Innovation, Technology, and Knowledge Management

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Cross-Cultural Knowledge Management

Fostering Innovation and Collaboration Inside the Multicultural Enterprise

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Series Foreword

The Springer book series *Innovation, Technology, and Knowledge Management* was launched in March 2008 as a forum and intellectual, scholarly "podium" for global/local, transdisciplinary, transsectoral, public–private, and leading/"bleeding"-edge ideas, theories, and perspectives on these topics.

The book series is accompanied by the Springer *Journal of the Knowledge Economy*, which was launched in 2009 with the same editorial leadership.

The series showcases provocative views that diverge from the current "conventional wisdom," that are properly grounded in theory and practice, and that consider the concepts of ***robust competitiveness***,[1] ***sustainable entrepreneurship***,[2] and ***democratic capitalism***,[3] central to its philosophy and objectives. More specifically, the aim of this series is to highlight emerging research and practice at the dynamic intersection of these fields, where individuals, organizations, industries, regions, and nations are harnessing creativity and invention to achieve and sustain growth.

Books that are part of the series explore the impact of innovation at the "macro" (economies, markets), "meso" (industries, firms), and "micro" levels (teams, individuals),

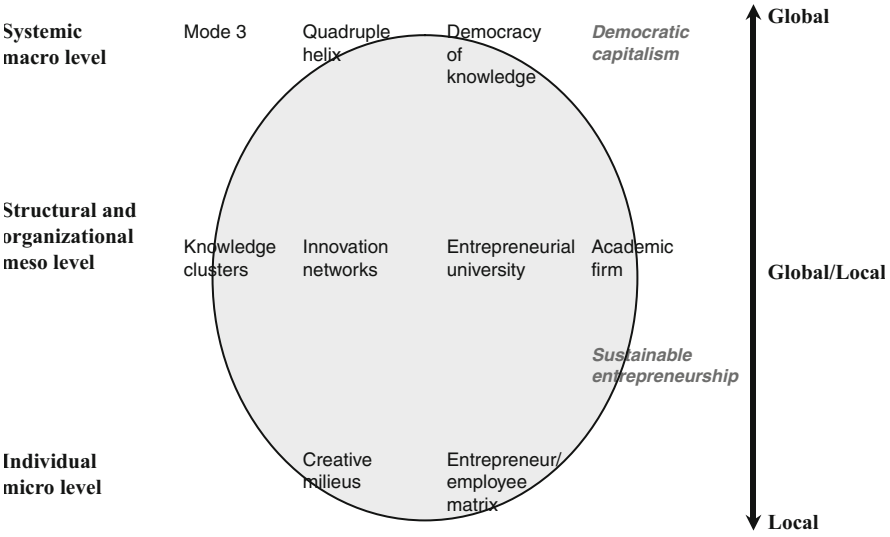
[1] We define *sustainable entrepreneurship* as the creation of viable, profitable, and scalable firms. Such firms engender the formation of self-replicating and mutually enhancing innovation networks and knowledge clusters (innovation ecosystems), leading toward robust competitiveness (E.G. Carayannis, *International Journal of Innovation and Regional Development* 1(3), 235–254, 2009).

[2] We understand *robust competitiveness* to be a state of economic being and becoming that avails systematic and defensible "unfair advantages" to the entities that are part of the economy. Such competitiveness is built on mutually complementary and reinforcing low-, medium-, and high technology and public and private sector entities (government agencies, private firms, universities, and nongovernmental organizations) (E.G. Carayannis, *International Journal of Innovation and Regional Development* 1(3), 235–254, 2009).

[3] The concepts of *robust competitiveness* and *sustainable entrepreneurship* are pillars of a regime that we call "*democratic capitalism*" (as opposed to "popular or casino capitalism"), in which real opportunities for education and economic prosperity are available to all, especially—but not only—younger people. These are the direct derivative of a collection of top-down policies as well as bottom-up initiatives (including strong research and development policies and funding, but going beyond these to include the development of innovation networks and knowledge clusters across regions and sectors) (E.G. Carayannis and A. Kaloudis, *Japan Economic Currents*, p. 6–10 January 2009).

drawing from such related disciplines as finance, organizational psychology, research and development, science policy, information systems, and strategy, with the underlying theme that for innovation to be useful it must involve the sharing and application of knowledge.

Some of the key anchoring concepts of the series are outlined in the figure below and the definitions that follow (all definitions are from E.G. Carayannis and D.F.J. Campbell, *International Journal of Technology Management*, 46, 3–4, 2009).



Conceptual profile of the series *Innovation, Technology, and Knowledge Management*

- The "Mode 3" Systems Approach for Knowledge Creation, Diffusion, and Use: "Mode 3" is a multilateral, multinodal, multimodal, and multilevel systems approach to the conceptualization, design, and management of real and virtual, "knowledge-stock" and "knowledge-flow," modalities that catalyze, accelerate, and support the creation, diffusion, sharing, absorption, and use of cospecialized knowledge assets. "Mode 3" is based on a system-theoretic perspective of socio-economic, political, technological, and cultural trends and conditions that shape the coevolution of knowledge with the "knowledge-based and knowledge-driven, global/local economy and society."
- Quadruple Helix: Quadruple helix, in this context, means to add to the triple helix of government, university, and industry a "fourth helix" that we identify as the "media-based and culture-based public." This fourth helix associates with "media," "creative industries," "culture," "values," "life styles," "art," and perhaps also the notion of the "creative class."
- Innovation Networks: Innovation networks are real and virtual infrastructures and infratechnologies 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 cooperative partnerships).

- Knowledge Clusters: Knowledge clusters are agglomerations of cospecialized, 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.
- Twenty-First Century Innovation Ecosystem: A twenty-first century innovation ecosystem is a multilevel, multimodal, multinodal, and multiagent system of systems. The constituent systems consist of innovation metanetworks (networks of innovation networks and knowledge clusters) and knowledge metaclusters (clusters of innovation networks and knowledge clusters) as building blocks and organized in a self-referential or chaotic fractal knowledge and innovation architecture,[4] which in turn constitute agglomerations of human, social, intellectual, and financial capital stocks and flows as well as cultural and technological artifacts and modalities, continually coevolving, cospecializing, and cooperating. These innovation networks and knowledge clusters also form, reform, and dissolve within diverse institutional, political, technological, and socioeconomic domains, including government, university, industry, and nongovernmental organizations and involving information and communication technologies, biotechnologies, advanced materials, nanotechnologies, and next-generation energy technologies.

Who is this book series published for? The book series addresses a diversity of audiences in different settings:

1. *Academic communities*: Academic communities worldwide represent a core group of readers. This follows from the theoretical/conceptual interest of the book series to influence academic discourses in the fields of knowledge, also carried by the claim of a certain saturation of academia with the current concepts and the postulate of a window of opportunity for new or at least additional concepts. Thus, it represents a key challenge for the series to exercise a certain impact on discourses in academia. In principle, all academic communities that are interested in knowledge (knowledge and innovation) could be tackled by the book series. The interdisciplinary (transdisciplinary) nature of the book series underscores that the scope of the book series is not limited a priori to a specific basket of disciplines. From a radical viewpoint, one could create the hypothesis that there is no discipline where knowledge is of no importance.
2. *Decision makers–private/academic entrepreneurs and public (governmental, subgovernmental) actors*: Two different groups of decision makers are being addressed simultaneously: (1) private entrepreneurs (firms, commercial firms, academic firms) and academic entrepreneurs (universities), interested in optimizing knowledge management and in developing heterogeneously composed knowledge-based research networks; and (2) public (governmental, subgovernmental) actors that are interested in optimizing and further developing their policies and policy strategies that target knowledge and innovation. One purpose of public *knowledge and innovation policy* is to enhance the performance and competitiveness of advanced economies.

[4] E.G. Carayannis, Strategic Management of Technological Learning, CRC Press, 2000.

3. *Decision makers in general*: Decision makers are systematically being supplied with crucial information, for how to optimize knowledge-referring and knowledge-enhancing decision-making. The nature of this "crucial information" is conceptual as well as empirical (case study-based). Empirical information highlights practical examples and points toward practical solutions (perhaps remedies); conceptual information offers the advantage of further-driving and further-carrying tools of understanding. Different groups of addressed decision makers could be decision makers in private firms and multinational corporations, responsible for the knowledge portfolio of companies; knowledge and knowledge management consultants; globalization experts, focusing on the internationalization of research and development, science and technology, and innovation; experts in university/business research networks; and political scientists, economists, and business professionals.
4. *Interested global readership*: Finally, the Springer book series addresses a whole global readership, composed of members who are generally interested in knowledge and innovation. The global readership could partially coincide with the communities as described above ("academic communities," "decision makers"), but could also refer to other constituencies and groups.

Elias G. Carayannis
Series Editor

Contents

Chapter 1
The Origins and Intentions of this Handbook

1.1 One, Two … How Many Cultures in the Knowledge Society?

1.1.1 Synthesizing Dialectical Thinking on Cultures

In the beginning there was the scism between humanist knowledge and scientific knowledge.

This goes back, more or less, to the mid-nineteenth century, the time when science started to be considered a discipline separate from culture, rather than a fundamental and constituent part of it. Today, paradoxically, it is still believed that science is not fully part of "culture" and it does not throb forcefully in our everyday lives, in the "knowledge society." This paradox goes back to Croce who, in the wake of Hegel, claimed that science did not have a cognitive value, it was not even knowledge; at most, it was a practical activity, useful for ordering our experiences and favoring memory, however, it was then to be revalued by neoidealism and to end up confined to the academic setting, because of its obvious technological spin-offs.

In the current situation, it may even appear reductive to speak about increasing the dialogue between two cultures (humanities and sciences), all the more so since the growing speculation and parceling of knowledge has now multiplied "cultures," with reciprocal difficulties in dialogue and comprehension, while advancing the opportunities for knowledge which reveals a plurality of applications in knocking down disciplinary barriers.

As previously pointed out, it is necessary to perform a transdisciplinary research through the integration of various disciplinary approaches. The nature of cross-cultural knowledge management needs to be thoroughly investigated and this generally demands that different disciplines are flexibly combined.

Nevertheless, transdisciplinary research does not consist of the simple combination of two or more different approaches, it goes beyond the interdisciplinary perspective

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and it provides a new vision of human behavior, through the integration of existing approaches, that comprise cognition, group activities, and corporate management.

