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Integrators for organizational intellectual capital

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Abstract: The purpose of this paper is to analyze the organizational intellectual capital as an integral result of a generative process. The dynamics of this process is based on some core integrators. Each integrator acts on some constitutive organizational elements and by combining them produces a result whose magnitude is larger than the sum of individual contributions. The resultant organizational intellectual capital is not exactly a multiplier of these basic individual components since tacit and explicit knowledge have a nonlinear nature and they cannot be combined based on linear laws. We are going to analyse the following organizational integrators: technology and its associated processes, management and leadership, vision and mission, and organizational culture.

Keywords: intellectual capital; intelligence; integrator; knowledge; values.

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Integrators for organizational intellectual capital

1 Introduction

Powerful concepts have always been used beyond their initial semantic domain due to human temptation of trying them in a variety of situations and new research fields in order to explore their potential and to get better solutions for the problems at hand. As a direct result of this situation, their semantic spectrum has been enriched, and their applicability has been generalized. We may think, for example, to *entropy* (Craig, 1992; Handscombe and Patterson, 2004), *information* (Bar-Hillel, 1964; Brillouin, 1959), *knowledge* (Davenport and Prusak, 2000; Nonaka and Takeuchi, 1995), *intelligence* (Gardner, 2006), and *strategy* (Mintzberg, Ahlstrand and Lampel,1998; Whittington, 2001). In order to illustrate the semantic dynamics of such a concept, let us consider *entropy*. The concept of *entropy* has been defined for the first time by R.J.E. Clausius in 1865, in relation with the second law of thermodynamics (Craig, 1992). Clausius' definition of entropy change could be expressed verbally as being the amount of energy dispersed reversibly at a specific temperature T. Clausius' synonym for entropy was transformation, which in classical thermodynamics is energy's dispersing from a source that is almost imperceptibly above T to a receptor that is at T, or spreading out from where it is confined in a small space to a larger volume whenever it is not restricted from doing so. However, physical real processes are irreversible, and their natural tendency is to go from an ordered state toward a disordered one. In this new perspective, entropy isgenerated by all real processes and it is a measure of disorder. Although the meaning of *disorder* has not been initially in Clausius' definition of entropy, the concept has been enriched semantically for new situations (i.e. irreversible processes). Later on, scientists extended the concept of entropy to new research fields, like *information theory* (Bar-Hillel, 1964), *economics* (Georgescu-Roegen, 1971), *innovation and business* (Handscombe and Patterson, 2004). Thus, the concept of *entropy* has been generalized beyond its initial scientific field, receiving new meanings.

I consider that the relative new concept of *intellectual capital* is exposed to a similar semantic enriching process, due to its powerful potential. In a generic analysis of its roots, Roos et al. showed that: "To be more precise, the theoretical roots of intellectual capital can be traced to two different streams of thought. We will call the two streams the strategic stream and the measurement stream" (Roos et al., 1997, p.15). The first one studies the creation and the use of knowledge, being composed of contributions coming from: learning organization, conversation management, innovation, knowledge management, core competences and invisible assets. The second root is related to measurements and is composed of contributions coming from: human resources accounting, balanced scorecard and financial scorecards. Roos et al. assert that both major components are two sides of the same coin, since what one can measure it can be managed, and what one would like to manage it has to be measured. Intellectual capital theory represents a welding process of these two theories. Regardless of its roots, which can be traced back to different authors (Andriessen, 2004), the concept of intellectual capital covers both the idea of a *potential*, and that of the *action* produced by it in the process of value creation within a given organization.

