

## THE KEY PROCESSES OF KNOWLEDGE DYNAMICS AND INTELLECTUAL CAPITAL IN ORGANIZATIONS

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**Abstract:** *Within this paper, we will conceptually approach the influence that knowledge dynamics processes have upon the intellectual capital at the organizational level. In order to achieve our scientific goal, we gradually present and discuss what we consider to be key issues for the research topic. First of all, we present our perspective on the complexity of the knowledge dynamics concept and explain why and how knowledge dynamics must be approached differently in order to obtain individual and organizational performance. For an organization is of fundamental importance to have a clear perspective on the types of existing knowledge. Correct identification of knowledge according to various criteria helps to manage them effectively and therefore contributes to the successful achievement of organizational objectives. Throughout another section of this paper, we argue that knowledge dynamics represents multiple transfers through different processes of which the best known are: socialization, externalization, internalization, combination. These processes are possible due to the existence of two forms of knowledge as tacit knowledge and explicit knowledge. Intellectual capital and knowledge dynamics are largely debated concepts and the global evolution provides continuously new issues for discussion due to their dynamic nature. The intellectual capital of an organization is a complex structure, a very dynamic component and an endless source of innovation and development if it is appropriately capitalized. Therefore, we underline the interdependences of knowledge dynamics processes and intellectual capital components within the organization. Finally, throughout this paper, we will approach in depth important issues about the influence of knowledge dynamics processes and intellectual capital at the organizational level.*

**Keywords:** *knowledge dynamics, intellectual capital, strategic thinking, organizational integrators*

### Introducing the key processes of organizational knowledge dynamics

Following several decades of complex exploration and exceptional confrontations, there is a general acknowledgment and accommodation towards the dynamic nature of knowledge – all through the phenomenon of knowledge dynamics. As knowledge is dynamic by its nature we may say that it can move in the same shape however between various receptors. Additionally, knowledge can be changed progressively taking another form. The same information can exist in various structures of various individuals. With respect to its nature, knowledge has been alluded to as article or process, however next to this, scientists have examined around a few different angles like the setting of information, climate social, organizational or individual and even about its confinement be it the human mind, programs, information bases, or symbols (Bratianu, 2008; Bejinaru et al., 2011).

The most important papers on this subject speak in similar terms about the dimensions of knowledge dynamics. "Opposite of individual knowledge is the organizational knowledge that is very dynamic: upon they work a variety of forces" (Davenport & Prusak, 2000, p.25). Knowledge dynamics means knowledge transformation from one form to another form in terms of specific principles. The changes may occur both at the level of tacit knowledge and explicit knowledge, which can be continuously transformed from one form of knowledge to another. Considering all perspectives, the knowledge dynamics represents multiple transfers through different processes of which the best known are: socialization, externalization, internalization, combination. Transforming information into knowledge occurs when individuals: compare and integrate new information with existing one, imagine the consequences of their decisions and actions; share and analyze their ideas with others. Nonaka and Takeuchi have undergone complex research and found out that employees of Japanese companies have the ability to convert tacit knowledge into explicit knowledge through a dynamic process of human interaction. Based on their findings, they gave meaning and content to the concept of knowledge dynamics (Nonaka, 1994; Nonaka & Takeuchi, 1995).

The SECI model relies on the theory of organizational resources according to which the tangible resources were replaced by the intangible resources and the tangible processes were replaced by the intangible processes. Any organization owns both types of resources and *knowledge* represents the complementary component of the tangible resources dynamics. Thus knowledge management has the role of a link between operational management and strategic management. The level of focus upon the knowledge dynamics within the organization depends greatly on the managerial vision with regard to the development and enrichment of the organizational knowledge platform (Boh, 2007; Hansen, 1999; Hill, 2008; Lam, 2000). The leadership vision is the one which targets on the creation of necessary knowledge in order to complete the organizational resources in a long run (Bratianu, 2017).

### **A new perspective upon the intellectual capital components**

In the current knowledge-based economy, Intellectual Capital (IC) has been seen as the key element for a competitive business. Intellectual capital is a company's asset such as professional experience, skills, knowledge, organizational structure, and routine and internal/external relationship. The most common intellectual capital framework classified these characteristics into human capital, organizational or structural capital and relational or customer capital (Mazzota & Bronzetti, 2013; Schiuma & Lerro, 2010; Edvisson & Malone, 1997; Spender, 1996; Spender & Grant, 1996; Stewart, 1997).