The integration of the theories regarding firm boundaries, cognition and action, language, knowledge creation, and leadership can help to develop cross-cultural knowledge-based theories of the firm and organization.

Although it is still difficult to imagine an integrated, fully comprehensive theory of cross-cultural knowledge management, it is possible that emerging cross-cultural organizational structures are better understood, thanks to the emerging knowledge-based view of the firm.

1.1.2 Organizations and Nations: Multicultural Focus and Knowledge Management Perspectives

The current situation of complexity or structural uncertainty which dominates a company's economic life, produced by advances in the power of science and industry, cannot be governed, unless it is through the learning processes set in motion by the institutional couple of market-business which, however, being restricted to the principle of competitive performance, end up as learning to manage relationships in which there is a more and more extensive and intensive division of labor in the production and use of knowledge.

In conditions of rapid change and confronted with the strong differentiations which are characteristics of modern industrial capitalism, cooperation constitutes the fundamental process through which businesses deal with the restriction of cognitive limits, identifying whether their own capacities for solving economic problems are equal or superior to those already available in the market.

The characters of such dynamics between business and their reflections on the logic of cross-cultural management both depend on the eventual outcomes of cultural convergence on the economic behavior of businesses.

Relative to our understanding of collaborative ventures, there is a great need for more cross-cultural investigations of the value of dyadic collaboration in terms of information, technology, and knowledge sharing in cross-border exchange that could help relevant conclusions and offer meaningful insights.

Our cultural map of strategic intent and organizational behavior should provide additional findings into the relativism and convergence debates, but when attempting to make generalizations about nation states, the notion of subcultures and economic class levels within a society cannot be overlooked.

In fact, the necessity of overcoming the false contrasts (personal culture vs. business culture; individualist culture vs. collective culture; local culture vs. national culture; etc.), which constitutionally define others' ideas, values, and mentalities as less attractive, takes us straight to those forms of knowledge which are hostile to diversity, to knowledge management, internal to a business and between businesses, which does not diminish sharing at overcoming

This is the real cultural development of our times.

1.2 Overview of Book

Differences in typical management practices and policy orientations are originated from cross-cultural knowledge management that is a quite difficult phenomenon to interpret, though very significant.

1.2.1 Part I: Managerial Dilemmas in Multicultural Organization

When research is performed in different contexts, blind spots shaped by culture may arise. This handbook aims at overcoming them, showing how the structuring of roles, power, and interests among different organizational factors, such as departments, teams, or hierarchical levels, where people from distinct intellectual and professional backgrounds are positioned, produces many paradoxes and frictions that attract a series of dynamics which have peculiar effects on learning processes.

The questions that arise from this premise can be summarized as follows: how does knowledge sharing occur in multicultural organizations? What problems and questions arise? On which basis can we affirm that an individual has a different mentality compared to another and how can we be certain that such mentality rebounds on the way individuals respond to new ideas and new knowledge? How can knowledge-sharing processes be refined? What are the terms under which individuals or groups of people coming from different cultural traditions generate ideas that have the possibility of being taken into account and put into practice?

These issues require a thorough examination of possible managerial dilemmas. A dilemma arises when there are two or more options which have the same validity: the most common consequence is friction when a decision has to be made.

How can research be of assistance in detecting and overcoming these issues?

Research considers how significant it is to comprehend the setting and assign the correct value to perceptions related to knowledge sharing. Coming in contact with the knowledge of a person from a different culture can be both stimulating and difficult to manage. Most of the time we just do not have the knowledge of the unknown and we follow what we "hear": nevertheless, this "voice" may not be representative of the truth and may be just an alteration of the knowledge that the other person was willing to share with us. When interacting with people from different cultures we can easily overlook the hidden shades and the real sense of their behavior.

Given common knowledge of the business, the knowledge sharing processes may not be necessarily obstructed by culture. Instead, knowledge sharing tends to be mainly affected by perceptions of roles and psychic distance. Moreover, the concept of knowledge transfer may be subject to criticism, if regarded as excessively objectifying knowledge: it fuels expectations that put a strain on cross-border relationships.

Cultures can be visualized at various levels that vary from a mere exterior appearance to very significant values. Generally, individuals are not willing to alter their basic values, unless they experience a personal or societal trauma. Nonetheless, it can be proved that individuals may acquire sensitiveness to their own culture and to the way it distinguishes itself from the others, and that, in specific contexts, such as the place of work, they are ready to adjust their usual behavior, if they recognize it is worth doing so.

1.2.2 Part II: Knowledge and Cooperative Strategies: Managing Cultural Diversity Between Organizations

This handbook analyzes how the implementation of cooperative strategies can be affected by culture: it shows, on the one hand, how the knowledge embodied in cultures can be a very important asset for an alliance and, on the other hand, how it can equally build barriers to cooperation between organizations. We attempt to give an answer to the following questions: what is culture? Why is it so important for cooperative strategy? What are the peculiar consequences a culture may have? What are the policy options to manage cultural diversity within an alliance and how can cultural fit be reached?

Cooperation between organizations has to face cultural diversity, as every actor brings its own culture into the alliance.

Cultural diversity is also spreading thanks to the diffusion of cooperation between firms that operate in relatively new industries, such as those based on highly specialized technologies, in which connections are created between small companies that focus on research and other large ones that can easily gain access to mass market. Differences in social cultures are mainly related to nationality, while corporate cultural variation is due to differences in size and basic competencies of the single firms.

This phenomenon is becoming more frequent, since the number of international partnerships is increasing, as a result of globalization.

In all kinds of cooperative alliances, there is an underlying cultural friction between the two partners, which affects the creation and conservation of the relationship. Previous works on cultural features of management have taken into account the national cultural differences which originate from numerous elements such as language, habits, tradition, and business ethics; nevertheless, there are also other factors from which cross-cultural tensions can arise.

Recent investigations regarding cooperative alliances have proved that it is more important to be able to share tacit knowledge in a common corporate culture than sharing a common national culture. For this reason, it is fundamental to comprehend the various degrees of cultural tension, so knowledge can be effectively transferred between organizations and possible halts or delays can be prevented.

To achieve this goal, mechanisms of conflict solution, mediation of cultural contrasts, and enforcing agreements have to be implemented.

1.2.3 Part III: Cross-Cultural Knowledge Management and Open Innovation Diplomacy

Innovation (and in particular Open Innovation) as well as Diplomacy, Research, Education, and Entrepreneurship are in essence cross-cultural phenomena, processes, and activities with knowledge at their core, hence the concepts outlined and discussed in this chapter are essential elements of a cross-cultural knowledge management theory and practice framework which is the theme of the manuscript part of which is this chapter.

Developed and developing economies alike face increased resource scarcity and competitive rivalry. Science and technology increasingly appear as a main source of competitive and sustainable advantage for nations and regions alike. However, the key determinant of their efficacy is the quality and quantity of entrepreneurship-enabled innovation that unlocks and captures the pecuniary benefits of the science enterprise in the form of private, public, or hybrid goods. In this context, linking university basic and applied research with the market, via technology transfer and commercialization mechanisms including government–university–industry partnerships and risk capital investments, constitutes the essential trigger mechanism and driving device for sustainable competitive advantage and prosperity. In short, university researchers properly informed, empowered, and supported are bound to emerge as the architects of a prosperity that is founded on a solid foundation of scientific and technological knowledge, experience, and expertise and not in fleeting and conjectural " financial engineering" schemes. Building on these constituent elements of technology transfer and commercialization, *Open Innovation Diplomacy*[1] encompasses the concept and practice of bridging distance and other divides (cultural, socioeconomic, technological, etc.) with focused and properly targeted initiatives to connect ideas and solutions with markets and investors ready to appreciate them and nurture them to their full potential.

The emerging gloCalizing, globalizing, and localizing frontier of converging systems, networks and sectors of innovation that is driven by increasingly complex, nonlinear, and dynamic processes of knowledge creation, diffusion and use, confronts us with the need to reconceptualize—if not re-invent—the ways and means that knowledge production, utilization, and renewal takes place in the context of the knowledge economy and society (gloCal knowledge economy and society). Perspectives from and about different parts of the world and diverse human, socioeconomic, technological, and cultural contexts are interwoven to produce an emerging new worldview on how specialized knowledge, which is embedded in a particular

[1]See Carayannis, NATO Conference, 2010; Carayannis, BILAT Conference, Vienna, Austria, March 2011; Johns Hopkins School of Advanced International Studies Transatlantic Research Center Conference, Washington, DC, June 2011 and Springer Journal of the Knowledge Economy (JKEC), Fall 2011 (forthcoming).

sociotechnical context, can serve as the unit of reference for stocks and flows of a hybrid, public/private, tacit/codified, tangible/virtual good that represents the building block of the knowledge economy, society, and polity.

We postulate that one approach to such a reconceptualization is what we call the *"Mode 3" Knowledge Production System* (expanding and extending the "Mode 1" and "Mode 2" knowledge production systems) which is at the heart of the *Fractal Research, Education and Innovation Ecosystem (FREIE)*[2] consisting of "Innovation Networks" and "Knowledge Clusters" (see definitions below) for knowledge creation, diffusion, and use. This is *a multilayered, multimodal, multinodal, and multilateral system,* encompassing mutually complementary and reinforcing innovation networks and knowledge clusters consisting of human and intellectual capital, shaped by social capital and underpinned by financial capital. The "Mode 3" Knowledge Production System is in short the nexus or hub of the emerging twenty-first century FREIE[3], where *people, culture,*[4] *and technology*[5,6] (—forming the essential "Mode 3" Knowledge Production System building block or "knowledge nugget") meet and interact to catalyze creativity, trigger invention and accelerate innovation across scientific and technological disciplines, public and private sectors (government, university, industry and nongovernmental knowledge production, utilization and renewal entities as well as other civil society entities, institutions, and stakeholders) and in a top-down, policy-driven as well as bottom-up, entrepreneurship-empowered fashion. One of the basic ideas of the article is *coexistence*, *coevolution,* and *cospecialization* of different knowledge paradigms and different

[2] See Carayannis, BILAT Conference, Vienna, Austria, March 2011; Johns Hopkins School of Advanced International Studies Transatlantic Research Center Conference, Washington, DC, June 2011 and Springer Journal of the Knowledge Economy (JKEC), Fall 2011 (forthcoming).

