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## **“Intellectual Capital – Implications for Management Education”**

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# Intellectual Capital – Implications for Management Education

Charles R. B. Stowe and Sara Hart\*

The concept of intellectual capital is receiving increased prominence in academic and business literature. The concept of intellectual capital suggests that the value of organizations in this “information” economy is less measured by bricks and mortar of tangible assets but in the intangibles. Intellectual capital relates to the ability of the organization to “add value” to product or services in a manner that offers extraordinary growth or high profits which may well be more than a firm’s intellectual property. This paper explores this relatively new management concept and the implications it holds for management education.

## Intellectual Capital – Issues In Management Literature

Internationally the term intellectual capital is attributed to Leif Edvinsson the former Corporate Director of Intellectual Capital at Skandia Financial Services, a Swedish insurance firm. Skandia became the first large corporation to attempt to measure its intellectual capital and to present their findings in their annual reports. Writing with Michael Malone a professional journalist, Edvinsson’s book *Intellectual Capital – Realizing Your Company’s True Value by Finding its Hidden Brainpower* parallels a book written by a Fortune magazine writer Thomas Stewart titled *Intellectual Capital – The New Wealth of Organizations* [Edvinsson 1997]. Both books were published in 1997. Edvinsson’s approach is focused on the issue of defining and measuring a firm’s intellectual capital focusing on his experiences at Skandia. Using an almost poetic approach to the subject, Edvinsson draws an analogy between a fruit tree and a corporation. Conventional accounting measures fruit production. However, Edvinsson argues that the real factory of present and future corporate wealth lies in measuring the root system or ability of the organization to generate intellectual capital.

Stewart’s first article [Stewart, 1991] and his book present American examples of firms that harnessed intellectual capital to build high market valuations. He cites e-commerce companies, for example, that have few tangible assets but high market valuations based on the prices investors are willing to pay to become stockholders. Stewart provides relatively recent examples of how the “intellectual” content of products and services is increasing dramatically. Stewart advances the proposition that a firm’s intellectual capital consists of human capital (the education and experiential competencies of its employees), structural capital (the systems designed to internalize those competencies), and customer capital (the “goodwill” that is established between the firm and the marketplace and all the “systems” that contribute to a positive relationship. Stewart examines the “information” economy and its affect on corporate hierarchy, individual careers and job mobility and challenges facing large corporations. [Stewart, 1997].

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Fruin who spent five years working at a particular Yanagicho Works in order to personally observe Japanese management practices, wrote *Managing Intellectual Capital at Toshiba* [Fruin 1997]. Although Fruin offers some interesting insight on how Toshiba practices what he describes as “knowledge works”, his assertion that his observations at Toshiba are descriptive of all Japanese business is perhaps overreaching. None-the-less, his work constitutes early investigation of the concept of intellectual capital.

The initial work on intellectual capital has focused on for-profit institutions. The basic premise is that the management of innovation, creativity and the execution of systems designed to add value while reducing costs are the keys to high growth and high profitability. For example, the aluminum can which cost far more than the tin can. However, COORS pioneered the concept of using recyclable aluminum and worked closely with their supplier to engineer lighter, “pop – top” cans. Ultimately, the COORS design was not accepted by the marketplace, but the injection of “intellectual capital” into the product reduced the cost and aluminum cans now dominate the soft drink industry [Stewart, 1997]. The lesson learned from this and other examples is that information comes about from active “alliances” or networks and that innovation is an increasing portion of the value of goods and services. Some commentators use this logic to explain why countries possessing abundant raw materials no longer have the national wealth they once enjoyed because more developed economies have engineered advances to get more from less. A parallel notion is that organizations that maintain very receptive and alert “systems” to sense changes in the marketplace may be more likely to respond to those changes.

The notion of intellectual capital as it relates to entrepreneurs was the subject of the first Global Conference on Intellectual Entrepreneurship hosted by the UNESCO Chair of Intellectual Entrepreneurship for Sustainable Development in Warsaw, Poland in 1998. A pre-conference book with articles by entrepreneurs, business scholars, and corporate executives included an article that explored the role of business schools in the new information age economy [Kwiatkowski & Edvinsson, 1999]. This article expands on that initial discussion of what the implications of the concept of intellectual capital means for the administration, policies and structures of business schools.

