



GESTÃO PÚBLICA
E GOVERNANÇA

PUBLIC KNOWLEDGE, LEARNING ORGANIZATIONS AND KNOWLEDGE MANAGEMENT AS STRATEGIC LEVERS FOR A NEW PUBLIC ADMINISTRATION IN ITALY

CONHECIMENTO PÚBLICO, ORGANIZAÇÕES DE APRENDIZAGEM E GESTÃO DO CONHECIMENTO COMO ALAVANCAS ESTRATÉGICAS PARA UMA NOVA ADMINISTRAÇÃO PÚBLICA NA ITÁLIA

Pierfranco Malizia
Universidade LUMSA (Roma)

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Universidade FUMEC / FACE . Prof. Dr. Henrique Cordeiro Martins . Prof. Dr. Cid Gonçalves Filho . Prof. Dr. Luiz Claudio Vieira de Oliveira

ABSTRACT

In one of the most interesting volumes of an equally interesting series entitled "Proposals for a change in the public administrations" concerning the Italian P.A. (VV. AA., 2002), edited by the Civil Service Department of the Italian government and realised with the collaboration of public and private partners to stimulate processes of change in the P.A., a precise and carefully explained reference is made to the absolute importance for the public administrations of the promotion of know-how development by means of the creation, valorisation and sharing of the knowledge-competence patrimony necessary to back the innovation processes like the logic of learning organizations and knowledge management.

KEYWORDS

Learning organisation. Knowledge management. Organisational change. Public administration.

RESUMO

Em um dos volumes mais interessantes de uma série igualmente interessante, intitulada "Propostas para uma mudança na Administração Pública (PA) na Itália" (VV. AA., 2002), editado pelo Departamento de Serviço Civil do governo italiano e realizada em colaboração de parceiros públicos e privados para estimular os processos de mudança na PA, é feita uma precisa e cuidadosa análise sobre a importância desse processo para a promoção do know-how do desenvolvimento público, por meio da criação, valorização e compartilhamento do conhecimento e das competências necessárias para apoiar os processos de inovação, utilizando-se da lógica da aprendizagem organizacional e da gestão do conhecimento.

PALAVRAS-CHAVE

Aprendizagem organizacional. Gestão do conhecimento. Mudança organizacional. Administração pública.

PREMISE

In one of the most interesting volumes of an equally interesting series entitled "Proposals for a change in the public administrations" (AA. VV., 2002, p.102-104) edited by the Civil Service Department of the Italian government and realised with the collaboration of public and private partners to stimulate processes of change in the P.A. itself, a precise and carefully explained reference is made to the absolute importance for the public administrations of the promotion of know-how development by means of the creation, valorisation and sharing of the knowledge-competence patrimony necessary to back the innovation processes like the logic of *learning organizations* and

knowledge management (with particular reference to the so called "*practice community*"), made feasible by the ICTs and already used in companies to a fair extent.

It will perhaps be useful to outline the main subjects making up such logic in an overall question of organisational "knowledge development".

THE LEARNING ORGANISATION

Definitions

A Learning Organisation can be defined as an organisation that sets out to improve the knowledge and understanding of its own structure and processes in time, first of all fostering and then using the learning at individual level (VELLO, 1995).

The concept of a Learning Organisation refers to an organisation structure which in its entirety develops a "work culture", aimed at developing knowledge and routines, in order to guarantee the organisation itself an improved ability to adapt and reply to the upheavals imposed by the external environment.

In this perspective the Learning Organisation can be considered on the one hand both a strategy and a need owing to the fast pervading technological changes, and on the other an analytical method, which can be the observation angle by means of which a specific organisation structure is analysed.

According to Pedler's definition (VV. AA., 1990), the Learning Organisation is "an organisation that facilitates the learning of all its members and continually transforms itself".

It is not sufficient to mobilise professional training resources and investments to be able to give an organisation the definition of *learning organisation*. It is in fact quite difficult to find an organisation in which the learning process is totally blocked, even for those coming into static production contexts. For this reason not all the learning processes are identifiable according to the *continuous learning* categories.

