KNOWLEDGE COMBINATION AND EXCHANGE: THE FUNDAÇÃO EZEQUIEL DIAS EXPERIENCE

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Summary: The article portrays a work of research related to knowledge management, applied by a public health assistance organization over a period of six years. The work's importance is associated to identifying how a public organization prioritizes knowledge management as a strategy for obtaining competitive advantage, aiming for effectiveness in providing services to the community and its own sustainability, in a competitive business environment.

Through the concept of social capital, in the theoretical reference, the research seeks to unveil how the social capital intervenes on the creation, the appropriation and the knowledge exchange, as well as what is the relationship between the intellectual capital's creation in the organizations and the value creation processes.

The methodology employed on the research was built through semi-structured interviews and analysis of the organization's public documents, making possible the comprehension of the corporate universe.

The research work's conclusion points to the good results coming from the adopted strategy, in regards to the knowledge management, but highlights the conflicts in managerial decision taking, resulting from the public organization's response capacity in a high competitiveness environment.

Keywords: information, knowledge, competence, social capital, intellectual capital, competitive advantage.

1. The Information Society

The high grow rates in the post-war world economy were sustained by a technological regimen based on the extensive use of energy, led by great hierar-

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chized companies in the petrochemical, automobile, armaments and consumer goods mass production sectors. The technological regimen known as *fordist mass production* needed, for its constant expansion, great investments in infrastructure, almost totally done by the public power, which also contributed to stimulate the market demand and, consequentially, feed the production, constituting the *fordist vicious circle*.

The fordist era's technical-economical paradigm, the technological regimen, as all the previous technological trajectories, kept a definition concerning the relevant problems to be faced, the technological options to be utilized that, through learning processes, lead to incremental and radical innovations on the productive processes. Thus, a technical-economical paradigm is a result of an evolutional process in which persons and organizations learn in a cumulative manner improving the technological capabilities, seeking to develop rules of how to experience environments in which "[...] tomorrow is never close enough to yesterday" (Dosi, Orsenigo, 1988, p.27).

The theory, Schumpeterian, regarding the creative destruction processes, indicates that the periods of elevated growth, or, profound recessions in the world's economy, are associated to the diffusion of new technical-economical paradigms, in which the social-institutional structure needs to adapt itself to the new technologies' diffusion. The emerging, the diffusion of a new paradigm, leads to a differentiated grouping of supplies in the productive universe, clearly seen in lower cost structure with long term supply availability, making possible a set of organizational innovations and related technologies. The limits to production growth in the previous paradigm justify the pertinent risks to the adoption of the new technologies in adaptation processes, which restructure the organizations, highlight new entrepreneurs, establish a new profile of goods consumption, services and consumer behaviors (Freeman, Perez, 1988).

The last decades of the 20th century saw the transition of the fordist era's paradigm to the information technology paradigm, in the meaning of "[...] technologies to act over the information, not only information to act over the technology" (Castells, 1999). The information technology paradigm is based on flexibility with increasing interaction complexity which sustains an elevated creativity under the network logic which empowers the information technology's utilization on all the productive sectors, from the advances in communications to the deepening of the genetic revolution. The information society differentiates itself by the fact that, for the first time in history, the human mind is a direct force of production, not only a decisive element in the productive system (Castells, 1999, p.51). The organization's productivity and competitive position depends essentially on the knowledge generation, processing and application capacity in the productive universe. The resources which constitute potential services, the origins of the organization's unique character (Penrose, 1995).
Knowledge applied to the knowledge in organizations may be translated by the ability in using technologies and qualification development in production, resulting in competences aiming at adaptation to the opportunities associated to change. The roots of competitive advantage are situated in the organization's central competences, a process of collective learning, built from work organization in order to obtain a higher aggregate value (Prahalad, Hamel, 1990). The competitive advantage cannot thus be restricted to an effect of asymmetric information over the markets, but mainly the adding of value in the productive processes resulting from knowledge combination and exchange in a particular form (Spender, 1996).

