**SOFTWARE DEVELOPMENT FOR HUMAN RESOURCES CONTROL:
COMPETENCE, KNOWLEDGE, ABILITIES AND EXPERIENCE**

**DESARROLLO DE UN SOFTWARE PARA EL CONTROL DE LOS RECURSOS
HUMANOS: COMPETENCIAS, CONOCIMIENTOS, HABILIDADES Y EXPERIENCIA**

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Abstract: The main purpose of this work is to offer a software to managers that allows them to control the human resources working in their company's administration or production areas in key aspects, such as; the essential competence for each position and the professional profile required in terms of knowledge, abilities and experience. The program will compare each candidate's information with the conditions and requirements established for that position in order to determine whether or not these are met by him/her and, if so, to which level (high, medium or low) in the terms established as parameters for comparison.

Resumen: El propósito fundamental de este trabajo es ofrecer un software para los administradores que les permite el control de los recursos humanos que trabajan en su empresa o la administración de las zonas de producción en los aspectos fundamentales tales como: Las competencias esenciales para cada puesto y el perfil profesional requerido en términos de conocimientos, habilidades y experiencia. El programa compara, cada uno de los candidatos de la información con las condiciones y requisitos establecidos para esa posición con el fin de determinar si estos se cumplen y, en caso afirmativo, a qué nivel (alto, medio o bajo) en la términos que establece como parámetros de comparación.

Keywords*:* Software, human resources, competence, profile, knowledge, abilities, experience, database, database.

1. HISTORICAL REVIEW

The Taylor paradigm has lost its protagonical position in history to the new actors of technological revolution in fundamental fields such as information and communication technologies, microelectronics, and microbiology, thus producing a new scenario for human development.

From this perspective, the importance of human resources as a creator of new opportunities and as a user of new and more sophisticated techniques implies that particular attention has to be paid to a new and growing set of problems, no longer in the relationship between man and nature, as definided by Taylor, but at the very core of human knowledge in terms of abilities, training and experience.

Our society, in the XXI century, is a service society and things have to be reconsidered so as to transform human resources into abilities to develop working-social relationships providing each one of the actors with satisfactory answers to his/her needs, generating and developing new spaces for negotiation and agreement within increasingly horizontal structures.

Today, in Latin America, labour training has become an economical instrument to increase added value. It is not only a basic workers right; it is an important economical instrument which promotes active employment policies as well as productivity and competitively strategies for companies. That is why this is an aspect of vital interest for governments, companies and employers.

Simultaneously, technological advances help for more profitable and sustainable competitively to be obtained through quality and added value instead of through cost-cutting. It becomes clear how, in order to guarantee quality and added value, qualified labour and a full utilization of human capital results essential. There is, therefore, a strong link between a correct personnel management, a company's competitively strengthening, and equality in terms of treatment and work opportunities for employees.

On the other hand, it is obvious that productivity of an adequately trained worker will be much higher than that of a non qualified one ; and only as far as this qualification exists, will the worker be in a position to participate in management committees and assume real compromises with the company's businesses from an enterprise global vision, by contributing to the processes of building information at all levels within the company (in terms of numbers, as well), by taking part in the establishment and development of action planning and, finally, by promoting a superior work organization.

Moreover, the competitive advantage given by the access to cheap qualified labour, especially in underdeveloped countries, also depends on the capacity to retain qualified workers and provide them with proper jobs in their professional areas. As it is clear, there is a strong link with work. It is necessary to qualify, but in order to ensure that this investment is profitable, work has to be guaranteed.

In this last respect, both employers and employees share the advantages. An active, competitive, polyfunctional and initiative prone worker will collaborate in the development of the company's activities, thus securing the very same conditions that will help him/her to adapt to changes and have better possibilities to keep his/her job.

But it is still true the other way round. Not only has qualification a positive incidence in work, but work itself also favors higher qualification levels. Proficiency is developed through work so that this is a first class tool to provide good occasions for learning, training and actualization. In this respect the modality of continuous training plays a very important role; and that is how, in the same way access to qualification is a prerequisite to work, this ensures continuous training processes. So that new rights for workers appear again, those make training possible within work and especially provide employees with more free time for training or for nurseries.

