

Creativity: people, environment and culture, the key elements in its understanding and interpretation

Paulo C De Miranda, José Alberto S Aranha and Julia Zardo

This paper discusses three aspects of entrepreneurship: people (innovators, entrepreneurs and amateurs) at the core of creative production who 'function' as agents of transformation; culture which helps to motivate people and create a value system (embedded contexts) and; the environment where innovations and entrepreneurial settings function as productive factors to stimulate more creativity. Looking from these three angles we present a triple helix for innovation related to creativity or the creative industry. Relying on a substantive report issued in 2008 by the United Nations Conference on Trade and Development, we explore aspects linked with the creative industries or the economies that form part of it. Despite differing views on the definition of the term 'creativity', the paper tries to analyse creative people as entrepreneurs, proposing a triadic approach to understand and interpret it, thus presenting our second, more consolidated, triple helix for creative entrepreneurship. We also draw on practical knowledge to discuss the core elements of our triple helix.

If, as is generally conceded, the world is in a rather sorry mess, crying for solutions to problems that are staggering in complexity and magnitude, the encouragement of creative thinking would seem to be the most necessary and immediate goal of all concerned people.

George R Eckstein¹

HUMAN CREATIVITY as we know it, has led many cultures and societies to advance economically and technologically, but also politically and, to some extent, spiritually. Creativity

drives human behaviour. When we look closer at some of the unique cognitive signs driving the entrepreneurial spirit, creativity is at the heart of an entrepreneur's search for meaning. Creativity has contributed to and greatly impacted on important social changes. Societies that facilitate creativity offer their citizens unlimited experiences and possibilities.

Creativity is found when people are recognised by the degree of their creative expressions and thinking. Stephen Nachmanovitch, a musician, author, computer artist, and educator put it this way:

The world is a perpetual surprise, in perpetual movement. It is a perpetual invitation to create. (Virato, 1990)

In many economies and innovative environments creativity has become a key factor for a wide range of productive activities; within large corporations or in small-scale social enterprises anywhere in the world. Creativity in today's economy has firmly 'arrived' and most businesses are recognising that creativity has gained a strategic function in the *innovation-competitiveness* ladder. It has been noted as a type of 'survival skill' that will be required for the next decades.

Paulo de Miranda is at the Projects and Knowledge Management Department, International Association of Science Parks (IASP) World Headquarters, PTA, C/Maria Curie 35 - Sede Social, 29590 Campanillas, Malaga, Spain; Email: miranda@iasp.ws; Website: www.iasp.ws; Tel: +34 95 2028303; Fax: +34 95 2020464. José Alberto S Aranha and Julia Zardo are at Rua Marquês de São Vicente, 225 - Edifício Instituto Gênese - Incubadora de Empresas PUC-Rio Gávea - Rio de Janeiro-RJ, Brazil - CEP 22453-900: Emails: aranha@puc.rio.br and juliaz@puc-rio.br; Website: www.genesis.puc-rio.br. For acknowledgements see page 535.

Paulo C De Miranda is the director of the IASP Projects and Knowledge Management Department. He holds a BSc in management and technology from the University of Maryland at College Park, MD, USA and an MSc in public policy from The Maxwell School at Syracuse University, New York. His research interests include: science and technology (S&T) parks, business incubators, creativity and entrepreneurship, and innovation policies. He was formerly the director of the Brazilian Association of Science Parks and Business Incubators (ANPROTEC), and senior executive at CERTI Foundation and Sapiencia Institute, Brazil

José Alberto Sampaio Aranha is the director of the Genesis Institute of the Pontificia Universidade Católica, Rio de Janeiro (PUC-Rio). He holds a BSc in chemical engineering from the Federal University of Rio de Janeiro (UFRJ), and undertook postgraduate studies in business administration at PUC-Rio and in foreign trade at CECEX-RJ. He was the director of ANPROTEC-Brazil and an adviser to ENDEAVOR-Brazil. He coordinated the book *Modelo de Gestão para Incubadoras de Empresas* (REDETEC, 2002) and is the author of *Interface* (Saraiva SP, 2009). He has contributed to *Faces do Empreendedorismo Inovador* (Volume III, Collection Inova FIEP, 2008) and *Boa Idéia e agora?* (from Louis J Filion, CULTURA 2000). He is a visiting professor in regional development and entrepreneurship at various universities in Latin America.

Julia Bloomfield Gama Zardo obtained a BSc in journalism from the Social Communication Department, PUC-Rio and an MSc in communication from the School of Communication, UFRJ in 2006. She is a professor in entrepreneurship and local development at PUC-Rio, manager of the Entrepreneurship Coordination - Extension and of the Local Development Program from Genesis Institute of PUC-Rio. Her research focuses on the creative industries. She was responsible for the implementation at PUC-Rio of the first cultural incubator in Latin America. She is a member of the State Council of Culture of the Commercial Association of Rio de Janeiro. She has written the book *Do Negócio da Cultura à Cultura dos Negócios* (ANPROTEC and SEBRAE, 2005) and is the author of various papers in the sector.

Advanced economies have been moving from a traditional high-growth, heavily industrialised state, deeply dependent on imports of commodities and non-renewable resources, which is overzealous in maintaining a stable work force and a proper set of protections for intellectual properties (e.g. programming of codes), to a more globally integrated, entrepreneurial and eclectic productive fabric. In this new environment, creativity is at the front of a new growth path and is influencing or rather, is determining, what a country or a region and their entrepreneurial environment should look like. Today, in terms of social, technological and innovation capital, the creation of wealth and sustainable lifestyles, the process of generating product value and the ability to respond to market opportunities, are always linked with creativity.

Notwithstanding the pace and nature of the changes taking place from one country to another, from one market place to another, the knowledge-based economy with its high-tech industries, the astonishing global flow of capital, the revolution in communication technologies, the mobility of people and workforce, and the continual rise of an entrepreneurial culture, are driving creativity swiftly through

many segments of society. In other words, a whole new set of interpretations about creativity and the production of goods and services form part of this new industry.

In 2004 the United Nations Conference on Trade and Development (UNCTAD, 2004), suggested that the gains in national economies by the creative industries are redefining views about creativity as a new and innovative productive factor. The report also highlights the fact that, today creativity is 'at the crossroads between the arts, business, [innovation] and technology'. We may even go further and suggest that for today's knowledge and innovation-based economies as well as entrepreneurship, creativity will define what could be the essence of a business's *raison d'être*.

There is no single, universally accepted, definition of creativity, but there is a growing convergence in the understanding of dominant factors related to its industry in economic terms, suggesting that it may represent a new development paradigm industry-wide. The rise of the creative economy is, indeed, 'gaining ground in contemporary thinking about economic development' (UNCTAD, 2008) thus, also bringing policymaking and discussions on creativity and entrepreneurship to the fore.

The policy dimension associated with creativity is vast and is also new. It is both implicitly and explicitly related to the potential impact that creativity brings to economic development. On the latter, our view is that the impact should be observed in terms of social emancipation rather than 'social inclusion' as well as wealth generation and distribution, and in terms of gains in cultural assets and manifestations. On the former, as detected by UNCTAD (2008), the potential impact of creativity is enormous for the implications it brings for developing countries' economies which remain somewhat unable to fully exploit (economically) their creative capacities. Furthermore, creativity's impact has also been recognised in terms of a whole new impact on the global trade agenda.

