



## THE MANAGEMENT OF INTELLECTUAL CAPITAL

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## ABSTRACT

*“What often happens is that I will be inspired to connect people in my network, as I get a feeling that together they’ll be inspired to create something magnificent”*

Identifying a firm's assets, especially its intangible assets—the proprietary knowledge expressed—has become critical to a company's overall vision and strategic plan and an essential task in such transactions as stock offerings or mergers. Most of the companies have come to realize that market value multiples associated with its intangible assets (patents, trademarks, trade secrets, licensing, etc.) are often many times higher than the multiples associated with the inflows (cash) generated from its tangible assets in isolation. The challenge facing these companies is to implement business practices and systems to manage and exploit these intellectual assets as traditional approaches to accounting, physical asset tracking and inventory systems are geared towards managing tangible assets. Many companies have not equally developed processes, organizations or systems to effectively manage and leverage intellectual assets, and opportunities are missed to realize the greatest possible value from them. In this paper, we wish to define “intellectual capital management” and review why many organizations do not utilize best practices in identifying or exploiting their intellectual capital; and to review possible management strategies and processes that could be utilized by company in developing and initiating the program.

**Keywords:** Human Capital, Intangible Assets, Intellectual Capitals, Intellectual Property, Knowledge Management.

## INTRODUCTION

*“The only vital value an enterprise has is the experience, skills, innovativeness and insights of its people”*

Leif Edvinsson, Swedish Intellectual Capital guru in Corporate Longitude (2002)

India's economic progress has been largely powered by its intellectual capital. Barring garments and jewellery, few of our industries are based on "sweat-shop" labour; in these too, Indian designers now make major contributions. In agriculture, our growth owes much to excellent research. The increasing efficiency of our steel, petroleum and auto components industries, the outstanding success of our efforts in the fields of space, nuclear technology and computer software: all these draw on India's knowledge capital.

This knowledge base is the result of a long and sustained process. While decrying Nehruvian policies is the flavour-of-the-decade, we owe a deep debt of gratitude to Nehru's creation of centres for R&D and technological learning. It is the graduates of these institutions who have built India's rockets, satellites, nuclear bombs, atomic power plants and industrial infrastructure. They have taken our computer software industry to unparalleled success, and also contributed to R&D and education abroad. Clearly, it is the foundation laid in the 1950s and 60s that has been of immense value.

The ability to develop and utilize technology has always been of critical importance, but never more than in today's rapidly-changing environment. Knowledge is now both the currency of power and of the marketplace. The contribution of knowledge

as a factor of production has surpassed that of capital and labour in many industries, and not merely in the high-tech sector. Globally, Indians are playing a major part in this, but India's role is limited — confined mostly to software and (to a lesser extent) pharmaceuticals.

Over the next decade, Europe, USA and — unbelievably — China too, will face a shortage of working-age population. India, in contrast, will have a surplus. One projection indicates a surplus of 47 million in India in 2020 and shortages of 17 million in the US, 10 million in China and over 10 million in Europe. The deficit of skilled professionals is likely to be even more acute. Here then is an extraordinary opportunity: global demographics and the domestic pool of knowledge professionals together open up unique possibilities for India to become the dominant player in the world-wide knowledge economy. Research, development, design, testing, and professional services can be undertaken in a whole host of areas. What the Indian software industry has achieved, with its scorching pace of growth and phenomenal brand equity, is only the tip of the iceberg in terms of the potential. Realization of this dream is, however, contingent on a large number of factors. Primary amongst these is the need to support, strengthen and expand the education system so as to ensure both quantity and quality. Substantial upgradation of the physical and pedagogical infrastructure is urgent. This requires better classrooms, laboratories and libraries; modern teaching aids, including audio-visual and computer/Internet facilities; attracting, retaining and continuously upgrading the best

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faculty talent; relevant and continually updated curricula. Closer interaction with industry and R&D organisations is a necessity for academia. Also, in order to attract and retain bright students, there is need for generous and easily available student loans/grants, paid internship in industry, and teaching assistantships. These are especially necessary for research and professional education, with rising costs.