The Learning Organisation is an organisation that sets into motion a number of resources for the growth and transfer of competences, albeit in a perspective of *continuous learning*. The concept of continuous learning develops starting from two factors: the first is relative to the widespread dynamism of the context in which the organisation works; the second factor is strictly linked to the first one: a dynamic

context presents many uncertainties that are difficult to foresee. The activity of an organisation therefore works in a situation in which rationality comes to be limited, and consequently the awareness of this cognitive limit drives organisations to never give the learning process for granted and definite.

In short, we find ourselves before a cognitive process that is continuously developing new knowledge in relation to specific situations and this knowledge is then codified in procedures which, faced with new changes both inside and outside the organisation, will have to be redefined and if necessary radically transformed: it is a "spiral" process (NONAKA, 1990).

The aim of the continuous learning foresees a change in the models and codes of behaviour which had inspired the action of organisations characterised by a rigid and pervasive bureaucratic structure. Owing to its dynamic and changeable nature, continuous learning also foresees an easing of the structures in charge. The perspective of the continuous socialisation of knowledge develops in parallel with a sort of *de-hierarchisation* of organisational roles. In fact it is not by chance that organisations, and particularly firms, which decide to model themselves on the Learning Organisation foster group work, in a perspective of the individual and collective taking of responsibilities and above all according to a participative logic instead of one of a perspective of "obedience". Consensus becomes the strategic circle by means of which to guarantee a growing *active cooperation* in team work. A structure in charge of the organisation remains which is called upon to carry out managerial tasks but, once again, seeking the privileged terrain

in consensus to foster collective learning strategies, besides guarantees of the quality of the work done.

This type of organisation foresees a specific leadership style which entrusts the primacy of cooperation to the members of the group, abandoning the "bureaucratic" style of conformity to "formal rules"; cooperation and continuous learning constitute therefore the two main coordinates by means of which "to streamline" the organ and its range of activities.¹

Many organisations have implemented smart strategies and have obtained successful positions, but nonetheless they cannot be defined as Learning Organisations.

There are three *necessary conditions* for a company to define itself as a learning organisation (AUBREY, 1992):

1. *structural condition*: in a Learning Organisation the way of thinking must be diffused. Contrary to an organisation understood in the traditional sense, a Learning Organisation does not think only through its hierarchical summits but at all its levels and is easily transmitted through the whole structure, in a continuous and diffused exchange of information and knowledge;
2. *functional condition*: within a Learning Organisation people work tirelessly for continuous improvement and quality; Total Quality Management is concretely implemented and represents the real language by means of which the collective intelligence is performed;

3. *teleonomic condition*: in order to define itself as a Learning Organisation a company must have the explicit and professed aim of realising learning at a wide level and of wanting to learn to learn. It must therefore base its own visible strategy of building competitive advantage on intelligence, and must start a second degree reflection, according to which it is not only important to learn, but above all to learn to learn; it is not sufficient to improve, but it is crucial to improve the very process of improvement.

Burgoyne defines the organisation as a "learning-company" (1992) that is not simply generated by the training of its individuals, but can be achieved only as the result of learning carried out at all levels of the organisation itself. A "learning-company" is therefore an organisation that facilitates the learning of all its members and continuously transforms itself.

In an article published in 1992 in the *Royal Society of Arts Journal*, entitled "Creating a Learning Organization", Burgoyne states the existence of three levels or degrees of learning within an organisation.

The "three degrees of the completeness of learning", as Burgoyne defines them, are: the first level, essentially bureaucratic, when the organisation learns processes and procedures and uses them; the second level, when it learns to adapt and survive; the third level, when it begins to develop in such a way as to support an "extended" organisation, in the sense of including within it all the trusts and interested parties.

Burgoyne sees the realisation of four basic processes inside a Learning Organization: Policy, Operations, Theory and Practice. Individual learning is considered like a flow preceding a vision, through thought, to the realisation associated with action and facts, while learning at collective or organisational level is represented by Policy and Operations, as collective action.

The model suggested by these four interacting models raises the function of Learning Organisation above the scheme concentrated exclusively on professional training and the development of management. At an organisational level, it is in fact considered that the creation of strategies and policy definition processes can benefit from a greater concentration on collective learning and the assessment of results.

