INTELLECTUAL CAPITAL MANAGEMENT IN LOCAL PUBLIC UTILITIES

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ABSTRACT

The competitive advantage of companies is increasingly focused on Intellectual Capital (IC) and on its management. Factors such as skills, innovation, stakeholders' relation, development and sharing of knowledge have become key success factors. These aspects are important for Local Public Utilities. These organizations produce goods and services operating in competitive markets in a utility function for the local community using technological and organizational infrastructure resources. In the past, in these organizations, IC was critical to reach objectives such as to satisfy citizen needs. Local Public Utilities focused their assets on the technical components of management including plant equipment, technical expertise, professionalism, and quality control and security systems. The introduction of the economic efficiency logic and competitiveness led to a rethinking of the IC role. The production of public services becomes competitive in the market according to logic of economic efficiency. The relationship with the community begins to be formalized in "service contracts"; new management structures are introduced and companies need to remunerate the capital invested. Consequently, companies must implement strategic and organizational changes and focus on intangible assets as knowledge, skills and operational mechanisms. In the new scenario IC becomes an important strategic tool both in the company and in the outside environment. Proper IC management can improve company value.

JEL: E24; I23; J24; O15

KEYWORDS: Intellectual capital, Intellectual capital management, Local Public Utilities.

INTRODUCTION

Knowledge is a strategic resource and, for a competitive business, organizations are increasingly knowledge based and more often concerned about intellectual capital (IC) rather than tangible assets (Guthrie and Petty, 2000; Carmeli and Tishler, 2004; Schiuma et al, 2007). Intellectual capital is a company's softer assets such as professional experience, skills, knowledge, organizational structure and routine and internal/external relationship. The intellectual capital framework classifies these characteristics into human capital, organizational or structural capital and relational or customer capital (Edvisson and Malone, 1997; Stewart, 1997; Guthrie and Petty, 2000; Youndt and Snell, 2004). Human capital refers to the knowledge, skill and experience of employees and managers; relational capital consisting of knowledge resources derived from networks of relationships between peer, customers, suppliers and business associates; and organizational capital represent institutionalized knowledge and codified experience stored in databases, routines, patents, manuals and the like (Bontis, 1998; Stewart 1997). These three new forms of capital capture a company in movement as it transforms its skills and knowledge into competitiveness. Therefore, companies must maintain 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 customers.

In service companies, intellectual capital and knowledge management are as important as they can be in production-oriented companies. There is a lack of systematic research on whether there are fundamental differences in the IC of service-oriented versus product-oriented companies. For this reason this paper aims to examine the IC stocks, creation and management mechanisms in service-oriented firms. The paper examines these items for Italian Local Public Utilities. The Local Public Utilities (LPU) are companies operating in the services sector, established as limited companies in which the shareholder is public. The aim of LPU is to create value for stakeholders. LPU stakeholders are not only the contributors of resources but also the community for which services are produced (Catturi, 2004). An LPU, therefore, creates value for stakeholders to adequately compensate all the factors used in the production process and meet, at the same time, the needs of local communities (Grossi, 2005). The LPU, like all other businesses, must act to create value not only from material aspects but also from intangible elements, namely the acquisition, maintenance and enhancement of intellectual capital in its three dimensions of human capital, structural and customer relational. In the past, however, those companies were focused only on one IC aspect, structural capital.

The value of paper is enlargement of the literature because the analysis is carried out with reference to a economic subset for which studies are lacking. With this in mind the following section summarizes the previous studies on intellectual capital management. Then we discuss the current features of new LPU highlighting differences from the old LPU and how this change is reflected on the role of intellectual capital. In the contribution we followed the deductive approach and methodology is descriptive, which aimed to identify how, and explanatory, why. The last section concludes the paper. The analysis highlights the correct management of the human and relational capital IC components.

LITERATURE REVIEW

In the knowledge era, firms need to redefine their strategies and function to compete because non observable factor have impact on firms performance (Blackler, 2002; McEvily and Chakravarthy, 2002). Those factors include management capabilities and competence, technical knowledge or tacit organizational routines.