It is also necessary to strengthen and expand the base of the educational pyramid, by devoting substantially greater attention and resources to school education. If Nehru can be faulted for anything, it is for the lack of concentrated effort on the problems of illiteracy and universalization of elementary education. Even as we bask in the glory of world-wide accolades to the IITs and IIMs, we need to be conscious of our dismal record in basic literacy, and ashamed of having the largest number of illiterates in the world. While education is a good by itself, there is now the added incentive of its direct benefit to the economy, as we begin to use and export knowledge-intensive products and services.

**WHAT IS “INTELLECTUAL CAPITAL MANAGEMENT” AND WHY DO MANY ORGANIZATIONS FAIL TO EFFECTIVELY PRACTICE IT?**

In this area, several terms are used interchangeably, and it is best if these are defined so that they may be distinguished:

Human Capital – the people element of an organization. It includes owners, employees, contractors, suppliers and those who collectively bring to the organization their individual

abilities (i.e. know how, experience, skills, creativity). Human capital is one of the two major elements comprising intellectual capital.

Intellectual Assets – The tangible or physical description of specific knowledge to which an organization may assert ownership rights (i.e. documents, databases, processes, inventions, programs). Intellectual assets are the other major element comprising intellectual capital.

Intellectual Property – the subset of intellectual assets for which legal protection has been obtained (i.e. patents, trademarks, copyrights, trade secrets).

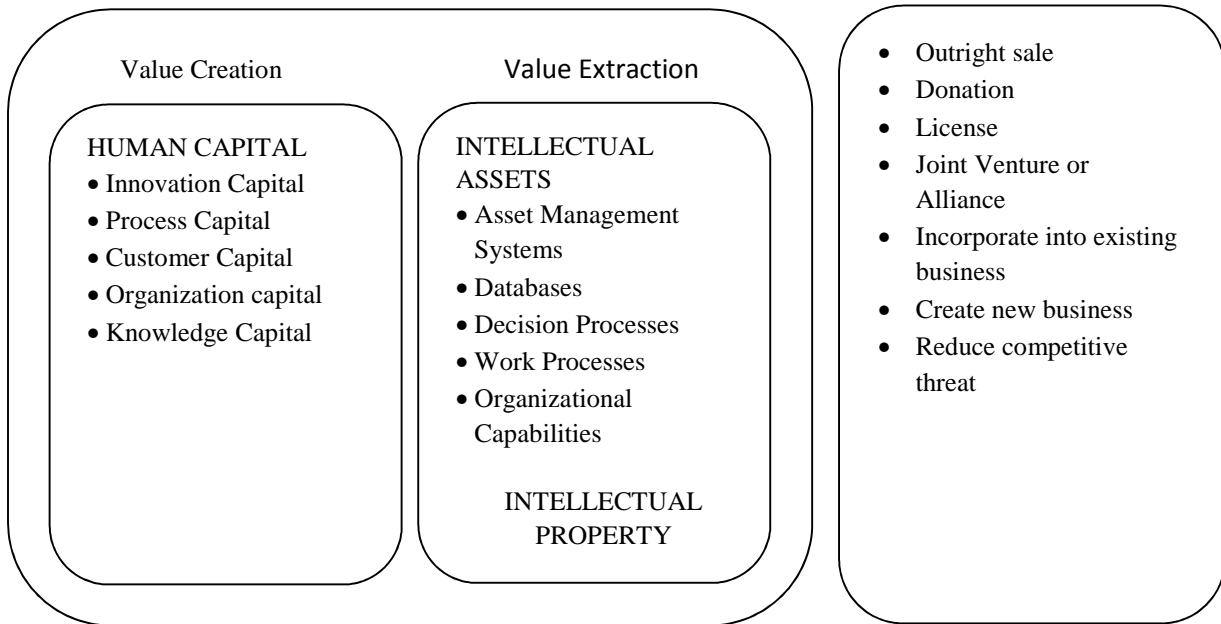
Intellectual Capital – The collective elements of human capital and intellectual assets...the “knowledge” of an organization that can be converted into profit.

Intellectual capital is a real business asset, although measuring it is a very subjective task. Companies spend millions annually training their employees in business-specific topics and otherwise paying for increased competence in their staff. This capital employed provides a return to the company, one that can contribute toward many years' worth of business value. As technology and process improvements become more of a differentiating factor within modern companies, intellectual capital is likely to become an even stronger force in the marketplace.

