INTELLECUTAL CAPITAL AND COMPETITIVENESS: GUIDELINES FOR POLICY

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Background

Whether termed intellectual capital, knowledge management, or something else, the practice of managing an institution's knowledge base has received increasing attention in recent years. After some of the highly publicized downsizings of the late eighties and early nineties, a number of organizations discovered that an enormous amount of institutional memory and unique knowledge was walking out the door with exiting employees. Further, the nineties have seen tremendous growth in firms with few assets besides what is between the ears of some of their key people. Both trends have focused managers on knowledge as an asset of the firm, to be developed and managed in the same manner as more traditional assets.

This recognition of intellectual capital (IC) as an institutional asset grew out of practice rather than academic concreits. As practitioners sought to manage organizational knowledge, they began with questions concerning how to measure the stock of knowledge in a firm and, subsequently, the growth in that stock. While organizational learning was a well-defined concept (Argyris, 1992), the stock version of this flow idea had not been fully worked out (Dierickx & Cool, 1989). Practitioners began work to better assess levels of organizational knowledge (Saint-Onge, 1996). Skandia, for example, has published annual report supplements that seek to evaluate its intellectual capital holdings, and CEO Leif Edvinsson was one of the first to start spreading the word on managing such resources (Skandia, 1996; Edvinsson & Malone, 1997).

Observers such as Thomas Stewart of Fortune picked up on the trend, further publicizing the concept (Stewart, 1991; 1997), and the academic community began to investigate the concept as well (Nonaka & Takeuchi, 1995; Spender, 1996; Bontis, 1998). In the past two years, IC has made its debut in the "higher" academic journals, bringing it into the mainstream of current management thought (Davenport, De Long & Beers, 1998; Nahapiet & Ghoshal, 1998; Hansen, Nohria & Tierney, 1999).

Presuming that IC is, indeed, valuable to a firm, all of this attention begs the question of whether nations have a role in helping or hindering companies in the acquisition, development, and protection of knowledge resources. From a competitiveness point-of-view, can a certain policy environment influence the IC activities of affected firms? Can these assets be further leveraged, especially against international competition within a given policy environment?

Intellectual Capital

Intellectual capital is generally considered to be the stored knowledge possessed by an institution. In some cases this may be tacit knowledge, personal knowledge possessed by an employee that may be difficult to express or communicate to others; in other cases it may be explicit knowledge, which is codified and stored by the organization and available to individuals throughout the structure (Nonaka & Takeuchi, 1995). Ideally, the firm can better manage its IC base by uncovering the tacit knowledge of its employees and turning that into explicit knowledge, available to others. In effect, intellectual capital is enhanced by systematizing the tacit knowledge of individual employees, storing that
knowledge in an organizational database. Not all tacit knowledge can be expressed or codified, of course, but those organizations that can capture more of their tacit knowledge will have concrete IC competitive advantages. Not least of these is the fact that the knowledge will not be lost if an employee leaves a given position (being promoted, leaving the firm, getting hit by a bus, etc.).

This explicit knowledge system can then be leveraged further by sharing the knowledge back out to employees, so that their individual knowledge bases are enhanced by the organizational knowledge store. In some ways, the explicit knowledge becomes valuable by being turned back into individual tacit knowledge on multiple individual levels. The organization can also enhance its intellectual capital holdings by adding to employees' knowledge bases in more traditional organizational learning manners. In short, there is, indeed, a lot of room for managing these resources and so gaining competitive advantage through intellectual capital.

Traditionally, the discussion of intellectual capital has focused on three areas of IC knowledge: human capital, structural capital, and relational capital. Human capital has to do with job-specific knowledge. A particular employee may have tacit knowledge about how to perform in a given position. Further, that knowledge may have been captured and made explicit by the organization so that any employee placed in that job can also learn how to perform at a higher level. BP Exploration, for example, was able to access its IC system when an oil-field compressor stopped working in Colombia. The system identified the available knowledge sources internally (Alaska) and externally (Italy) and brought this expertise to bear on the situation in South America (Davenport, De Long & Beers, 1998). The tacit knowledge, or at least its depositories, was stored in the system and brought to bear on the problem elsewhere in the company.

Structural capital has more to do with systems and organization—how to employ the organization's resources to best advantage so that labor or capital resources are more efficient. Again, this may be tacit knowledge internalized in a particular supervisor who knows to place employee A in job B on Thursdays or who knows that certain machinery layouts may improve output. As before, this type of knowledge may also be captured and leveraged by the firm as explicit knowledge. Dell Computers, for example, is well-known for building personal computers "to order." The company makes this manageable, however, by actually providing only a limited list of options from which to choose. Based on organizational knowledge of what the most popular features may be and what type of logistics best addresses those features, the firm is able to deliver on its customization promise while keeping the permutations of possible models within reason. True custom orders that go outside the firm's established systems are delivered only at a substantial premium (Hansen, Nohria & Tierney, 1999).