Another element for discussion is the need to recognise a new understanding about its multifaceted social and economic dynamism, or paradigm, whereas creativity and entrepreneurial attitude are new dominant factors in productivity beyond the traditional notions of labour and capital inputs. UNCTAD (2008) points out the multiple dimensions of the creative economy:

- in terms of economic aspects as it relates to trade issues;
- in terms of social aspects as it relates to employment;
- in terms of cultural aspects [whether in an anthropological or more functional sense] as it relates to value creation; and
- in terms of sustainable development as it relates to preserved capital, or assets, for future generations (see Table 1).

Table 1. Economic, social, cultural and sustainable aspects of creativity

	Economic	Social	Cultural	Sustainable
The multiple aspects (or dimensions) of creativity	Trade-related issues: flows of goods and services	Emancipation: employment generation and wealth distribution	Value (cultural and economic) creation: standing side by side	Capital: tangible and intangibles assets for future generations

Source: Adapted from UNCTAD (2008)

However, central to the discussion about creativity is a particular set of characteristics or conditions which takes place when the subject is studied through the lenses of an entrepreneurial environment and what constitutes one. It deserves a critical review, understanding about people, about the entrepreneurs in their own groups and environments, and culture, where creativity forms part of the foundation of a business, where proper characteristics to sustain and energise it are always found.

We analyse the new dimensions of creativity using the triplex-helix approach. We look at the role of creativity as a new factor in production and acknowledge the cultural and social frameworks which sustain it. We look at the new domains of creativity which drive innovation and competitiveness within what are recognised as creative industries. Finally, we look at how creativity evokes transformations in terms of markets, dealing with new types of products and services. In sum, our look at creativity is fundamentally linked to entrepreneurship (in theoretical and practical terms) and also, as described later in this paper, has implicit and explicit elements.

Creativity as a productive factor

Studies on creativity show that it is not exclusively a cognitive phenomenon, that is: it is not some sort of divine gift of a given person presenting certain abilities. Rather, creativity, as a productive factor, also involves high preparation, discipline and conscious effort by an individual. In the context of what will be discussed here, Alencar and Fleith (2003) have suggested that creativity requires an '...ample command of related knowledge types in a given area or existing techniques' when applied to productivity. Creativity is deeply affected by the cultural characteristics of communities and their individual groups and it is also deeply embedded in every country's cultural context and knowledge base, including,

traditional types of knowledge exemplified by the production and distribution of distinct forms of creative expression.

Depending on where and how we look, creativity has already become one of the most valuable and one of the most consumed forms of goods and services being commercialised in most places today. As Florida (2002) put it '...creativity has come to be the most highly prized commodity in our economy'. Although he may be referring mostly to developed economies, mainly US and European markets, creativity, very often intangible in nature—'...and yet it is not a commodity'—has evolved substantially in terms of value creation and generation of wealth.

Regardless of its shape or form, price, embedded technology or location, creativity, as a productive factor, is real—be it in real space or in cyberspace (Lessig, 2001). It is defining what many people are doing with their lives as individuals, as entrepreneurs, as professionals, as consumers and as communities. Increasingly, businesses are developing specific product strategies based on the so-called 'creativity factor'. It generates plenty of ammunition for pundits, academics and policymakers alike, who are attempting to assess the importance of the socio-economic changes brought by it and to what extent the creative industries are understood as a major productive factor in many economies.

Creativity is sounding more like a buzz word, carrying plenty of meaning for high-tech companies in Silicon Valley, in Hong Kong's Creative Arts Centre, for an unknown social entrepreneur developing homemade serum to fight dehydration or even for entire communities making music their strategic choice to promote socio-economic development by exploring cultural tourism. This is what we also see in Brazil at Rio de Janeiro's majestic carnivals. As Gil (2005), artist and former Brazilian Minister of Culture suggested, the changing nature of the creative industries in the world are shaping, in important ways, how nations makes creativity an essential part of global affairs, as in international trade, information society debate, intellectual property rights and innovation issues. UNCTAD recognised this in their 2008 report (UNCTAD, 2008) addressing the creative economy's challenges and expansion pointing that this 'new' industry's average annual growth rate was close nearly 9% for the period 2000–2005.

In many advanced market economies the creativity factor has already been applied to the production and distributions of goods, services and organisational design related to creative industries. It is also

Creativity has already become one of the most valuable and one of the most consumed forms of goods and services being commercialised in most places today

often applied to business management processes, professional training and on different types of research and development (R&D) activities. In our view, however, the changing nature of the products consumed in a globalised economy based on knowledge, continuous adaptation, less commoditisation, driven by deregulation and high-tech markets, defines, in many ways, the critical level and relevance of creativity, as well as, its changing character (Gil, 2005). In such a market environment, the ‘intangibility’ of creative products, the highly valued notion it has gained and the experiences it provides to users and consumers lead us to think that such ‘new commodity’ is, perhaps, the key factor defining creativity’s competitive edge and also, its progressive economic function. Creativity is ever more cast in terms of a profit-driven model in a very new market context where strong entrepreneurial culture clearly leads the way to success.

Levy (2001) pointed out what is now undeniable, that ‘innovation is primarily achieved by investing in intangibles’ for its ability to create value, when coupled with a highly creative environment and culture generating a unique relation between ‘creativity’, as an asset, and ‘competitiveness’, as a market edge. Advances in technologies have dramatically contributed to the ubiquitous nature of this ‘new’ relation. We need only to think of the digital technologies being used by millions of new entrepreneurs and how they have drastically reduced the cost of creating something new (something *really cool!*) thus making a whole new way of thinking and managing intangible products.

Creativity: competitiveness and innovation

Davenport and Beck (2001) have stated that ‘...the power of attention [in today’s information-knowledge economies] is no surprise to those who depend on it’ and that ‘attention’ is a limited resource and can be full of constraints. For creative individuals and entrepreneurs, attention (or the lack of it) in the sense defined by these authors, may not be a limitation, it may simply be a scarce resource; something that a creative entrepreneur may not necessarily become so ‘dependent’ on or worried about. On the contrary, attention will often be replaced with inattention, as part of the creative process, distraction and divergent thoughts. To these individuals,

creativity is simply unlimited and attention is not intimidating (Davenport and Beck, 2001) and yet, these characteristics may well be the ‘drivers’ for a competitive and creative innovation.

Looking through the domains of the creative industries (see Table 2), creativity would never become a zero-sum game. While it remains highly competitive in today’s changing business environments where innovation-based or creative places are ever more present, this mentality, or approach, discourages collaboration and creativity among entrepreneurs and amateurs. For these ingenious minds who are living in and working with the creative industries and its leading technologies (especially digital technologies), the more gains one obtains with creativity and the more it can be experienced and shared, the more [new] things and ideas will flourish. We should not forget that creation has been in the hands of amateurs and entrepreneurs alike for a long time and these classes of people knows that to become successful ‘...creativity depends in part on access to, and use of, the already created’ stuff or product (Lessig, 2001).