Intellectual capital management, then, is the processes and structures used to undertake the two activities of “value creation” and “value extraction” from any organization and, with the concepts above, could be generally conceived of as follows:

**INTELLECTUAL CAPITAL**

**PROFITS**



Historically, intellectual property (“IP”) has been approached from three different perspectives – research and development (“R&D”), legal and business. Because of the legal complexities, IP has largely been the purview of legal counsel, where focus is typically on legal registrations of patents and trademarks and providing support to R&D or business units.

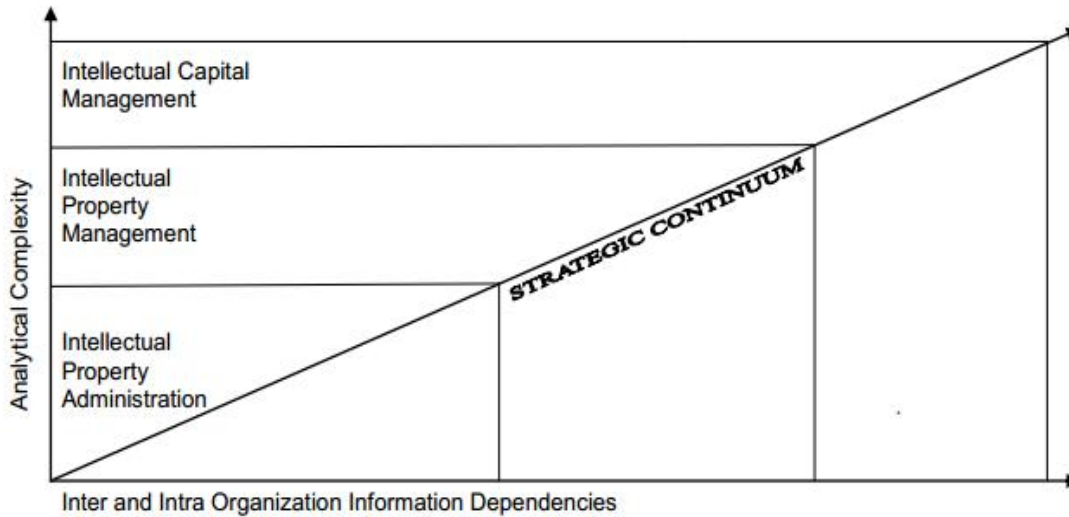
R&D departments generally measure IP performance by the number of inventions and by product support and enhancement. Business units are required to deliver products and services to the marketplace, and license non-core technologies to external players. In many organizations, these units operate in relative isolation, seeking input from other

units (i.e. legal) only when the need has been identified. Often, the strategic management of IP, let alone intellectual capital, is not the responsibility of any particular person or group. Many companies are, therefore, typically reactive, and many opportunities are lost. Organizations that operate in this fashion are characterized by:

- Discreet, standalone solutions for each major functional need;

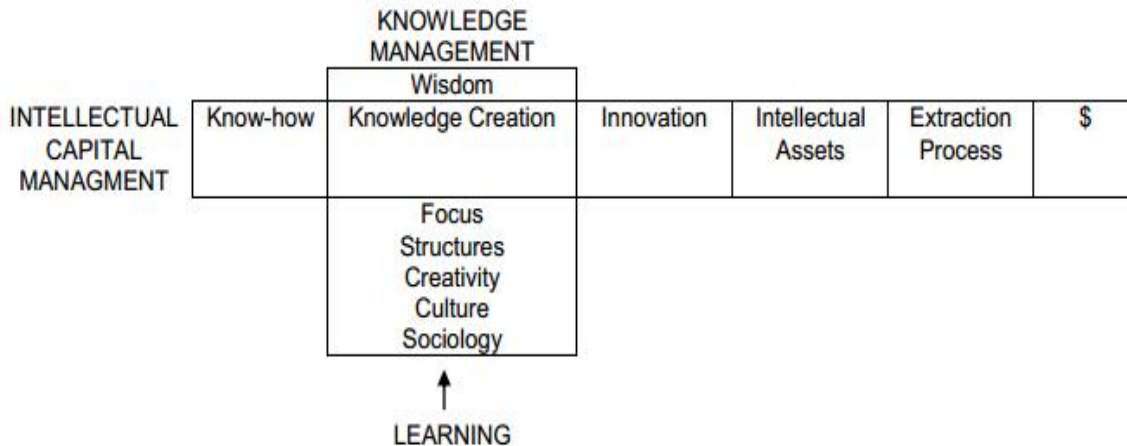
- Redundant and unsynchronized data across systems;
- Inability to obtain a real-time view of all issues surrounding intellectual assets, their protection or exploitation;
- Lack of user friendly tools to assist this function.