### **More than a Subject to Teach!**

The concept of intellectual capital is more than a topic to be covered in a management course. If there is any validity to the concept of intellectual capital as being the framework for creating wealth in the new information economy, then its underlying approaches deserve consideration by those in business academia. Applying Edvinsson’s analogy of a tree whereby current accounting conventions and financial statements only measure the fruit whereas the truer strength of a firm lies in analyzing its root system [Edvinsson, 1997]. If the root system is the structure that ultimately feeds and nourishes the tree’s ability to produce fruit (profit), then we should look at the role of business or management education as part of that invisible system that creates future wealth. This is not to say that business schools are the sole producer of entrepreneurs or managers. We know that this is not the case. However, because so many business students enter the stream of commerce as employees, technicians, managers, some as executives and some

as future entrepreneurs, the role of business schools is to supply the nourishment to root systems of present and future companies.

My basic hypothesis is that the structure, design, curriculum and culture within typical American business schools should address the challenge of creating intellectual capitalists.

### **Intellectual Capitalists – A Definition**

The application of the concept of intellectual capital to management suggests that those who lead organizations must be capable and imaginative enough to maximize an entity's intellectual capital. This requires an innovative approach to management not currently widely understood. Intellectual capital, after all, is a relatively newly coined concept. Like gravity, however, it has existed even prior to its formal discovery.

The term intellectual capitalist refers to management personnel, scholars and educators capable of creating systems, policies and environments highly conducive to creating or maximizing intellectual capital. To limit the responsibility of creating intellectual capital to management majors or to MBAs, however, misses the essence of the concept of intellectual capital. Intellectual capitalists should be developed from all disciplines. A firm that creates intellectual capital is one that has combined structural capital, human capital, and leaders with a supporting system of values and culture. To continue with the tree analogy, the root system includes all employees.

### **The Role of Business Education**

The challenge for business schools is to develop the culture, structure, and learning environment that maximizes an individual's imagination, their capacity to innovate, and their ability to communicate across job functions, in a high technology environment.

Most American colleges still bear the title Business Administration. Such a title suggests that business is being busy and that the solution is to impose some administration – ordering. Edvinsson notes that the Swedish counterpart is *naringsliv*, which translates as “nourishment for life” [Edvinsson, 1997]. But the issues of developing intellectual capitalists – future business leaders capable of creating an intellectually nurturing environment go much deeper than the names institutions bear. The issue is what are the attributes of an intellectual capitalist that a business education should seek to develop among its students? While this is only a preliminary discussion of this issue, I would suggest that the following attributes facilitate an individual's capacity to contribute to the development of intellectual capital:

- Highly developed ability to communicate
- Critical thinking skills involving an understanding of different approaches to logic, reasoning and learning.
- Well rounded appreciation for technical expertise in each business discipline
- Imagination and ability to “think of out of the box”.
- Humility and child-like curiosity and willingness to question.
- Ability to research solutions.

- Ability to both work in teams as a worker but also as a leader and sometimes concurrently.
- Comprehension and sensitivity toward the legal environment and strategies to protect intellectual capital.

In addition, future intellectual capitalists need to have an understanding of the concept of intellectual capital, the evolving and changing nature of work and the workplace (which suggests an appreciation for business or economic history), and an understanding of human motivations. Having personal maturity, the ability to engage in constructive self-analysis to bring one's own self-perception clearer in line with how others perceive one, and an understanding that education takes many forms and does not cease with graduation are other attributes of future intellectual capitalists. Some intellectual capitalists may even aspire to create their own organizations in which they would become true "intellectual entrepreneurs." I am defining intellectual entrepreneurs not as intellectuals who start businesses, but entrepreneurs who build businesses based on the philosophy of developing an organization with intellectual capital.

### **Implications for Pedagogy**

Creating an environment that nurtures intellectual capitalists possessing the attributes described above requires a whole new paradigm for the traditional American business school. It is one thing to talk about the creation of intellectual capital, it is another to practice its tenets.

What follows is an assessment grid designed to evoke questions about the nature of business education. This grid or model suggests that certain approaches may be more conducive to developing intellectual curiosity and involvement than others develop. And, it suggests that certain aspects of higher education may even stunt or restrict the ability of an individual to become an intellectual capitalist. This is not to suggest that four years of any experience induce a permanent change in personality or human potential.

Table 1  
Some Features of Business School Education – Potential Experiential Consequences

Text driven Course	All knowledge is neatly packaged in one directory.
Multiple Choice Exams	Emphasizes memorization and guessing skills. Minimizes need for self-expression.
Single professor courses as Opposed to Team Teaching	No experience of seeing that different people actually interpret, process, and analyze the same material differently.
Text oriented tests	No incentive for gathering alternate points of view.
Math for decision-making.	Academic research methodology and corporate decision making are two different objectives.