Knowledge can be tacit or external (Nonaka, 1994; Nonaka & Nishguchi, 2001; Sharma & Wickramasinghe, 2004). External or explicit knowledge are readily available and involve high acquisition costs to the firm. Tacit, specific and complex knowledge is developed inside the organization. External knowledge is available to competitors while tacit knowledge is exclusive to firms and is difficult to imitate generating a long advantage (McEvily and Chakravarthy, 2002). The firm absorbs internal and external knowledge, combines them and creates new knowledge, a multiplicative effect, which may result new and exclusive knowledge (Zack, 2002; Gratton and Ghoshal, 2003, Vargo and Lusch 2004).

The stock of knowledge that exists in an organization represents the intellectual capital (IC) (Bontis et al., 2002). The literature on intellectual capital has deployed a variety of different classification (Edvinsson and Malone, 1997). The more widely adopted schemes divide intellectual capital into three categories: human capital, structural capital and relational capital (Stewart, 1997; Bontis, 1998, Roos et al., 1997 and 2005, Sveiby, 1997). Human capital is 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 leave. Structural capital, consist of the stock of knowledge that stays in the organizations. Structural capital is the tacit and explicit knowledge that is contained in document, routines and organizational culture. Relational capital, mainly tacit knowledge, is understood as all knowledge arising from the interaction between the firm and its stakeholders. Relational capital is the source of reputation, credibility, consent and image of organization.

Recent scholars argue that intellectual capital is more likely than other tangible or intangible resources to be a source of competitive advantage (Bontis and Fitz-enz, 2002; Ng, 2006; Swart, 2006). They suggested also that investments in intellectual capital are crucial to service business (Bontis and Fitz-enz, 2002; Namasivayam and Denizci, 2006) such as financial services, accounting firms and law firms that employ highly trained professionals (Andreissen, 2005; Goldstein and Ward, 2004; Hitt et al., 2001; Ng, 2006; Wang, 2005). Other studies (Wiklund and Stepherd, 2003) reveal that knowledge influences a firm's entrepreneurial orientation and ultimately performance. These findings suggest that the value of an enterprise is a function of its investment in intellectual capital (Carmeli and Tishler, 2004). It needs managed intellectual capital because only in this way does the stock of knowledge become intellectual capital. Managing service firms is different from managing other firms (Bowen and Ford, 2002). For service firms knowledge is the key element in competitive differentiation (Gratton and Ghoshal, 2003).

No known studies analyze the current role and management of IC in firms that have operated in the past as a monopoly and now privatized. Our objective is therefore to examine the role and the management of intellectual capital in this organization in the past oriented exclusively at physical capital that today operate in competition with other firms.

The Local Public Utilities

Public services are the complex of goods and services recognized as public utilities to satisfy needs of society (Grossi, 2001). The production, distribution and delivery of public services to all citizens without discrimination is guaranteed, as the guardian of the public interest is the Government (Dezi, et. al. 2005; Mele, 2003). Public services may have an entrepreneurial character. Services highly entrepreneurial are energy services, distribution of natural gas, water cycle management, waste management and mass transit line. The organization providing public services of an economic/business service firms are called Public Utilities. These can operate at the national, regional or local level. This paper examines the production of goods and services in a utility function for the local community using technological and organizational infrastructure resources (Elefanti, 2003).

Local Public Services before the Nineties

The current profile of LPU is the final result of a complex evolutionary path. At the beginning of the last century the production and delivery of public services was entrusted, in general, in concession to private enterprises that carry on its activities and the economic return derived from the application of tariffs for end users (Mussari and Grossi, 2004). Municipalities' licensors, as guardians of the interests of citizens in the process, interact with regulatory legislation and lobbying to achieve price reductions. The necessity to invest continuously and growing demand induces firms to make continuous adjustments in prices and the system of granting individuals equal opportunities to access services (Testa, 2001; Garlatti, 2003). The economic theory in vogue at the time support these choices by arguing that the production of local public services directly to the community ensures quality, reliability and continuity of service and price controls.