[3] Furthermore, see Milbergs (2005).

[4] "*Culture* is the invisible force behind the tangibles and observables in any organization, a social energy that moves people to act. Culture is to the organization what personality is to the individual – a hidden, yet unifying theme that provides meaning, direction, and mobilization" (Killman 1985).

[5] *Technology* is defined as that "which allows one to engage in a certain activity … with consistent quality of output", the "*art of science and the science of art"* (Carayannis 2001) or "*the science of crafts*" (Braun 1997).

[6] We consider the following quote useful for elucidating the meaning and role of a "*knowledge nugget*" as a building block of the "Mode 3" Innovation Ecosystem": "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 3, 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" (Carayannis and Gonzalez 2003, p. 593).

knowledge modes of knowledge production and knowledge use as well as their cospecialization as a result. We can postulate a dominance of knowledge heterogeneity at the systems (national, transnational) level. Only at the subsystem (subnational) level we should expect homogeneity. This understanding we can paraphrase with the term "Mode 3" Knowledge Production System.

The unit of analysis for theories and practices based on cross-cultural knowledge should be enlarged. In detail, it should extend from individual to group, firm to industry, and region to nation. Actually, not every area is well investigated. An even more difficult task is to link, without contradictions, research with distinct units of analysis. Although every single unit should lead to significant perceptions, they must all be included in order to acquire the complete vision of the new cross-cultural knowledge management framework.

This handbook underlines the necessity of analyzing value reconciliations in cross-fertilization of ideas and theories, by detecting a fundamental range of theoretical and practical dimensions in which knowledge management is not limited to a single organization or a single country. In a paradoxical way, it can be stated that ambivalence is required in an ambiguous world and, in an organizational setting, "ambivalence" is nothing but the encounter and creative comparison of various minds, overcoming the natural barriers that separate groups, cities, regions, countries, and languages.

Appendix
The Nature of Culture…

von Herder Johann Gottfreid (1776), Yet Another Philosophy of History, in Berlin, Vico and Herder: Two Studies in the History of Ideas, p 188 [1976: London: Hogarth Press]

> How much depth there is in the character of a single people, which, no matter how often observed (and gazed at with curiosity and wonder), nevertheless escapes the word which attempts to capture it, and, even with the word to catch it, is seldom so recognizable as to be universally understood and felt. […] Words, pale shadow-play! An entire living picture of ways of life, of habits, wants, characteristics of land and sky, must be added, or provided in advance; one must start by feeling sympathy with a nation if one is to feel a single one of its inclinations or acts, or all of them together.

Coleridge ST (1830), On the Constitution of Church and State, pp. 42–43 [1976: Princeton]

> Civilization should be grounded in cultivation, "in the harmonious development of those qualities and faculties that characterize our humanity. We must be men in order to be citizens."

Raymond Williams (1921–1988, Cultural Studies): "Moving from High Culture to Ordinary Culture" Originally published in N. McKenzie (ed.), *Convictions*, 1958

> Culture is ordinary: that is the first fact. Every human society has its own shape, its own purposes, its own meanings. Every human society expresses these, in institutions, and in arts and learning. … The growing society is there, yet it is also made and remade in every individual mind. The making of a mind is, first, the slow learning of shapes, purposes, and meanings, so that work, observation and communication are possible. Then, second, but equal in importance, is the testing of these in experience, the making of new observations, comparisons, and meanings. A culture has two aspects: the known meanings and directions, which its members are trained to; the new observations and meanings, which are offered and tested. These are the ordinary processes of human societies and human minds, and we see through them the nature of a culture: that it is always both traditional and creative; that it is both the most ordinary common meanings and the finest individual meanings. We use the word culture in these two senses: to mean a whole way of life--the common meanings; to mean the arts and learning--the special processes of discovery and creative effort. Some writers reserve the word for one or other of these senses; I insist on both, and on the significance of their conjunction. The questions I ask about our culture are questions about deep personal meanings. Culture is ordinary, in every society and in every mind.

During S. (ed.) (1993), The Cultural Studies Reader, London: Routledge

As the old working class communal life fragmented, the cultural studies which followed Hoggart's "The Uses of Literacy" developed in two main ways. The old notion of culture as a whole way of life became increasingly difficult to sustain: attention moved from locally produced and often long-standing cultural forms… to culture as organised from afar – both by the state through its educational system and by what Theodor Adorno and Max Horkheimer called 'the culture industry', that is, highly developed music, film and broadcasting businesses. Much more importantly, however, the logic by which culture was set apart from politics… was overturned (Pg. 4 - Introduction).

Since Tylor's founding definition of 1871, the term has designated a rather vague 'complex whole' including everything that is learned group behaviour, from body techniques to symbolic orders. There have been recurring attempts to define culture more precisely… or… to distinguish it from 'social structure'. But the inclusive use persists. For there are times when we still need to be able to speak holistically of Japanese or Trobriand or Moroccan culture in the confidence that we are designating something real and differentially coherent. It is increasingly clear, however, that the concrete activity of representing a culture, subculture, or indeed any coherent domain of collective activity is always strategic and selective. The world's societies are too systematically interconnected to permit any easy isolation of separate or independently functioning systems. The increased pace of historical change, the common recurrence of stress in the systems under study, forces a new self-consciousness about the way cultural wholes and boundaries are constructed and translated (Pg. 61 - Clifford, J., "On Collecting Art and Culture").

Culture is a notoriously ambiguous concept as the above definition demonstrates. Refracted through centuries of usage, the word has acquired a number of quite different, often contradictory, meanings. Even as a scientific term, it refers to both a process…, and a product. More specifically, since the end of the eighteenth century, it has been used by English intellectuals and literary figures to focus critical attention on a whole range of controversial issues. The 'quality of life', the effects in human terms of mechanization, the division of labour and the creation of mass society have all been discussed within the larger confines of what Raymond Williams has called the "Culture and Society" debate. It was through this tradition of dissent and criticism that the dream of the "organic society" – of society as an integrated, meaningful whole – was largely kept alive. The dream had two basic trajectories. One led back to the past and to the feudal ideal of hierarchically ordered community. Here, culture assumed an almost sacred function. Its 'harmonious perfection' was posited against the Wasteland of contemporary life. The other trajectory, less heavily supported, led towards the future, to a socialist Utopia where the distinction between labour and leisure was to be annulled (Pg. 358 – Hebdige, D., "From Culture to Hegemony").

Hall S. (Ed.) (1997), Representation: Cultural Representation and Signifying Practices. Milton Keynes: The Open University

'Culture' is one of the most difficult concepts in the human and social sciences and there are many different ways of defining it. In more traditional definitions of the term, culture is said to embody the 'best that has been thought and said' in a society. It is the sum of the great ideas, as represented in the classic works of literature, painting, music and philosophy – the 'high culture' of an era. Belonging to the same frame of reference, but more 'modern' in its associations, is the use of 'culture' to refer to the widely distributed forms of popular music, publishing, art, design and literature, or the activities of leisure time and entertainment which make up the everyday lives of the majority of 'ordinary people' – what is called the 'mass culture' or the 'popular culture' of an age. High culture versus popular culture was, for many years, the classic way of framing the debate about culture – the terms carrying a powerfully evaluative charge… In recent years, and in a more 'social science' context, the word 'culture' is used to refer to whatever is distinctive about the 'way of life' of a people, community,

nation or social group. This has come to be known as the anthropological definition. Alternatively, the world can be used to describe the 'shared values' of a group or of a society – which is like the anthropological definition, only with a more sociological emphasis.

…the 'cultural turn' in the social and human sciences… has tended to emphasize the importance of *meaning* to the definition of culture. Culture… is not so much a set of *things*… as a process, a set of *practices*. Primarily, *culture is concerned with the production and exchange of meanings* – the 'giving and taking of meaning' – between the members of a society or group. To say that two people belong to the same culture is to say that they interpret the world in roughly the same ways and can express their ideas, their thoughts and feelings about the world, in ways which will be understood by each other. Thus culture depends on its participants interpreting meaningfully what is happening around them, and 'making sense' of the world, in a broadly similar way.

Sardar Z. and van Loon, B. (eds.) (1997), Cultural Studies for Beginners, Cambridge: Icon Books

One of the older definitions of culture was given by the British anthropologist, Sir E. B. Tylor, in the opening lines of his book *Primitive Cultures* (1871): "Culture is that complex whole which includes knowledge, belief, art, morals, law, customs and other capabilities and habits acquired by man as a member of society".

Foundations: Pragmatic

Franz Boas (1911), The mind of primitive man, New York, p 149

Culture may be defined as the totality of the mental and physical reactions and activities that characterize the behavior of individuals composing a social group collectively and individually in relations to their natural environment, to other groups, to members of the group itself and of each individual to himself. It also includes the products of these activities and their role in the life of the groups. The mere enumerations of these various aspects of life, however, does not constitute culture. It is more, for its elements are not independent, they have a structure.

Foundations: Weberian

Weber Max (1905), The Protestant Ethic and the Spirit of Capitalism, p 181 [T. Parsons, trans. 1958: Charles Scribner's Sons]

"The Puritan wanted to work in a calling; we are forced to do so. For when asceticism was carried out of monastic cells into everyday life, and began to dominate worldly morality, it did its part in building the tremendous cosmos of the modern economic order. This order is now bound to the technical and economic conditions of machine production which to-day determine the lives of all the individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. Perhaps it will so determine them until the last ton of fossilized coal is burnt. In Baxter's view the care for external goods should only lie on the shoulders of the 'saint like a light cloak, which can be thrown aside at any moment.' But fate decreed that the cloak should become an iron cage."
n.b. recent translations revise this significantly to read something like "steel carapace." In contrast to iron, steel is of course a man-made product, indeed the preeminent emblem of the industrial revolution and, at the time Weber was writing, probably symbolically analogous to the internet today. A cyborg-like carapace or shell is at once less incarcerating than a cage, and yet emphasizes the historical mutability of human nature. Nevertheless, the "iron cage," in Talcott Parsons' rendering, is the formulation which has worked the most influence in the English-speaking world.

