

# INTELLECTUAL VENTURE CAPITALISTS: AN EMERGING BREED OF KNOWLEDGE ENTREPRENEURS

By

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It has been said that in the knowledge economy, the marketplace is not divided into towns and regions, but into affinity groups that descend from a high propensity to sociability (also known as the *invisible networks of peers* (Carayannis and Allbritton, 1997) and which are also structured by knowledge creation, diffusion and use modalities (what we also call “*knowledge-ducts*” along which flow “*knowledge nuggets*”<sup>1</sup>) such as *innovation networks*<sup>2</sup> and *knowledge clusters*<sup>3</sup> (Formica, 2003; Carayannis, GWU Lectures, 2000-2005; Carayannis et al, 1999; Carayannis et al, 2000; Carayannis et al, 2003a; Carayannis et al, 2003b; Carayannis et al, 2004; Carayannis et al, 2005; Carayannis et al, 2005a; Carayannis et al, 2005b; Carayannis et al, 2006a; Carayannis et al, 2006b; Carayannis et al, 2003c). Newton and Goethe called this affinity (*Elective Affinities - Goethe*), “catalytic” in that two substances combine to form a third one. In a truly and openly global economy one country is no longer able to dominate the others and such an economy consists of knowledge-driven economies and knowledge-based societies that materialize only in an atmosphere of community.

The transition to that state of social, political and economic affairs is full of challenges as well as opportunities and in that context, even advanced industrial economies struggle to capture the potential benefits of the modern-day knowledge society, economy

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<sup>1</sup>We consider the following quote useful for elucidating the meaning and role of a “*knowledge nugget*”: “*People, culture, and technology serve as the institutional, market, and socio-economic “glue” that binds, catalyzes, and accelerates interactions and manifestations between creativity and innovation as shown in Figure 1, along with public-private partnerships, International Research &*

*Development (R&D) consortia, technical / business / legal standards such as intellectual property rights as well as human nature and the “creative demon”. The relationship is highly non-linear, complex and dynamic, evolving over time and driven by both external and internal stimuli and factors such as firm strategy, structure, and performance as well as top-down policies and bottom-up initiatives that act as enablers, catalysts, and accelerators for creativity and innovation that leads to competitiveness” [Elias G. Carayannis and Edgar Gonzalez, ‘Creativity and Innovation = Competitiveness? When, How, and Why’, in Larisa V. Shavinina (ed.), The International Handbook on Innovation (Amsterdam: Pergamon, 2003), 587-606, especially on 593].*

<sup>2</sup>*Innovation Networks are real and virtual infra-structures and infra-technologies that serve to nurture creativity, trigger invention and catalyze innovation in a public and/or private domain context (for instance, Government-University-Industry Public-Private Research and Technology Development Co-opetitive Partnerships) [Carayannis et al, 2005; Carayannis et al, 2005a; Carayannis et al, 2005b; Carayannis et al, 2006a; Carayannis et al, 2006b; Carayannis et al, 2006c].*

<sup>3</sup>*Knowledge Clusters are agglomerations of co-specialized, mutually complementary and reinforcing knowledge assets in the form of “knowledge stocks” and “knowledge flows” that exhibit self-organizing, learning-driven, dynamically adaptive competences and trends in the context of an open systems perspective [Carayannis et al, 2005; Carayannis et al, 2005a; Carayannis et al, 2005b; Carayannis et al, 2006a; Carayannis et al, 2006b; Carayannis et al, 2006c].*

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and polity. The path towards a new age of prosperity through knowledge to business is full of pitfalls that can trigger socio-economically regressive trends and

patterns (from the nouveaux pauvres to the fundamentalists of all hues including the neo-ludites (Carayannis GWU Lectures, 1996-2005).

The industrial culture mainly focused on the production of 'things', static objects, is a contrast to the very nature of knowledge, which is that of a flowing stream. Conventional industrial notions lead policymakers to believe that the addition of a knowledge-based industry to an existing industry base makes a knowledge economy. This is not the case. Pieces of knowledge, purchased like objects, do not make a knowledge economy. What is missed is the importance of managing and synthesizing knowledge and of conducting conventional businesses in innovative ways. Capitalizing the knowledge economy requires an entirely new way of viewing the economic landscape. For example in a knowledge economy it is essential to collaborate to compete. This requires a transformation of traditional notions of competition, market advantage, and adversarial market relationships.