In the early years of the last century, with Law 103/1903, we expected to see the direct taking of public services by the municipal form and the local authority's lack of intervene directly with companies such as instrumental entities, the municipal, service management public local application (Elefanti, 2003; Mussari and Grossi, 2004). The municipal form thus becomes the operational arm of the City for the production and management of the public services on the territory (Dezi et. al 2005). The use of public instruments against payments of a price-tariff, usually below the cost of production, is used in order to guarantee and protect the interests and needs of the community managed (Mussari, 1996). The municipal form has no legal personality but has administrative and financial autonomy (Liguori, 2004). The main sources of investment financing are the endowment fund of the municipal form resulting from contributions and internal resources (Cella and Termini, 1999). An administrative commission of political appointees whose acts are subject to be reviewed by the City Council manages the organization. Municipal forms are dominated by the technical aspect (Gozzi and Massarutto, 2002; Petix, 1987) and are mostly focused on specific local conditions and few on the development of expertise, generally acquired outside, and on the total value of company's assets. Municipal forms are production-oriented and provide services of mass not differentiated to the expectations of different market segments (Baccarini et. al. 1989). They are strongly connected with the municipal policy, used as electoral consensus, and management is not accountable for results. This situation is possible as the municipals dominate the market, the environment is stable and competition is virtually absent.

The role of the municipal form remains in vogue and remained valid until the early 90s. Meanwhile, urban centers expand, information flows, allowing citizens to better assess the quality of services received thereby increasing the welfare and development technology and eliminating barriers in some areas. Soon, the inefficiency of public services leads us to consider whether to replace the public works with private structures that move according to market rules and are potentially more efficient. All this assumes even greater importance following the consolidation and extension of Community Law and the principle of competition. At this point, this represents a factor that can threaten the distribution, reliability, continuity and quality of local public services. The principles of New Public Management have spread internationally (Meneguzzo, 1995) on the belief that recovery of ability to satisfy expectations of the community should occur through the introduction of logic and principles of a business nature.

Local Public Services after the Nineties

The early 90's witnessed talk about privatization and liberalization. In recent years the municipal, following the reduction of transfers from the central government, can benefit from lower transfers to local authorities. More stringent rules, require the need to recover efficiency. The European Union expressly requires introduction of market liberalization (Article 86 of the Treaty establishing the European Community). These forces lead even the Italian legislature to start the process public services modernization (Mussari, 1996; Pozzoli, 2009). New ways of managing public services were introduced as contracting importance. In alternative to economic management the possibility of doing business with public companies constituted as special or as a joint-stock companies exists (Elefanti, 2003).

The Special Agency form supersedes the municipal form. This organization is, like the municipal, an instrumental entity of the local authority carrying out activities for the exclusive benefit of the locality but have legal personality and corporate autonomy (Law 142/90). It thus implements a separation of steering and control and management that has been concentrated in public administration. In other words, the City Council directs and checks the work of the managing body but leaves it to the management activity. The management body carries out its activities by implementing the instructions given by the political and administrative actors. Although the approach is most entrepreneurial, the Special Agency is totally dependent on local governments. These organization are focalized on developing the skills and know-how in relation to particular problems encountered in the area served and that and rarely internalize skills to engineering (Gozzi, 2002).

In the late '90s, following the guidelines of the European community a strong push to the process of privatization and market liberalization occurred. The objective was to achieve greater efficiency by entrusting management of the public services to a subject, which by its legal form, needs to operate the business efficiently (Liguori, 2004). The main references are L. 142/90 and subsequent modifications to the consolidated order and the laws and institutional arrangements of local authorities in 2000. These local authorities mandate that management arrangements between limited capital companies also cited the minority-owned. The opening to competition arrives with art. 35 of L. 448/2001, that differentiates between relevant services on the industrial side and those without such importance. The adoption of the company's legal form of capital allows the entry of private shareholders to the team who bring new capital, technological know-how, skills and knowledge of human capital, philosophies and tools of corporate management's private world. The other, a legal obligation guarantees that subjects providing capital receive adequate economic resources and an increase in the value of capital shares held by them.