Peter Senge, director of the theory of Systems Thinking and Organizational Learning programme at the MIT Sloan School of Management, identifies five disciplines as the key characteristics that must be developed to create a Learning Organisation. These five disciples can be summarised as follows (SENSE, 1992):

1. Personal mastery, by this is not meant the mastery of things and persons, but a discipline that consists in continually deepening our personal vision and in the commitment to learning, something fundamental given that an organisation cannot learn in a way that is superior to its members. It is a discipline, not a technique and therefore a continuous creative learning that lasts for a lifetime: one never arrives; personal mastery is not something that you possess,

but is the discipline of continually clarifying what you want, what is important for us and what it is worth fighting and striving for.

2. Mental models are the framework with which we interpret reality: they guide our thoughts and our most ingrained assumptions, influencing our way of acting. Every one of us cannot see the world, but is well aware of the representation made of it. In order to manage to act on our mental models therefore it is necessary to analyse our internal representations, make them emerge and share them with others by means of "learningful" conversations. Often greatly successful ideas are not put into practice as they are in contrast with our internal pictures, our tacit mental paradigms, and thus below the awareness level. These are the most dangerous since everyone can hear them but no one can grasp their absence: this is the importance of being committed to always questioning oneself and to being ready to change points of view, if necessary. In fact, the problem of mental models is not that they are right or wrong in themselves but that they can be more or less suited to the situations, to help with its tendency to truth, to the objective reality and the structures at stake.

3. Building shared vision is necessary for the genuine commitment for the building of the future that the company mission has mapped out. When this is clear and open, individuals excel,

not because they are forced to but because they want to.

4. Team learning is a fundamental discipline to transform individual learning into organisational learning. In fact, very often the team performance is lower and considerably so with respect to the sum of the results of single persons. This is serious since a great amount of collective knowledge is lost. This discipline starts with dialogue and the discovery of that rational incompetence connected to our incapacity learned from our defensive models. These undermine our capacity to learn as we are busy finding confirmations of our assumptions deriving from our paradigms and beliefs, rather than rationally finding spaces for improvement and attaining new insights to problems.

5. Systems thinking is the fifth discipline and integrates and in a way gives a sense to the others, which otherwise would lose part of their meaning.

Senge considers the Learning Organisation as an entity in which the individuals can widen their own capacities so as to realise the truly desired results. In the Learning Organisations various instruments are used deriving from the concepts of creativity and innovation, and Senge promotes the use of "microworlds", that is, stimulations that compress time and space to allow the teams to learn in which way it is possible to work together and tackle problems.

The "teams of microworlds" think about the models and the mental methods used at the moment of dealing with an issue, disclose and assess them: in this way it is possible to analyse and transform any difficulties caused by the company systems, and hence to identify the obstacles to learning.

Learning Organisations: an organisational metaphor?

Under certain aspects the Learning Organisation is essentially an organisational metaphor, or an expression to consider the company as a learning environment.

Morgan (1994) goes into the subject in his collection of organisational metaphors: organisations are likened to brains which process information, insofar as all aspects of the organisational functioning depend on some type of information processing. The company, like the brain, must in fact know how to learn and organise itself and the Learning Organisation represents the key to this self-organisation.

The objective of the Learning Organisation is specific to a certain configuration of the relationship with the environment: it can in fact be referred to all those realities that are to be found working in an environment characterised by high complexity and fast continuous changes.

Besides constituting the metaphor of an organisation that makes its potential depend on its own capacity to widen the sources and directions of learning, the Learning Organisation represents above all a new paradigm of change management and a systemic approach to innovation.

With the Learning Organisation the principle of “point-blank” adaptation to the environment is questioned, according to which every external change represents an element of upheaval which must be faced by means of suitable programming, so as to restore the original balance through fitting adaptation actions. In its place, in the new perspective, the way is opened to the possibility of using the change in the direction that is favourable to the organisation itself.

This in fact transforms into a system of ad hoc resources, in which the process of learning and experimentation grows and develops. The elements of continuity and distinction of the organisation can no longer be reduced to the set of answers to socio-political stimuli but emerge above all as a patrimony of specialist competences that make it possible to deal with other scenarios proactively.