Relational capital involves relationships with outside agencies. These can be customers (one reason that early versions of the theory referred to it as customer capital) as some employees may possess knowledge on the likes and dislikes of particular customers and their representatives. The agencies can also be collaborators—suppliers, vendors, partners, or other such collaborators. Specific individuals may possess knowledge on how to manage these relationships, and this knowledge becomes more valuable when captured and shared throughout the organization. Hansen, Nohria & Tierney (1999, p.113) quote a CEO who has been a regular customer of a consulting company.
for over ten years: "One of the main reasons I have used them so regularly is because they have intimate knowledge of my company and our industry...The advice I have gotten from them has been sensitive to our unique needs."

One additional factor in this mix, the newest addition to the pot, is the concept of competitive capital. Not part of the "traditional" intellectual capital framework, this piece has been proposed as an additional type of knowledge that can be captured but which does not fit into the other three categories (Davenport, De Long & Beers, 1998; Rothberg & Erickson, 1998; Erickson & Rothberg, 1999). This type of knowledge has to do with how a competitor operates and may include detailed information about strategy, operations, marketing efforts, etc. As with the other types of intellectual capital, an individual or team within the organization may uniquely understand how the competitor thinks and performs (Rothberg, 1997). Similarly, that knowledge will be even more valuable if captured, codified, and perhaps analyzed at higher and more complex levels. Thus, it fits nicely in the intellectual capital framework.

The activities that contribute to competitive capital, however, generally referred to as competitive intelligence, also pose threats to this framework. Competitive intelligence (CI) can be used as an organized information-gathering and analysis mechanism that can be employed against any firm. In most examples, it operates by gathering up bits and pieces of information that are fed into a systematized structure (competitive intelligence system or CIS) that collects, organizes, analyzes, and takes action upon what is learned (Gilad, 1994; Levinthal & Myatt, 1994; Bonthous, 1995; Prescott, 1995). This type of organized information-gathering mechanism is particularly threatening to the IC organization that has collected its own competitive secrets into a central information dump. If the IC organization does then leverage its intellectual capital, it has many more points of possible infiltration, since numerous individual employees have access to this collection of organizational knowledge. Further, each employee knows not only their particular tacit piece of the puzzle, but may, even unknowingly, pass scads of explicit information across as well. Thus, more potential infiltration points and much more serious consequences if infiltration does occur.

In this environment, what are the public policy considerations? Should companies be encouraged to take an intellectual capital approach to competing? If they do so, should they be shielded from competitive intelligence efforts? Should the law recognize different types of knowledge and different types of intelligence gathering? From a competitiveness standpoint, should governments have anything to do with intellectual capital and competitive intelligence issues?

**Intellectual Capital and Competitiveness**

The reason for asking these questions, of course, is the fact that these new directions in intellectual capital theory treat knowledge as an asset. Most assets of a firm, or even an individual, are concrete property that are protected by property laws in most countries. Things get a bit more complicated with the question of labor as an asset—obviously there is a limit on how much of individual employees the firm owns and/or controls—but there exists a fairly well-established body of law in this field as well. Moreover, the whole point of intellectual capital management is harvesting the individual, tacit knowledge and making it a firm asset, not leaving it in the heads of the particular employees. As a
result, we are generally discussing knowledge as an impersonal though definable possession of the firm.

And we have some mechanisms in existence that protect such property. Intellectual capital is, in many ways, an offshoot of intellectual property theory; it has simply taken the steps to broaden the definition of intellectual property to include more abstract notions of organizational knowledge. Intellectual property is a fairly well-defined field in most major trading nations. Patents protect innovative ideas that have been incorporated into commercial products and/or processes. Copyrights protect innovative creations such as writing, graphics, or music. Trade secrets protect hidden methods of doing business. All of these mechanisms are enacted by governments to set the groundwork for the creation of new and innovative products and business methods. They make such matters more certain for firms, establishing a more definitive environment within which to do business. Enough factors in the environment are uncertain; by adding certainty to this one piece of the environment, governments can help their firms take risks with less variables, essentially helping their ability to innovate and remain competitive.