Foundations: Structuralist

Claude Lévi-Strauss (1949), The elementary structure of kinship, Tr. by J. Bell and J. von Sturmer. Boston: Beacon Press1969 [1949]

> Man is a biological being as well as a social individual. Among the responses which he gives to external stimuli, some are the full product of his nature, and others of his condition… But it is not always easy to distinguish between the two… Culture is neither simply juxtaposed to nor simply superposed over life. In a way, culture substitutes itself to life, in another way culture uses and transforms life to realise a synthesis of a higher order.
>
> *At various anthropological fringes:*

Tylor Edward Burnett (1871), Primitive Culture, John Murray, London, vol. I, p. 1

> Culture or civilization, taken in its wide ethnographic sense, is that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society.

John Dewey (1916), Democracy and Education, An introduction to the philosophy of education (1966 edn.), New York: Free Press p 123

> Social efficiency as an educational purpose should mean cultivation of power to join freely and fully in shared and common activities. This is impossible without culture, while it brings a reward in culture, because one cannot share in intercourse with others without learning--without getting a broader point of view and perceiving things of which one would otherwise be ignorant. And there is perhaps no better definition of culture than that it is the capacity for constantly expanding the range and accuracy of one's perception of meanings.

Radcliff-Brown Alfred (1940), On Social Structure in Structure and Function in Primitive Society, p. 190 [1952: London: Cohen and West]

> We do not observe a 'culture,' since that word denotes, not any concrete reality, but an abstraction, and as it is commonly used a vague abstraction.

Schneider David (1976), Notes toward a Theory of Culture, in Meaning in Anthropology, Edited by Keith H. Basso and Henry A. Selby, 197–220. Albuquerque: Univ. of New Mexico Press

> Culture contrasts with norms in that norms are oriented toward patterns for action, whereas culture constitutes a body of definitions, premises, statements, postulates, presumptions, propositions, and perceptions about the nature of the universe and man's place in it. Where norms tell the actor how to play the scene, culture tells the actor how the scene is set and what it all means.
>
> *Developments: Symbolic*

Clifford Geertz (1966), Religion as a cultural system in his *The interpretation of cultures*. New York: Basic Books.1973 [1966]

> [the culture concept] denotes an historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life… (p.89)
>
> […]The point is sometimes put in the form of an argument that cultural patterns are "models," that they are sets of symbols whose relations to one another "model" relations among entities, processes … The term "model" has, however, two senses – and "of" sense and a "for" sense… Unlike genes, and other nonsymbolic information sources, which are only models for, not models of, culture patterns have an intrinsic double aspect: they give mean-

ing, that is, objective conceptual form, to social and psychological reality both by shaping themselves to it and by shaping it to themselves (p. 93).

Contrast with a later statement expressing the fundamental problem with "meaning" theories of culture:

What do we claim when we claim that we understand the semiotic means by which, in this case, persons are defined to one another? That we know words or that we know minds? (1976: 225)

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Chapter 2
Cross-Cultural Knowledge Management: Insights from Major Social Science Discipline

2.1 Introduction

We need to deepen our understanding of different types of "group" epistemology, which is a shared discipline of knowledge creation within a group.

While, traditionally, philosophers have been working on individual epistemology, knowledge-based theorists from management fields have introduced the concept of corporate epistemology.

The concept has helped us understand the diversification of different management styles among successful firms. This "group" can be an organization, community, region, city, or nation, as well as a corporation.

As traditional social science fields, such as psychology, sociology, anthropology, and economics have been working on these units, insights from such fields would be helpful in enhancing our understanding of different levels of "group" epistemology.

2.2 Culture, Individual and Learning Process in Groups: Psychological Perspectives

Individuals and groups form social structures known as organizations. According to the definition by Guzzo and Shea (1992), a group can be described as a social system considered as an entity by its members and by those who, despite not being internal, have a degree of familiarity with it; its members are bound by interdependent relationships and everyone has a role and duties to fulfill. Groups are fundamental for organizations, and their importance is growing nowadays, because they often carry out tasks that were previously completed by individuals. In large companies,

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high level management teams, rather than single top managers, are increasingly making strategic decisions, because they can rely upon all the information that is not usually held by a single person, yet by a group of people. Therefore, the importance of work groups within organizations points out that individuals accomplish a fundamental task in the process of knowledge acquisition, but this component of organizational learning, although essential, is inadequate, if regarded on its own.

As suggested by the new socio-cognitive approaches,[1] the processes of encoding, storing, and retrieving information can be viewed and evaluated at both individual and group levels. For instance, it is fair to make a qualitative comparison between the information-processing by decision-making groups and the cognitive performance by individuals who are fulfilling the identical tasks. This analysis is effective in assessing if and how the work-group in its entirety can use the information acquired by an individual in order to make the right decision.

At the group level, encoding is related to recognizing and understanding substantial information. Group members are united by a group culture, which can be variously defined, although a common point can be identified: it is based on sharing a set of thoughts among members. These thoughts include knowledge regarding the group, such as group norms; knowledge about group members, such as expected skills; and knowledge regarding the work of the group, such as work goals. Thus, group members can expedite or hinder recognition of important information or possible difficulties. When the cognitive processing of information is started, the entire group has to discover which information is significant, so it can be assimilated by the knowledge structure of the group and become available.

If cohesion is considered a valuable asset within the group's culture, the group is inclined to avoid open discussions, because they may lead to troubles that could trigger disputes among the members. On the contrary, if groups are bound by group norms to continuously innovate and achieve better results, they may orientate their members toward expressing diverse opinions and contrasting information. This way the group may better comprehend its duties and its members may profit by a concrete advantage arising from the information shared among them.

[1] Social cognitive theory provides a framework for understanding, predicting, and changing human behavior. The theory identifies human behavior as an interaction of personal factors, behavior, and the environment. In the model, the interaction between the person and behavior involves the influences of a person's thoughts and actions. The interaction between the person and the environment involves human beliefs and cognitive competencies that are developed and modified by social influences and structures within the environment. The third interaction, between the environment and behavior, involves a person's behavior determining the aspects of their environment and in turn their behavior is modified by that environment. In conclusion, social cognitive theory is helpful for understanding and predicting both individual and group behavior, and identifying methods in which behavior can be modified or changed (Bandura 1977, 1986, 1989, 2001; Jones 1989).

Groups seem to have a greater ability to store knowledge rather than individuals. Such superiority has been defined by Wegner (1987) as transactive memory[2] within a group, consisting in the common storage of shared knowledge among several group members, while everyone is completely conscious of what knowledge is stored by every single person. Single members are often specialized in particular areas of knowledge and the other members possess different levels of understanding of such specialization. Every specialist takes the responsibility for the information regarding a specific field of knowledge and every member transfers relevant information to the single specialist. At this point, if every member knows exactly what information is stored by whom, the entire group can take advantage of this decentralized system of storing knowledge. Liang et al. (1995) pointed out that, if group members are trained together, the creation of a transactive memory system determines a superior performance compared to the one achieved by those groups whose members have been trained separately. As proved by Henry (1993) and Littlepage et al. (1997), the groups' ability to make better decisions is directly linked to their capacity to identify their members' expertise.

The benefits of group retrieval of information often explain why group memory is superior to individual memory. The capacity to recall information by single members may be stimulated by the group, so members can correct one another while they gather the information. Another reason that explains the superiority of group

[2]Transactive memory theory is based on the idea that individual members can serve as external memory aids to each other (Wegner 1987). Members are able to benefit from each other's knowledge and expertise if they develop a good, shared understanding of who knows what in the group/unit. A transactive memory system is built on the distinction between internal and external memory encoding. Often, individuals encode new knowledge internally, in their own memory. However, even more often individuals encode or use knowledge encoded externally (in diaries, in books, or even in other people's memory). In these cases, the individual internally encodes the label (subject) of the knowledge as well as its location, but not the knowledge itself. Transactive memory systems are built on this view of individuals playing the role of external memory for other individuals who—in turn—encode meta-memories (i.e., memories about the memories of others). Wegner (1995) proposed that two types of meta-memories are maintained in people's minds—information about the subjects of knowledge of each member (i.e., areas of expertise) and information about the locations of the knowledge. Knowledge is encoded, stored, and retrieved from the collective memory through various transactions between individuals, based on their meta-memories. Findings of both field and laboratory research indicate that transactive memory can serve as a facilitator of group performance, where groups whose members are aware of the knowledge, and expertise of other group members perform better than groups whose members do not possess such knowledge. Transactive memory systems enable groups to better utilize the knowledge that their members possess, and to reach higher levels of performance than they would have reached without such a system (for a review, see Moreland and Argote 2003). Members of small groups, who are colocated, can initially use surface information to infer rough estimates of "who knows what" (Wegner 1986), and can then reach greater accuracy in the attribution of expertise to other group members through common experiences (Moreland et al. 1998), such as group training (Liang et al. 1995) and group discussion.

recall is that the retrieval of information is made easier by the ability of the group members to prompt each other while completing the task.

If it is true that the groups' ability to store and retrieve information is superior, this does not necessarily mean that the information is better utilized. As proved many times, a process of loss can occur within group work, so the group's performance cannot reach the highest level because of inadequate coordination among members. This explains why the sum of the results of a number of similar individuals working on the same tasks is higher than the achievement of the group as a whole. In particular, as discussed by Stasser (1988), regarding the retrieval and use of information, it is more probable that a group discussion is triggered off involving the information shared by all the members rather than the information held only by a single member. If a hidden profile is generated by the distribution of information within the group, the decision-making process can be definitely hindered by the unbalanced sampling of information. When a hidden profile is present, every single member cannot possess a clear and complete view of the information, because parts of it differ from one member to another. Optimal decisions can be made only if every single member equally looks upon the information in its entirety.

Several studies have proved that groups do not possess the best abilities to collect from their members all the information that is needed to allow an optimal group decision process. This occurs also within work teams that have to make diagnostic day-by-day decisions by grouping information together. In this type of group debates, managers often hold the position of neutralizing the inclination of the group by continuously supplying information not yet shared by all the group members.

2.3 The Sociological Foundations: Learning as Social and Cultural Approach

Gherardi and Nicolini (2001) term a *microinteractionist tradition* in the organizational learning literature. The distinctive features are its constructionist epistemology and the role of language as the medium of such social construction (Gherardi and Nicolini 2001, pp. 42–43).