Intangible assets combined in a particular form, heterogeneous, differentiated strategic resources, enable the strategy definition with the intention of higher business effectiveness. As it was defined by Wernerfelt (1984), they are resources of the organization, source of competitive advantage, being sustainable if of difficult access by competitors in the market. Barney (1991) establishes an analogy between the heterogeneity and immobility of and organization's resources, binding to the positive reputation an important source of competitive advantage. Associating heterogeneity to the intangible assets' combination means talking of learning in the organizations, in the meaning in which individual agents constitute themselves as collectives sharing several meanings.

2. Intellectual Capital

Nahapiet e Ghoshal (1998) defined intellectual capital as the knowledge and knowing ability of a social collective, an organization, an intellectual community. The authors acknowledge that an organization's intellectual capital is resultant of socially incorporated forms of knowledge, different from a simple gathering of their integrants' individual knowledge.

Lam (2000) analyses the organizational knowledge in two dimensions: epistemological and ontological. Epistemological, associated to the distinction promoted by Polanyi (1962) between tacit and explicit knowledge, the first implicitly manifested and the second expressively articulated. Ontological, in the sense of being of individual or collective nature, shared between the organization's integrants. The individual knowledge, of specific domain, has in autonomy its specific characteristic, and the collective knowledge makes itself present in the rules, in the proceeding and in the shared norms.

Spender (1996) builds a typology similar to the one developed by Lam (2000), involving the different knowledge types. The conscientious knowledge, explicit and individual, is present in concepts, stored structures, which move with the individual, which challenges an increasing persuasion power by the
management in the solution of agency problems. The **automatic knowledge**, tacit and individual, regards the practical knowledge and the qualifications inherent to the individual that demands from the organizations' management, beyond great persuasion, greater skills in the direction of building environments which empower creativity. The **objective knowledge**, explicit and social, refers to the use of available public knowledge, through scientific community or strategically obtained in the market. The **collective knowledge**, tacit and social, is produced internally in the organizations, being characterized as the most strategic, as it is associated to organizational learning processes: when shared, it contributes to the organization collective knowledge's growth.

The collective knowledge, produced in the organizations, is different from the one absorbed in the market, because coordination, communication and learning are associated mentally to a collective identity. The organization, understood as a social community, through the created knowledge's combinations, evolves through the new capabilities, as also as through the opportunities and influences of the external environment. The shared identity diminishes the communication costs, establishes the coordination rules and influences the learning processes. The learning through identification is more effective that through incentives, because it allows development, the sustenance of routines and organizational procedures, which can lead to innovation and continuous improvement, through experimentation processes, under attempt and error from multidisciplinary teams in daily contact (KOGUT, ZANDER, 1996).

The intellectual capital creation in the organizations, even if it involves a combination of the four knowledge types established in the typology proposed by Spender (1996), is resultant of human action, product of interactions anchored on beliefs and commitments. As proposed by Berger e Luckmann (2004), the interaction among people in a historic and social context makes them share information enabling the social knowledge's construction as reality, having thus influence on these people's behavior and attitudes. According to Nonaka e Takeuchi (1997), the organizational knowledge's creation amplifies the knowledge created by the individuals contributing for the organization's knowledge network. In the author's conception, the creation and the expansion of knowledge happens through social interaction between the tacit and the explicit knowledge.

The creation of value from the organizations resulting from social interactions done by human beings, producing knowledge combination and exchange, assumes relationships' construction, formation of social networks and trusting relations, which provides values systems which motivates joint efforts. The social capital incorporated in the personal relations identifies the development of individuals in the communitarian relations, as the productive organizations (JACOBS, 1961). In this sense, social capital in the organizations is a determinant factor in the exchange, combination of knowledge and creation of intellectual capital.
3. Social Capital and Creation of Intellectual Capital