A dialectic, two-way relationship between worker and work grows, in which qualification becomes a basic condition and component of work, on the one hand, while this provides the worker with the right ambit for the development of certain increasingly important qualification activities, on the other.

Furthermore, the fundamental incidence of knowledge in development is fully recognized nowadays. Economies are not solely based upon capital accumulation and the work force ; information and knowledge accumulation is becoming increasingly essential. Research generates technological and productive innovations and knowledge becomes the fundament of human work and another production factor, so that the expression "irruption of the knowledge society" speaks of a new situation in which access to knowledge and information obtains the importance that access to capital used to have in the industrial society. As a consequence, education becomes essential and there is an increasing necessity to invest in training as continous qualification processes are even more important in today's digital era as they were a few years ago.

However, it is evident that training generates added value for the company, not only as far as employees are able to develop their skills and strengthen their capabilities, thus generating higher

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standards of productivity and efficiency in their jobs, but because being better equipped in terms of knowledge they can effectively take part in the production, information, organizational development and planning processes, which implies a real compromise and supposes a remarkable capacity to integrate positively within the company's dynamics.

This is made even more evident by the fact that requests presented within the context of collective negotiations do not usually include training and qualification programmers.

It is the managing director's duty to make sure that knowledge management becomes a reality and to bring learning possibilities within the company to a maximum, so as to increase its knowledge capital and its possibilities to permanently evolve (flexibility) and attain higher objectives.

The company's management has to become even more conscious of its duty to orientate the company towards systematic knowledge acquisition and towards integration within much wider systems in order to ensure a much deeper implication in its environment's dynamics and development.

The managing director has to project the company into the future with a clear decisive knowledge management policy; its development and use as a tool will create the conditions for the company's growth and advancement, and for a continuous transformation and evolution of knowledge.

In order to ensure improvement based on knowledge and knowledge capital, it is essential that it becomes a learning practice everyone has to develop within the company. The company's management has to make sure that every single employee understands and welcomes these measures. Eventually a change in attitude is necessary; knowledge has to be recognized and valued as one of the most important capitals of the company to secure the essential participation, support and compromise of the employees, to manage it.

2. KNOWLEDGE MANAGEMENT

The managing director needs to have a firm and clear compromise that involves the whole of the company with generative, continuous and conscious learning at all levels.

The first prerequisite to secure success in any knowledge management initiative taken by the managing director is the explicit recognition of the fact that learning processes have to be granted a convenient support in terms of all kind of resources.

The XXI century prototype of a manager corresponds to a bright, visionary, dynamic and charismatic person. The more he/she will develop his/her abilities and knowledge through a sort of perpetual learning process, the more outstanding he/she will be ; and this pattern of growth has been increasingly rewarded in the companies that have made use of it.

Knowledge management is fundamental in an everchanging business environment demanding transformations within the company that will find no success unless they stand upon knowledge, the only real basis for analysis and development.

To make knowledge management a reality and a common practice in the company, it is necessary to study the organization's dynamics as a success-orientated enterprise prepared to make every effort to secure a maximum profit out of its resources and knowledge capital. The administrator needs to make sure the company has got the right structure, that is, separated departments dealing with specialized functions, run by qualified personnel, properly trained to promote the enterprise's development by using all necessary manage real tools and able to bring about the benefits of his/her experience and knowledge throughout the different organizational levels of the company.

As a contrast, in today's organization, old manage real systems are still being used and the idea of a rigid structure with schematic predetermined links between the company's functional units is predominant. Companies of this kind work under a system based on the idea of delegating power and responsibilities, and stand upon a structure dominated by personal rather than corporative interests (in most cases the company evolves accordingly to its owner's interests and not to its own interests), in which some people take decisions and give orders to others so that the whole organization appears as a simple appendix to the activity carried out by those who develop the internal and external aspects of its administrative structure.