The microinteractionist tradition has received two inputs from philosophy: the first derives from Peirce's pragmatism (1931–1935), while the second issues from Schutz's (1971) phenomenology. Peirce studied the science of signs, known as semiotics, arguing that signs are mediators through which individuals can discern reality and express their thoughts about the world. Thus, there is always an interdependent connection between the sign, the object, and the thought, that is the internal referent. This way, Pierce's contribution to the studies on the mind of the individual appears to be innovative, because he introduced thought, which is a social element explicated within a community, since truth and objectivity are here based only on usual traditions, on the habitual practice of doing. According to Pierce, in fact, people can be considered as the total of their thoughts, the progressive build-up of their social experiences.

Later, the social theory of the mind received an interesting contribution by Cooley (1964), who asserted that society is the mind of all individuals and thought is nothing but a fictional conversation with the self. Therefore, ideas are related to one another forming society, and sociology is the discipline that analyzes the ways in which individuals picture each other in their own minds.

However, a more prominent contribution was offered by Mead (1934), who stated that society is based on reflectivity that is the faculty of the self to reflect upon itself. The concept of self is relative: the self is not unique, every person has many selves, and thought occurs when individuals converse with themselves.

Moreover, Blumer (1969) and the symbolic interactionist approach were deeply influenced by Mead's social theory of the mind, after being enlightened by Dewey (1922) and his critical view of the rational man theory.

Garfinkel (1967), Goffman (1967) and the ethnomethodological movement were instead influenced by Schutz's (1971) phenomenology. In symbolic interactionism and ethnomethodology, society is considered as a process, not as a structure. According to the various situations, individuals continuously create their roles and do not play preconceived parts. Only because people get in touch with one another and act together, social institutions have a reason to exist.

According to Berger and Luckmann (1966), every individual visualizes a future projection of a different social "me," giving birth to social action: at this point, everyone plays the part of the "other," anticipates the possible effects and consequently shapes his actions. By continuously negotiating, individuals give "definitions of the situation" and build the social construction of reality.

The expression "definition of the situation" was coined by Thomas (1928), who believed that, if a person considers a situation real, then it is so in all its consequences. Social life has a special inclination: it becomes as people think it is. Reality is not rigid, but flexible, and can rapidly change: if the definition of a given situation is altered, also the induced behavior changes.

The theory of organizational learning as the transmission of knowledge within occupational communities[3] was born within the microinteractionist approach. Starting point is the hypothesis that people who work negotiate forms of interaction that are called occupations or professions. Members of an occupational community do not produce only work, but also social relationships and images of themselves. In their activities, they tend to conceal the nasty sides of their work, so they can shape the way they appear in public and extend their negotiating power.[4] Many scholars,

[3]Boland and Tenkasi (1995) used the phrase "communities of knowing," Bechky (2003) preferred "occupational communities" while Grant (1996) and Carlile (2002) discussed "expert knowledge" primarily in terms of business functions.

[4]Organizations consist of a "mosaic of groups structured by functional tasks" (Greenwood and Hinings 1996: 1033), such as legal, human resources, and marketing departments. Individuals within an organization's functional departments interact with constituents of the organization's market and nonmarket environments through *occupational communities*, that is, groups of individuals across organizations that share a common set of assumptions, language, and perspectives (Schein 1996; van Maanen and Barley 1984).

from Suchman (1987), Brown and Duguid (1991), to Boland and Tenkasi (1995), analyzing the noncanonical practices in occupations and professions, offer a plain view of the supposedly clear transmission of knowledge.

It is the ethnomethodological approach that gave a cue to these type of studies; in fact, according to the definition by Flynn (1991), the use of the term "ethnomethodology" points out that this approach analyzes social reality by observing it, as ethnographers do, and that those who follow this line aim at unveiling the methods used by individuals to make their experiences significant, which gives account for the methodological aspect. Thus, learning is always located in the area of social interaction; in fact, it is directly connected to participation and community membership, since social relationships are fundamental for knowledge transmission, the compilation of a well-set curriculum, and the social growth of identity.[5]

Hence, the remark that learning is characterized by a social dimension leads to the belief that a group mind exists in terms of cognitive interdependence based on mnemonic processes. Members of a working community create a global transactive memory system,[6] in which everyone is variously responsible for recalling every single experience. Within an organization every person behaves in a way that may be instinctively enabled and individual unsolicited behaviors are consequently joined together in order to give life to an intelligent action. According to Tsoukas (1992), knowledge distribution is the base of the network of social behaviors that defines social learning.

The analysis of the social aspect of learning within the microinteractionist tradition has also been brought forward by studies on communities of practice, such as the one by Lave and Wenger (1991), known as the situated learning theory. A community of practice can be generally understood as a set of relations among people, occupations, and the world which develop in the course of time and are connected to other adjacent communities of practice. Knowledge would not exist away from an occupational community. Working, learning, and innovating cannot be regarded as separate activities; instead, they are strictly tied to one another in a social practice and its culture.

Also, studies of organizational cultures have focused on the concept of occupational community. At the center of analysis are the development of local cultures,

[5] "Occupational identities themselves are often complex. Notably, individuals tend to identify both with their professions and with the firms (or other organizations) where they are employed, but occupational identities may also be linked to work groups, functional departments, or geographical sites. In interaction with others, individuals situationally select the frame of reference appropriate to the group and structural context at hand, while reconciling their actions with other such frames which are also part of their personal history and identity" (Håkanson 2010: 1811).

[6] Transactive memory is the shared division of cognitive labor in relationships involving the encoding, storage, retrieval, and communication of information from different content domains (Wegner 1987). The central idea is that group members often develop an implicit plan for dividing knowledge responsibilities and assigning tasks based on their shared conception of one another's expertise. Each individual becomes a specialist in some domains but not others, and individuals rely on one another to access information across domains. Transactive memory systems are most likely to develop when group members are interdependent and have convergent expectations about who will learn what (Hollingshead 2001).

the way the members of a community interact with one another and the type of organization that arises from intracommunity negotiations and from bargaining between inside and outside. These concepts recall Weber's (1978) distinction between Gemeinschaft and Gesellschaft, that is evident in the idea of community, but they diverge in the importance assigned to practice and occupation.

The microinteractionist tradition is characterized by its constructionist epistemology, according to which society is made of the interpretative practices of people, and the observation that language is the way such social construction is created, it is not a simple display of social relations. Speech acts are not descriptive, but are made of practice, that combines language and action.

According to Alvesson and Deetz (1996), this emphasizes the importance of the so-called "linguistic turn" within the organizational studies, which is related to the idea that language does not express or depict reality, but it is the artificer of reality.

This way, organizational learning can be considered as a label that generates a socially constructed reality and, at the same time, is generated by it. A whole community of researchers and scholars, who discuss about organizational learning, take part in conferences and write reviews, are identified by such label.

The entire social process of coining this specific label for managerial purposes is a real sociological phenomenon; the social creation of a new subjectivity can be witnessed, the appearance of firms which call themselves "learning organizations"; and a platoon of social researchers marches along with the aim of investigating and analyzing such organizations, trying to figure out and measure their properties.

The social constructionist approach adopts the traditional scheme based on contingency, negotiation, breakdown, discontinuity, heterogeneity, and fragmentation. Thus, organizational learning is considered as situated; knowledge arises from negotiations, breakdowns and discontinuities, while heterogeneity and fragmentation affect knowing. Only placing the process of learning in the areas of knowledge, language, and interpretation can lead to its full comprehension, which cannot be found in action and its consequences.

These peculiar features openly contrast the conventional psychological models of learning, founded on the stimulus–response theory, that are exported to the study of organizational learning without a critical vision.

2.4 The Treatment of Culture in Management Science

The cultural perspective is based on the interpretation of the way individuals behave within a community and focuses on the concept that members of organizations socially construct reality, giving birth to a set of intersubjective meanings expressed and transmitted by metaphors, symbols, myths, and rituals cemented by beliefs, values, and feelings. Organizational learning within the cultural perspective has been viewed by scholars as a transformation of internal defensive practices, as the expansion of an organizational learning culture, or as both. Basically, it can be stated that culture is the publicly shared produce of learning. According to Cook and

Yanow (1993), the cultural perspective cannot replace the cognitive perspective, rather it is complementary to it: the two scholars pointed out that the cultural perspective is centered on the collective level, while the cognitive perspective is only able to catch learning at the individual level. Thus, organizational learning can only be explained as the process that occurs when the members of an organization gain the knowledge needed to perform their common activities. This perspective is very close to the epistemological approaches, given the definition of culture as a set of beliefs, values and emotions, and all their means of expression, such as metaphors, symbols, myths, and ceremonies, which are generated and shared within a group and characterize it, differentiating it from the other groups. Hence, the fundamental role of culture and social construction of reality can be clearly understood.

The cultural aspect has been analyzed by various authors, who have been able to reduce the distance between the individual and the collective ideas of learning.

Sackmann (1991), for instance, expresses a particular idea of cultural knowledge within organizations, based on the conceptualization of culture as the collective construction of social reality. According to Sackmann, cultural knowledge can be divided into four classes, which in turn can be classified into various categories. Class 1 is represented by dictionary knowledge that describes organizational reality regarded as relevant by members of a certain cultural setting. By using "what?" when formulating a question, dictionary knowledge can be deduced. In Class 2 directory knowledge can be found: it is made of theories of action shared within the community that embody causal-analytical attributions. This type of knowledge can be obtained asking questions starting with "how?". Recipe knowledge resides in Class 3 and is represented by normative prescriptions or causal-normative attributions. Questions to elicit recipe knowledge begin with "what should be?". Finally, Class 4 is the place for axiomatic knowledge that is formed by causes, assumptions, and beliefs. In this case, the question starter is "why are things done the way they are?".

The approach under discussion enables the creation of a connection between cultural changes and the process of organizational learning. Changes in dictionary knowledge can be considered as an organizational learning process partially triggered by the change of organizational control mechanisms. In fact, dictionary knowledge is strongly linked to functional areas, meaning that it most likely changes through variations in incentive and reward mechanisms. Recipe knowledge can change depending on the level of autonomy present within an organization and the mechanisms of selection. Ultimately, axiomatic knowledge is strictly linked to the learning of top management teams.

As pointed out by Argyris (1964, 1978, 1990, 1996), the organizational learning process can be hindered by internal defense mechanisms that are culturally and emotionally active in organizations.