The term social capital is directly associated to the idea that the individual actions or those promoted by groups of persons are more explored when individuals or a group of people are part of interpersonal networks. FUKUYAMA (1996), states that one of the most important lessons that are learned in the economical life is that the well-being, as well as the capacity to compete is conditioned to a single and broad cultural characteristic: the level of trust. COLEMAN (1988) defines social capital through its function related to the social structure, which comes to facilitate some actions of persons or corporations inside the structure. Social capital is a productive resource, as physical and human capital, and it is situated in the universe balanced by the actions among the actors. BOURDIEU (1985) defines social capital as the aggregate of resources linked to an institutionalized relationships network of mutual acquiescence or acknowledgement. ADLER e KWON (2000) summarize the various concepts, stating that social capital is a resource utilized by individual and collective actors, present in social relationships of some durability. The authors highlight that, being a resource, there may be an investment in social capital with expectation of future, in the sense of individual and collective relations that may result in valuable information and knowledge. These relations may compensate human capital absences, because social capital is localized in the relations and grows as such relations become more trustworthy. The complementary aspect of social capital to other resources leads to an improvement of the economical capital, reducing the economical transaction costs.

NAHAPIET e GHOSHAL (1998) present a typology relating the social capital sources with the intellectual capital's combination and exchange, which provides the creation of new intellectual capital in the organizations (picture 1), in an interactive process which strengthens the mutual influence between the social capital and the intellectual capital. Synthetically, the authors group the social capital sources in three dimensions: structural dimension – cognitive and relational.

- Cognitive Dimension – codes, shared narratives.
- Relational Dimension – trust, rules, identification.

In the authors' perspective, four conditions must be satisfied for intellectual capital exchange and combination: access from the agents to intellectual capital exchange and combination manifested in the access conditions to objective and collective knowledge; anticipation of value generation, learning receptivity or new knowledge generation; motivation to share information, transfer knowledge; capability for combination, previous knowledge, absorption capacity.
The three dimensions of social capital facilitate the intellectual capital's development. The structural dimension, through the relationships networks, motivates the individuals to exchange knowledge through information channels. Granovetter (1985) draws attention to the fact that social relations are more important for generation of trust in economical life than any institutional arrangement. The author highlights that rational individuals in economical transactions value the knowledge of social relations aiming at trustworthiness, which may motivate new transactions. It is a clear opposition to the utilitarian view of classic economy, in which the relations necessarily must be conducted in a hierarchal manner, the hobbesian governance, to prevent the inevitable litigations.

The formal structure reflects the skeleton in the corporations, but the informal networks constitute the central nervous system conducting the collective thinking processes. Under this viewpoint, Krackardt e Hanson (1993) affirm that the managers should help employees to develop relationships in the informal structure, aiming at the construction of strong networks with high interaction frequency and networks frail in frequency, with the intention of solving problems and generating new ideas. Burt (1992) highlights the importance of multiple relationships networks outside the traditional ones, known by a high trustworthiness level, in the access to interdisciplinary knowledge, aiming for
knowledge exchange and transfer. The individual relationships networks contribute to the agents’ access, to the anticipation of the value generations, to the knowledge combination and exchange in the typology proposed by NAHAPIET e GHOSHAL (1998), as seen of picture 1.

In the cognitive dimension of social capital, is highlighted the language and narratives’ sharing to facilitate the information exchange between people. The shared language strengthens the knowledge combination’s capability (NONAKA, TAKEUCHI, 1997). New interpretations resulting from frequent conversations, promoting new beliefs about the social structure. Narratives that refer to a common reality or myths, that in the end transcend individual nature, helping collective action based on shared meanings (HARDY, LAWRENCE, PHILIPS, 1998). The cognitive dimension has direct interference over people’s access, the value anticipation and the capability for intellectual capital exchange and combination.

The importance of the relational dimension in the intellectual capital exchange and combination its due, above all, to the trust built in the relationships between people, which interfere mainly with the access to knowledge exchange. In the organizations it is also important the institutionalization which emphasizes internal cooperation, openness, diversity and tolerance. The people’s identification with the collective and with the organization is a motivating factor in the perception of value aggregation as well as in the disposition to seek the collective result through knowledge creation. The dialogue in the organization does not create only individual identities but, above all, collective, through histories, history, in which the individual seek to situate themselves inside and which generate emotional energies which influence the action (HARDY, LAWRENCE, PHILIPS, 1998).