The organisational metaphor that learns thus opens new perspectives in organisational analysis too, allowing the attention to be focussed on the processes and systems by means of which the management can identify and formulate the signs coming from the environment, manage the significant integrations with it, reflect on its own experiences, and modify the configuration and the structure of the relations among organisational variables.

The constitutive variables of the Learning Organisation

The organisation components that contribute towards the definition of the Learning Organisation can be ascribed to six big areas taking on the characteristic of real *constitutive variables* (MIGGIANI, 1994):

- a) information and communication;
- b) the training system;
- c) the competence development area;
- d) individual capacities;
- e) the organisational structure;
- f) the culture.

Let us now look at them in greater detail:

a) Studies of the Learning Organisation pay great attention to the subjects of communication and selection, interpretation and circulation of information, processes by means of which the organisational learning is actually put into effect. The use of the information in an organisational environment oriented towards learning can no longer take place according to techniques aimed at control but by means of the valorisation of problem solving, self-diagnosis and the capacity to contextualise. “Openness and dialogue” are given as the distinctive element of the Learning Organisation. It is important that it has an efficient structure of information return at its disposal, basically characterised by (BOMERS, 1991):

- *gathering and acquisition of relevant information;*
- *return of information at all decisional levels;*
- *document analysis and assessment.*

Lastly, for the information and knowledge to become the patrimony of an organisation, they must be identified, made available, codified, appraised and diffused; this operation however inevitably varies greatly according to whether it is highly codified information or rather tacit knowledge. The latter makes up the

patrimony of knowledge that is difficult to formalise, insofar as made up of technical contents and informal capacities, often tacit (they are transmitted with the example and are learned with practice) and protected, implicitly or explicitly.

b) Professional training activity comes to represent the main instrument of direction that foregoes being directed by top management through precise decisional sequences. The professional training periods are the moments that trigger off those actions of process management that move transversally with respect to the classical hierarchical organisation (see GARBELLANO-TESTA *apud* MIGGIANI, 1994). In individual and organisational learning, training alone can connect or transform the new capacities and competences into new management practice, or that is, into a learning organisation.

The goals of training in the Learning Organisation aim at working on the methods and prerequisites of learning, giving useful knowledge to people to widen and connect their tasks autonomously; a reticular type model is applied to education processes, suggesting the need to link the training periods to specific events of the organisation (reorganisation, system reprogramming, etc.) and seeking the opportunities for learning within the operational processes (PERROTTO, 1993).

c) For all levels and functions, development is basically represented by the development of competences. The organisation can in fact maximise individual learning, designing the roles around the persons to help them reach a further stage, rather than looking for the right person for strictly predefined roles.

Development concerns not only specialist competences but also all the aspects of management and organisation.

The competences of the organisational system can be defined as (PIEROTTI, 1994):

- ◆ intangible, "incorporated" into the system;
- ◆ only partially expressed;
- ◆ not easily imitable, in so much as connected with the modalities with which the management processes are carried out;
- ◆ characterised by continuous and progressive development

d) Within the learning system of the Learning Organisation, there are basically two orders of ability, or that is, the ability to think "flexibly" and the ability and willingness in interpersonal relations. Senge defines flexibility as "a mental openness" (SENGE, 1992), or the willingness to change one's mental schemes, to search for and acquire new knowledge, to reflect and ask oneself, to question shared assumptions.

Only this ability makes it possible to deal with the constant processes of change, without averting them as a threat to already acquired positions and competences, transforming them on the contrary into opportunities for learning and enrichment at the service of continuous renewal. Furthermore, the Learning Organisation requires a high relational capacity, with the consequent approaches to interpersonal relationships, the continuous exchange of information and knowledge, team and group work, which become vital components of the organisational skills.

e) The casting aside of a management and control system that is inflexibly based on the hierarchical line, is aimed at the streamlining of the vertical structure in favour of a greater autonomy of the single organisational sub-units, such as to nurture the maximum permeability of the same to the information flows coming from the outside. It is in this way that the "network" model appears most suitable for bringing about change, the close organisation-environment interrelation, and for making an organisation learning system operational like that of the Learning Organisation (BUTERA, 1992).

f) While the Learning Organisation is a metaphor of the organisation, at the same time it constitutes a particular form of company culture, which we can also call "learning culture".