Strictly speaking, the concept of intellectual capital is fuzzy and somehow confusing since its boundaries are not well defined, and they interact with the boundaries of the human capital concept. For instance, Stewart considers that the intellectual capital "is the

sum of everything everybody in a company knows that gives it a competitive edge", or "Intellectual capital is intellectual material – knowledge, information, intellectual property, experience – that can be put to use to create wealth. It is collective brainpower" (Stewart, 1998). It is enough to analyse the overview presented by Andriessen (2004, Fig.3.2), or to study in detail some of the most representative contributions in this field (Andriessen and Tissen, 2000; Kaplan and Norton, 1996; Roos et al., 1997; Stewart, 1999; Sveiby, 1997). In many schemes, the intellectual capital of any organization contains: human capital, structural or organizational capital, and relational or customer capital. *Human capital* is fundamental because it is the source of innovation and renewal, and it represents the capabilities of the employees to provide solutions to customers. *Structural capital* consists of all organizational relations which make possible the transformation of the intellectual potential into necessary actions to create value embedded into products and services. *Customer capital* represents the value of an organization's relationships with the people with whom it does business (Stewart, 1998). This general structure of the intellectual capital is static and holistic. It cannot show how to increase the value of the potential capital, and how to transform a larger part of it into organizational action and value creation.

Our research shows that we can change the perspective of looking to the intellectual capital, such that its generation to be analysed and improved. Actually, putting in the centre the intellectual capital we are looking at its roots instead of its branches. In this way, we can demonstrate that the value of the intellectual capital depends on some organizational mechanisms we call *integrators*. They have the power to bring together the primary constituents, and to integrate them into the final intellectual capital of the whole organization making use of synergy, as in a system designing process.

2 Primary constituents

2.1 Individual knowledge

Knowledge is a fuzzy concept, yet it is a fundamental concept in understanding intellectual capital. It is fuzzy because during its long history it has been defined and used by specialists coming from different scientific fields, who defined the concept from their own perspective (i.e. Philosophy, Epistemology, Psychology, Mathematics, Physics etc.), and tried very hard to match their definition to the research goal. Also, the concept is context dependent, which means to adapt its meanings to a given social, economical, political, cultural and scientific environment. Due to this cultural and scientific dependence, Nonaka and Takeuchi (1995) identified two streams of semantic evolution: the Cartesian dualism of body and mind, and the Japanese oneness of the body and mind.

Philosophers asked themselves, from ancient times, *what is knowledge*? Plato was one of the first to suggest that knowledge is not perception (Russel, 1972). He pointed out that we perceive *through* eyes and ears, rather than *with* them, and he showed that some of our knowledge is not connected with any sense-organ. We can know, for instance, that sounds and colours are unlike, though no organ of sense can perceive both. We perceive hard and soft through touch, but it is the mind that judges that they exist and that they are contraries. Only the mind can reach existence, and we can not reach truth if we do not reach existence. As a conclusion, "*It follows that we cannot know things through the senses alone, since through the senses alone we cannot know that things exist. Therefore knowledge consists in reflection, not in impression, and perception is not knowledge, because it has no part in apprehending truth, since it has none in apprehending existence*" (Russell, 1972, p.153).

R. Descartes is famous in science because he introduced and used the coordinates system, and used algebraic formulations to describe geometrical positions of different points and shapes in a plane. We use them so extensively that it would be hard to think how we would solve so many practical problems without them. Also, he is considered the founder of modern philosophy, especially due to his capacity to integrate in his thinking models the most recent discoveries in physics and astronomy. His ideas about knowledge have been integrated into a very simple and intuitive expression which made history: *cogito ergo sum.* This expression which means *I think, therefore I am* constitutes the kernel of Descartes' theory of knowledge, and contains what is most important in his philosophy. *Cogito ergo sum* makes mind more certain than matter, and my mind (for me) more certain than the minds of others. The conclusion is that my existence is derived from the fact that I think. As Russell comments the consequences of Descartes statement *cogito ergo sum* (1972, p.565): *"If I ceased to think, there would be no evidence of my existence. I am a thing that thinks, a substance of which the whole nature or essence consists in thinking, and which needs no place or material think for its existence. The soul, therefore, is wholly distinct from the body and easier to know than the body; it would be what it is even if there were no body"*

Thus, the Cartesian doubt contributed in a definite way to this general perspective that *mind* and *body* are and operates as two distinct entities, and only the *mind* is responsible for knowledge generation and knowledge processing. In this context, knowledge of external things must be by the mind, not by the senses. Thus, the philosophy of Descartes contributed very much to imposing the *dualism of mind and matter* which began with Plato and was developed, largely for religious reasons, by Christian philosophy. The Cartesian rationalism presents two parallel but independent worlds, that of mind and that of matter, each of which can be studied without reference to the other. This conclusion is very important in understanding further work concerning knowledge and its interpretation. Also, it is important in understanding the gap between the classical management based on tangible things and the knowledge management, based on intangible things.