In a scenario of great competitiveness, the creation of new intellectual capital (picture 1) may mean a competitive advantage source. Nahapiet e Ghoshal (1998) affirm that the joint evolution of the social capital and intellectual capital in the organizations constitutes the main creation of competitive advantage. In view of the organizations constituting themselves through authority structures, the maintenance of durable relations makes possible interdependence and proximity interactions, which provides opportunities for sharing of tacit knowledge and formation of collective knowledge.

Exchange and combination of knowledge and intellectual capital creation generate value when the organizations are enabled to explore the knowledge seeking innovations. The preexistent knowledge structure is the base for the learning processes which are cumulative regarding what is already known. COHEN e LEVINTHAL (1990) define the ability in the knowledge exploration as a critical component of innovation. The authors define the absorption capacity of an organization as the abilities collectively constructed and that allow acknowledgement of the value of new information, assimilating it and applying it to
commercial ends. Despite depending on the absorption capacities of its integrants, the absorption capacity of an organization is not simply the sum of their capacities.

As postulated by Kaplan e Norton (1996), only the financial results, even if important, are inadequate in the evaluation of the organizations’ trajectories in competitive environments as to the necessary actions for the creation of future value. It is necessary to deepen in the courses which lead to the shared vision, to the alignment processes regarding the strategic objectives. As they work with the Balanced Scorecard (BSC), the authors draw attention to other three perspectives to be monitored by the organizations: internal processes, customer service, learning and growth. The Fundação Ezequiel Dias (FUNED) utilizes indicators in the implementation of the strategies resulting from the integrated management from 2003, referencing themselves also in the BSC for results measurement.

The organizational aspects, the interface with the environment, the relations among the various units, overall, the history of the corporation itself are important factors in the generation of the intellectual capital’s exchange, combination and creation processes. The research work seeks to identify these relationships in the organization under study to know how does the exchange, combination and creation of intellectual capital and the constitution of competitive advantage happen.

4. Research Methodology

The research strategy used in FUNED was the case study, because it is a mean of organizing the data keeping the unitary character of the social object undergoing study (Goode, Hatt, 1960). Being a qualitative research, the legitimacy of the propositions must not lay in the number of cases, but in the manner of dealing with the essential in the explaining of the discovered regularities (Fernandes, 1973). Consequentially, the research work strived to analyze with intensity a social structure through a detailed observation of an analysis unit (Greenwood, 1973).

The research method was built through semi-structured interviews with organization’s integrants, analysis of public documents and direct observation, giving privilege to informal social interactions for a greater reliability of the evidences.

It was analyzed in detail the institution’s strategic map reviewed in 2008, particularly regarding to learning and growth, processes, clients and markets, highlighting the human resources policies, attraction and retention of talents, essential competences, innovation processes, balanced results through BSC, as well as through the pacts established with the state government.
5. The FUNED

FUNED was inaugurated in the third of August of 1907, with the objective to research, divulge and amplify the public health actions in the state of Minas Gerais, with emphasis the production of serums, vaccines and performance of laboratory tests. In that moment it was constituted as a scientific institution, intellectual center of the academic life of Belo Horizonte referenced in microbiology. Already at that time, the library, a place of study and scientific discussions, was an attraction in particular. The preoccupation with research allies itself to the systematic medical activity since the Institution's foundation. The Institution underwent the first great challenge in the fight to snakes and scorpions which devastated Minas Gerais in the beginning of the last century.

The medicaments' production begun in the seventies, in the last century, but, from 2003, the Institution amplifies its reference in Brazil in the actions directed to public health promotion. FUNED is bound to the State Secretary of Health of Minas Gerais and has as partners the Ministry of Health, the National Agency of Sanitary Vigilance, State and City Secretaries of Health and the Scientific Community.