In this approach, human capital represents the overall knowledge, generally in tacit form, of all persons working within an organization. This knowledge does not remain in the organization when the individuals go out. Human capital consists of knowledge, skills, and experience of employees and managers. It is a kind of capital, which is not the property of the firm, so the company needs to enforce the link with its workers as well as needing to find ways to transform the tacit knowledge into structured knowledge (Bratianu & Vatamanescu, 2017).

The structural capital is represented by institutionalized knowledge and codified experience stored in the database, routines, patent, and manual. Whereas human capital is possessed by the employees, structural capital is controlled, possessed and managed

by the firm. In this sense, structural capital can be seen as the skeleton and the glue of an organization because it provides the tools and architecture for retaining, packaging, reinforcing, and transferring knowledge along the business activities. Finally, structural capital, consist of the stock of knowledge that stays in the organizations in form of tacit and explicit knowledge, that is contained in documents, routines and organizational culture. In another word, structural capital is a firm's supportive structures for knowledge creation and deployment as well as the set of knowledge, skills, and abilities embedded in the organizational structure (Mazzota & Bronzetti, 2013; Bontis, 1999; Stewart, 1997).

Furthermore, human capital is a fundamental component due to its endless generation of innovation as well as its impressive adaptation to the organization's needs. Human capital may be rebuilding at a greater speed then structural and customer capital, which need more time to reach a convenient estate. However, in order for the human capital to instantaneously bounce from one stage to another, pushing forward its evolution there has to be an appointed knowledge dynamic (Bejinaru & Iordache, 2011).

Relational capital, mainly tacit knowledge, it is understood as all knowledge arising from the interaction between the firm and its stakeholders. Relational capital reflects the organizational value that emerges not only from a firm's relations and connections with customers, but also with current and potential suppliers, shareholders, other agents, and the society in general (Ordoñez de Pablos, 2005). The relational capital is the source of the reputation, credibility, consent, and image of the organization (Leon, Pinzaru & Zbucea, 2015). The relational capital consists of knowledge resources derived from networks of relationships between peer, customers, suppliers, and business associates. These three new forms of capital capture a company in movement as it transforms its skills and knowledge into competitiveness. Therefore, the company needs to keep up and develop the existing capital structure and also acquire know-how, skills and professionalism, train and develop employees by emphasizing their business skills and capital to focus on trading and customer (Tennyson et. al., 2013).

When related to intellectual capital, knowledge has to distinguish through its value for the organization. Knowledge actively generates value, only throughout its use. The greater the knowledge dynamics is the greater impact of intellectual capital value. Knowledge creates value by incorporating it into the company's products. Knowledge dynamics significantly influences the company's capacity of producing and delivering valuable economic products to clients. Incorporating knowledge into the organization it will lead to valuable outputs which not only that enclose knowledge but also were the result of previously well-processed knowledge (Bratianu, 2018).

The research was undertaken in domains like knowledge management, IC and learning organization obviously emphasize the actual estate of disciplines in the context of organizational change. Each of these disciplines represents the need to shape the employee's knowledge as a must for the survival in the present business environment. Out of the whole picture, the researcher will construct the cause-effect relationship between the organization and its knowledge dynamics (Bejinaru & Iordache, 2010).

Intellectual capital comprises both human capital and structural capital for the purpose of using their synergy in order to increase the organization's growth. The company's value depends and also comprises the entire value of workers, together with the

company structure. Actually “the intellectual capital develops the company values and optimizes the company business operations”. (Davenport & Prusak, 2000) Intellectual capital implies human resources, information technology, business strategy, and employees’ participation in order to rapidly transfer the imperative experiences across the company. For individuals to share knowledge within the company, the management has to facilitate the dynamics of knowledge among employees, enabling them to become knowledge workers. The company has to put at disposal of members the available information, to provide communication and to train everyone to use the information and technology the company possesses (Hunter, 2002).

Discussing the intellectual capital dynamics means to have an integrative view of the following aspects. Competences include knowledge and practical abilities on which they base. The attitude refers to the employee volition of using his/her knowledge and abilities to serve the organization’s interest and he/she may be influenced by motivation and behavior. Intelligence refers to the employee’s capacity to use knowledge and abilities in various contexts and in order to increase knowledge and competences throughout learning. Relating capacity represents the individual ability to establish relations with others -clients, suppliers, business partners, and other stakeholders. The innovation and development rate comprises the intangible aspects that may improve the intellectual capital, all the ‘elements’ that were built or conceived and that will have an impact upon the future value of the organization’s intellectual capital.