To further conceptualize where many organizations are in managing their intellectual capital as opposed to where they ideally should be, the following graphic is useful:



Organizations must start the management of their intellectual capital at the lower left corner of this figure, and to move up the strategic continuum towards fully integrated intellectual capital management requires a commitment of resources and energy that many organizations are not prepared to undertake, often times because they do not consider themselves to be “knowledge” companies where the creation of intellectual property is core to their competitive advantage. However, it is our view that when an organization adopts some of the practices and procedures associated with capital management, it realizes that it both produces many more intellectual assets

than it previously thought and that some of these assets have commercial potential or value to the company. More importantly, such firms begin to move toward the broader goal of general “knowledge management”, which addresses the collection, organization and effective and value added utilization of the accumulated “wisdom” of the firm to enhance its competitive position. Knowledge management involves related, but much deeper organizational philosophies and processes, and one writer has graphically illustrated the intersections of knowledge management and intellectual capital management as follows:



## OVERVIEW OF INTELLECTUAL CAPITAL MANAGEMENT PROGRAMS

We have reviewed recent literature concerning knowledge management and, more specifically, intellectual property asset management. As a broad overview, this literature may be summarized as suggesting that COMPANY consider the following management approaches:

- Formulate a strategic vision for the use of COMPANY's intellectual capital;
- Implement governance models aimed at encouraging the coordination of knowledge. For instance: beginning with an IP audit, catalogue COMPANY's existing intellectual resources by creating what is commonly known as a "knowledge map" and which is generally based on a structure which is geared toward COMPANY's needs and strategic vision;
- Implement policies favouring efficient knowledge creation, organization, structuring, mapping and storing;
- Create communities of practice within the organization in order to facilitate the exchange and proliferation of large amounts of knowledge;
- Encourage sustained learning and innovative thinking in order to discover new and creative ways to apply current knowledge;
- Continuously evaluate new ideas and knowledge and determine appropriate protection and development to put them to best use for COMPANY;
- Apply the benefits of knowledge coordination to streamline new product or service innovation processes;
- Develop licensing, partnering and other business opportunity maximization programs based on efficient use of COMPANY's marketable intellectual capital. For example, set up contract management programs that ensure compliance and develop a knowledge base to favour COMPANY in future agreements;
- Implement tax minimization strategies;
- Establish programs designed to enhance COMPANY's ability to identify, protect and correctly assert the organization's IP and other knowledge-based rights through a legal compliance program; and
- Use benchmarking or other accurate techniques to measure the performance of COMPANY's intellectual capital management program and set realistic business growth objectives.

Each organization will, of course, develop a specific intellectual capital management program to meet its unique needs, constraints, and resources and anticipated outcomes. We do not propose to offer to COMPANY a specific program by way of this memo; an impossible task without much further discussion. However, we do suggest that COMPANY consider the following particular mechanisms to initiate a program that will ultimately meet its goals:

COMPANY should begin its intellectual capital management program by defining its scope and its strategic vision. Perhaps holding a retreat with key employees who are more directly connected with the core branches of intellectual capital development or other forms of knowledge within COMPANY would be most conducive to placing people in the new mindset of a managed approach to intellectual capital.