In particular, he classified two different types of organizational culture, named Model I Theory-in-Use and Model II Theory-in-Use. The first is conceived to generate defensive routines so it demands defensive reasoning; in fact, this model teaches people to try to be winners, to be in total control, and not cause trouble to anyone. Model II Theory-in-Use is based on specific values, such as reliable information, a highly knowledgeable choice, and responsibility to control the implementation

of such choice. As mentioned above, the fundamental values in Model I, such as total control, victory, imperturbability, determine intraorganizational defensive mechanisms. For instance, if an event that causes strong embarrassment, or threat occurs, individuals behave in order to overcome the embarrassment or threat the best way possible, and this requires a cover-up. Though, the emotional side of common culture has also to be taken into account when analyzing organizational learning as cultural change. This implies that knowledge systems within organizations have also to be understood as common constructions of meaning with emotional implications, not only as mere social constructions of reality. If the cultural perspective is regarded as the emotional side of common knowledge systems, several approaches connected to the above discussed cognitive perspective reveal themselves under the so-called management of meaning.

2.5 Antropologists' World View: "Cultures" Rather than "Organizations"

In an anthropological perspective, the question "how do ideas travel?" is generally answered resorting to the mechanism of diffusion. Initially, the concept of diffusion was explained in a literal sense, meaning that cultural artifacts were spread from a culture where they were present in great number to another where they did not exist. Later, the concept was rather expressed in a metaphorical way: according to Redfield et al. (1936), diffusion often occurs without the ordinary kinds of social contact among people. Levitt and March (1988) and Rogers (1962), pointed out that in the version preferred in management theory via marketing, major importance was still assigned to artifacts, but as innovation was extended, ideas and also ideologies began to propagate more. This fact is of high interest in the entire matter of organizational learning.

The problem is now to understand if diffusion can be considered a convenient metaphor. It is also certain that ideas are spread through physical objects, such as books and documents, but it is the method by which they travel that is still uncertain. The scientist Ludwig Fleck most likely inspired the attempts to modify the metaphor from physical to biological, when talking, for instance, in terms of "catching" or "infecting," but these efforts were not decisive for the solution of the issue. As pointed out by Douglas, similarities to nature may be useful for an easier acceptance of the process, but not for its comprehension. How can it be possible to "catch" an idea or how can the "diffusion" of an innovation occur?

The use of the term "diffusion" involves the idea of a physical process that leads to the use of a number of physical metaphors, such as "saturation" or "resistance." This shows how scientific metaphors can have success as they become common in practice, but when they are retrieved for subsequent analysis they can be deceptive. Ideas are generally imagined by people as if they were real objects that have a space and time dimension and are moved by their peculiar features. Diffusion is economically valuable, because, as it is true for all types of metaphors, it makes the less

intelligible clearer, it offers a concrete visualization of the immaterial; but the use of metaphor for analytical reasons causes a standstill. It could be conceivable to assert that ideas travel from more satiated to less satiated settings, but this reasoning leads to the observation that as physical objects are subject to the law of inertia, the ideas also have to obey such law.

This reading is not very persuasive, above all if the so-called brain drain phenomenon is taken into account. For this reason, it is better to follow the opposite direction, visualizing ideas that move from less satiated to more satiated settings, so a new physical metaphor is required: critical mass. Rather than defending the old physical metaphors and introducing new ones, it is preferable to search for a distinct type of metaphor borrowed from anthropology.

According to Latour (1993), well known for his program of symmetrical anthropology, the model of diffusion can be at odds with the model of translation.[7] This model is based on the idea that people are the masters of temporal and spatial diffusion of anything and people's actions vary, causing alterations and diversions.

The translation model responds to the issue regarding the energy required for the movement of ideas or objects. People themselves, irrespective of being considered creators or users, give energy to an idea every time translation occurs for anyone's use. Viewing a process of translation means observing ideas that move around and this does not involve a process of acceptance or refusal.

Nevertheless, in this setting, the term "translation" should be understood in a way that bypasses its linguistic meaning, since it consists in inventing, shifting, transferring, or creating a completely new bond between two agents, the translator and the object of translation. This concept of translation together with the program of asymmetrical anthropology was useful to dissolve the standstill in which contemporary anthropology had stranded itself. Now symmetrical anthropology does not need to complain about the loss of native culture or the erroneous utilization of modern elements, but can give account of the evolution of postmodern cultures in which old and new are translated into local inventions in a creative manner.

Thus, translation becomes a fundamental concept to comprehend organizational change. Its significance beyond the literal meaning recalls connections with the ideas of movement and change, it includes what is created and what already exists, and also the link between individuals and ideas, ideas and objects, individuals and objects. For this reason, translation could be effectively taken into consideration within the studies of organizational learning.

[7] The concept of translation can be viewed as an alternative to the model of diffusion. Bruno Latour (1986) uses the term translation instead of knowledge transfer to depict a process where diffusion is in the hands of people. He contends that every person throughout a translation process acts in different ways—they modify, adapt, add on, etc. An idea, a text, or an object is thus transformed in the process. The fundamental differences are that ideas do not spread on their own (diffusion), but external energy (translation) is needed for an idea to spread (Latour 1987). Translation answers the question of energy that is needed for the process. It is thus people, both as creators and applicants, who transform an idea, whether they apply it for their own purpose or for someone else (Latour 1992). When knowledge is transferred from one context to another it is thus being translated (Latour 1991).

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Chapter 3
Solo Entrepreneur vs. Entrepreneurial Teams: Structural/Cultural Embeddedness and Innovation

3.1 Introduction

This chapter shines a light on the dynamic interaction between creative behavior and preexisting structuring of organizations in cross-cultural knowledge management.

Within social systems where human actions are influenced by existing structures, those actions are performed in a structural manner. Such influence is fundamentally accomplished in two ways, which coincide with the fields of cognitive and behavioral learning.

In the former case, identification and absorption of new knowledge may be constricted by preexisting mental frames. In the latter case, the concept of structuration is evident in its opposition to applying new ideas to existing organizational practices and routines. Action is a necessary element of the learning process, while structure strengthens and propagates the advantages arising from the learning that is gained.

To give sense to both, the organizational learning process may have to be arranged as a process of punctuated equilibrium that varies from emphasizing action and emphasizing structural consolidation.

There is an actual risk of excessively perceiving the relations between actors and structures on the base of the functioning of information-processing, without taking account of the symbolic characteristics associated to information, because of the realized effects it has for the position occupied by individuals within the organizational structures and within their broader communities. Thus, information is important for organizational learning not only for its literal meaning, but also for its origin and the way its social consequences are understood.

Existing proofs about the propagation of innovation and its adoption within organizations reduce their utility for evaluating the effects deriving from the way the microlevel setting of entrepreneurs, in its structural and cultural aspects, encourages their inclination to drift away from preset ways of thinking or acting and stimulates the implementation of new innovations.

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This chapter illustrates how different abilities for creative action are generated by the interplay of structural characteristics of the entrepreneurial team, which can be defined as aspects of an individual's relational environment, with characteristics of the entrepreneurs' cultural embeddedness, that is the background of work and educational relationships.

3.2 Team Structure and Creative Action

Innovation, similar to learning, is an organizational property, and, in both cases, a fundamental issue concerns how they may be supported. Mentalities and embedded interests may reinforce the barriers to organizational learning. The features and the effects of social embeddedness deserve more consideration. There are various and elaborate outlines of embeddedness, founded, for example, on ideological boundaries.[1]

When highlighting this concept, it can be asserted that the entrepreneurs' tendency to innovate, instead of repeating preexisting ideas, depends on the kinds of social relationships those entrepreneurs are embedded within. A structural examination prefiguring creative action demands that the standard vision of embeddedness be adjusted.[2]

Scholars, like Popper (1959), have argued that the processing of innovation and discovery frequently leads to the conclusion that new combinations of ideas should be considered as mainly random events that occur among solitary actors and should be handled in a peculiar way; nevertheless, this point of view does not take account of the relevance of embeddedness in activating combinations of ideas.

In the traditional definition of entrepreneurship, the entrepreneur is generally viewed as an individual. The role of academic and government initiatives in the establishment of a firm is covered up by the ideological myth represented by the idea of the heroic individual entrepreneur. New firms and other organizations may be created by many people that collectively assume entrepreneurial roles. Actually, even if some people do not want or cannot manage to become entrepreneurs individually, they are able to do so in group, as occurred in the case of a cooperation between Swedish computer advisers and business school graduates who established an Internet company (Etzkowitz 2002).

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[1] Structuration theory views the subjectivity and objectivity of social realities as equally important. According to structuration theory, cultural context is generated and regenerated through the interplay of action and structure. It recognizes that "man actively shapes the world he lives in at the same time as it shapes him" (Giddens 1986).

[2] Structuration theory and the concept of the duality of structure allow us to think about society from both a structural and a behavioral perspective without reducing the analysis to either the institutional level or to the level of everyday life (behavioral). It allows us to do our analysis on one level while we set aside the other level. It allows us to see how the two levels are connected both in theory and in social reality. Finally, it allows us to appreciate the fact that the individual actors and social groups are not simply products of their social circumstances, but they are also the producers and reproducers of these social relations and circumstances.

While the classical economic models regard in a favorable way the idea of the solo entrepreneur,[3] more recent studies, such as the one by Stewart (1989), have replaced that concept by realizing that many times innovation is carried out by entrepreneurial teams. From this viewpoint, team structure could be considered one of the most meaningful elements to predict the firm's proclivity to innovate. If a certain number of entrepreneurs decide to work together and analyze a single problem in all its various perspectives, new combinations of ideas are stimulated.

On the contrary, it is more plausible that solo entrepreneurs repeat well-known routines derived from their personal history. Moreover, within team structure, creativity of action is probably strongly affected by the variety of functional roles held by the different entrepreneurs. There is a higher chance that new combinations of ideas are triggered by a team formed by entrepreneurs with various specialized backgrounds rather than a team whose members have been trained only in one specific field. As argued by Burt (1992), the fact that entrepreneurs do not hold the same roles is quite as significant in acquiring necessary information as avoiding cohesive bonds. Thus, the variety of role structures demanded by individuals or entrepreneurial teams may fundamentally determine diversions from the habitual practice. It is also important to underline that proclivity to innovate implies that entrepreneurs are not captured by the conformity that could be stimulated by social embeddedness.

The theoretical advantages of entrepreneurial groups regarding information acquisition have to be also assessed by taking into account the fact that such teams can require conformity from their members. At the start, entrepreneurial team members usually have limited intimacy with one another, but as the new organization takes shape, common interplay makes the ties within the group stronger. As pointed out by Blanck (1993), who thoroughly analyzed interpersonal expectations, creative experimentation can be significantly hindered by the concern for the views of others. Therefore, the insistence for conformity in the innovation process is likely to increase and mostly eclipse the advantage that, at the beginning, creative activity receives from anonymity.