The development of an enterprising culture is a primary objective of all progressive nations. Entrepreneurs, and the small and medium businesses they build, are the backbone and represent as much as 70% of the economic base of first world countries. Entrepreneurial activity creates business diversity, reduces reliance on a single industry or natural resource, and creates an enterprising culture capable of rapid response to emerging economic threats. A robust entrepreneurial climate such as the one often present in "hotspots" of entrepreneurial activity that appear in the form of real and/or virtual clusters is one where *people, culture and technology* converge to build entrepreneurial activities on firm foundations of *charisma, character and culture* (the three essential "C"s of entrepreneurial success (Carayannis, GWU Lectures, 2005-2005; Carayannis, ECE Lectures, 2005).

Entrepreneurial activities postulate what we call the "triadic complex" of entrepreneurial energy, entrepreneurial mass made up of attributes and motivations for entrepreneurship and creativity in

business, as described in Table 1.

While entrepreneurship may occur as a natural result of personal drive, it occurs most often, most robustly and is most sustainable in an environment designed to encourage it. Potential entrepreneurs become active entrepreneurs when the conditions are most supportive of their commercial opportunities and their business thus helping channel the two key qualities they exhibit as individuals *obsessed maniacs* and *clairvoyant oracles* (Carayannis, GWU Lectures, 2000-2005) and (Carayannis et al, 2003a) towards the generation of sustainable wealth.

So far, entrepreneurial scholars who turn into intellectual venture capitalists by founding knowledge-driven companies remain one of the least explored species in the territory of entrepreneurship.

#### Attributes

?Clarity of leadership
?Openness and inquisitiveness that stimulates innovation and learning
?Creation of new value or organisational capability
?Flexibility to change
?Relationship building skills
?Ability to convince others (employees, individual investors, suppliers, and landlords) to share start - up risks

#### Motivations

?Capacity to think for oneself
?Self-confidence: having optimism and personal drive
?Sense of autonomy, independence and risk-taking
?Intense emotions

Table 1 The Triadic Complex of Entrepreneurial Attributes, Motivations and Creativity in Business

$$E = MC^3$$

E stands for entrepreneurial energy

M stands for attributes of and motivations for entrepreneurship:

C stands for creativity in business, which is the combination of:

Creativity in Technology x Creativity in Planning x Creativity in Marketing

C is the equivalent of the speed of light. C in Latin is Celeritas, which means velocity.

Creativity in business is like a beam of light that spotlights one or more opportunities to be turned into businesses.

*Intellectual venture capitalists* (Carayannis and Juneau, 2003) are in essence *knowledge entrepreneurs* (Formica, 2005) who hold intellectual capital and are willing to undertake risks investing it towards the pursuit of larger pecuniary benefits that is, the ability to transform knowledge and intangible assets into wealth creating resources<sup>4</sup>. They typically do so leveraging two key qualities they possess via a unique combination of *nature, talent, experience and fortune*:

? *strategic knowledge arbitrage* (the capacity to uniquely create, identify, re-allocate and re-combine knowledge assets better and/or faster to derive, develop and capture non-appropriable, defensible and sustainable and scalable pecuniary benefits) (Carayannis, GWU Lectures, 2000-2005) and (Carayannis et al, 2003a; Carayannis et al, 2005; Carayannis et al, 2005a; Carayannis et al, 2005b; Carayannis et al, 2006a; Carayannis et al, 2006b; Carayannis et al, 2006c);

And

? *strategic knowledge serendipity* (the capacity to uniquely identify, recognize, access and integrate knowledge assets better and/or faster to derive, develop and capture non-appropriable, defensible and sustainable and scalable pecuniary benefits) (Carayannis, GWU Lectures, 2000-2005) and (Carayannis et al, 2003a; Carayannis et al, 2005; Carayannis et al, 2005a; Carayannis et al, 2005b; Carayannis et al, 2006a; Carayannis et al, 2006b; Carayannis et al, 2006c).