In the Japanese tradition, there is a strong emphasis on the *oneness of body and mind.* They are integrated into one entity and knowledge can be acquired through direct experience of the body. This tradition emphasizing bodily experience has contributed to the development of Zen Budhism in medieval times. It is un ultimate state ob being that Zen practitioners seek by means of internal meditation and disciplined life. According to this tradition *samurai* had to develop their wisdom through physical education. Physical exercises contributed not only to the building and strengthening samurai bodies but also to the formation of their character, which included a certain way of thinking. As Nonaka and Takeuchi underlines (1995, p.29), *"Samurai education placed a great emphasis on building up character and attached little importance to prudence, intelligence, and metaphysics. Being a man of action was considered more important than mastering philosophy and literature, although these subjects constituted a major part of the samurai's intellectual education"*.

Later on, in the Meiji era (1868-1912), Kitaro Nishida, a prominent Japanese philosopher built up a theoretical system based on Zen experience. For Nishida, the ultimate reality and existence lay only in the acquisition of facts from *pure experience*, obtained directly by the subject. Thus, in contrast to Descartes emphasis on the mind, the Japanese epistemology tends to value the embodiment of direct, personal experience. In Zen Budhist training students are required to devote themselves to the world of nonlogic throughout their learning process.

In his famous *Book of five rings*, the legendary Miyamoto Musashi stress the importance of developing understanding and strategy in martial arts through direct experience (Kaufman, 1994, p.13): *"In order to be able to determine the possible*

outcomes of combat situations you must constantly maintain the proper attitude by practicing diligently. You can only fight the way you practice. By maintaining the proper attitude, you will always practice diligently with the proper spirit and ensure your ability to become that much stronger". The five rings which structure this book are the following: Earth, Water, Fire, Wind and No-Thing. Each of these rings addresses to a certain aspect of understanding the Way of a warrior and of developing a strategy for his combat. Although the book is written for training the martial artists, the stress is on oneness of body and mind and not on pure physical exercises and sword techniques. It is a rather philosophical approach in order to demonstrate the importance of *integrating* the knowledge obtained through direct experience of the body with the knowledge existing in the mind. As Miyamoto Musashi says (Kaufman, 1994, p.55): "*This book can be considered a path to spiritual understanding for the warrior who truly wishes to understand the Way of the warrior. My heart and soul have been devoted to the Way of strategy ever since I was a young man. I have constantly studied ways to train my hands and eyes. Through constant practice, I have come to understand the spiritual aspects of my strategy"*. By comparing these two different streams of thoughts, it results that in the Cartesian view mind is fully rational, and knowledge has the same nature. It can be obtained through a knowledge transfer process from other people or through an internal reasoning process. We deal with *explicit knowledge*, i.e. knowledge which has a rational root and which can be transferred, explained, shared, accumulated and processes as it is (Nonaka and Takeuchi, 1995).