Creative production will always involve and be related to three important aspects of the human element: a set of cognitive strategies to process and [generate] new information, in-depth knowledge and skills on a given area or domain and, a range of individual attitudes, personal characteristics and motivation, which may lead to new alternatives, new forms and configuration and new solutions (Alencar and Fleith, 2003).

The Creative Economy Report issued by UNCTAD (2008) suggests that ‘the marriage of technological innovation and intellectual capital’ when applied to creative industries, inevitably produce positive externalities seen strengthening cultural industries across the globe today. It makes creativity share a strong relation with competitiveness and innovation because it is highly valued ‘among the different artistic ends economically distinct activities that make up the cluster of creative industries, ranging from upstream activities, such as the traditional arts, performing arts, literature and visual arts, to downstream activities such as advertising, design, publishing and media-related activities’ (UNCTAD, 2008).

It is our understanding that creativity and innovation will continuously increase their interdependence

Table 2. UNCTAD classification of creative industries

	Cultural sites	Traditional cultural expressions		Heritage
Visual arts	CREATIVE INDUSTRIES		Performing arts	Arts
Publishing and printed media			Audiovisuals	Media
Design			New media	
			Creative services	

Source: Adapted from UNCTAD (2008)

especially for the thousands of creative entrepreneurs and communities which rely on artistic manifestations as an alternative to building sustainable businesses. Furthermore, it is also clearly understood that the relationship between creativity and innovation continues to evolve around new product development projects within many business organisations around the globe (Alves *et al.*, 2007).

Creativity: an agent for transformation

The growing interest in creativity as a 'survival' or the 'next generation' of skills has produced a enormous amount of literature and research, mostly, but not only, in the field of social psychology, opening a new frontier of knowledge about questions related to its many dimensions and its strength to generate transformations. It is now common to hear that we must urgently strengthen our abilities and skills to be able to be creative and deal with the pace of technological change.

The creative process is one that draws from many sources. Creativity is broadly accepted as a strategic, intangible, productive factor not only within the realm of the creative industries (artisans, visual and performing arts, film and audiovisual media makers, multimedia, literature, books and publishing), but also on a much wider scale of entrepreneurial activities, sharing so many links with an extensive network of activities related to a multitude of businesses: from telecoms, software and video games for example, to design, tourism and music, that its relationship to innovation becomes increasingly more intertwined and valued. Some challenges for this industry remain, however, because not every 'creative action' can be quantified.

The marriage of 'technology + intellectual capital' will continue to provide plenty of possibilities for transformation for the industry and endless degrees for experimentation for entrepreneurs and amateurs. Given the scale of new technologies and the hype of connectivity and the information revolution, there is a whole new range of possibilities now 'waiting' to be capitalised. UNCTAD's report strongly emphasised that this relationship was mutually beneficial and necessary. One of the most common dimensions attributed to creativity today, is that it is related to the emergence of a new products or ideas (Alencar and Fleith, 2003) which are unique to new markets and consumers. The new class of entrepreneurs as referred to by Florida and other associated concepts related to creativity: 'creative cities', 'creative clusters', 'creative districts', also referred to by UNCTAD, Gil, Lessig and others seem, although somewhat intuitively, to perfectly suit this marriage and are pushing the innovation mantra way beyond what our imaginations can conceive.

As a new class of entrepreneurs, culture, business environments and opportunities, and new manifestations of innovation are arising, creativity's space grows in terms of its value and reaches new

dimensions. It will become more and more pervasive. It has the potential to give new forms (and meaning) to businesses and entrepreneurial initiatives, while shaping a new class of entrepreneurs and establishing new values within cultural and creative industries, forming a new ecosystem of innovation. Creativity is transforming and increasingly influencing a lifestyle based on experimentation. It is what Florida (2002) refers to as the *experiential lifestyle* and Pine and Gilmore (1999) describe as 'experience products'.

Creativity has the same potential to transform and must, simultaneously, impact existing innovation habitats such as S&T parks and business incubators, as the proper levels of spending on R&D activities, technology commercialisation, innovation and knowledge do. These habitats 'are developing fast and evolving into many different models', where strategic choices must permanently generate conditions for growth and promote transformation (Sanz, 2006). Also, as suggested earlier, creativity is an agent for transforming our lives and the way each one of us wants to live. In the end, creativity may also be a synonym for *transgression* or for, diverging from the norm, for defining new and possibly more sustainable businesses models and introduce new lifestyles (e.g. the project *Creative Communities for Sustainable Lifestyles*).²

Creativity's triple helix

Our analysis and central motivation to write this paper was to discuss creativity using a triple-helix diagram (Etzkowitz and Leydesdorff, 1996) as an approach since it is a known theory, well applied in many entrepreneurship practices as well as in building different models for S&T parks and business incubators. We then use the same framework to draw attention to what could be regarded as a triple helix for the creative industry (see Figure 1) and, more importantly, our suggested key elements to interpret creativity: *people, environment and culture* (see Figure 2).

First, our triple helix for the creative industry is comprised of the fusion of a mixed set of variables and relations (see Figure 1). The first set is a combination of *society/government* inputs and is formed by or is the result of, art and culture (A&C)

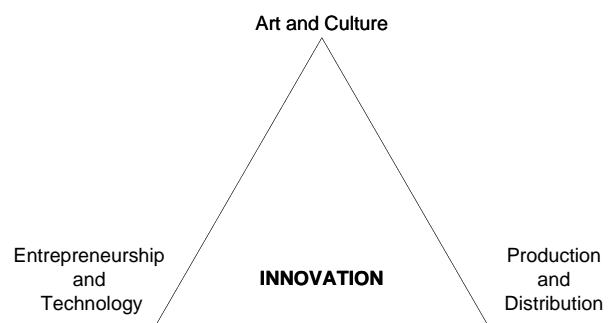


Figure 1. Triple helix for the creative industry

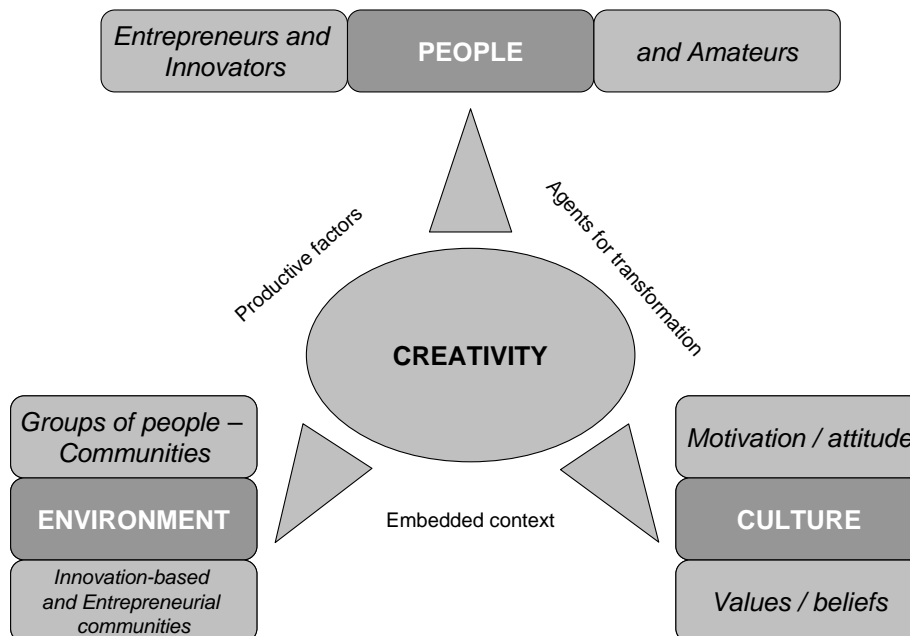


Figure 2. Triple helix for creative entrepreneurship

creations. A second set combines university/research institutions working together to stimulate and generate entrepreneurship and technology (E&T). The third variable is where the private sector (companies) plays a critical role with production and distribution (P&D) of products and services to answer to market opportunities and societal aspirations.