Value creation also becomes an issue in LPU. They begin to look at achieving a satisfying level of profitability and become autonomous in defining strategies. The mission of new LPU, especially if listed, is not so much anchored to the objectives to promote the territory as to the enhancement of corporate capital. It is in this context that the main objective is to create value, regardless of the sector, taking advantage of their skills, their assets, their competitive advantages. The main objective of the new LPU is to create value for all stakeholders and not only for the territory. The organization must be rationalized and the traditional services offered reorganized according to logic of efficiency and productivity.

The local authority does not disappear, even if its decision-making power is reduced. The local government's purpose is to reconcile the public interest with the demands of efficiency, effectiveness and cost-effectiveness and value creation (Valotti, 1994). Today the municipality has multiples roles. It directs the activities plans and programs, regulates the activity of LPU, defines specific guarantees to protect the public and monitors the evolution of technology and knowledge to select the best companies to configure and push the same yield response consistent with the changing service needs.

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The new LPU differs from other companies because of higher complexity. The LPU provides public services according to collective logical response to individual needs. They may suffer in their management of political interference and their goals are economic and as a social enterprise. Managing new LPU requires an attention to IC essentially different from that of the old LPU for two main reasons.

First, the production of public services is being mediated by the market resulting in the enhancement of businesses. The relationship between the municipalities became objectified by contracts so that the survival of firms is conditioned on their ability to adequately remunerate the capital invested, expressing an independent economic viability. This involves the need for companies to regain control of the economic-financial management and to achieve adequate levels of profitability as a condition of access to credit themselves, open their capital to private partners, appease the stock exchange and a source financial resources for municipalities through the payment of dividends and concession fees or through the sale of shares to new partners or the financial markets.

Second, liberalization and competition in the market or the market determines a new framework for opportunities and leads companies to reconfigure their business according to new designs. Logic of economy, enhancement of competitiveness and business lead to enhancement of the role of the productivity of the resources and the selectivity in the choice of investment are criteria to impress the management. This focus on productivity and cost control through policies pursued rationalization of labor and supplies, coverage of fixed costs through the development of activities, optimization of financial resources and enhancement of the customer as strategic asset. These contexts require cultural change. Today the company's success depends on the ability to recognize constraints, know how to exploit opportunities offered by the environment, meet user needs and make innovation processes and products.

Intellectual Capital Management in Local Public Utilities

Is not possible to acquire the IC once and for all and organizations must manage and maintain IC to enhance and protect (Brooking, 1997; Bonani, 2002; Edvinsson, 1997; Edvinsson and Malone, 1997; Roos, et al. 1997; Stewart, 1997; Sveiby, 1997). The need to manage the LPU using not only material resources as assets but also other component of IC is evident in many of the same demands in the newly competitive environment. LPU's need IC for a reorganization of processes, functions, streamlining the one hand and develop the business portfolio on the other; improve productivity, defines plan and control their business and identify opportunities for development.

The enhancement (upgrading) of existing human capital can be accomplished through training such as learning by doing and learning by networking, industry experience and or groups of learning (Stweart, 1997). For example, the gap between new strategy and in serving LPU control can be overcome with training and experience in the field while the competence to define the corporate structure and the optimal financial structure can be transferred from other sectors. To retain and expand the customer base, the organization can be bridged through training and experience in the sector (ie market analysis). In other cases, the organization can fill gaps through a process of transfer of skills to other sectors, for example with regard to technical sales (Dezi et al., 2005). Useful for building human capital is also the team appreciation of the talent it exploits into something shared and therefore less dependent on the individual. In new LPU the protection of human capital is important. This requires taking action in order to motivate and involve employees in order to strengthen their bond with the corporate structure. The ability to attract and retain competent and motivated people, more efficiently than their competitors, improve decision making and is the source of competitive advantage (Mauritsen and Larsen 2005).