In the Japanese view, mind and body integrates themselves into a coherent process of knowing. Thus, knowledge can be obtained individually through a direct experience, or it can be obtained through a transfer process. Polanyi (1983) defined the knowledge obtained through a direct experience of life as *tacit knowledge*. The other type is defined as being *explicit knowledge*. The oneness conception about our thinking and understanding life consider that knowledge should be the outcome of the fusion process between *tacit knowledge* and *explicit knowledge* (Allee, 1997; Baumard, 2001; Davenport and Prusak, 2000; Nonaka and Takeuchi, 1995; Polanyi, 1983). Think about people living in equatorial zones where there is never snow. They heard, read and may be viewed in movies snow. Thus, they have the explicit part of the concept of snow. Yet, they have never had the chance to touch, to smell or taste snow. Thus, their understanding about snow is incomplete and their concept about snow is somehow different than that of people living in countries where wintertime brings in snow. In this perspective, the tacit knowledge is very powerful: „*I shall reconsider human knowledge by starting from the fact that we can know more we can tell. This fact seems obvious enough; but it is not easy to say exactly what it means*" (Polanyi, 1983, p.4).

Knowledge integrates both *theoretical* and *practical* aspects of life and sciences. It is both rational and nonrational, abstract and concrete, based on inner feelings and the impact of the environment upon us. As Polanyi remarked: „*We had seen our tacit powers interpreting the world around us by converting the impacts between our body and the things that come our way into a comprehension of their meaning. This comprehension was both intellectual and practical"* (Polanyi, 1983, p.49).

2.2 Individual intelligence

Intelligence is also a fuzzy and debatable concept. As J. Hawkins remarks, „*Fortunately, we live at a time when the problem of understanding intelligence can be solved. Our generation has access to a mountain of data about the brain, collected over hundreds of years, and the rate at which we are gathering more data is accelerating. The United*

States alone has thousands of neuroscientists. Yet, we have no productive theories about what intelligence is or how the brain works as a whole"(Hawkins, 2004, p.2).

In the classic psychometric view, intelligence is defined operationally as the ability to answer items on tests of intelligence. A.Binet created for the first time these IQ (Intelligence Quotient) test about one hundreds years ago. Since then, many contributors refined the IQ tests and developed them as a powerful tool of predicting job performance. These tests measure a general intelligence factor called g, sometimes composed of two parts (i.e. Gf – fluid intelligence; Gc – crystallized intelligence). However, we have to make a clear distinction between the concept of intelligence, IQ and g factor. Intelligence, in this classic view, represents a cognitive ability of a given person; The IQ is an index whoose value represents a certain ability to solve different problems imagined by psychologists as items in the test formulation; g is a theoretical construct to represent a general cognitive ability of a given individual (Jensen, 1998). A task force made of 52 intelligence researchers concluded in 1994 that intelligence is „*a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and a deeper capability for comprehending our surroundings*"(Gottfredson, 1997.p13).

H. Gardner, a professor from Harvard University came up with another perspective. He made actually a semantic reengineering of this concept, by defining *multiple intelligences* (Gardner, 1983). In his view, „*Multiple intelligences theory pluralizes the traditional concept. An intelligence is a computational capacity – a capacity to process a certain kind of information – that originates in human biology and human psychology"*(Gardner, 2006, p.6). An intelligence reflects the ability of solving problems and crafting products in a given community and cultural environment. Gardner defined the following intelligences: musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal. Each intelligence reflects a certain capacity to process information and knowledge and to contribute in solving a problem or to fashion a product. I would like to emphasize the fact that this new view is compatible with the framework of knowledge. If the classical intelligent theory was related actually to the capacity of processing explicit knowledge, the multiple intelligences can process both tacit and explicit knowledge. In this new perspective it is also possible to accept the emotional intelligence concept, dealing mostly with the individual experience and behavioural pattern (Goleman, 1995).

2.3 Individual values

Value is a fuzzy concept, yet a fundamental one in the decision making process, and in defining the behaviour pattern. We refer here to the moral and ethical values, not to the financial worth of goods and services. Thus, values represents beliefs about what is right and wrong and what is important in life. Any judgement based on such beliefs and not on facts is called a value judgement. As such, values should be understood as driving forces in decision making. As R.L. Keeney showed „*Values are more fundamental to a decision problem than are alternatives. Just ask yourself why you should ever make the effort to choose an alternative rather than simply let whatever happens happen. The answer must be that the consequences of the alternatives may be different enough in terms of your values to warrant attention*"(Keeney, 1992, p.3). The relative desirability of consequences resulted from a decision is based on values. This may explain the importance attached to the full spectrum of individual values, in order to anticipate the vectors of this individual decision making process.