Hence, we argue that innovation within the creative industries is, therefore, composed by, or made, resulting from, the creation (meaning products or services design and manufacturing) of E&T plus A&C, and the consumption of these products or services as they are produced and distributed (P&D).

Figure 2 summarises the overall idea presented to discuss the key elements for interpreting and understanding creativity and creative entrepreneurship. We suggest that this should be known as the triple helix for creative entrepreneurship. This triple-helix framework derives primarily from our experiences and dialogues, rather than an ample analysis of cases using a similar model. The three elements of creativity function as a good example of how it can transform the socio-economic dynamics and life for a range of cases. These three elements are: people, environment and culture (see Figure 2).

Creative Industries: economics

When referring to the creative industries we are using UNCTAD’s position which suggests that: the creative industries ‘...are those that have their origin in individual creativity, skill and talent and that have a potential for wealth and job creation through the generation and exploitation of intellectual property’.³ Based on this, the definition given in Figure 3 embraces the concept.

A general view of what has been referred to as ‘creative industries’ is shown in Table 2. According to estimates published by UNCTAD (2008) the value of world exports of creative industry goods and services reached US\$424.4 billion in 2005, accounting for 3.4% of world trade as compared with US\$227.4 billion in 1996. The creative industries are increasingly recognised as a ‘new force’ driving the expansion of global markets. Its 8.7% annual growth rate (2000–2005) clearly indicates its relevance. More recent estimates found in the report (UNCTAD, 2008) state that ‘world exports of visual arts more than double’ in a decade ‘from US\$10.3 billion in 1996 to US\$22.1 billion in 2005’. Duisenberg (2006) reported that in 2003, Brazil exported US\$54

- The creative industries:
- are the cycles of creation, production and distribution of goods and services that use creativity and intellectual property as primary inputs;
 - constitute a set of knowledge-based activities, focused on but not limited to arts, potentially generating revenues from trade and intellectual property rights;
 - comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives;
 - are at the cross-road among the artisan, services and industrial sectors; and
 - constitute a new dynamic sector in world trade.

Figure 3. Source: Creative Economy Report (UNCTAD, 2008)

UNCTAD reported that world exports of visual arts more than doubled in a decade: from US\$10.3 billion in 1996 to US\$22.1 billion in 2005

million in products (only) related to its creative industry: not counting all the revenues generated in the country's domestic markets. As for China, exports reached the astronomical figure of US\$5.8 billion, followed by India, with US\$285 million of exports.

There is also a consensus today that the creative industries offer a wide range of economic opportunities for entrepreneurs and amateur artists. The UN body recognises that with a proper set of incentives, creativity can initiate new types of jobs, socialise and distribute knowledge, further drive innovation and, in our opinion, strengthen the entrepreneurial culture in different contexts and reach new dimensions.

This industry, however, is much more than a source for growth or a new window of economic opportunity in developing countries like Brazil, China or India. The strength of creativity in a global knowledge society is, indeed, pervasive. As suggested by UNCTAD (2008), it also increases the possibilities in global trade for this group of countries to gain new and unique market niches and to establish new sources of economic expansion, which are more inclusive and sustainable.

Creativity goes beyond its pervasive aspect in emerging economies, as it is constantly producing a variety of creative businesses, while inducing social innovation and stimulating many people to value cultural traditions in the production of new products, goods or services and stimulating a new class of entrepreneurs. More importantly, creativity (seen as a product and understood as a viable economic opportunity) has the ability to transmute a whole system of value, beliefs and customs based on cultural traditions and popular manifestations, into entrepreneurial productivity.

The 'pervasive' nature of creativity in a given place or in a community is strongly associated with local dynamics or at least it is more evident whenever entrepreneurial opportunities meet a fertile ground of cultural manifestations: an environment often observed in these countries. No one can deny the significance and impact of the biggest and perhaps most socially inclusive and creative businesses in the world today: Brazil's carnival and India's Bollywood.

The difficult, but never late, flowering of the creative industries and entrepreneurial/innovation culture in these countries has not yet fully blossomed. It will demand thorough assessment and new understanding.

While the ethos surrounding the creative class and culture today are well understood in North American or European societies, the rise of creative entrepreneurs is no longer a privilege of the more advanced economies or affluent societies. The emblematic circulation and commercialisation of ideas, goods and services related to creative economies, guided by an adequate level of policymaking and an contemporary regime of intellectual property rights which, in turn, drive even further the technological frontier for new information and digital technologies may, at last, level the playing field of this entire industry.

There are some signs suggesting that the competition in this industry could be somewhat levelled. If we observe beyond Brazil or India and look at other smaller states in the Asia-Pacific region, particularly Korea, Singapore, Taiwan and Hong Kong (China), where the rapid consolidation of their creative industries is taking place, we see that it is mostly caused by the rapid change in their consumption patterns and because these countries have already consolidated their leadership in the IT industries. Thus there is little doubt about the dynamic occurrences and opportunities of this industry. The task remaining is to consolidate an economic model to assist these countries to optimise and further explore the gains in productivity from the creative economy (UNCTAD, 2008).

Creative people: creative entrepreneurs

Universities and R&D institutions planning to create an environment that promotes creative processes and stimulates creative thinking and entrepreneurship culture must pay close attention to, and clearly understand, the trajectories of the entrepreneur's mind. A creative entrepreneur's mind is a very meaningful world. When evaluating the entrepreneur's business idea, it is very important to think about their individuality, coming very close to inevitable questions about each distinctive aspect of their perceptions and expressions about the world as they see it and the intrinsic quality and essence of their motivation.

On the matter of the creative process, the early work by Walls (2003), demonstrated that motivation is deeply within the mind of an entrepreneur. Ultimately it will shape the outcome of any new invention or even a poetic expression. Wall constructed this model to analyse the creative process around four stages or phases:

- the phase of *preparation* – the moment of gaining new insights on the entrepreneur's field;
- the *incubation* phase, the moment when the individual chooses to be distant from his or her problem or work;
- the *illumination* phase is, according with Walls, a mysterious moment while 'resting' the mind; and
- the *verification* phase, where, it seem, things fall into place – the 'problem' gets solved the creation is materialised.