FUNED produces analgesic, cardiovascular, anti-inflammatory, antidiabetic, antiparasitic, antibiotic, anti-hypertensive, antiretroviral, antiallergic, anxiolytic, antifungal and neuroleptic drugs. The Foundation sends medicaments to strategic programs conducted in the Country for the treatment of tuberculosis, leprosy, and STD/AIDS. It produces anti-poisonous serums, being responsible for human resources training in the universe of the unique health system. It acts at the health vigilance monitoring food and water quality for consumption. It is a national reference in Chagas disease and Visceral Leishmaniasis diagnostic, as well as in a series of infirmities. At the moment it is performing the human resources training in sample collection for diagnosing Influenza A.

The Foundation has tradition in the promotion of forums, seminars, gathering researchers, representatives of public and private institutions, partners, which contribute to the development of products of higher technological density. Currently, the human capital consists of 837 collaborators, divided in four directories, among which five PHDs, 24 doctorates, 50 masters’ and 100 specialists. It periodically performs internal audits, based on the NBR ISO 9001, which are part of the integrated management system of the institution.

The integrated management system was implanted in 2003. Initiated through scenario planning, confection of strategic map, mission and future views, it has quarterly results evaluation in relation to the internal units’ goals. From the integrated management, the institution formulated human resources policies associated to the collaborators' position and education, bound to the
results. It was created the competitive intelligence nucleus trained for market analysis and opportunity verification.

Currently FUNED produces over 1 billion pharmaceutical units per year. Its expertise in biotechnology, in the immunobiologics production, gives it credentials in medicament production through recombining DNA technology. The Institution learns new qualifications recombining capabilities acquired with time, in other words, what has been done presents the preview of what may be done in the future. The accumulated knowledge demonstrates options for expansion in new markets in the future (KOGUT, ZANDER, 1992).

6. Analysis of the Research

"To be a public health patrimony in the Country, being a reference in the production of essential and immunobiologics medicaments, in the research performance in the public health field, in the monitoring of the Sanitary, Epidemiologic and Environmental Vigilance's actions". The Future Vision of FUNED is a narrative that seeks shared meanings, aiming to influence its integrant's actions (HARDY, LAWRENCE, PHILIPS, 1998). The expression of that narrative to the integrants is followed by the symbols, the myths, by the history of the centenary corporation associated to the work of distinguished scientists such as Oswaldo Cruz, Ezequiel Dias, Octavio de Magalhães, Alfred Schaeffer. The research is a most highlighted factor of the Institution since its foundation, central value of the organizational culture. Directly related to the culture, the Institution's identity already establishes the set of qualifications, the means to utilize such qualifications that generate characteristic paths of doing things (NELSON, WINTER, 1982). It becomes a source of social capital, which helps, through motivation of the Institution's integrants, the knowledge's exchange and combination (picture 1).

In the strategic map of the Foundation, having the future vision in the apex, it is important to highlight in the learning and growth dimension, the human resources policies, the managerial development and the knowledge management. In the processes dimension, the laying of partnerships, the technology and information processes, in which are contained the strategic objectives related to investments in future bearing areas, innovative product and services development, technology transfers and alignment of the innovation processes to the organizational processes. In the clients and markets dimension, the contribution for the increase in the state's technological density and the contribution for an improving of the populace's life quality. The knowledge combination and exchange processes are analyzed in the dimensions of the institution's strategic map.
6.1. Products of Biotechnological Basis

The crisis in the anti-ophidic serum production in the Country in the decade of eighty opened the possibility of a complete restructuration in FUNED. The arrival of a renowned researcher to take up the Institution’s research meant the opening of the research in biotechnology in health. Several research scholarships were structured for formation, new external relations networks were constituted, research exchange programs were built with national and foreign institutions, multiple relationship networks sustained by trustworthiness (Burt, 1992). The increase in research and implantation of quality control produced innovations impelling the serum production in the Institution and making possible the characterization of poisons for immunobiologics production.