First, COMPANY should focus on formulating a strategic vision for its intellectual capital. Second, once the strategic vision is established, COMPANY should define the scope of its intellectual capital management program. The program will give COMPANY the specific direction it needs to formulate the implementing policies or directives which, to be effective, should embody the following objectives:

- To thoroughly understand the processes by which COMPANY creates, develops, acquires, perfects, maintains and uses IP or other types of knowledge. Information gathered in this respect will also serve as a tool to improve the efficiency and coordination of these processes;
- To accurately map the process by which knowledge is shared within COMPANY, be it within or across business groups or subsidiaries. Documenting these information exchange patterns will allow COMPANY to determine the most effective means of sharing company knowledge at all levels;
- To promote constant employee learning and awareness of COMPANY's knowledge being created or otherwise used in their business groups in order to better document developments, innovations, solutions, as well as IP or knowledge infringements;
- To continuously monitor knowledge bases in order to allow COMPANY to act quickly to enforce its knowledge-related rights, identify breaks or inefficiencies in the chain of reporting and learning, as well as to have up-to-date information in the knowledge base in order to best determine business strategies for each item of knowledge; and
- To consistently apply a legal compliance program aimed at maintaining and properly enforcing COMPANY's proprietary rights in its knowledge and IP.
- More specifically, in detailing its intellectual capital management program, COMPANY will likely wish to incorporate the following elements which typically underlie such programs and which are aimed at maximizing the efficiency and the overall value derived there from:
- To the extent possible, strive to concentrate ownership and management of all COMPANY IP and most COMPANY knowledge in one (often the parent) company.

Conduct a periodic knowledge and IP audit. As an important part of an intellectual capital management program, an audit serves the purpose of confirming the accuracy of the knowledge base by taking a complete inventory of COMPANY's knowledge and IP and ensuring that COMPANY is utilizing the Program to its full potential, with regard to knowledge creation, use and protection. COMPANY would benefit from establishing a general procedure by which to measure the costs and benefits of protecting acquired knowledge in order to make investment decisions with respect to the type of protection to seek for innovative ideas or processes. Reduce IP and knowledge protection costs by avoiding duplication of protection efforts within COMPANY and by dropping items which no longer warrant protection.

Strongly encourage early disclosure of new ideas, IP or knowledge and to keep proper records showing the nature of the knowledge developed, and the development process.

Train employees to evaluate appropriate confidentiality levels as well as respective knowledge disclosure and protection methods applied to knowledge developed in their business groups.

Educate employees in effective use of the COMPANY knowledge base in order to streamline product innovation processes and shorten time-to-market for new ideas.

Implement continuing employee education and incentive programs as a further demonstration of COMPANY's management leadership, control and direction and in order to increase employee morale by showing that the company values employee efforts to be creative, innovative and to participate in the building of COMPANY's knowledge base. The COMPANY employee education and incentive plan should also teach employees to recognize IP and infringements thereof. Employees should know to report infringement incidents to the "legal compliance department", whether they represent infringement by or against COMPANY

Of course, in order to maximize internal compliance with the program, COMPANY must ensure that it is consistently applied throughout the company and that it is consistent with company culture. In order to least encumber day-to-day operations of the company, the procedures prescribed by the program should be simple and applicable to every situation.

The ramifications of the Program should flow down to the employee recruiting process, where COMPANY would not wish to hire individuals who may be restricted in their job or participation in the creation of the knowledge base by reason of any non-competition or non-disclosure agreements or obligations. Furthermore, employees should be required to enter into an employment agreement with COMPANY whereby they:

- Assign all rights in IP, inventions, and other knowledge created by them, to COMPANY;
- Assume a duty of confidentiality to the company; and
- Agree to cooperate fully in protecting and building the company's IP and other valuable knowledge.

Finally, the Program should ultimately be geared toward business opportunity maximization for COMPANY's entire knowledge base. Accordingly, it should set up a structured organization and chain of reporting. For instance, it may be beneficial to create positions or committees to further the objectives of the Program and concentrate on the achievement of objectives. For instance:

- A contract management committee could oversee agreements which may impact the COMPANY knowledge base in any way and develop key provisions which should be present in certain types of contracts in order to continue to protect and build the COMPANY knowledge base;
- Another committee may be charged with the exploration of cost-cutting in respect to IP and knowledge strategies, including the implementation of tax minimization procedures; and
- In order to measure the performance of the Program, COMPANY should establish an evaluation committee which should not only grade COMPANY's Program performance, but also measure the accuracy of its evaluation models and compare COMPANY results to those obtained in other companies with similar programs.

## CONCLUSION

The last two decades in India have been exceptional in terms of growth and prosperity. Entrepreneurship has redefined India and positioned us on the global map. Growth has also brought into sharp focus the challenges of inequity between those with opportunities, and those with aspirations but no opportunities.

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