Walls' model offers an objective approach to understanding the creative entrepreneur, their work and motivation, be it as a professional or amateur artist or as a socially responsible and creative one. In either case, such an approach is helpful when brought into specific institutional contexts. But this model may still leave us with some questions unanswered. For example: is it possible to identify a creative entrepreneurs' characteristic(s) and understand the intrinsic motivation before supporting or coaching his business idea? Let us look briefly at an early case of a social entrepreneur, recounted by Bornstein (2004).

In 1982, Fábio Rosa was trying to get electricity to poor people and the rural communities in his home state of Rio Grande do Sul in Brazil, to help boost their income. In those days the cost of electricity for these communities was prohibitive: nearly 70% of the rural population had no electricity. Fábio's motivation made him capable of completely changing the electricity standards of his state. He was able to work out several technically creative solutions to this difficult situation. One solution involved working with a university professor who had developed an inexpensive rural electrification system. As Rosa's motivation grew he realised that some of his solutions were not necessarily legal. The state electric company (CEEE) challenged him in the courts and would not turn the electricity on. He discovered that CEEE would neither invest in his creative solutions, nor would it change its standards to benefit those communities. So he moved on to 'attack' the problem at its source by running some experiments with his cheaper social technology (more access at a lower cost) to prove to the authorities that changing those standards and also their distribution norms was not only possible, but technically and economically desirable (Bornstein, 2004).

This brief description of the pioneering and creative work by Rosa brings the question about the 'quality of the motivation' behind an entrepreneur's world as addressed by Walls (2003) and more specifically by Bornstein (2004) into focus. According to Walls "...the behaviour of 'highly successful' and 'average' entrepreneurs" is different precisely because of this special, different, unique, qualitative aspect of the entrepreneur's motivation. This been the key difference between the two types of entrepreneurs suggested here.

But what distinguishes a creative entrepreneur and innovator like Rosa? Since we are talking about creativity at the level of the individual (or people), we briefly centred the discussion to point out three characteristics that this class of entrepreneurs seem to have in abundance in a creative/knowledge economy. First, they have comprehensive knowledge (meaning: technical expertise) about the 'product' of their work. Secondly, this type of entrepreneur, normally has a great and continuous ability to maintain an active attitude: the entrepreneur is highly stimulated by the many areas of interest linked to

their knowledge base, which 'enhances' the quality of their motivation. Finally, this individual must have high skills, usually gained through intensive practical, on-the-job experience and a growing number of links with other entrepreneurs who are ready to collaborate.

There is, of course, a set of unique characteristics that distinguishes the creative entrepreneurs from typical start-up professionals. The 'uniqueness', pointed out here, is fruit of observations in the treatment and day-to-day operation of Gênesis Institute, a business incubator at PUC-Rio, in Brazil (Scaramuzzi, 2002). These observations do not aim to define the categories or profiles of behaviour. Instead, they are intended to help in thinking about the place of the creative entrepreneur and the role of those who promote innovative and creative environments (including their mission, objectives and ways of achieving them) as opposed to the better known types of entrepreneurial-based business incubators.

The points highlighted here compare the creative entrepreneur with the artist. Not that all creative entrepreneurs should be viewed as artists. The entrepreneur can be a professional working in diverse areas of interests, seeking new relationships between the product of his work and the consumption of it, and new social interactions or experiences generated by the consumer. Generally speaking, however, it is common to observe a certain distance (by these entrepreneurs) in relation to the more traditional type of the business world. Therefore, we chose to use the figure of an artist as the basis for our argument.

Like an artist, the creative entrepreneur establishes an intrinsic relation with his business through emotion, because in the majority of cases they are people who have chosen to be distant from the tedious stages of a business formulation: the calculations, financial plans etc. which are the essential groundwork for any business lifecycle. For these entrepreneurs, there is a peculiar mental process when they are thinking about most formal stages of an enterprise. They are partly responsible for creating a particular business culture, 'to do businesses', that needs to be carefully understood and be taken into consideration when the promoters of these environments are trying to determine which types or set of business tools and coaching will make a difference to the entrepreneur's needs and success. Generally, the following characteristics can be taken into account with respect to a creative entrepreneur:

- **Vision:** While with 'traditional' entrepreneurs the objectives are generally related to the company's growth and core business plan, usually relating performance measures (profit levels/revenues to equilibrium expenditure, for example), the intentions (visions) of the creative entrepreneur, in the majority of cases, are associated with a broader ideal: something that the entrepreneur feels deeply attached to. The seduction of the target-public, of the clientele; the magical creation of something to

be experienced by others is what drives this type of entrepreneur. To reach this stage depends on more than the entrepreneur's own will. Thus, in many instances, more energy needs to be expended to engage other people in the entrepreneur's creative activities and goals.

- **Difficulty in valuing the intangible:** Even when the intention is to generate creative products or services, very often this type of entrepreneur has difficulty in dealing with the need to attribute value to his work or to adapt it to become more 'tangible' and marketable with higher sales rate. In addition to knowing the cost of the productive process(es) involved and the desired profit margin, in the realm of the creative economy, it is quite important to know how much value the customer recognises in the service provided. As, most of the time, we are not dealing with a physical asset, subjectivity is almost always needed to assess this aspect.
- **Relation of intensity and emotion to the 'soul' of the business:** A creative (or a social) entrepreneur is 'possessed' by a good cause. The creative entrepreneur generally deals with projects 'full of soul' and intensity. This provides a permanent north and a clear motivation to carry on with the business. The entrepreneur's relationship to the work is established by a slight, perhaps, uncommon score, registered in this field: emotion. For entrepreneurs the common dissociation between work and pleasure does not apply: they live to work, and they work to live to the same extent, for both mean one thing only. While such characteristics give the entrepreneur an impressive resistance to frustration, helping to overcome difficult obstacles during the initial moments of any business development, it is necessary to consider that the 'emotion' is a changeable factor. Hence, it seems that their businesses are, usually, vulnerable to the fluctuations in the participation of their managers (or other business partners) in the enterprise.
- **Creation × innovation:** This is vital when positioning creative entrepreneurs in relation to the basic market viability of their businesses. Therefore, it is important to remember that a creative entrepreneur could be, at one moment, more closely linked with creation than with innovation and, at a second moment, be completely engaged with an innovative process. What distinguishes these two instances is the fact that creation is the act of presenting or generating a new thing without any concern for the market, while, innovation assumes a symbiotic relationship, or a synergic bond, with the market.

The creative entrepreneur can be contrasted with the figure of the 'cultural entrepreneur' as stated in the following context:

The cultural entrepreneur can be compared to that strangely different, free, curious and

observer being who shows there's still space for fantasy, creativity, questioning and unease; that can be other types of return besides mere financial ones; and that there's much more beyond a repetitive and uninterrupted work in the search of numbers and more numbers [...] it is the figure that breaks the established standards, who can deal with pleasure and graciousness, who kept the unease and determination from its childhood time, who refused to 'become an adult'. (Zardo, 2005)

Those who stimulate this type of entrepreneurial activity must pay close attention to these particularities. The habit of always using the same tools helps to standardise objects. But an environment that plans to stimulate this new class of enterprises and entrepreneurs must deal with people first and foremost. People demand different and unique mechanisms and treatments. We would like to suggest that when reflecting on the possibility of the coexistence between different people—entrepreneurs, artists and others, a series of fundamental questions could be useful to reflect upon the definition of these spaces—the construction of public spaces to talk with the other, to think, to mean, to create and to undertake. To build shared [or creative] places where memory can be activated, stories can be told, where actions would not fall into oblivion and what gives meaning can be constructed as what makes sense to people.