Various authors have compared this "learning culture" with the well-known Total Quality model, insofar as both emphasise the reciprocal interaction between people and the interaction between thought, feelings, action, and moreover the close relation existing between quality, learning, innovation and management (LESSEM, 1991).

The four concepts of the Learning Organisation, outlined by Pedler, Boydell and Burgoyne (1989) lend themselves to defining the organisational culture, namely:

- a climate in which individuals are encouraged to learn and develop their own potential to the maximum;
- the extension of the learning culture also to outside the organisation: to clients, suppliers and all those who are bearers of interest to the company;

- the realisation of a continuous process of organisational transformation.

The "virtuous circle" theorised by Hampden-Turner (1990) with regard to the cultural and operational modifications required by the new learning paradigm, clearly describes the task of company culture in the Learning Organisation.

While the old cultural paradigm in fact seems to establish a sort of "vicious circle", in which the efficacy and efficiency of the organisation are sought in the correction of deviations, the new paradigm ("virtuous circle") is no longer based on a linear and cumulative type of learning, but uses intuition and forecasts to achieve the understanding of processes that must be observed in their circular, fluid, self-adaptive properties in relation to the environment.

The Learning Organisation is proposed as a cultural model able to "defuse" the vicious circles of the old culture, fostering learning, flexibility and change.

Individual and organisational learning

In order to achieve a learning organisation the patrimony of individual knowledge and competences must be shared at different levels and among the different organisational functions, so as to ultimately become the memory of the entire organisation. In other words, individual learning, unlike the latter, moves from needs of a mainly organisational nature and aims at the transformation of the organisation itself. "To learn in organisations means the continuous testing of experience and the transformation of that experience into knowledge that is accessible to the

whole organisation, and relevant for the fundamental scope of the same" (ALESSANDRINI, 1994).

The relationship between the two types of learning, is thus pinpointed by a number of basic considerations of the organisational learning process (see BERTINI, *apud* MIGGIANI, 1994): the organisational learning takes place by means of individuals but this is not the sum of the learning of single persons:

- organisations have no brain but they have cognitive systems and "memories";
- like individuals, in time they develop personality, habits and beliefs, just as organisations develop behaviour, mental maps and values.

Unlike the more traditional models of individual learning that often move from the separation between the moment of theory and that of practice, the constant co-presence of knowledge and action constitutes one of the fundamental features of organisational learning. At an organisational learning level, the close relation between learning and operating permits the hoarding of learning in the memory of the entire organisation.

Dimensions and stages of organisational learning

1. The dimensions

There are four *dimensions* that go to make up organisational learning (HUBER, 1992):

- *existence*: when any one of the company units acquires knowledge that is potentially useful for the organisation;
- *breadth*: the greater the number of organisational units that acquire such knowledge considering it potentially useful, the greater the learning for the organisation;

- *complexity*: the more numerous the interpretations developed by the various organisational units, the more complex the learning of the organisation;

- *completeness*: the learning organisation is as complete as its units developing a uniform vision of the organisation are numerous.

Such dimensions must not be misleading since the learning organisation remains nonetheless irreducible to the sum of the single organisational units.

According to Huber, the learning organisation comes about in four *phases*, or:

- *knowledge acquisition*: the process by means of which new knowledge, competences and capacities are formed;
- *knowledge distribution*: the process by means of which the information coming from various sources is shared by the greatest number of persons possible;
- *knowledge interpretation*: the process by means of which the distributed information is interpreted in one or more shared ways;
- *knowledge interiorisation and application* (organisational memory): the process by means of which the new knowledge is stored so as to be used in the future.

The constant co-presence of knowledge and action constitutes one of the basic features of such learning, unlike the more traditional models of individual learning which often move from the separation between the moment of theory and that of practice.

This close relationship between learning and operating allows, at the learning organisation level, the hoarding of learning in the memory of the whole organisation.

2. The principles

In the learning system, frequent reference is made to "Ashby's Law" (GARRAT, 1990) and "Evans's Law" (BOMERS, 1991):

- *Ashby's Law (principle of requisite variety)*: the diversity within any self-regulating system must match the variety and the complexity of its environment;

- *Evans's Law*: the learning capacity of a company must be equal to or greater than the change rate which the company has to face.