The increase in the Institution’s human capital, the new relationship network and the shared narratives, amplified in the restructuration phase, turned the social capital into the stimulus to the access of FUNED’s agents to new information, to the anticipation of value generation, to the motivation and amplification of the knowledge combination and exchange capabilities, which created intellectual capital for the Institution in biochemistry, immunology, molecular biology, mainly, through automatic knowledge and collective knowledge (Spender, 1996). The organizational knowledge’s amplification, by means of the individuals knowledge amplification aggregated to the institution (Nonaka, Takeuchi, 1997), resulted in the creation of the cellular biology service which, aggregated to molecular biology and to FUNED’s research center’s know how, formed the knowledge base to work with biotechnology.

From the biotechnology knowledge base and with its own resources, source of competitive advantage (Wernerfelt, 1984), FUNED has in the strategic map, in the processes dimension, the strategic objective associated to innovating products’ development. The Institution currently develops research of two strategic products for the Single Health System in Brazil of high aggregate value and acquired for a high cost in the market: Interferon alpha, for use in bearers of hepatitis B and C and Erythropoietin, for treatment of patients undergoing hemodialysis. Currently, the State Secretary of Health spends around U$22 million/year on the two products in the market. With the production’s internalization by FUNED, there will be savings around 40% of that value thus amplifying the number of patients under care.

The research around these two strategic products involves several of the Institution’s units: the areas of pharmaceutical-technical development, biotechnological development, immunobiologics production, cellular biology, engineering, aiming the generation of a new high aggregate value platform which will lead to a new production plant for supplying the medicaments requested.
by the Ministry of Health. Researchers of different units which, in the typology proposed by Nahapiet e Ghoshal (1998), implicate the three social capital dimensions helping intellectual capital’s exchange and combination. A context of managerial challenge due to the need to develop the formal and informal relationships through internal seminars, informal meetings, seeking to build networks with a high interaction frequency (KRACKARDT, HANSON, 1993).

FUNED has established a partnership with an European center connected to Genetic Engineering for researcher exchange aiming at product development. An undergoing agreement, due to the Institution’s absorption capacity, resulting from cumulative learning which allows assimilating new information and its application to commercial ends (COHEN, LEVINTHAL, 1990).

6.2. Funed Ogawa Kudoh Kit

An estimated 40 million people in Brazil are infected by the tuberculosis bacillus, with 5 thousand yearly deaths. The number of notified cases does not represent the reality, since a considerable part of those infected are not officially registered. Several factors make difficult the work of the Ministry of Health: a lack of standardization of the bacteriologic techniques, a high cost of the currently used culture medium, a difficulty in implanting the culture in the diagnostic process and the difficulty of that diagnostic by the current methodology in most laboratories. Because of this, FUNED proposes the Ogawa Kudoh methodology in all the national territory with the idealization of the culture kit.

In the Institution’s strategic map, technology and innovation processes dimension, FUNED identifies the kit as a future bearing area. The culture kit presents a compact package containing penicillin, sodium hydroxide, swab, accompanied with the technical information and a disease notification form. The kit is utilized in the laboratorial test by means of the Ogawa Kudoh method, which makes possible to detect the tuberculosis cases, monitoring the treatment and cure evolution, interrupting the disease’s transmission chain due to the fact that the lower complexity laboratories perform the tests in a different manner from the current technique, with diagnostic in thirty days.

The FUNED researcher’s expertise, sustained by the knowledge intersection proposed in the typology defined by Spender (1996) and built in the relations involving the epidemiology units, culture medium production and Institution’s quality management opened the opportunity for knowledge exchange and combination through combination capability (picture 1), the previous knowledge of the disease’s situation in the Country and the vectors causing the expansion. The research agents’ access to shared information and knowledge allowed the value generation perspective motivating knowledge combination and exchange in the generation of new intellectual capital (picture 1). The kit
produced in it has a reach in all the national territory, in the most distant areas constituting a competitive advantage (NAHAPIET, GHOSHAL, 1998), making possible the improvement of life quality in the Country, a strategic objective defined in its strategic map. The patent was deposited in INPI (National Institute of Intellectual Property).