A jump ahead has to be made. Evaluating newly developed forms within the organizations and trying new paradigms and hypothesis are fundamental steps towards a better understanding of the new company mo del and will help give the right answers to the necessity of studying the organizations, as it is evident that far from remaining simple they grow more complex. The administration scientist's aim must be to investigate how they evolve and how new microworlds are born and grow within them. The object of his/her research must be all these new organizational forms, the differences between them in terms of enterprise equilibrium and human development as conceived by the enterprise, etc. It is clear that a real evaluation of all the different forms has to be made.

This new growing type of company aims to successfully place the products and services it offers on the market ; it needs trained and idoneous personnel capable of carrying out the required transformations by designing the essential processes to ensure quality and service for the benefit of both the client, as well as of the employee him/herself.

It is at this point that new paradigms must replace old ones and new information sources are to be found; that the study of the experiences these new companies represent must help to recognize the path to productivity and efficiency through analysis and how these processes can be perfected by new organizational structures.

To start with, the problem of how to make the knowledge people posses useful and profitable to the company wherever and whenever it could be necessary, has to be dealt with. A new discipline called knowledge management has been developed to this purpose. It is aimed at identifying, gathering, evaluating and structuring the organizational knowledge already existing within an organization so that it can be used by whoever could need it to respond most adequately to any problem at any given moment.

This new generation of enterprises is characterized by the appearance of a solid organizational structure guaranteeing that the control, direction and planning processes constitute a precise and efficient instrument.

Another important aspect is given by the fact that whenever an organization gets into a highly complex structure, it becomes impossible for any one of its members to have and retain all the essential information needed to control it. A new type of support must be used to gather and keep this information at disposal.

From this perspective, it has to be said that enterprise experience has become global nowadays. As an example, only the enterprises capable of getting the maximum of benefits out of their publicity investments survive in a highly competitive global market ; managing directors with the experience of this lesson do transfer it to their junior colleagues at all levels in the company, as they know that any launched advertising campaign requires, in order to evaluate its results, to have its impact measured in terms of sales or increase of formal interest by the clients ; and once they have learnt this from experience they pass it on to other colleague managers.

Amongst the main realities brought by the arrival of new ideas on a world level are the so called information society that rethinks all that exists in relation to work and the so called society of knowledge that values everything that is and means work

From these two conceptions it is clear that work has to be seen as the contribution made to attain the organization's objectives ; that is why the current work analysis methodologies instead of considering the activities the employee has to carry out, concentrate their attention on the problem of finding out which his/her contribution is towards the attainment of the company's goals.

The enterprise today has grown into a modern technical structure that recognizes the importance of having the indispensable human resources to reach its objectives.

As a result of the mechanization tendencies, a new conception has found its way into manage real circles : Heavy and repetitive work can be done by machines, whereas it is human beings who can do the creative duties; the ones that generate new products or improve old ones; and that requires talent and skills. That is why human talent is currently so well valued.

These human resources, that have become essential to achieve the objectives, are used by employees and workers in the form of knowledge,

skills, abilities, experience and understanding of the productive process to obtain the expected results.

Qualification is fundamental nowadays; but it is essential that the worker is given the space to use his/her newly acquired knowledge so that this becomes a decisive factor to obtain better results, to attain the proposed objectives and to raise the company's competitiveness.

The ability to work within a team is highly valued as well; better working conditions and "decent" jobs securing reasonable wages and the living conditions workers deserve are preconized; and new mechanisms are being designed to better value the worker's capabilities.

Another fundamental aspect is given by the fact that, today's being a highly competitive world, the company must be itself competitive to a high degree; it needs to work as a competent team formed by apt workers. Specific abilities such as the capacity to understand, process and apply a great deal of information are therefore highly appreciated and increasingly demanded; and the multiple interactions between working teams have made the ability to communicate quickly and efficiently highly valued.

3. PROFESSIONAL COMPETENCE

This is the measurable capacity someone has to conveniently carry out a given duty; it is supported by his/her resources, in terms of qualification, training, skills and behavior and by his/her capacity to use them to work towards the attainment of the company's objectives.

Team work plays a key role, but it needs everyone to be articulated within the group, common learning, the strengthening of group links and the development of associate work.

Leadership is another key aspect as it is essential to push forward changes. This competence can be developed through specialized training programmers provided for those whose profile, charisma and motivation are fully recognized.