Creative environments: the building blocks

The creative environment is addressed here by focusing our attention on entrepreneurial theory. Nevertheless, it should be noted that creativity is, and can be, tremendously influenced by both, endogenous and exogenous factors in the entrepreneurial and innovation processes. These factors have been well studied by Alves *et al* (2007) and others, but less attention has, apparently, been given to the building blocks of creative entrepreneurial environments.

In the building blocks (the 'a, e, i, o, u') around the early works on the theory of entrepreneurship, no one doubted that among the five emblematic vowels—the 'a' (ardour), 'e' (experience), 'i' (innovation), 'o' (opportunity) and 'u' (union)—the 'o', for opportunity, is one of the most important variables in entrepreneurship. The theory builds on the early work of Schumpeter (1982 (transl.)) recognising the importance of the entrepreneur in exploiting opportunities. But, his theory did not discuss where opportunities come from and how entrepreneurs can discover and exploit them (Aranha, 2003).

Opportunities are in the environment: they often are subtle and pervasive. However, just because opportunities exist does not mean that everyone perceives them. Acs *et al* (2005) claim that only individuals with appropriate qualities will perceive

them. In this framework, entrepreneurial activity depends upon the interaction between the characteristics of opportunity and the characteristics of the people who exploit them. In this sense, the creative process is as much influenced by the environment as is the opportunity and how it is perceived.

To learn, therefore, how to recognise its proper characteristics (to know oneself) and to identify the interaction between these characteristics and the characteristics of the existing chances in the environment, is one of the ultimate factors as one goes about exploring opportunities.

The learning to identify opportunities is related to the use of creativity. Creativity is the capacity, the ability, and the potential that all human being possess to generate ideas. The environment can stimulate it, and in the same way the management of the environment helps creativity and a consequent generation of ideas. Juanita Weaver, a creative writer for the *Entrepreneur Magazine*, has a good grasp on what creativity means to her:

a skill that can be evoked and practiced. ...a creative culture has systems in place for encouraging creative actions. It is much more than a few techniques; it is a stance, a way of being.⁴

An idea is the product of creativity. However, it is not necessarily an innovation. As once cited in the Brazilian business newspaper *Gazeta Mercantil*, 30 years ago, of more than 3000 brilliant ideas detected, just about four of them can generate developments that become a successful product. There are many shining ideas that are kept at the bottom of a drawer. Yet, an idea is transformed into innovation only when it is realised, materialised or, perhaps, when we can transform it into something meaningful and concrete, be it in the form of goods or services (preferably, with a market value).

The creative process (Aranha *et al*, 1997) is a synthesis of multiple processes to relate, to command, to give meaning to reality. To understand the creative process, one must also consider its historic, social and cultural settings. The creative process is not, solely, an unconscious process because it requires consciousness to put meaning/significance into it.

An idea is transformed into innovation only when it is realised, materialised or, perhaps, when we can transform it into something concrete, be it goods or services (preferably, with a market value)

But, it also does not reduce the conscious knowledge since intuition plays a major role in the creative process. Creative capacity will need as much as divergent thought it can generate, as it requires substantial convergent thought to be developed.

The opposing thought consists of the ability to produce a great number of ideas in a variety of situations or tasks, without immediate concern with coherence and the logical judgment normally present, in our reasoning. Judgment involves reacting to what exists and is a very different process from generating ideas. Judging too soon is one of the most common ways to shut down creativity (see Note 4). The convergent thought can go directly to the same point from different directions. It is the moment where the individual, the entrepreneur, focuses on the decision about to be taken. It requires a great amount of critical and analytical thought to be able to select an idea from among the multiplicity of possible solutions.

In this context, the creative environments are fundamental to the creativity process and they cannot be created only in the hour where we need to have new ideas. In other words, it is not possible to radically change an unpleasant environment, as much in the material aspects (installations, colours, illumination etc.) as in the psychological one (interpersonal relations, communication etc.) from one moment to another, like a magic trick.

Its construction demands a continuous process. The leadership and management of such an environment can determine the moment for the application of a creative process: they can stimulate the creativity of the people in a given task or a determined process, but they cannot change, create and structuralise an environment from one moment to another. For the generation of innovation environments, we need to have, in reality, a propitious environment for creativity to flourish. This environment is influenced by two other environments.

One is the local culture which is one of the determining factors for the successful creation of an innovation environment, since it stimulates creativity towards a definitive focus. The local culture depends on the influence received from the environment where we are born, work and live and that has a great influence on the culture of people.

One characteristic is local: the culture. Another one is global: the happiness or the mood. However, to understand the local mood it is necessary to participate, to 'witness' the cultural process identified in ten different categories of human activity, which can assist in the process of understanding cultural social phenomena. 'Play' is described as the primary message system through which man comprehends culture and is one of these categories. Hall and Hall (1990) suggest that 'if you can learn the humour of a population and really control it, you know that you are in control of nearly everything else' (Hall 1959 see also Morain, 1991).

The other environment is the environment of knowledge generation to which we are related. It

comes from the cultivated or organised culture of a given environment or location. It is our workplace and its interaction with the environment around it. This can be divided into the human environment and the physical surroundings.

Hewlett-Packard managers are evaluated on their ability to create enthusiasm. Pepsico managers must ensure an exciting place in which to work. The leaders of successful companies are concerned about clarifying the corporate value system and breathing life into their organisation. However, each corporation must possess its own, unique, culture system.

Clouse (1997) has reported that humour has been found to minimise differences between employee status, alleviate tension, facilitate work, improve socialisation, bond employees together, improve communication, break down barriers, relax everyone, create rapport, and boost morale.

Finally, while working in the corporate environment, we have found that humour is a wonderful way to gain attention, either in a meeting or conducting a speech. It is a very effective way to make a point and to stimulate new ideas. In group meetings, it reduces anxiety, relaxes the audience and the speaker. In classrooms, it makes learning fun and reduces stress.

The organisational humour that we refer to is neither the telling of jokes or making fun of other people, nor putting people down. It is the intuitive humour that rises out of the culture of the organisation and empowers the individual to be himself/herself in their work environment. It is an environment that takes our work seriously, but not ourselves. Humour is the element that makes work enjoyable and fun. Laughter is the expression of a happy person. Entrepreneurs pave the way to the future because they like creativity, self-reward, self-direction, and they love the joy of working. They make their own humour and use it as an effective style to create change.

Creative culture

The word *culture* passes through many processes when applied in our daily lives. It means many things to many people: to individuals or groups inhabiting our planet. When, for example, we open the cultural section of a newspaper, the majority of subjects covered in the featured articles will be related to the creative industries in the arts and entertainment. The recommendation brought by the World Decade on Cultural Development in 1982, stated, in turn, that:

Culture can be defined as a set of spiritual and material, intellectual and emotional characteristics which defines a social group, bringing together ways of life, basic individual rights, value systems, traditions and beliefs. (UNESCO, 2003).