The nature of the organization is to manage valuable knowledge only for itself and the individuals inside. The individuals’ nature is to adapt their work –of creating knowledge –to the organization’s requirements and also resources. The intellectual capital existing inside the organization generates that organization’s values, knowledge, and intelligence. The output of values, knowledge, and intelligence depends greatly on the input. The organization’s intellectual capital is built with the aid of human elements and structural elements.

The existence of knowledge dynamics serves as an organizational competence that helps in creating the intellectual capital at the necessary level that might increase the organization’s performance. The link between intellectual capital and knowledge dynamics at the individual level may be reduced to a person’s motivation to increase his/her participation in such a way to contribute to building an organization oriented towards learning. On the organizational level we picture the dynamic processes on the vertical axis contributing to transforming individuals’ assets into organizational, and on the horizontal axis, they reflect the progressive knowledge transformation into action (Bratianu, 2008; Bejinaru et al., 2011).

### **The influences of knowledge dynamics and intellectual capital**

A knowledge-based perspective sees the organization as a repository of knowledge resources and capabilities. Throughout the perspective of intellectual capital, the organization’s knowledge dowry includes the expertise and experience of individuals, the routines and processes that define the distinctive way of doing things inside the organization, as well as the knowledge of customer needs and supplier strengths. To the extent that the knowledge and capabilities are unique and difficult to imitate, they confer a sustainable competitive advantage for the organization. Knowledge is cumulative, so the more the organization knows the more that it can apply what it knows to new areas

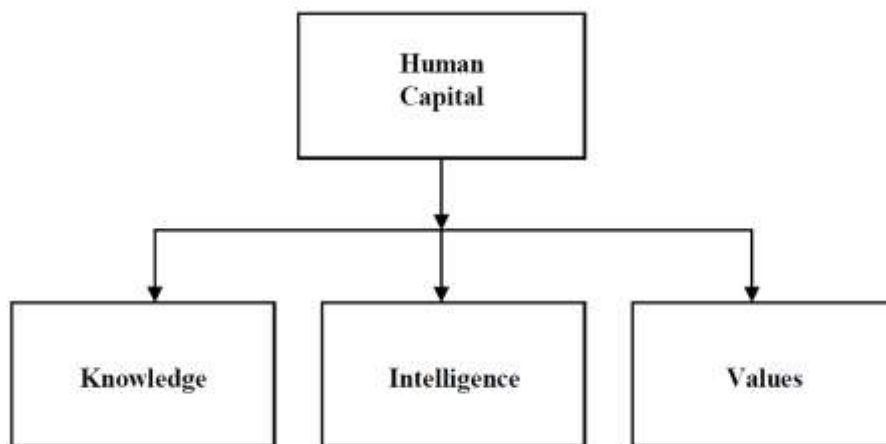
of opportunity and increase its returns. The primary rationale of organizations is thus the creation and deployment of knowledge. Performance differences between organizations are a result of their different stocks of knowledge and their differing capabilities in developing and deploying knowledge. Knowledge and competence have become the primary drivers of competitive advantage in advanced nations (Choo et al., 2001).

The field of intellectual capital poses special challenges because is conceptualized from numerous disciplines resulting in a mosaic of perspectives. Thus, accountants are interested in how to measure it on the balance sheet; information technologists want to codify it in systems; sociologists want to balance power with it; psychologists want to develop minds because of it; human resource managers want to calculate a return on it; and training and development officers want to make sure that they can build it (Choo et al., 2001).

The idea of intellectual capital surfaced from the dialogue between researchers and practitioners seeking a more complete representation of the visible and invisible assets and processes that constitute a firm's capacity to create value (Bontis, 1999). Conceptually intellectual capital consists of human capital and structural capital. Human capital is a function of the competence, intellectual agility, and attitudes of the organization's members. Structural capital refers to the learning and knowledge that is enacted in processes (process capital); knowledge that is codified as documents, objects, and intellectual property (intellectual assets); and the reputation and relationships the organization has developed over time with customers and partners (relationship capital). The dynamic perspective is opposite to the operational structure based on the static model of intellectual capital which has been developed from the practical need of measuring the contribution of intangible assets to the market value of a given company. In this perspective, intellectual capital is considered to be the sum of everything everybody in a company knows that gives it a competitive advantage (Bratianu, 2008).

