1	2	3	4	5

FUENTE: Bal, P. M., Kooij, D. T., & De Jong, S. B. (2013). How do developmental and accommodative HRM enhance employee engagement and commitment? The role of psychological contract and SOC strategies. *Journal of Management Studies*, 50(4), 545-572; Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of occupational psychology*, 63(1), 1-18.



WORK ENGAGEMENT (IMPLICACIÓN)

Descripción	Valoración				
	1	2	3	4	5
36. En mi trabajo me siento lleno de energía.	1	2	3	4	5
37. Soy fuerte y vigoroso en mi trabajo.	1	2	3	4	5
38. Estoy entusiasmado sobre mi trabajo.	1	2	3	4	5
39. Mi trabajo me inspira.	1	2	3	4	5
40. Cuando me levanto por las mañanas tengo ganas de ir a trabajar.	1	2	3	4	5
41. Estoy orgulloso del trabajo que realizo.	1	2	3	4	5
42. Recibo energía de mi trabajo.	1	2	3	4	5

FUENTE: Schaufeli and Bakker, 2004, utilizada por Bal et al., 2013; adaptación española de Salanova et al., 2000

Schaufeli, W. B. and Bakker, A. B. (2004). 'Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study'. *Journal of Organizational Behavior*, 25, 293-315.

Salanova, M., Schaufeli, W., Llorens, S., Peiró, J., & Grau, R. (2000). Desde el "burnout" al "Engagement". ¿Una nueva perspectiva?. *Revista de Psicología del Trabajo y de las organizaciones*, 16(2), 117-34.

Bal, P. M., Kooij, D. T., & De Jong, S. B. (2013). How do developmental and accommodative HRM enhance employee engagement and commitment? The role of psychological contract and SOC strategies. *Journal of Management Studies*, 50(4), 545-572.