Several concepts are applied in the interpretation of the term 'culture'. Schmitt (1992) suggests that just as each state has a concept of nationality and finds in itself the same constituent notes on nationality and sovereignty, and not in others (meaning: an 'enemy', a 'stranger', or any person), so it is for all cultures. His views suggest that all cultural periods have their own concept about culture. This is a fundamental supposition for understanding new forms to work on culture activities, both economically and socially.

In the age of creativity and innovation, the cultural dimension gains great importance since it represents one of the alternatives or 'exits' for the differentiation of products and services that can be offered by many communities in transformation when interacting with global markets. Pereira and Herschmann (2003) at UFRJ, proposed that among those measures that can function as a catalytic in the dynamics of a business agglomeration (clusters), the stimulation of a process of differentiation in products and services through the incorporation of 'cultural factors', can generate positive and competitive effects. This, in turn, results in an increase of the innovative and associative capacity of local companies capable of interacting with the core economic activities of that locality or beyond regional markets.

In Brazil, numerous entrepreneurial and innovative actions are carried out involving 'culture' or cultural characteristics as a key process for product differentiation; as much as for large companies, as for social movements or even within governmental spheres. However, there is a method (a roadmap) which could be covered between the local culture and the products based on its identity. To create competitive clusters and entrepreneurial locations through cultural identity it is necessary to map out certain local characteristics with existing natural nuances, natural icons, symbols and the cultural references of the place. Mapping such cultural characteristics of a community contributes to the recognition of its territory and the identity of its products (Braga, 2003).

Zardo (2006) provides the example of the city of Conservatória (Rio de Janeiro, Brazil) where government intervention, supported by actions, places culture as the fundamental and first characteristic to differentiate a city, by offering incentives and bringing new opportunities to the private sector to compete with products and services originated from tourism's creative industries.

The city of Conservatória owes much of its current cycle of economic development to music, among other, more recent, economic activities. Its population of approximately 4000 inhabitants survives basically on music and musical tourism, counting on a weekly flow of about 2000 visitors (Aranha *et al*, 2003). It is a clear demonstration of how government intervention can induce and generate stimulus using culture as an artistic product, while

promoting the participation of universities to support entrepreneurial and technological activities to gain product differentiation, thus matching the needs of the tourists in the city. This is also a case where the focus is on three key elements: people, environment and culture.

This posture allows the cultural manifestations represented in goods and services to gain a high degree of authenticity, meaning and, in many cases, to generate a memorable experience of what is been sold, for the consumer. A product endowed with a certain local, unique or exotic natural identity 'fills the gap' that the consumer seeks in this product: the possibility of 'experimenting' with something different. Pine and Gilmore (1999) believes that 'the customer is the product', they want experiences: goods or services that can offer them enjoyment, knowledge, diversion and beauty, all attributes typically defined as essential ingredients for creative industries.

The valuation of intangible aspects in this case may be so fundamental for a good or a service delivered, as to the efficiency of its productive process or the economic development of a territory or a small town as Conservatória. It is up to the consumers of such goods and services to 'determine' the value of creative culture. In such instance, creativity is, rightly so, valuing the local community, while searching for differentiation, conscientious that this not only generates economic benefits, but also conceives 'the new' expressed in meaningful productive activities linked to culture.

Conclusion

By presenting a triple helix as a normative model, this paper has explored issues related to creativity and the characteristics of a creative entrepreneur and how these (vision, intangibility, emotion and innovation) relate to early entrepreneurial thinking. From the viewpoint of government (through actions and promotions), university (through fostering entrepreneurial culture and stimulating market solutions) and the private sector (delivering products and services with perceived added value), the model provides a useful framework, realistic perhaps, to learn more about the value of creativity, as has been proved by the UNCTAD report (UNCTAD, 2008).

As in a traditional approach used to assess innovation and sustainable development and the interdependency among the various institutional actors (government, academia and industry), we have been experimenting with a new triple-helix representation and associating it with creativity, perhaps the precursor of any innovation. We consider it to be opening a useful analytical framework for discussion and study of the subjective aspects of creativity and how and why it relates to people, culture and environment. But we recognise that this new model for a

creative triple helix requires much thinking and a diagnosis when applied to the existing challenges for the creative economy, especially focusing on developing countries.

We realise that creativity is much influenced and shaped by culture and cultural exchanges, at the global and local levels, that we cannot ignore the fact that many creative businesses or groups, and local initiatives, all over the world, are rapidly enabling the rise of a new class of workers and entrepreneurs, and new types of environments transforming, *de facto*, creativity into a traded commodity. We believe, therefore, that governments must promote policies and implement actions which stimulate various expressions of culture as art with embedded market value. Similarly, we find that opportunities for creative entrepreneurship can be much enhanced and flourish when venues for innovation, such as S&T parks and business incubators are, as they already are, linked with and are part of, one of the helixes ('environment') of our proposed model.

Another aspect which needs more attention is the so-called 'new social class'. A new social class of companies and entrepreneurs is on the rise persuaded by new forms of production of cultural/artistic goods and services, driven by innovation and technology, as well as by social and cultural movements and the ever increasing levels of connectivity and mobility. In this sense, we are also reflecting on the multitude of factors that make creativity such a complex and unique type of business asset. This multiplicity is what will give rise to creativity for the new industries engaged in producing creative and experience products. The growing acknowledgement by different cultures of these creative products at higher or lower levels will require less time to become accepted in different markets. It will also encourage new patterns of consumption (as in Asian countries for example) for this type of global product and, as earlier suggested, will further drive creative entrepreneurs.

All this reflects the changing nature of both the global and local economies and creative knowledge. We agree with this newly formed notion that 'creative industries and professionals', and their environments, are directly linked with the discussion of globalisation with respect to both local and global levels in matters dealing with culture, knowledge, technology and entrepreneurship. Experts and thinkers like Riesman (1961), Castells (1997) and Maffesoli (2002) were pioneers on these analyses.

Finally, we consider that universities have a special role to play in this new economy as institutions which form 'new citizens' and new entrepreneurs, and make their R&D facilities greater 'solvers' for local realities and problems, as well as, cultural needs and services. This is indispensable for the proper functioning of the suggested triple-helix model where local and social development ought to be effective.

Acknowledgements

The authors wish to especially thank IASP for encouraging us to write this paper. They also wish to thank ANPROTEC and the Genesis Institute and our colleagues in Brazil and beyond, but above all, the children who initially provided us with some wonderful drawings which helped us in setting the scene for our presentation at the XXIV IASP Conference held 1–4 July 2007 in Barcelona, Spain.

All works cited in this paper which required translation from Portuguese into English, were translated by the present authors.

Notes

1. Quotation cited in Etuk (2002).
2. Creative Communities for Sustainable Lifestyles. Available at: <http://www.sustainable-everyday.net>, last accessed November 2007.
3. Definitions available at: <http://www.intracen.org/creativeindustries/>, last accessed 22 November 2008.
4. Juanita Weaver is a creativity consultant and coach. She writes the Creative Zone column in *Entrepreneur Magazine*. Available at http://www.score.org/article_how_to_creativity.html, last accessed 22 February 2007.