Putting knowledge in action requires the development of win/win relationships, which, in turn, are the outcome of a context conducive to negotiated exchanges (Carayannis et al, 1999). Under the perspective of relationship building, *intellectual venture capitalists* play

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*In a broader sense, "intellectual capital refers to the total Knowledge within an organisation that may be converted into value, or used to produce a higher value asset. The term embodies*

*the knowledge and expertise of employees; brands; customer information and relationships; contracts; internal processes, methods, and technologies"* (Prior, 2005).

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a double role of content and context creators leading and engendering a process and dynamic leading towards artificial abundance while leveraging and replacing conditions of natural scarcity (see Figure 2).

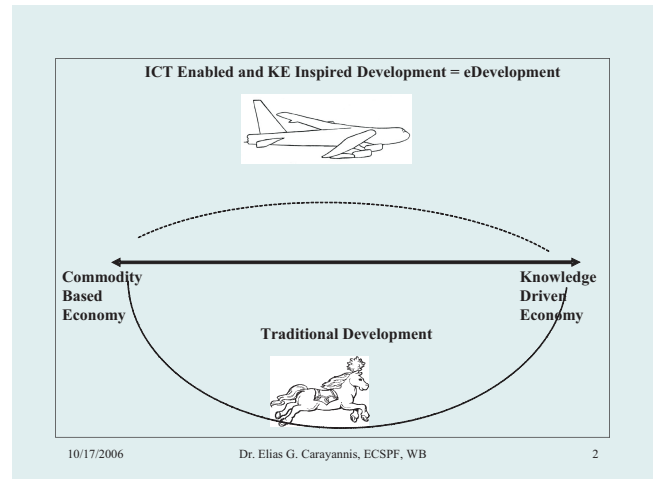


Figure 2 (Adapted From Carayannis Et Al, 2005a, 2005b, 2005c) Intellectual capitalists are the Phoenicians of the 21st century dominated by the falling cost of transporting ideas and information. Like the Phoenicians they make geo-economic changes by navigating longitudinally (Figure 3).

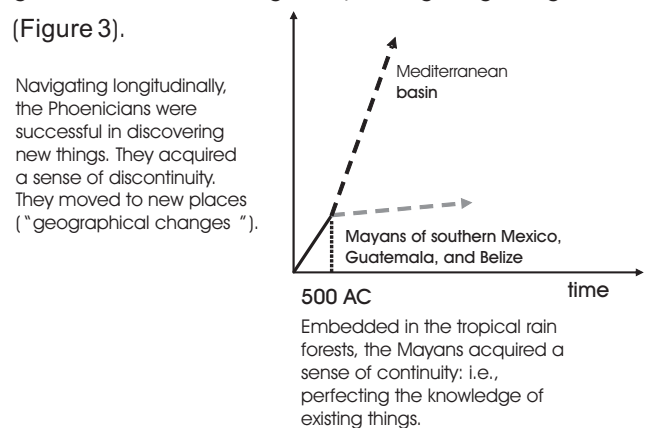


Figure 3 - Phoenicians: Merchants of Light Innovation

Entrepreneurial scholars, such as Marie Curie who was an enterprising woman and herself took part in the industrial application of her scientific results, show preference sets affected by the convergence of two profiles: namely, the profile of *homo scientificus* who breaks away from convention to search for groundbreaking discovery and

the profile of *homo economicus* with special acumen for markets and sales. In other words, entrepreneurial scholars have a relatively clear sense of the probability of a successful commercial outcome from their curiosity-driven research. The latter evolves as a business goal-oriented work. This evolution results both in a paradigm change to adopt a new mental model and in a phase change as a transition to the entrepreneurial state.

Entrepreneurial scholars in ample supply turned into intellectual capitalists open up new perspectives for outsourcing innovation. As Figure 4 shows, if the supply of intellectual capitalists is low, outsourcing innovation is a decision with a constrained vision: just that of a tangible assets-intensive process controlled by companies making outsourcing decisions. Those companies focus on what they know they do not know. Under this circumstances, outsourcing decisions are plunged into the sea of chartered waters. The navigation depends on knowing how to keep innovation-induced pressure on tangible assets under control.

