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SEATED AT DESKS WITHIN COMPANIES AND ORGANIZATIONS RESTS THE MOST VALUABLE AND, FOR THE MOST PART, UNTAPPED WEALTH—THEIR OWN EMPLOYEES. Traditionally, the terms intellectual assets, intangible assets, or intellectual capital were used to refer to the legally defined category of intellectual property. Today, however, organizations of all sizes and in all industries appreciate the value of employee brainpower, knowledge, and innovation processes as intellectual assets. Organizations that appreciate the value-adding, maximizing effect of their intellectual assets stand to gain a competitive advantage that only management of such assets will yield.

Limiting the definition of intellectual assets to intellectual property, per se, ignores a virtual treasure chest of organizational knowledge and employee brainpower. These assets are in their own right valuable business assets, that can be capitalized if properly managed. At the least, such assets should be seen as the "raw materials" from which intellectual property is made. Hence, fundamental business management principles would entail the management of such assets, if for no reason but to maximize the generation of intellectual property. Fundamental business management principles entail the management of organizational knowledge and employee brainpower, in their definition as "raw materials," to maximize the generation of intellectual property (IP).

More and more organizations recognize that, in addition to management of intellectual property, they need to manage the specialized knowledge in their databases, practices, and the heads of their employees. This is because organizations in the "new economy" are increasingly faced with the challenge of producing a high turnover of innovation—a challenge that organizations soon realized cannot be effectively tackled by the traditional business management approaches.

Initially, organizations thought encouraging employees to innovate would be easy. "Don't control. Lead," became the new axiom in business management and a variety of solutions appeared. The idea was to give more than mere lip service to the slogan "people are our best assets" and create a culture of sharing and collaboration. By following that paradigm, organizations hoped that innovation would soar. But organizations soon discovered that there is more to innovation than "incentive programs," "communities of practice," and "idea banks."

Organizations found that to have a high "turnover" of innovation, traditional management and organizational structures had to change. That's how the question of organization innovation made its way to the CEO's desk. There, innovation was realized as more than a value to be encouraged, but should rather be developed as a systematic way of doing business and be managed as a production process. But why was innovation suddenly so important? Hadn't it existed from the dawn of humankind? And why were innovation processes and practices increasingly determining an organization's competitive strength? The simple answer is, "It's the new economy."

The "new economy" is a knowledge economy where "accumulation and use of intellectual capital resulted in it being the basis for commercial success," (Granstrand, 1997) and where "innovation endows resources with a new capacity to create wealth." (Drucker, 1993).

With this new economy, does it follow that we should have a new way of business management? This is a valid question that some writers have addressed, arguing that the new knowledge economy created a paradigm shift in business management from the industrial-based organization to the knowledge-based organization. (See Sveiby, 1997. Arthur, 1999) But even before this question was thoroughly debated, let alone settled, a variety of Intellectual Asset Management, IAM services and products were offered in the United States and other developed economies. Further, major corporations that span a variety of industries (e.g. Dow Chemical, Coca-Cola, Skandia, Arthur Andersen, BP and Lucent) have developed and/or changed their management systems and structures to man age intellectual assets, some with initiatives going back to the late 1980s.

So what is IAM? Is it a collection of practices, procedures and applications that deal with intellectual assets? Or is it a business management approach? Defined narrowly, IAM covers any set of procedures and practices that aim to maximize the value added or extracted from any type of intellectual assets, be it knowledge, innovation or IP. However, according to the preferred definition of IAM, adopted by its proponents as a field/discipline, IAM is a total business management approach that manages intellectual assets throughout the whole enterprise or organization for maximum value extraction (Kahn, 1998. Bellis & Schroeder, 2000. Rouse, 2000).

I wish I could say that there is a consensus as to the "preferred" definition among those involved or interested in the field of IAM, namely intellectual property lawyers and professionals, and business managers and consultants. However, as any emerging field, IAM suffers from lack of consensus as to definitions and as to the best practices that should be employed. Despite this lack of consensus and the modest literature on the topic, there is no dispute whatsoever as to the significance of IAM for driving business development and growth. Indeed, IAM is presented by some as the ideal business management approach for the new knowledge economy where organizations need to innovate and outsmart each other to maintain a competitive advantage.

One would think that with such broad definitions and optimistic promises IAM services and/or models provide complete solutions to management problems. But contrary to expectation, almost all of the IAM models and approaches developed to date fail to deliver. This is because such models (with the exception of total models developed by a handful of major corporations) are "restrictive," "incremental" or "accumulative." Restrictive approaches limit IAM activities to management of one form of intellectual assets, mainly IP, or even to one form of IP, and then complement their approach with piecemeal processes. Incremental approaches divide IAM into separate and isolated functions that are scattered through R&D, legal and business departments. On the other hand, accumulative approaches attempt to combine the efforts of the various departments in the incremental approach by opening communication channels between them. (Al-Ali, 2000)

## CIAM™—Creating a New Approach

Through intensive research and in depth study of IAM in the context of business management and development, I have concluded that only a definition of IAM as a total business management approach can deliver the promises that IAM proponents make. Adopting such a methodology, I developed a comprehensive IAM approach, that I call CIAM $^{\rm TM}$ , Comprehensive Intellectual Asset Management. CIAM defines IAM as a system for the "management of intellectual assets at every step on the chain or process of their development, and according to the strategic goals that can be

achieved from managing each of the different types of intellectual assets (knowledge, innovation or IP)" (Al-Ali, 2000).

For the purposes of CIAM, I categorized intellectual assets according to their function under three groups:

Raw materials: the intellectual resources that are used to formulate a prototype of a new product/service. These are public knowledge resources, organizational knowledge and employee brainpower.

**Production processes:** comprises all the innovation processes, practices and systems employed by the organization to transform the prototype into a marketable end product.

Competitive tools: comprises all the intellectual property that an organization owns or controls, which can be used strategically to gain a competitive advantage or generate more revenue.

The CIAM approach manages the three groups of intellectual assets through three stages: knowledge management, innovation management and IP management. (Though Knowledge Management can be claimed to be an independent discipline, I see it as a component of comprehensive IAM). Incorporated into the three components of CIAM are a variety of the practices, tools and applications developed in the United States and on the Internet under the banner of IAM. However, the CIAM approach does not merely make sense of scattered information on IAM, or tidy up a messy landscape of IAM services and practices. It offers a model of IAM that uses available tools and practices with a sharp focus on desired, strategic objectives.

CIAM is, at best, a generic model that should be customized to the needs of each organization depending on its industry/ business strategy. That being said, the CIAM approach is a necessary tool that enables an organization to address all its IAM needs in the process of strategic planning. A comprehensive approach, CIAM also deals with how to change organizational and management structures for effective IAM. But most importantly, CIAM attempts to unify the scattered, albeit haphazard, knowledge on IAM into a meaningful and applicable business strategy for the new knowledge economy.

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