References

- Acs, Z J, D B Audretsch, P Braunerhjelm and B Carlsson 2005. *The Knowledge Spillover Theory of Entrepreneurship*. Institute for Development Strategies Available at <http://www.spea.indiana.edu/ids/pdfholder/2005/ISSN%2005-11.doc>, last accessed October 2007.
- Alencar, E S de and D S Fleith 2003. *Criatividade: múltiplas perspectivas*. 3rd edn., Brasília: Editora Universidade de Brasília.
- Alves, J, M^a J Marques, I Saur and P Marques 2007. Creativity and Innovation through Multidisciplinary and Multisectoral Cooperation. doi:10.1111/j.1467-8691.2007.00417.x.
- Aranha, J A 2003. Identificação de Fatores Críticos de Sucesso na Seleção de Candidatos para Incubadora. O "a, e, i, o, u" do Empreendedor – 2nd Research Conference on Entrepreneurship in Latin America, Chile, 2003.
- Aranha, J A; J Zardo and L C Prestes Filho 2003. Música como fator de desenvolvimento. Incubadora Cultural Gênesis da PUC-RIO, Sebrae-RJ and UBC, July 2003.
- Bornstein, D 2004. *How to Change the World: Social Entrepreneurs and the Power of New Ideas*. New York, NY: Oxford University Press.
- Braga, C 2003. Políticas culturais para o desenvolvimento: uma base de dados para a cultura, p 57. Brasília: UNESCO.
- Castells, M 1997. *The Information Age: Economy, Society and Culture, Volume II The Power of Identity*. Oxford, UK: Blackwell.
- Clouse, R Wilburn 1997. Intuitive humor: an entrepreneurship style. Proceedings of Allied Academies International Conference, held 14–17 October 1997, Maui, HI. Vol 3, No 2, p 68. Cullowhee, NC: Academy of Entrepreneurship.
- Davenport, T H and J C Beck 2001. *The Attention Economy: Understanding the New Currency of Business*, p 93. Boston, MA: Harvard Business School Press.
- Duisenberg, E dos Santos, 2006. Presentation given by the head of the UNCTAD Creative Industries Program at ExpoGestão 2006, held in Joinville (SC), Brazil, on 8 June 2006.
- Etuk, Efiog 2002. *Great Insights on Human Creativity: Transforming the Way We Live, Work, Educate, Lead, and Relate* (Volume I). Bloomington, IN: Trafford Publishing.
- Etzkowitz, H 2008. *The Triple Helix: University–Industry–Government Innovation in Action*. London: Routledge.
- Etzkowitz, H and L Leydesdorff 1996. The Triple Helix as a Model for Innovation Studies - II Conference on the Triple Helix. The future location of research. Conference Report, Amsterdam, v. 25(3), p. 195–203.
- Florida, R 2002. *The Rise of the Creative Class: and how it's transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.
- Gil, Gilberto 2005. Speech given by Brazilian Minister of Culture during a seminar on Creative Economy organized by the British Council, London, 7 December 2005.
- Hall, E T 1959. *The Silent Language*, p 52. Garden City, NY: Anchor.
- Hall, E T and M R Hall 1990. *Understanding Cultural Differences*. Yarmouth, ME: Intercultural Press.
- Lessig, L 2001. *The Future of Ideas: the Fate of the Commons in a Connected World, Chap 7*. New York: Random House.
- Levy, B 2001. *Intangibles: Management, Measurement, and Reporting*. Washington, DC: Brookings Institution Press.
- Maffesoli, M 2002. Mediações simbólicas: a imagem como vínculo social. In: Para navegar no século XXI. Porto Alegre: Sulina: EDIPUCRS, pp 43–54.
- Morain, Genelle G 1991. *X-raying the International Funny Bone: A Study exploring Differences in the Perception of Humour across Cultures*, p 406. Washington DC: Georgetown University Press.
- Pereira, Carlos Alberto Messeder and Micael Herschmann 2003. Comunicação, cultura e gestão de organizações privadas e públicas na perspectiva do Desenvolvimento Local sustentável. In XXVI Congresso INTERCOM, 2003. Available at <http://repositorio.portcom.intercom.org.br/dspace/bitstream/1904/4580/1/NP5PEREIRA.pdf>, last accessed 22 February 2007.
- Pine II, B J and J H Gilmore 1999. *The Experience Economy: Work is Theater and Every Business a Stage*. Boston, MA: Harvard Business School Press.
- Riesman, D 1961. *The Lonely Crowd: a Study of the Changing American Character*. New Haven, CT: Yale University Press.
- Sanz, L 2006 Strategic choices that science parks must make. Presentation at Baltic Dynamics 2006 Conference, held 24–26 May 2006 at Vilnius, Lithuania.
- Scaramuzzi, E 2002. *Incubators in Developing Countries: Status and Development Perspectives*. Washington, DC: The World Bank, 2002.
- Scarvada L C, J A Pimenta-Bueno, J A Aranha, T S da Costa, J A R Parise, M A M Davidovich et al 1997. Trabalho apresentado na reunião do Reenge – Reforma dos cursos de engenharia da PUC-Rio em 23/04/96 e consta do capítulo de características pessoais do empreendedor do projeto REENGE da PUC-Rio publicada em 12/03/1997.
- Schmitt, C 1992. *O Conceito do Político*. (Translation: Álvaro L M Valls). Petrópolis: Vozes, 1992 (Classics of Political Thought; 33). p 111. (Original title: *Der Begriff des Politischen* (The Concept of the Political)).
- Schumpeter, J A 1982. *A teoria do desenvolvimento econômico: uma investigação sobre lucros, capital, crédito, juro e o ciclo econômico*. São Paulo: Abril Cultural. [Transl. from English originals published in 1911 and 1934.]
- UNCTAD 2004. UNCTAD XI High-level Panel on Creative Industries and Development, held 13 June 2004, São Paulo, Brazil, p 4. Available at http://www.unctadxi.org/sections/u11/docs/2_22_Note_Agenda_en.pdf.
- UNCTAD, 2008. Creative Economy Report 2008: The Challenge of Assessing the Creative Economy: towards Informed Policy-making. Available at http://www.unctad.org/en/docs/ditc20082cer_en.pdf, last accessed November 2007.
- UNESCO 2003. Políticas Culturais para o Desenvolvimento: uma base de dados para a cultura, p 9. Brasília: UNESCO.
- Virato, S 1990. Interview with Stephen Nachmanovitch. *New Frontier Magazine* (September 1990), 8.
- Walls, G 2003. The art of thought. In E S Alencar and D S de Fleith *Criatividade: múltiplas perspectivas*, 3rd edn., pp 43–44. Brasília: Editora Universidade de Brasília. Also available at http://members.optusnet.com.au/~charles57/Creative/Brain/wallis_intro.htm, last accessed on: 22 November 2008.
- Zardo, J 2005. Incubadoras Culturais do Negócio da Cultura à Cultura dos Negócios: um guia para planejamento e gestão. Brasília: ANPROTEC/SEBRAE.
- Zardo, J 2006. Comunicação e Cultura no Desenvolvimento Local. MSc thesis, Federal University of Rio de Janeiro, ECO/UFRJ, Brazil.