The correct attitude and disposition towards learning is essential; knowledge is fundamental for both, the worker and the enterprise, and the acquisition of competences can be possible

through continuous training schemes at work, or through specific training courses in different useful fields for the company, such as technology, administration, or management.

Another key competence is the capacity to take decisions. The future of the company depends on them; right or wrong decisions can determine the way a company or a whole branch will develop. Knowing the necessary methodologies to take right decisions and assuring the employees' participation will be of enormous use.

Flexibility is fundamental as the company must be able to fit into an everchanging environment by adapting its characteristics and conditions; workers must be able to modify their routines, change their activities or rotate their duties in order to adapt themselves to the company's new challenges.

Creativity, the ability to solve problems or handle conflicts, is indispensable as it will help to take better decisions and open new possibilities for the company.

Communicative abilities are also essential as they will help to restore true team spirit and dynamics and to create spaces for dialogue and integration that will promote the employee's professional growth and development.

Responsibility is another key aspect as it stimulates the development of an atmosphere of compromise and punctuality. It can be developed through agreement, experience and work.

4. THE PRINCIPLES OF COMPETENCE

The main principles of competence are:

The identification of competences. This process involves a quantitative analysis of work, meant to identify the knowledge, abilities, skills and understanding the worker has and uses to conveniently carry out a given duty.

The normalization of competences. This is a process of interaction and agreement between different agents, mainly workers, companies or public institutions meant to establish standards on the representative competences of a given business or occupation.

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Competence training. This is a teaching-learning process built upon the idea of transmitting knowledge and generating skills and abilities as well as of developing the capacity to use them actively in real working situations, thus enabling the worker to successfully face problems in different contexts.

Competence certification. This process involves a previous evaluation, made in terms that correspond to the requirements of the competence norm and guarantee transparency, consistency, reliability and validity. It must produce a document that certifies and recognizes the worker's competence, independently of how it was acquired.

5. SOFTWARE TOOLS

The integral tools to select evaluate and recrute personnel are the ArmSTRONG programmer which includes psychometric and performance tests amongst others. This programmer is able to obtain, gather, analyze, synthesize and present the information.

The main units are:

Profiles for the job. This module's main objective is to create the proper profile for a given job so as to look for the idoneous candidates matching the specified characteristics. The module will create job profiles based on psychological and technical competences in order to evaluate opportunity areas and training necessities, to measure performance and to put forward a development planning.

Cognitive evaluations. One of the main recurrent problems when it comes to selecting personnel is that applicants do not necessarily have all the theoretical knowledge required for the job. The ArmSTRONG software offers the option to apply customized cognitive evaluations adapted to the company's specific needs. It is also possible to use one out of the selection it presents.

Competence administration. This software offers the possibility to recognize the personnel's outstanding skills, to create a dictionary of the competences necessary for the evaluation and to design, from this perspective, a job profile. When it comes to elaborating the performance evaluation, the necessary competences must be selected and given a value.

This unit also includes:

- *General Competence Dictionary with more than 150 established competences.*

- *Level-established competences (operative levels, medium levels and senior levels) that permit performance evaluation.*

- *Competence Interview guide.*

Recruitment interviews

This software, works as a support to the interview process and helps to establish the necessary question-answer communication between two or more people to obtain the essential decision-taking information. For this it uses forms that facilitate the relevant processes and produce more objective, perfectly documented interviews that are accessible to any customer.

The software is to be used within a platform and data base structure, fed with any information on knowledge, skills, experience and requirements, essential to recruit, select or evaluate performance. It will provide the user with timely adequate information on the different potentialities of an applicant or an employee in terms of the standard competences included in the programmed or of any additional ones that could respond to particular needs.

6. CONCLUSIONS

When it comes to establishing a control of human resources, the identification of competences and the appropriate use of the existing software material are essential.

Two fundamental aspects have to be taken into account simultaneously: the required competences and the fulfillment of these requirements by the selected applicants during the recruitment process. This software material includes a set of tools to be improved, adapted, diversified and fed accordingly to make its use more dynamic and of greater potential.

In today's world competences are the basis upon which companies should stand to develop and implement the different processes of personnel recruitment, selection and evaluation.

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