The value system works like a kernel of our personality, being deep rooted in our education from early childhood. This is a system of evaluative beliefs concerning the relative worth of a person, place , event or thing. We are born in a given cultural matrix and we receive all these cultural, ethical, moral and religious values from family, school, church, community, university and company. Values are learned , usually from people whom we love, respect, or highly trust. Many of us might therefore look upon the altering of a value system not only as a rejection of a specific value, but also as an unconscious rejection of the person from whom we learned that value. This explain why most attempts at altering a value through direct confrontation are typically met with failure. Yet, values can be changed and managing excellence is based on creating a system of values able to sustain such an outstanding goal.

3 Integrators

3.1 Definition

Kaplan and Norton (2006) presents an interesting metaphor for the concept of organizational *alignment*: the traditional competition of the rowing shells up the Charles River separating Boston and Cambridge. Although each shell contains eight trained rowers, the key to their success is not the force of their muscles or the individual idea about how to win this race. Rowing randomly at different speeds and in different directions may have no integration result. „*The winning crew invariably rows in beautiful synchronism; each rower strokes powerfully but consistently with all the others, guided by a coxswain, who has responsibility for pacing and steering the course of action*" (Kaplan and Norton, 2006, p.1).

Thus, the synergy effect can be generated only when there is a field of forces able to align all the efforts made by rowers, in a perfect timing and rhythm set up by a trained coxswain. This field of forces is capable of integrating individual knowledge about rowing, individual energy and power generated during the race, and individual motivation to win. The final energy and motivation effect represents more than just the summation of individual energy and motivation contribution of each rower. The combining process of individual contributions is highly nonlinear in such a situation, and the final result depends strongly on the power of the integration field of forces. We consider to be both of theoretical and practical interests in understanding and performing much better the organizational analysis to introduce a new concept. The *integrator* concept. Also, we will apply this new concept in this present paper to the analysis of generation the organizational intellectual capital.

> *An integrator is a powerful field of forces capable of combining two or more elements into a new entity, based on interdependence and synergy. These elements may have a physical or virtual nature, and they must posses the capacity of interacting in a controlled way.*

The interdependence property is necessary for combining all elements into a system. The synergy property makes it possible to generate an extra energy or power from the working system. It makes the difference between a linear system and a nonlinear one. In the case of a linear system the output is obtained through a summation process of the individual outputs. In the case of a nonlinear system the output is larger than the sum of all individual outputs. For instance, a mechanical system made of rigid frames works in a linear regime, while a complex electrical system works in a strongly nonlinear regime. In the first case there is only interdependence and no synergy. In the second case there is

both interdependence and synergy. In organizational behaviour, we can talk about linear work in groups and nonlinear work in teams. In the first case, sharing the same goal but not the same responsibility leads to interdependence and a linear behaviour. In the second case, sharing the same goal and the same responsibility leads to interdependence and synergy, which means a nonlinear behaviour. However, synergy is not a guaranteed effect. It must be obtained by an intelligent team management (Robbins and DeCenzo, 2005; Griffin and Moorhead, 2006). We can say that this team management acts as an integrator at the team level.

3.2 Technology and processes

In any organization we can distinguish between the production process and the management process, which are actually interconnected as the two sides of a coin. The production process consists of a certain technology and all associated work processes. In classical industrial companies, technology and its associated processes put people to work together in different chain sequences and assembly line. These are linear systems based on interdependence and a technological flux. People can change their places or can be replaced by others without any change in the final result, as much as their contributions are according to their job requirements. Think about an assembly line for a motorcycle, where each worker is assembling usually only one piece to the whole body. Such an assembly line is not an integrator since it is a linear system. Let us consider now a modern airplanes manufacturing company, where all processes and technologies have been interconnected based on the concurrent engineering philosophy. That means to create a powerful IT system as a core framework and to allow many processes to develop simultaneously and interactively, generating this way the synergy effect. Also, using Computer Integrated Manufacturing (CIM) modern plants realize a total integration of product design and engineering, process planning, and manufacturing by means of complex computer systems (Krajewski and Ritzman, 1999). The final output is much larger than the sum of the individual workers output. In this new production context, technology and its associated work processes act as a powerful integrator. The main role is played by the IT system which is an excellent explicit knowledge integrator. In the new economy organizations where the intangible resources became much more important than the tangible ones, the synergy effect of the IT is felt stronger, and integration power increased almost exponentially.