Research papers

Typical term papers are usually nothing but lengthy article reviews in contrast to corporate memos which is what students really need to learn to write. Not only do they need to learn the structure of a corporate memo, but how to diplomatically communicate up the chain of command.

Courses by function.

Defining courses by job function accounting, marketing, finance, business law, and management provides one perspective. There is little opportunity for students to learn about different industries.

The first issue is the very structure of most business schools that divides colleagues by disciplines and then by specific courses. If we become what we experience and observe, then many business students see a faculty that do not generally work on multi-disciplinary projects. They may see a department full of marketing specialists, but they may not witness those specialists engaging in working on a project with a predetermined goal. While some business school academicians have collectivist ideals, they have very little practice or experience in working in teams. At most institutions, multiple authored research articles carry less prestige than single authored publications. At most institutions, team-taught courses are either non-existent or very limited in number. Professors are the emperors of their own course armed with a shield of academic freedom. And worse, while business schools spend hours of faculty committee time on defining a mission, they almost never learn what other professors are doing in their courses. Because many professors treat each course as their exclusive domain, students tend to feel that once they have completed the course they can dispense with the information acquired. No wonder so many students fail to see much connection between accounting and finance, between marketing and law, etc.

The typical pedagogy of lecture then test transmits the following lessons: "Learn the text for the test. Don't cheat by looking at anyone else's work, certainly do not dare ask a real expert (a business person, or lawyer, or practicing accountant), and don't bother with research except for the term paper at the end of the semester." In many courses, the tests are multiple choice. Multiple choice tests by their structure do not encourage self-expression. Multiple choice tests lead students to believe that all decisions may be limited to four or less choices. Some observe that multiple choice tests actually test a student's ability to memorize rather than their ability to employ critical thinking or analytical skills. Another structural problem is that we organize courses by discipline, but they are rarely interconnected other than being sequentially ordered (Accounting I followed by Accounting II, etc). At some institutions, there is a "used book" culture where students line up at the local bookstore even before exams to get the best price on their used textbooks. Rather than seeing textbooks as reference books with future intellectual value, they see them as cash for an early Christmas present.

The question is what strategies should be considered to foster future intellectual capitalists? Table 2 presents a list of issues worthy of discussion.

Table 2  
Fostering Intellectual Capitalists

- Panel discussions      Set up a panel of professor of accounting, finance, marketing, management and law to discuss a particular case or business problem.
- Historical perspectives      Either require a courses in History of Economic Thought or Business History, or require a reading course of major books on management, economic history, or biographies of entrepreneurs.
- Modify communications courses      Shift emphasis from resume writing and research papers to rhetoric and logic. Include instruction and simulations in creative problem solving techniques including brainstorming and mediation. Examine different cultural approaches to conflict resolution.
- Require creative courses      In addition to art or music appreciation, students should have the opportunity to express creativity and innovation.
- Inject trade industry information and terminology.      When using the case method, introduce students to trade associations so they develop a better understanding of differences in vocabulary and culture of various industries.
- Creative, social environment      Skandia has implemented a “Knowledge Café” for the purpose of promoting relaxed, intellectually stimulating conversation. The Choate School and Harvard University used to seat students for lunch at round tables of eight for the purpose of continuing intellectual discussions. Today’s “drive through” education where so many students commute in and out of campus does not provide the opportunity for relaxed discussions over a meal.
- Integrate Educational Travel Experience      Many creative thinkers actually get their ideas from traveling.
- Courses for Faculty on Pedagogy and Technology.      The current fad in universities is the “application of technology and multi-media to the classroom.” the consequences of using more video and multi-media may have the result of making the classroom experience even more passive than it already is.

The above strategies are only some examples of what might be experiments to foster greater intellectual development. These strategies are cast against a reality that for many students, the university is no longer a “campus” but a non-residential “drive through” experience. Many students are currently working over twenty hours a week, living at home, and taking education exactly how they take their meals – in “fast food” style. What is lost is intellectual intercourse among a diverse group. In traditional, residential colleges, students of different majors were forced to live in a residence hall. The only respite from dorm living comes from membership in clubs and organizations, some of which were based on hobbies and intellectual pursuits. A student interested in theatre did not have to be a drama major to participate. Today, the university experience is often limited to finding a parking space and getting to class. Given the real world need for those capable of comprehending the value of creating networks and alliances, fostering a greater sense of community within a business school setting serves a valid educational objective.