Together the two laws compete in outlining a type of learning organisation that brings into the inside of the company system those elements of diversity, conflict and disorder making up the complexity of the environment of reference.

According to the principle of requisite variety in fact, in order to face the challenges coming from the environment and to self-organise itself the company must have within it those critical dimensions with which to constantly compete with the outside.

3. Culture and the circular representation of learning

Culture and learning are closely connected concepts. Organisations, as teams of individuals, produce and generate culture: this constitutes the connective fabric guaranteeing identity and unity in the company's components. Culture is both a structural component and a strong organisational variable; in so much as it makes it possible to explain a series of behavioural components not directly referable to the structural ones. It has a composite and stratified nature and can be defined at least according to two points of view, that is:

- from the contents point of view, culture is a holism, composed of symbols, values, artefacts, products, technologies and behaviour, elements whose reciprocal relations hardly appear linear. The symbols transmit the messages of the organisation that are not always coherent with the values on which the organisation itself is explicitly founded; likewise, the suppositions (interiorised and now unconscious values) can diverge from the official declarations, highlighting the divergences between declared and practised theory.

- from the point of view of the subjects involved, culture is characterised in accordance with the existence of teams, for example events of common professional experiences, which develop a plurality of sub-cultural phenomena, in the context of the same matrix but also by and large clashing with it (when power relations come into play, which is why the cultural factor becomes an overwhelming and differentiating instrument.

Culture conditions the modalities of constructing reality by means of a proactive selection process among the numerous elements that are part of the environmental complexity.

Cultural change is the outcome of the learning organisation, but culture is also the preliminary condition, the criterion according to which the information is filtered and finalised: a circular process is generated in which one same factor is the premise and the result of a complex phenomenon.

Culture, activation, individual and organisational learning, cultural change: concepts that are intertwined in a closely woven fabric of relations reminiscent of the circularity of organisational dynamics.

According to Boisot (1987), the circular representation of learning in organisations takes place by means of the *codification* of ideas and information and the *diffusion* of information:

- *codification* concerns the investments in the learning costs and consists in the import of ideas and information from the external environment by the organisation's members, who see to processing and transforming it into competences that can be sold again to the outside at a later date;

- *diffusion* concerns the communication costs and is essentially a sociological process by means of which the codified knowledge can be transmitted to the other parts of the organisation.

Differently in Garrat (1990) the cyclical learning scheme is used as a symbol of the same organisational form of the Learning Organisation, insofar as an organisation no longer represented by the traditional pyramidal forms but instead expressed by its attention to processes and by its continual transformation.

And yet again, according to Handy (1990), the circular representation of learning appears to be the only one able to exemplify a process in which learning is not discovering what others already know, but is resolving one's own problems with one's own ends, asking, thinking and trying until the solution becomes a new part of life.

External and internal learning

Learning can obviously be activated and developed through external or internal factors to the organisation itself. Malerba (1988) proposes a distinction: *learning from the external environment* can take place according to three modalities:

1. *by imitation*: as the reproduction of innovative factors produced by other organisations;

2. *by integration*: as the acquisition generated by interaction, like for example the stakeholders

3. *by cooperation*: as the acquisition generated by collaboration with other organisations.

Three modalities characterise the learning that takes place *inside the organisation*:

- *by use*: derived from the adaptation to new technologies, as the improvement of productive efficiency;

- *by experience*: strictly linked to the production process, involves incremental changes and innovations in the products-services and processes;

- *by research*: deriving from activities aimed at the creation of new knowledge, generally produces structural innovations.

The management/development of knowledge

Knowledge Management sets out to be the first and most significant "organisational practice" which uses intellectual capital as a manageable resource. The organisational elements that come into play in Knowledge Management practices are aimed at optimising and improving the recovery and circulation of data, information and knowledge important for the organisation, and at sending them to individuals and groups involved in carrying out specific tasks. These individuals, called *knowledge workers*, undoubtedly make up the most vital resource for the companies of the XXI century. The prime aim of Knowledge Management consists in

placing intellectual ability at the disposal of the knowledge workers, or those who on a daily basis determine the success or failure of an organisation.