The more this can be done for organizations seeking to identify, collect, systematize, and protect intellectual capital, the more certain the environment within which they will operate. The keys are how to turn knowledge into a concrete asset under the law and how to treat competitive intelligence as both an information-gathering opportunity and an IC system incursion threat.

A number of insights can be gained from the U.S. Economic Espionage Act (Competitive Intelligence Review, 1997). The Act has not been in place long, so we don't know with complete certainty how it will be administered nor how the courts will interpret it. As it stands, however, it offers potential for how to structure the factors in this environment to best advantage for firms pursuing intellectual capital advantages. The Act better defines trade secrets as essentially any systematized knowledge of the organization that it seeks to keep secret (Halligan, 1997). Attempts to uncover such intellectual capital by methods that would be considered questionable are more emphatically prohibited. As such, competitive intelligence still has its place through legitimate intelligence-gathering methods, but it cannot pass into grey areas without violating the act.

The point is that firms engaging in intellectual capital-building will be able to identify such knowledge as a trade secret by the very act of building such a proprietary information base. Almost by definition, explicit intellectual capital structures become trade secrets. Further, these structures are specifically protected from questionable incursions. With any care at all, the firm can prevent major infiltrations of its data base. Infiltrations coming from more illegitimate sources (e.g., outright theft, espionage, etc.) can be pursued in the courts. Such a structure offers broad protection for traditional intellectual capital activities. In the recent Wal-Mart/Amazon case, for example, Wal-Mart appeared to have a fairly solid case that Amazon was trying to appropriate its intellectual capital by picking off information technology employees. The case was settled out of court, and both firms claimed victory, but Amazon is the party barred from continuing a number of activities (poaching Wal-Mart employees, using ex-Wal-Mart employees in certain capacities) that it had been conducting (Nelson & Anders, 1999).

For competitive capital, the implications are a bit more complicated. As just noted, legitimate competitive
intelligence activities are quite legal and can continue to be employed. As a result, competitive capital can continue to be built, as long as it is constructed in the proper ways. In terms of the type of information base that can be built, this means that using CI systems to uncover general strategies and shadow teams to understand and anticipate competitive actions will still be quite possible. These activities can obviously add appreciably to the competitive capital of an entity. CI systems to uncover and employ tactics for oneself may be more of a problem. It is one thing to fit pieces of a strategy together and act upon it to counter competitor moves. It is quite another to discover precise ways of doing business, the tactics, that are virtually by definition a trade secret, and adapt them to one's own organization. As a result, under the EEA, not only the type of information uncovered, but how it is used will be issues in whether the Act is being violated or not.

One further issue, however, is whether competitive intelligence can be used to uncover illegal CI activities by a competitor. This would seem to be a key strategic question for aggressive intellectual-capital firms. Theoretically, such a firm will build its IC system, identifying it and protecting it as a de facto trade secret. Part of its protection will be basic measures to prevent employees from revealing details to outsiders. Part can also be aggressive CI, however, because such knowledge, if discovered and employed by a competitor, will also be used in secret. Thus, a piece of defending an IC structure will be the use of an aggressive competitive-intelligence system to build and maintain a vigilant competitive capital piece of the structure. The Act essentially helps those who help themselves.

Conclusion

This analysis is not an argument that governments should universally adopt protection mechanisms similar to the U.S. EEA. Attitudes toward both intellectual capital and competitive intelligence vary around the globe. In some countries, IC is seen as an appropriable asset of the firm; in others, it is seen as something that should be shared and used to benefit all of society. Similarly, CI can be conducted with quite different parameters in different locations (Kolb, 1999). Thus, this type of protection is not a one-size-fits-all solution.

What is instructive about the EEA is that it follows in a legal tradition that recognizes and respects property rights. From that perspective, it does not introduce unfamiliar rules dealing with these newly cognized concepts. Further, after recognizing that intellectual capital (as trade secrets) is property, it develops a familiar protection scheme, essentially allowing use of the assets if uncovered in legitimate fashion, and not allowing use if uncovered by fraud or outright theft. The law essentially fits a business law tradition as well as a unique economic culture.

As a guide to other countries, seeking conditions to enhance the competitiveness of their own firms in these areas, the Act should be considered in this fashion. Countries should review their legal traditions (especially the degree of respect for property and protection mechanisms) and economic cultures (collective or entrepreneurial). Further, in what ways are their internationally competitive firms successful within these structures? Attitudes toward intellectual capital should be crafted to the strengths of firms given these unique environments while also, of course, keeping an eye open to the necessity of success in the world of large. The U.S. EEA is a useful
guide, but countries need to be wary of what lessons they learn.

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