The traps of conformity may be avoided if entrepreneurs extend their network and reach a diversified number of social connections, and if they prefer to stress the importance of abstract conceptions of ideas rather than their actual execution.

3.3 Cultural Predictors and Organizational Innovation

As highlighted by Granovetter (1985), if it is true that "oversocialization" is hostile to innovation, from an empirical point of view it is also necessary to take into account the internalization of norms and ideas in anticipating the ability to act in a creative manner. Under different aspects, both the cultural and the structural embeddedness of entrepreneurs seem to be relevant to their innovative inclinations.

[3] As Schumpeter pointed out, "…the entrepreneurial function need not be embodied in a physical person and in particular in a single physical person" (Schumpeter 1949, p. 255).

Cultural embeddedness expresses the quantity of experience held by actors in a specific task field, the degree to which they admittedly gather ideas from that experience, and if the experience refers to the habitual practice and skills or includes attempts to divert from common routines. Vast experience in an industry may lead entrepreneurial teams to be less creative, while limited experience is more likely to produce innovation.

Discussing about organizational innovation, Aldrich and Kenworthy (1999: 20) stated that the "indifference to industry routines and norms gives an outsider the freedom to break free of the cognitive constraints on incumbent." Furthermore, as actors gain more experience in an industry, their performance appears to be more foreseeable and trustworthy. As pointed out by Hannan and Freeman (1984), these distinctive aspects of performance are commonly appreciated by society, but, as argued by March (1991), they can also hinder entrepreneurial exploration. As highlighted by Sewell (1992), the unpredictability of performance, particularly by the side of entrepreneurs without experience, is a crucial factor to prefigure creative action, because it leads to the review of conventional cultural patterns.

As this statement is applied to teams formed by a certain number of members, there appears to be a problem, inasmuch as the degree of innovation may be affected by the dispersion of the entrepreneurs' industry experience. If cohort effects are decisive, innovation rates will consequently result from whether team members accessed the industry almost simultaneously or separately.

Hence, when an organization is trying to stimulate learning behavior, designing the right organizational context for teams is of the utmost importance. Teams are implemented in organizations because they are thought to be an effective way to cope with the uncertainty created by the environment (Guzzo 1995). Some argue that strategic change and continuous organizational adaptation emerge from an organization at the team level, especially in fast-changing environments (e.g., Burgelman 1994; Brown and Eisenhardt 1997).[4] Consequently, it is of critical importance to understand how novel ideas come to light in teams and organizations and what fosters their creation.[5]

[4]Shane (2000) pointed out that the same licensable invention was exploited by eight different teams. Training and expertise were distinguishing elements for the members of every team. The consequence was that everyone perceived in a different way the possible exploitation of the licensable invention and carried out extremely different innovations despite having the same basis. It is not a surprise that they were not all as successful as their promoters had imagined. In such example, simple teams are taken into account: their routines could be associated with individuals. The different training and experience of the various members of the teams generated different routines and this led to the development of different innovations starting from the same technology. In the same way, the integration of different scientific and technical disciplines was made easier by the internal governance structure. For example, in Hounshell's and Smith's thorough account of DuPont's research laboratories, DuPont's interaction with external partners or cooperators is only just mentioned. Nevertheless, there is a significant evidence of interdisciplinary integration, such as the one between engineering and chemistry.

[5]This also enables us to make a contribution to the literature on organizational design (Ancona and Caldwell 1992). Sociotechnical systems theorists (e.g., Trist 1981; Beekun 1989) have long argued for the use of teams as building blocks of flexible and creative organizations and have described and experimented with different organizational designs to optimize the effectiveness of these teams.

3.4 Scientific Knowledge Production as a Cultural Practice

Researchers are progressively realizing that scientific production is shaped by the institutional and organizational context. The ideas of sociologists of science, like Robert Merton (1973), have influenced the common feeling of how scientific knowledge is created. Merton asserted that the production of scientific knowledge occurs within a number of institutions that sustain the scientist as an autonomous viewer of the world.

The establishment of cooperative and integrated research communities structured around new scientific fields, where scientists have the opportunity to absorb the progresses made in various disciplines, has been frequently mentioned as a fundamental asset to the creation of some of the most innovative academic research organizations in the world (de Chadarevian 2002; Hollingsworth and Hollingsworth 2000).

However, scientists are coincidentally embedded within a wider social setting of their colleagues within and around their disciplinary and problem center of attention. Crane (1968, 1972) was the first to identify the so-called "invisible colleges" that are based on interpersonal relationships constructed on common interests, exchange of students, and interaction during conferences. Thanks to such broad social structure within the scientific community, a scientist can benefit from a cosmopolitan network of colleagues and contacts. As pointed out by Merton (1973), these people may be much more than close individuals external to the scientist's discipline and may have a lot to share with him.

As highlighted by Vacanti and Mikos (1999), in the case of regenerative medicine, for instance, these cosmopolitan networks encompass both the main discipline in which the scientist has been trained and other disciplines indirectly related to it. To remain in the example, chemical engineers have a cosmopolitan network of polymer specialists inside and outside the USA and such network also connects disciplines, such as biomechanical engineering and cell biology.

Nevertheless, these research contexts and integrative abilities are not usually easy to follow inside universities, because of the way the latter are organized.

One significant barrier is the particular importance assigned to personal achievements in gaining appraisal within the scientific community and making career progressions at university. This does not encourage scientists to create cooperative relationships while they perform their researches.

Another significant barrier to the establishment of cooperative relationships among scientists within the university environment is constituted by the disciplinary divisions that characterize the organization of science within universities. Here, every research community generally works independently from the others, with its own departments, programs, journals, and professional associations, safeguarding their own distinctive rules and norms concerning what good science is founded on. The development of cooperative attempts among scientists from different disciplines is considerably set back by these institutional barriers to collaboration,

although the latter would play an active role to overcome many research issues, in particular, those in new fields that go beyond the boundaries that separate a discipline from another.

The fact that academic researchers are not sufficiently stimulated to actively collaborate with their colleagues from other disciplines is useful to basically understand why firms have appeared to have great success in facing and solving organizationally elaborate, but truly evident research enigmas, in particular, those that go beyond interdisciplinary divisions and demand a combined and integrated research effort in which a group of scientists[6] from different disciplines has to be involved.

> "….we see organizations as having a critical role to play in structuring fragmented practice. To fully play that role, organizations need to recognize that they are not coherent wholes battling the incoherence of the world around them. Divisions of knowledge, understanding, worldview and practice fall within them, too. They must thus take advantage of their own incoherence. That advantage comes from having a privileged view on the various practices within and the possibilities and potential for weaving these together into complementary innovations – of products, processes or practices" (Brown and Duguid 2001:58).

Over the years, economics of science has become a fully developed field of study, as a process of recombinant growth has taken place utilizing a considerable set of tools and methodologies from the typical research traditions of a wide range of fields of economic analysis. Once again the importance of the processes of recombinant growth that describe creative initiatives is confirmed. In the light of the different views of investigation, the first contributions to the economics of science tend to consider the individual researcher as the subject of investigation, while the organization of science does not receive similar attention at the institutional level, both publicly and privately. Even less consideration has been gained by the interaction between the individual researcher, with all his motivations and rewards, and the institution (department, school, or central administration) of which he is part (Antonelli et al. 2011).

3.5 Transcending Internal Cultural Boundaries

All organizations, except very small-sized ones, generally tend to set internal boundaries, by creating various specialized groups or departments, each of which has its own knowledge and skills. Nevertheless, as stated by Lawrence and Lorsch (1967), intraorganizational specialization seems to foster a "*difference in cognitive and emotional orientation among managers in different functional departments*."

[6]The creation of scientific knowledge is a cultural practice. In fact, as argued by Lenoir (1995), knowledge implies productive commitments with the world and the social and economic interests of the parties involved. Therefore, for a complete comprehension of the processes of knowledge creation, which influence knowledge paths, it is essential that the cultural practice of scientists in firms is fully understood.

In fact, specialized groups link their knowledge to their expertise and express it by using their own codes and language, in which their social identity is reflected.[7] Such identity is reinforced by an external institutional base. Thus, it can be arduous to connect one internal boundary to another and bring together the contributions of every single group to organizational learning, owing to opposition in the technologies provided and the objectives related to the process.

However, organizations need to avail themselves of the knowledge and skills of the various specialized groups that work within them, so they can take advantage of their vital ideas and contributions, which are necessary for organizational learning. As argued by Herriot et al. (1985), who introduced the concept of "*ecology of learning*," in cases in which there is interdependence between the actors' experiences, the results achieved by one actor do not only rely on his skills and actions, but also on what the others actually do. Thus, for organizational learning to be effective there has to be an adequate balance between differentiation and integration, which depends on various elements, such as the level of intricacy, the degree of change, and the competitive strain within the organizational setting. As pointed out by Lawrence and Lorsch (1967), organizations that made a high performance were those in which the above-discussed balance had been consistently achieved.