Roos et al. (1998) observe the distinction between intellectual capital (IC) and organizational knowledge as follows: "While knowledge is a part of the intellectual capital, IC is much more than just knowledge. Brands and trademarks, as well as the management of relations with external parties (trade distributors, allies, customers, local communities, stakeholders in general and the like), are all dimensions of value creation." The strategic management of intellectual capital is not only concerned with the identification and measurement of stocks of organizational knowledge, but also with the control and alignment of flows of knowledge (knowledge dynamics) across organizational levels in order to enhance performance. Thus we must state that the interdependences of knowledge dynamics processes and intellectual capital are obviously continuous, strong and rapidly changing (Prelicean & Bejinaru, 2016).

Several authors (Ordonez de Pablos, 2003; Roos et al. 1998; Bontis, 1999; Pöyhönen & Smedlund, 2004) have noted that most studies tend to view intellectual capital merely from a static point of view, whereas in order to understand how organizations use intellectual capital for value creation, a more dynamic approach is required (Kianto, 2007). In figure 4 we show that human capital can be structured into three independent entities: knowledge, intelligence and values.



*Figure 1. Operational structure of the human capital  
(Source: adapted after Bratianu, 2011)*

Knowledge contains both tacit and explicit components which are generated at the individual level and afterward developed (due to their ontological dimension) at the group level and organizational level. Intelligence is considered in its multiple frames as the capacity of processing knowledge accordingly to a certain human dimension. The greater this capacity is the more will grow the IC. Values are considered here in the cultural framework of a given society. Values represent the most inner part of an organizational culture that guides the decision making process. At an organizational level, the values reflect traditions, symbols, rituals and other ingredients of organizational culture (Bratianu & Orzea, 2013; Davenport & Prusak, 2000; Edvinsson & Malone, 1997).

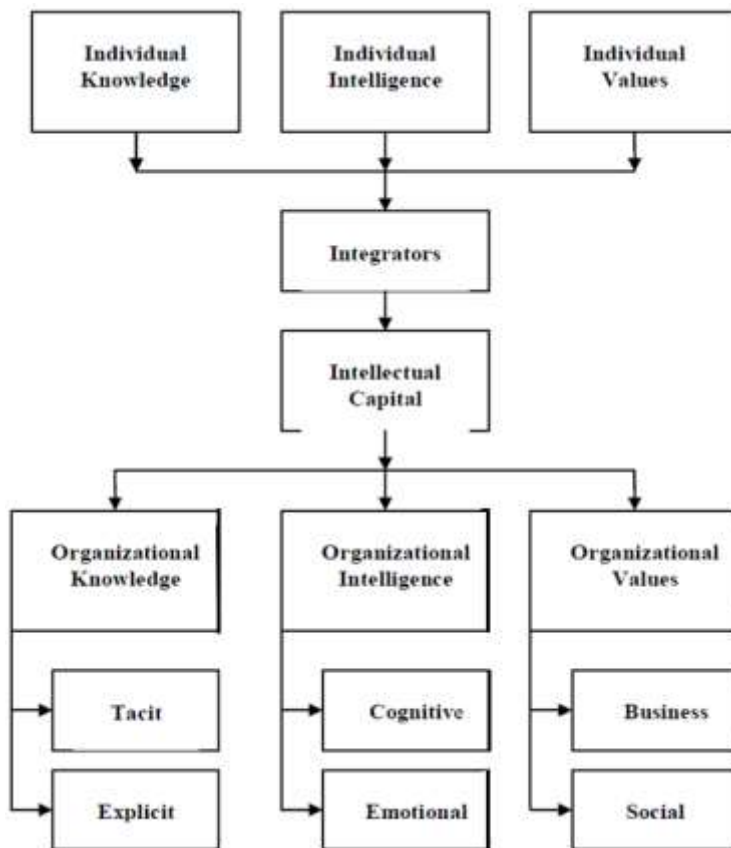
If we agree that human capital at the individual level can be structured into these three categories, then it is easy to demonstrate the fact that these categories can be identified in the structural capital and relational capital as well. That means that measuring intellectual capital as a sum of human capital, structural capital and relational capital is misleading since we can measure some entities twice or even three times. Human capital, structural capital and relational capital are not independent entities from their content point of view. On the other hand, knowledge, intelligence and values are independent entities and can be considered as building blocks of the organizational intellectual capital (Bratianu, 2011; Bratianu & Bejinaru, 2016, 2017).