The future will open new opportunities for this integrator, increasing its role in acting not only upon individual knowledge, but also upon individual intelligence. For instance, Hayes-Roth brings arguments in promoting the idea of the hyper-beings, which are distributed intelligent systems that attain dominance in their competitive arenas through information superiority. „Hyper-beings are not some figment of my imagination. They are organizations of unprecedented scale, spanning nations and continents, coordinating, working around the clock, honing their ability to think efficiently and act precisely. These organizations collect information on a real-time basis, assess their plans and expectations, and modify their models as required”(Hayes-Roth, 2006, p.131).

In conclusion, technology and its associated processes can be an integrator in the new economy organizations, where it act on the individual knowledge and produce the organizational knowledge. The future will bring more powerful integrators, called by some authors hyper-beings, which are distributed intelligent systems. They are capable to act also on individual intelligence to produce organizational intelligence.

3.3 Management and leadership

Management is by its own nature an integrator, much more powerful than technology and its associated processes. However, unlike technology which is a highly specific and rather stiff integrator, management is a generic and rather flexible integrator. It acts upon the individual knowledge transforming it into organizational knowledge, and upon the individual intelligence transforming it into organizational intelligence. The technology integrator is capable to act only upon the explicit knowledge, which is codified in a certain way. The management integrator can act upon both explicit and tacit knowledge, generating explicit organizational knowledge and tacit organizational knowledge (Andriessen, 2004; Baumart, 2001; Davenport and Prusak, 2000; Debowski, 2006; Nonaka and Tacheuchi, 1995).

The management process is intimately related to the production process, such that in an old type of manufacturing plant there is an old type of industrial management. In this situation, if the technology is very close to a linear system, the management will be predominantly linear and the synergy effect will be very small. Of course, workers are not machines but their activities are designed to be fuelled mostly by their energy and practical knowledge. The integrator will produce little organizational knowledge. On the other hand, in the new economy companies, where the technology integrator is highly nonlinear, the management must be also highly nonlinear in order to match the process requirements. The final output in this situation contains large synergy and the organizational knowledge contributes greater to the intellectual capital. However, we may find some anomalies as well. For instance, a university is a highly nonlinear value system. If the academic management is based on linear thinking patterns (Bratianu and Murakawa, 2004), and linear decision making processes, the integration effect will be very small. I am considering especially universities from the former socialist countries, where the linear thinking and decision making is still very powerful and very inefficient. In these situations, the academic management is a poor integrator with very little synergy effects on the organizational intellectual capital (Bratianu, 2004; Bratianu, 2005).

I am not going to open the debate concerning the overlapping meanings of management and leadership, or their definitions (Robbins and DeCenzo, 2005; Sadler, 1997). I am going to consider a continuum between management and leadership, with a driving force oriented from the left hand side toward the right hand side. Far away to the left I shall consider the linear management, and far to the right I shall consider leadership. Somewhere in the middle is situated the nonlinear management. The industrial era management is situated to the left, while the new economy management is situated in the middle. That means that leadership is a much stronger integrator than the new management since it acts especially on the individual intelligence and the individual core values of employees. While the management is emphasising the integration process of individual knowledge and individual intelligence, leadership is emphasising especially the integration process of individual intelligence and individual core values. Thus, it is a strong integrator with a powerful impact on the generation of organizational intellectual. Great companies have great leaders, capable to inspire all the employees with their force of vision and motivation (Menkes,2005; Collins and Porras, 2002; Welch,2005). Great companies run by leaders succeed in generating greater intellectual capital than companies run by mangers. In order to increase the organizational intellectual output it is necessary to move from the operational management toward the strategic management and leadership.