Knowledge Management does not therefore consist in transforming the *knowledge workers* into the interchangeable workings of any company database. Instead it involves the ability to supply them with the necessary raw material so that they can do what they are best at doing, or what Bill Gates defines as “thinking work” (in www.asia.microsoft.com).

Knowledge Management sets out to make technology collaborate together with culture and company processes on an equal footing, using the former as a vehicle to manage the rest.

The thesis from which H. Nonaka and I. Takeuchi (1997, p. 31) depart is that the success of productive organisations is based, in a climate of continuous innovation, on capacity and experience in the “creation of organisational knowledge” that is, on the capacity of an organisation overall to create new knowledge, to spread it inside itself.

The concept of knowledge in Knowledge Management

The importance of knowledge in our age has been well documented by the works of Toffler (1990) and Drucker (1993) on the *knowledge-based society*. These authors announce, each in their own way, the advent of a new economy or a new society, “the society of knowledge”, which differs from the past particularly owing to its central role consistent with the cognitive dimension.

In his work Drucker states that knowledge has become the only significant resource, crowding out work, capital and the earth, to become the only production factor: “the central activities in the creation of wealth will not be either the allocation of wealth in productive employment, or work [...]” and “[...] today value is created by productivity and innovation, which are both applications of knowledge to work”.²

Toffler is of the same opinion when he maintains that “[...] we are distancing ourselves from an economy based on brute force and we are moving towards an economy based on brain capacity. We are going towards an economy based on a new type of capital: knowledge is the new production factor, the basic substitute of the other factors” (TOFFLER, 1990, p. 193). Knowledge therefore is definitely the strategic resource of the new millennium but it must be made widely accessible and usable for it to become wealth.

a) Data, information and knowledge

Briefly defined by Van der Speck and Spijkervet as “symbols that have not yet been interpreted”,³ according to Devenport and Prusak (1998, p. 2) organisational data are generally characterised by a series of discrete and objective facts concerning world events. Most organisations gather quantities of significant data in highly structured databases. Moreover, most companies make use of external sources for demographic information, competitive statistics and other knowledge of the market. The central activity that gives added value to company data consists in the ability to analyse, synthesise and transform the data into information and knowledge.

Information is the final result of the work of identification and contextualisation of experiences and ideas. Information, or explicit experiences, are normally filed as semi-structured contents in documents. The central activity that makes it possible to increase the added value of the information consists in managing the content in such a way that it can be easily retrieved, reused, and in learning from experience so that errors are not repeated and work is not duplicated (www.asia.microsoft.com).

Nonaka and Takeuchi define knowledge as "a dynamic human process of justification of personal trust towards truth" (NONAKA; TAKEUCHI, 1997, p. 23). The starting point is that the company organisation must not only process knowledge, but it must create it, since they maintain that it is necessary to create knowledge in order to produce innovation.

For them the creation of organisational knowledge is "the capacity [...] to create new knowledge, to spread it by means of the organisation and to incorporate it in products, services and systems" (NONAKA; TAKEUCHI, 1997, p. 3).

According to the authors human knowledge comes into two categories: tacit knowledge and explicit knowledge which often considered conflicting are instead fundamental constitutive units in a relationship of complementarity with each other.

The concept of *tacit knowledge* has been outlined by Polanyi (1966) he highlights the importance of a "personal" modality of knowledge construction, influenced by emotions and acquired at the end of a process of active creation

and organisation of the experiences of each individual.

Polanyi says: "we can know more than we can express" (POLANY, 1996, p. 5) and in one of his theses he states that all knowledge is tacit or based on tacit knowledge.

Again according to the two authors it is necessary to distinguish two different dimensions of tacit knowledge. The first is the "technical" dimension which includes skills and capacities, difficult to define and therefore often understood by the expression "*know-how*". Highly subjective perceptions, intuitions, forecasts and the inspirations coming from corporeal experience belong to this dimension.