6.3. Pharmacochemical Production

The Institution’s pharmacochemical production is completing four decades. FUNED’s role in the pharmaceutical assistance’s national policy is well defined as to the establishment of price reference for the market, what demands a continuous search of product amplification. Thus, in FUNED’s strategic map, one of the objectives is the medicament offer’s amplification.

The plant used to produce 22 items of low technological density medicaments, which covered eight therapeutic groups. The preexisting knowledge base, allied to a great investment in the medicament development sector’s creation, with attraction of new human capital, made possible the expansion to 48 items of medicament with coverage to 26 pharmacologic groups, mainly antiretroviral (AIDS), antidiabetic and immunosuppressant (thalidomide). At the moment, the institution is developing 11 new products.

The strategic objective of higher technological density medicaments, greater aggregate value, requires from the Institution the establishing of partnerships with national and international scientific institutions. The current partnerships, fruit of the accumulated knowledge in medicament production, may result in knowledge combination and exchange among the researchers in nine new medicaments in FUNED’s production, new intellectual capital generating market expansion (KOGUT, ZANDER, 1992). Through the market expansion, the incorporation of new products in the Institution’s production promotes the medicament price regulation in the market, resulting in a price fall up to 40% in some medicaments acquired by the state government.

7. Final Considerations

The organization concept based on the vision of differentiated resources seeks to identify capabilities which, if explored, may result in a competitive advantage source. The differentiated resources make possible the building of greater aggregate value in the productive processes, be it internally or through productive chains, in which the organizations are inserted.

In the global economy, represented in competition intensification, the vision based in differentiated, strategic, resources, corresponds to understanding
the organizations as knowledge bearing institutions, which aggregate people with different abilities and qualifications, which demand an effort of managerial coordination which, more than integrating specific individual knowledge, needs to empower the exchange and combination of these knowledge with intent on exploring the collective knowledge, the organizations' intellectual capital. A vision in regards to the organizations, in which are knowledge generation, transfer, absorption in regard to the management mode, is translated into new behaviors seeding coordination and cooperation which surpass the authority bases consecrated in the formal structure. Thus, the intensification of the knowledge exchange in the organizations, which must be mediated through management, occur through communication between individuals, by formation of formal relationships, above all, by the informal relations.

The focus on transaction cost reduction made possible by the organizations' hierarchization in relation to the market, proposed by the classical economic theory, must be surpassed by the aggregate value which the internal relations between people may generate in the productive processes in an exchange context differentiated from the market relations. Also it may be built in the market transactions, involving partnerships between organizations, trustworthy relations which surpass the organizational frontiers, in the context of embeddedness, social relations which influence the economical behavior or the social capital as aggregate value generator.

The Institution's history, object of the research, shows from birth the personal and informal relations among researchers which, in microbiology's ascension, aimed at building public health policies. The knowledge formation, combination and exchange occurred essentially in a scenario of researchers' agglomeration in Rio de Janeiro. The relations built in Minas Gerais from the Institution's foundation and the development resulting from the human capital in the medicine field in the state constituted the knowledge base of the serum production by the Institution, being a new intellectual capital which establishes the basis for its later entry in the biotechnology and cellular culture universe. It is in the biotechnology field that the Institution moves forward today in knowledge combination and exchange, through partnerships and maintenance of research tradition, aiming at higher technological density medicaments production. A well defined practice in a seminal work performed by Polanyi (1946) "[...] since an art may not be precisely defined, it can only be transmitted through the practice which it incorporates. Learning an art by the practice example is to become its representative".

FUNED undergoes transition moments. Even if the advances in the field of internal management, reflected in the knowledge management conception, have made possible establishing goals in the basic management units, have established the results' agreement regarding the mission, the health protection
and promotion service, in the institutional structure remains under the same legal regimen of its constitution. Under the management view, the current legal regimen compromises the internal and external coordination and cooperation, given the existing differences between traditional units related to research and typical production units, which demand a higher flexibility in human resources management, acquisitions, logistics, aiming at the rework reduction and higher productivity. Differences which demand distinct management policies with intention of maintaining the Institution's sustainability.

8. References

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