Human capital produces innovation and growth, but these need to be integrated into the structure (Ross, et al. 1997; Stweart, 1997). The function of structural capital is to accumulate stocks of knowledge and accelerate the flow of such knowledge within the company (Borgonovi , 2001). Today LPU should promote a continuous technology level increase and knowledge and must monitor the development of technologies and expertise to select companies that can move on this front and to communicate with companies to urge them to set up consistent production responses to the evolving needs of services. Structural capital is the company's intranet and its power a form of knowledge management. Through it you try to gather information and turn it into organizational knowledge by connecting those in need of experience with its owner. Tools such as email and video conferencing allow people to work together while being physically distant and almost independent of corporate or departmental barriers.

Relational capital expresses the result generated by the use of intangible assets relating to human and organizational capital. Relational capital is the whole of relations that develop between the company and its stakeholders. Today essential in LPU is the management of relationships with new customers. Relational capital can be created for clients by talking to customers who can provide feedback to the company, before it can make mistakes. These customers allow the company to increase the information on its market. To transform this knowledge into capital clients need the ability to react flexibly to the needs of individual customers. The information gathered by the client must be used to provide an indispensable service to the customer and put in a position so they cannot switch to another supplier. This requires that companies be freed from the mentality of mass production. The LPU must gain confidence to radically change their relationship with consumers. Sometimes these objectives, in the absence of appropriate expertise, may be achieved through agreements between companies. The agreements enable access to technology and knowledge as well as a relationship with larger entities with large investment capacity. Technological innovation and the increasingly fungible technological knowledge requires LPU a greater ability to interact effectively with individuals with specific expertise in order to achieve application solutions consistent with the peculiar characteristics of geographical areas in which they operate. The increasing globalization of the technology market then, calls for the ability to monitor a much wider and dynamic market than traditional, but also the development of specific know-how of adapting technology to local needs and to select those most suitable to meet these needs.

CONCLUDING COMMENTS

Companies operate in a turbulent environment characterized by technological development, the diffusion of new technologies and the push for innovation. In this context LPU companies have changed the way they operate. Customers have become more important. Demands, needs and expectations have become important aspects in LPU management. As a consequence they have adapted their organizational and operational structures. In the era of knowledge management, the economy is based on communication skills. Tangible assets produce a moderate return on investment. High profits and dominant competitive positions are only available with the intelligent use of intangible assets (Lev, 2001). Today intellectual capital forms the basis for competitive advantage. In LPU, openness to competition and innovation in information and technology has given a new role to intellectual capital. Particularly important is the way, and speed, with which information and innovation are incorporated. These companies must not only excel but need to be able to innovate faster than competitors. Innovation passes through information sharing and knowledge creation. These are aimed, at devising ways to provide advanced services and products to customers. An organization that is able to increase the skills of its work, in real time, to transform in internal solutions (processes) is able to meet the real needs of customers. With the arrival of new technologies, business structure changes radically and shifts the focus of value creation activities, from material resources to intangible assets. Even today companies information and knowledge play a vital role in management, since they allow the firm to improve, affordability, quality, and therefore the usefulness of services rendered. Overall, intellectual capital is a competitive advantage that can create value.

In the past LPU are characterized by a low degree of openness, based on the alleged stability of the competitive environment and the absence of a competitive push, which place the company in a state of organizational torpor. In this context value creation coincided with the creation of value for the area in which they operated. To the substantial inertia follows a developmental process that starts from the conviction that quality recovery and the search for greater efficiency in public services must necessarily be a result of opening the competition field. Gradually management models have been developed that provide for the custody of public service to corporate entities that are fully competitive. In these firms, the ultimate objective of profit faces the need to provide this service in conditions, which are not economically profitable. Changing opportunities and strategic constraints push LPU to examine structural aspects as well as immaterial factors. The new LPU, unlike the old, do not live independently from their successes but only if they create value for all stakeholders and especially for public customers.

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