Organizational experience demonstrates every day that knowledge is in a continuous transformation process at both individual and organizational levels. Performing a literature search and analysis, Kianto (2007) considers that there are three main dynamic interpretations for intellectual capital: a) value creation dynamic; b) organizational activities and c) change capabilities. (Bratianu, 2011) The first dimension shows how different resources interact to create value for the organization. That means that two companies having almost the same tangible and intangible resources may have different intellectual capital potentials due to the different ways these resources interact and combine together as a result of managerial capabilities.

The second dimension signifies the importance of all activities through which knowledge is generated, acquired, disseminated and used effectively in the organization.

It is not important how much knowledge one organization has got, but how much it is able to process effectively. For instance, there is an interesting learning paradox about universities, which are considered as knowledge-intensive organizations. The paradox may be formulated as follows: although a university is an organization based on learning processes, it is not necessarily a learning organization. It can become a learning organization if and only if there is at least a strong *integrator* to assure the transition from individual learning to the team and organizational learning (Bratianu, 2008).

The third dimension of intellectual capital focuses on organizational capabilities for generating and managing change. This change is necessary for continuous adaptation of organization to the turbulent external business environment. Innovation, learning, and renewal are the major topics related to this third dynamic dimension of intellectual capital (Kianto, 2007; Roos et al., 1998). Although these three dimensions are associated to the dynamic nature of IC, the basic structure of the organizational intellectual capital does not change, which is a severe limitation in understanding and evaluating the potential of intellectual capital (Bratianu, 2011; Franz, 2010).



**Figure 1. Dynamic structure of the Intellectual Capital**  
 (Source: adapted after Bratianu, 2011)

The potential of the IC's components may be entirely revealed and used through the organizational mechanisms that are called –integrators. Integrators- 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 (Bejinaru, 2016; 2017). We have already mentioned that the static model of intellectual capital has many limitations and vulnerabilities as the three main components of intellectual capital are not independent entities. At this point, Bratianu (2011) demonstrates that when measuring the organizational intellectual capital there are several elements that will be quantified more than once, maybe two, three or four times. Bratianu (2011) shows that each main component of the intellectual capital may be divided into three distinct/independent entities: knowledge, intelligence, and values. According to the new perspectives presented about intellectual capital and considering the dynamic nature of its components, we promote the new dynamic structure of the intellectual capital as designed in figure 5.

Within our figure 5, you can observe twice the term “intelligence” as it once relates to the individual and then to the group/company. The bottom line of this figure is that the circuit has logic and obviously shows the dynamics of intellectual capital within the organization. The represented process is continuous and each time its “loop” is different as all components are dynamic and change their proportions. The dynamics of human elements is irreversible and unstoppable as individuals learn either through training (if provided) or through practicing and experiencing; the dynamics of the structural elements is the consequence of humans’ entrepreneurship. The nature of humans is to change everything around in order to suit their interests and this is why humans learned in time to get things moving.

## Conclusions

As we systematically argued in each of our sections intellectual capital has been debated by many, defined by some, understood by a select few, and formally valued by practically no one. The great challenge for business leaders is to discover the magic equation that shows how to increase the intellectual capital of the organization and thus obtain greater revenues.

The dynamic understanding of intellectual capital provides insights for managers. Instead of viewing the management of intellectual capital as controlling the stock of codified knowledge resources possessed by the organization at present, the dynamic approach directs attention to the future-oriented management of flows and the facilitation of knowledge sharing, learning, and innovation. More specifically, the value-creation-process view emphasizes that managers should be highly aware of how intangible resources influence value creation and what kinds of synergies there are between different types of resources.

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We conclude by reminding once again that the intellectual capital of an organization is a complex structure, a very dynamic component and an endless source of innovation and development if it is appropriately capitalized. Therefore, we underline that approaching the interdependences of knowledge dynamics processes and intellectual capital components within the organization represents a great opportunity for improving the use of organizational resources.

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