It may well be that the most significant and potentially effective strategy is the “knowledge café” concept. Faculty and students must eat. Why not create a place where they can dine together in a relaxed atmosphere that encourages conversation. This would be different than the university’s “Burger King” or “McDonalds”. A good analogy is the cafés that exist in many large, commercial bookstores. While university librarians would hate to give up the floor space, a good setting to have a “knowledge café” would be in the university library. Unlike a one-room fast food outlet, the café would have many smaller, carpeted rooms with quiet music. Faculty might even be encouraged to hold classes over coffee!

Team teaching should be encouraged because it forces faculty to collaborate. However, my definition of team teaching is more than one faculty in the classroom at the same time. Merely alternating lecturers does not create the interaction so needed to spur intellectual curiosity. What students need to see is that learning is not limited to taking notes and memorization – rather the learning experience should be one of active mental engagement in the subject at hand. While business schools are jumping to install projectors and multi-media equipment into classrooms, there is less investment in training faculty in utilizing the technology. What is very likely is that faculty will simply use the technology to make the learning experience even more passive than it already is. The use of PowerPoint with graphics and sound effects is amusing and entertaining, but does it make the class room experience more or less mentally active for the students? In my own experiments with PowerPoint, students demand copies of the slides, and copies of the notes. That suggests to me that their mental involvement may be quite passive. At least in a conventional lecture they have to make the effort to distill important information on their own. I am not against the introduction of technology into the classroom, but faculties deserve to have some training on how and when to properly use such equipment.

To foster a greater sense of intellectual exploration, business students should venture into other cultures, other courses that require “hands on” creativity (not the required art appreciation or music appreciation but art courses or lessons to learn to play a musical instrument, for example). Table 2 proposes modifications to typical courses in business communication to include more investigation of logic, rhetoric and conflict resolution. Current research on artificial intelligence suggests that much problem solving is based on pattern recognition. If this is true, then future business leaders need broader



reading assignments outside normal “textbooks”. The case method used in some courses is very effective but perhaps it should be supplemented by “readings in business”. Reading’s courses might encourage students to learn some economic history, economic theory, legal systems, ethics and the interaction between business and the arts and sciences.

### **Implications for a Internal Policies**

If faculty are considered as “fountains of intellectual capital” to nourish and develop future business leaders capable of fostering innovation and management systems to reduce costs while adding value, then shouldn’t business schools review their internal policies? Changing incentive systems to reward joint research projects, changing the manner of computing FTE (full time teaching equivalents) to provide for true team teaching or at least some joint lectures or debates are two examples of policies worthy of consideration. More significantly, if business schools are really to be linked to the real world, should the reward system for faculty development be shifted from publishing research in refereed journals to meaningful consulting assignments?

Many universities rotate department chairs to broaden faculty understanding of the administrative and external pressures on an institution. However, many universities tenure their administrators into their department chair positions. It might be interesting to study which system fosters development of new leadership and which results in strengthening liaisons with external constituencies.

While many business schools have been quick to employ technology as topics for study in new courses in management information systems and e-commerce, the application of relational data base technologies and www sites for interaction with recent alumni is relatively primitive when compared with businesses. In yet, what better forum to actively practice the advantages of database management than in linking alumni relations, career placement, and internship information. The leverage for business schools should justify the expense. And while international travel may not be within every student’s personal budget, the use of email chat rooms between students taking similar courses in different countries could enhance global understanding. New technologies in interactive video conferencing can provide opportunities for students and faculty to gain perspectives from business leaders.

One other aspect of the networking concept that may be worthy of exploration is “alliances” between universities. An example is that St Edward’s University in Austin, Texas offers an MBA in telecommunications through an alliance with University of Dallas in Irving, Texas. Such alliances give both institutions an opportunity to offer more with little additional marginal costs.

### **Conclusion**

The concept of intellectual capital has serious implications for business education beyond being a new topic for discussion. Given the Western orientation where the market changes, where static organizations can find themselves obsolete, and where the nature of work itself continues to shift away from brawn to brain, this paper only serves to raise issues worthy of further reflection and investigation. Business education is but

one source of future employees. Business school stakeholders (including students, faculty, parents, corporate sponsors, alumni, and whoever funds the institution) can only benefit from further investigation of the issues raised by this article.

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