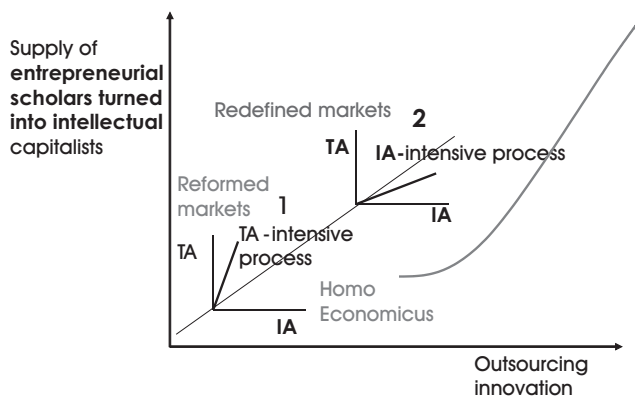
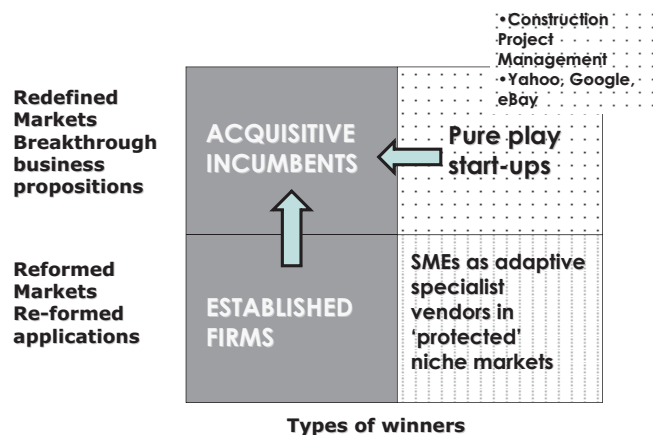


Figure 4 - Forms of Outsourcing Innovation

In contrast, an abundant supply entices intangible assets-intensive processes whereby companies making decisions for outsourcing innovation “learn” rather than “control”. In the latter case the focus is on what companies do not know they do not know. To be brave enough to sail uncharted waters, companies have to learn how to govern the impact of leverage on intangible assets. In doing this, they rely on the performance offered by the intellectual capitalists playing as the ‘merchants of light’ of the Phoenician and Renaissance times who saw

“into distances most could not” (Harriet Rubin, *The New Merchants of Light*, Leader to Leader, No.10 Fall 1998). Both parties' behaviour converges in making outsourcing innovation an experiment that brings to the surface of the company's business culture the importance of discovering new markets and radically transforming its organization.

Whereas reformed markets are the terrain for exploration purposes by incumbent entrepreneurs, intellectual venture capitalists and they redefine market boundaries and norms whereby entirely new markets emerge. In doing so, they put incumbents in peril for the revolutionary business opportunities envisioned by intellectual capitalists are not within the incumbents' range of resources, strategies and structures (Figure 5).



Source: adapted from Day, G. S. and Fein, A.J., Shakeouts in Digital Markets: Lessons from B2B Exchanges, California Management Review, Winter 2003

Figure 5 - Redefined and Reformed Markets

## Legend

1: Tangible assets (TA) such as land, labour and capital are the traditional pillars of value creation. Companies making outsourcing decisions control TA-intensive processes.

2: The value of intangible assets (IA) leads IA-intensive processes whereby companies making outsourcing decisions “learn” rather than “control” processes whereby companies making outsourcing decisions “learn” rather than “control”

## Redefined and Reformed Markets

Reformed markets: Re-formulation of existing ideas.

Technologies do not change the basic structure and functioning of the market. They help to squeeze out costs and facilitate interactions. They are improvements rather than a wholesale redefinition of R&D process, marketing and sales process, supply chains, et cetera.

Incumbents have built-in advantages: Trusted brand names, reputation, customer relationships, financial depth deep pocket.

### Adaptive Specialist Vendors

They sell in middle spaces made up by intermediate audiences and communities focused on common interests.

### Redefined Markets

Market boundaries and norms are redefined. An entirely new market emerges.

Incumbents are in disadvantage. Their resources, strategies and structures do not allow them to envision revolutionary possibilities.

Example: Construction project management (an entirely new way in terms of efficiency and speed of coordinating the efforts of a chain of firms in different locations).

(a) Edison developed what were called invention factories, the first of which was Menlo Park in New Jersey. To this day he's known as the wizard of Menlo Park and is celebrated for creating the world's first full scale industrial research and development laboratory. It was to transform America's shop floor tradition of invention.

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