3.4 Vision and mission

Just continuing this above idea, moving toward strategic management I shall put forward the vision and mission statement for a company. Vision or the strategic intent is the "*leveraging of a firm's internal resources, capabilities, and core competencies to accomplish the firm's goals in the competitive environment*" (Hitt, Ireland and Hoskisson, 1999, p.24). Vision means a projection into the future of the company, a projection capable of a strong motivation and inspiration for all employees. An application of this vision in terms of products to be offered and markets to be served constitutes the company mission. Thus, the strategic mission is externally focused.

An effective strategic mission establishes a company's individuality, and it should be inspiring, exciting and relevant to all stakeholders (Dess, Lumpkin and Eisner, 2006; Thompson and Strickland, 2001). Together, the company vision and mission constitutes a powerful integrator which acts especially on the emotional intelligence and core values of all the employees and stakeholders. Great leaders know how to use this integrator in generating valuable organizational intelligence and driving forces for elaborating and implementing successful strategies. Since emotions have a strong nonlinear nature, this integrator is capable of generating much more synergy than the previous integrators acting mostly on knowledge.

3.5 Organizational culture

Peters and Waterman were among the most convincing authors in emphasising the great importance of corporate culture in achieving excellence. As they conclude in their research of the best-run companies, "*The excellent companies are marked by very strong cultures, so strong that you either buy into their norms or get out. There's no halfway house for most people in the excellent companies*"(Peters and Waterman, 1982, p.77). A strong organizational culture is a system of core values, traditions, symbols, rituals, and informal rules that spells out how people are to behave most of the time. Companies that have developed their personality by shaping values, making heroes, spelling out rites and rituals, and acknowledging the cultural network have an edge over the others. These companies have values to pass along their life, not just products and profits.

Organizational culture is a very powerful integrator since it acts especially on the individual intelligence and individual core values, generating the spirit of excellence. However, the organizational culture can produce also adverse results if its core values are based on fear and punishment, and there is a mismatch between corporate interests and individual core values. Great leaders have always understood the importance of the corporate culture and thus they contributed first in developing a strong, and stimulating culture. As an integrator, organizational culture contributes especially in building up an intellectual capital with a great potential for innovation. Also, it can play a significant role in strategic and change management, and in crafting a successful organizational behaviour (Griffin and Moorhead, 2006).

4 Conclusions

The purpose of this paper is to analyse the organizational intellectual capital as an integrative process, searching for its roots instead of its branches. Thus, we consider as fundamental constituents to be individual knowledge, individual intelligence and individual core cultural values. Knowledge is considered in its complex structure of tacit

and explicit components. Intelligence is considered in the Gardner multiple perspective, incorporating both rational and nonrational aspects. Core values are the most important elements in the decision making process, and they have been acquired from early childhood through the education system.

All of these individual constituents are integrated within any company generating intellectual capital which comprises: organizational knowledge, organizational intelligence and organizational culture. The integration process can be done by some powerful fields of forces, we call integrators. They are based on two main characteristics: interdependence and synergy. This new concept we introduce in this paper helps us to understand the generation process of the intellectual capital, and thus how to proceed in order to increase the synergy effect in the final output.

Technology and its associated processes act on individual knowledge, and especially on its tacit component. Only new IT systems stimulates also the individual intelligences and act upon them in building up the organizational intelligence. Management and leadership constitutes a strong integrator especially in its nonlinear segment of the whole continuum. Leadership is most important for its power to act upon individual knowledge, individual intelligence and individual core values. Vision and mission constitutes also an interesting integrator, as an offspring of the strategic management. It acts especially on the individual emotional intelligence. Organizational culture has been proved to be a very powerful integrator since it acts especially on individual intelligence and core values, generating organizational behaviour patterns.

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