Nonaka and Takeuchi claim that the mechanism of the creation of knowledge consists in a

[...] mobilisation and conservation of tacit knowledge, or that is to say, the organisational ability to manage individual knowledge, use it, create explicit knowledge for the purpose of allowing the development of a spiral of knowledge creation. A spiral is developed when the interaction between explicit knowledge is dynamically elevated from the lowest to the higher levels. An organisation should have the strategic capacity to use, accumulate, share and create new knowledge continuously and repeatedly in a dynamic spiral process (POLANY, 1996, p. 4).

b) Conversion and creation of knowledge

As has already been pointed out, the two entities of knowledge (tacit and explicit) constitute mutually complementary entities which interact in a continuous

exchange in the creative activities of human beings. Nonaka and Takeuchi's model of the creation of knowledge is based on the fundamental assumption according to separate modalities of knowledge conversion:

1) **SOCIALISATION**, from tacit knowledge to other tacit knowledge.

2) **COMBINATION**, from explicit knowledge to other knowledge.

3) **INTERIORISATION**, from explicit knowledge to implicit knowledge.

The socialisation modality usually starts from the construction of a "field" of inter-action that facilitates the conversion of experiences and mental models taking part in it. The exteriorisation modality is triggered by "a dialogue or a collective reflection", in which the use of suitable metaphors or analogies helps the team members to formulate tacit knowledge, otherwise hidden and difficult to communicate. The combination modality is triggered by the "putting onto the web" of newly created knowledge or consolidated knowledge coming from other sectors of the organisation and in their taking shape in the form of products, services or innovative management systems. Lastly, interiorisation is triggered by "learning through experience". Which human knowledge is created and is spread through interaction and can be called "knowledge conversion". This is a social process among individuals which goes beyond the interior boundaries of the single person" (NONAKA; TAKEUCHI, 1997, p. 34-35).

The hypothesis according to which knowledge is developed starting with the inter-action between tacit and explicit knowledge makes it possible to postulate three.

Knowledge and "services culture" in the P. A.

For the organisations making up the Public Administration, it is axiomatic how institutional and normative restraints and connections have always counted (therefore actually limiting its organisational development in the sense that here it supports itself) which the "private" sector does not undergo (REBORA, 1988). Nevertheless, this being understood, there is no sense in thinking that an evolution of the modus operandi of the administrations might derive exclusively from legislative and institutional reforms, if equally careful attention is not paid to the organisational phenomena to be found in such context and which generally have a rather complex nature" (REBORA, p. 47).

To some extent the problem shifts from the "structure" to the organisational "culture", in the sense that an optimisation of the management capacities and potentialities of the public administration (CERASE, 1992) can (as moreover has already happened in a number of cases) develop on hetero-determinate practice, as well as laws/reforms, to concretise the "result" culture more and more with respect to the "procedure" one.

The "practices" of the learning organisation and the management/development of knowledge thus come to have a highly significant role, if not in some cases just as absolutely determining for the new P. A. In fact, in the volume mentioned at the beginning of this essay, "Proposals for change in the public administrations", it says at a certain point that "it is necessary to foster the development of knowhow through the creation, valorisation and sharing of the

patrimony of knowledge and competences necessary to support innovation processes in the public administration system, in same way as in the private sector. Thanks to the spread of technologies, some administrations have begun to develop structured programmes for knowledge sharing. This line of action makes it possible to valorise the intellectual capital accumulated in the organisation and allow its diffusion" (CERASE, 1992, p. 89). All the prerequisites exist and are corroborated moreover by important experiments being carried out or which have been realised, and are beginning to be more understood and shared even where the "tradition" can have considerable negative influence.

I would like to conclude this paper by quoting once again (AA. VV., 2001, p. 6) the "source", or a piece of research edited by the Civil Service Department, when it states that "the issue of knowledge

management is becoming crucial also for the public administrations. Briefly, three aspects can be highlighted:

- the citizens, who have greater and greater access to information, need made to measure and high quality services,

- the fast changes of context make it necessary for the public administrations to have the capacity to reply to change rapidly and efficiently,

- the public functions and services are increasingly high knowledge intensity also owing to technological development".

The problem consists in the need for a greater penetration of this in the cultures of the administration in general and the single administrations in particular and there-fore the implementation of methodologies/instruments for the achievement of this challenge/opportunity.



ENDNOTES

¹ www.isvor.it/midmag/_vti_bin/shtml.dll/ric_progetto. Access: 2000.

² Available at <<http://public.gbg.frontec.se>>. Access:2001.

³ Available at <www.cantieripa.it>. Access: 2002.

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