The importance of differentiation and integration for organizational learning has been thoroughly analyzed by Mary Parker Follett. The scholar highlighted the fact

[7] Social identity is "that part of an individual's self-concept which derives from his knowledge of his membership in a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel 1981, p. 255). Social Identity Theory was developed by Tajfel and Turner in 1979. The theory was originally developed to understand the psychological basis of intergroup discrimination. Tajfel et al. (1971) attempted to identify the *minimal* conditions that would lead members of one group to discriminate in favor of the ingroup to which they belonged and against another outgroup. In the Social Identity Theory, a person has not one, "personal self," but rather several selves that correspond to widening circles of group membership. Different social contexts may trigger an individual to think, feel, and act on basis of his personal, family, or national "level of self" (Turner et al. 1987). Apart from the "level of self," an individual has multiple "social identities." Social identity is the individual's self-concept derived from perceived membership of social groups (Hogg and Vaughan 2002). In other words, it is an individual-based perception of what defines the "us" associated with any *internalized group membership*. This can be distinguished from the notion of personal identity, which refers to self-knowledge that derives from the individual's unique attributes. Social Identity Theory asserts that group membership creates ingroup/self-categorization and enhancement in ways that favor the ingroup at the expense of the outgroup. The examples (minimal group studies) of Turner and Tajfel (1986) showed that the mere act of individuals *categorizing themselves* as group members was sufficient to lead them to display ingroup favoritism. After being categorized of a group membership, individuals seek to achieve positive self-esteem by positively differentiating their ingroup from a comparison outgroup on some valued dimension. This quest for *positive distinctiveness* means that people's sense of who they are is defined in terms of "we" rather than "I." Tajfel and Turner (1979) identify three variables whose contribution to the emergence of ingroup favoritism is particularly important. (1) The extent to which individuals identify with an ingroup to internalize that group membership as an aspect of their self-concept. (2) The extent to which the prevailing context provides ground for comparison between groups. (3) The perceived relevance of the comparison group, which itself will be shaped by the relative and absolute status of the ingroup. Individuals are likely to display favoritism when an ingroup is central to their self-definition and a given comparison is meaningful or the outcome is contestable.

that contrasts exist within organizations and should not be hidden, but exposed. People should not escape conflict, but deal with it, because it is the rightful manifestation of divergent ideas. Besides, progress would not occur if there weren't any differences of thought and opinion. Therefore, the learning process should be enhanced, if people from different backgrounds, who are specialized in different operational roles, are involved. The basic problem is the solution of the contrasts that arise among these people and how they can be addressed in a positive way for the organization. According to Follett, integration is the key, because it aims at finding a balanced solution that includes everybody's view and gives an answer to all demands. The most favorable way to manage intraorganizational conflict is to direct it toward collective learning and creation of knowledge. If reachable, a solution embracing collective learning may be enhanced by the set of specialties within the organization and may even be of assistance in linking together internal boundaries, since every actor involved can benefit from it, because of its mutual appeal.

Other scholars have also described the positive role of intraorganizational conflict. Coser (1964), for instance, stated that conflict is advantageous when it arises within an integrative context, in which the group's energies may be augmented by internal contrasts. Lawrence and Lorsch (1967) often alternated the term "*conflict resolution*" with "*joint decision-making*," since they considered both as related to different levels of the same process.

Nevertheless, nobody can assure that integration can always be accomplished as an ever-lasting source of collective learning. As pointed out by Coopey (1996), particular groups or even individuals internal to an organization can create a barrier to organizational learning, due to the embeddedness of their values and routines. Contrasts between a group and another, which may occur because of differentiation, can also hinder or impede organizational learning. As argued by Child and Loveridge (1990), who analyzed the reaction of European services to the provision of innovative information technologies, intraorganizational learning may be controversial and not necessarily cooperative, insofar as specialized actors at the highest levels are involved. The availability of new integrated technologies increases the possibility of introducing new ways of organizing work and this unveils the contrasting interests and perspectives of the different groups, that, in other occasions, would be normally tamed.

A similar conclusion was reached by Scarbrough (1996), who analyzed information technology plans in financial organizations in Scotland. Learning depends on the opportunities offered by information technology to handle organizational redesign: such opportunities are processed through the social building of various classificatory systems, everyone of which is defended by a certain party that is interested in advancing its own point of view. Thus, the construction and redefinition of meaning become essential and are the way to express the integration of all the contributions to organizational learning brought forward by the specialized groups that work within the organization. For this process to occur steadily, it is necessary that all actors trust each other and are willing to speak openly and frankly, although this is not always sufficient to guarantee that existing contrasts are promptly solved.

As pointed out by Lawrence and Lorsch (1967), managers are those who have the main responsibility for mediating the process of integration and differentiation and finding the solution to intraorganizational contrasts. Their duty consists in bringing to light

the people who have the adequate skills and assist them in placing together the different frames of meaning that embody their knowledge. Though, such task is not exempt from criticism, when communication is mediated and not straight forward, as it happens to be susceptible to reformulation and reinterpretation. Those who manage the exchange of information, such as gate-keepers, have a considerable power and consequently play a decisive role in facilitating or impeding organizational learning. And also those members whose job lies on intraorganizational boundaries, such as coordinators, fulfill the important task of assuring the integration on which effective learning is based.

At times, organizations need to learn the ways to improve their integration: this occurs when external pressures, such as those from customers, become urgent. Such demands may stimulate learning to the point that the organization becomes more than the simple sum of its parts, differently to what normally happens. In fact, as underlined by Hedberg (1981), an organization generally knows less than all its members put together, because of communication difficulties. From this standpoint, it can be easily understood that, for an organization to be successful, it is important to create a synergy among the different specialized areas of knowledge, in order to accomplish the process of organizational learning.

Another type of integration necessary for encouraging organizational learning was described by Child (1982): the integration of professional staff within the management structure. The scholar distinguished routine and nonroutine expertise. The former is defined by a low level of expertise, while the latter, which is characterized by a high level of expertise, evades management control, because it is not open to "*close definition and procedure*," that means that its characteristics cannot be easily transferred or may not be transferrable at all. It is important to highlight that the unspecified content in professional work will be more extended at the highest levels of professional staff where judgment rather than technique is considered the main resource. The need to exploit the almost tacit knowledge possessed by specialists tends to accelerate integration efforts.

In conclusion, two are the demands to guarantee that specialists contribute to organizational learning. First, specialists have to be encouraged to share their knowledge, through an adequate system of rewards or career prospects; second, they have to be led together with all those who take part in the learning process in a direction that permits a positive contrast of opinions, while moving toward a favorable solution: this can be achieved, for example, by creating task forces. As argued by Mueller and Dyerson (1999), if neither of the requirements are satisfied, that is if specialists are not appropriately motivated or they are not effectively brought together, so their knowledge remains widely unexpressed, their contribution to organizational learning will be almost nonexistent.

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Chapter 4
Organizational Boundaries as Social Phenomena: Culture, Interfirm Arrangements, and National Learning Style

4.1 Introduction

Scholars assigned a certain importance to culture in the field of management only when they understood that culture is not a universal concept, because what is valid for us may not be so for other people from different countries. Since strategies are formulated by taking into account assumptions that concern the social setting and the relationships that link individuals to one another, national culture is fundamental when deciding a strategy.

Also, operational management is heavily affected by culture, in cases in which the necessity to adapt to a different cultural setting and to the routines and practices of a foreign ally becomes an intimidating assignment and a hindrance to performance.

Cross-national theory has recently reoriented itself to sustain the opinion that culture, in its conventional definition, makes misleading suppositions regarding cultural homogeneity within nations and also makes a mistake when it claims that culture is stable over time. These changes raise an issue about the extent to which the establishment of a system of values within a society and its permanence over time is due to sociocultural influences, rather than business ideology influences. There is no evidence supporting a convergence of cultures, but it is possible to outline a definite "crossvergence" where a combination of societal values and economic ideology occurs and creates a system of values that is considerably different from the ordinary national cultures.

Since managers are more and more willing to reach new markets and gain new customers for their globally expanding firms, the problem of international cooperation that leads to share common advantages has drawn the attention of cross-cultural research, insofar as the integration of theoretical fields to effectively solve business issues has turned into a matter of great interest.

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4.2 Members' Identities and Cultural Values

We assert that only individuals think, not cultures and groups. Individuals build their culture-specific mentalities in their typical idiosyncratic ways. Therefore, to understand individual attitudes and behavior, we should examine the way cultural ideology is represented subjectively for the individual.[1]

We reckon that mentality is internalized in the process of socialization, creating individual differences, and is not preset in people's minds. The mentality approach, in the way it is analyzed in the humanities, has often neglected or minimized differences among individuals. On the contrary, we assert that individuals do not always think the same way, nor they constantly think in the way prescribed by the culture they are related to. This means that, if required, mentality can be changed, it is not static.

Mentality is here described as a theory-driven psychological attitude in response to new information. Most of the times, mentalities seem unchangeable and it appears that people in a certain culture think and reason the same way when they are subject to particular types of incentives. These are theory-driven processes since mentalities are, to a great extent, founded on people's beliefs (or implicit theories) of the way reality appears and the way an individual acquires knowledge of it.

It is from personal experience within a specific setting that several of these theories and beliefs arise. It is more probable that individuals who come from similar cultural or socioeconomic groups share some cultural or group-specific theories and beliefs just because they take part in the community (Peng and Akutsu 2001). Nevertheless, people's "cultural competence" can be a factor of differentiation. Thus, we claim that in people's theories and beliefs both group and individual differences exist regarding the nature of reality and human knowledge and the best ways to assimilate them.

We essentially think that people react differently to new ideas or new knowledge because of the divergences in what they believe in. Because cultures reflect sets of values and beliefs into which members are socialized (Berry et al. 1992; Tomasello 1999), culture may also affect the meanings that managers attach to issues that confront them.[2]

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[1]This approach to mentality makes us think of individuals as people who take part in many changing cultures, subjected to numerous types of "cultural influences." Such influences are representational clusters linked to class, religion, ethnicity, and organization, rather than just the "nation–country–tribe" notions of culture used by many humanistic scholars (Ames and Peng 1999) (see Chap. 5).

[2]Scholars who have analyzed the cross-cultural generalizability of labeling strategic problems have been inclined to stress cultural divergences in the tendency to label problems as threats or opportunities. For example, Sallivan and Nonaka (1988) asked US and Japanese managers to interpret certain strategic problems that were illustrated to them in their native languages, and discovered that Japanese managers were more inclined than their American colleagues to identify strategic problems as threats. The researchers' conclusion, after discarding other possibilities, was that such tendency was caused by the influence of native culture. In a research on managers from different countries, Schneider and De Meyer (1991) discovered that Latin European managers

As argued by Berger and Luckmann (1967) and Van Maanen and Laurent (1993), managers, who are of course members of national societies, not only are of assistance in creating the cultural norms and views, but they also have to face social reinforcement pressures, so their own suppositions and choices generally tend to adapt to those of their national culture. Lodge and Vogel (1987) have pointed out that managerial attitudes and opinions express the multiple ideas and convictions that are embedded in national culture, but, as highlighted by Jackosky and Slocum (1988) and Shane (1995), the latter are also visible in the way members of an organization behave when they perform their duties.

In recent years, the connection between national culture and strategic decision-making has been theoretically investigated. A research by Schneider and De Meyer (1991), based on the interview of managers from different cultural backgrounds, gave evidence of considerable divergences in understanding and approaching strategic problems. In particular, managers of Latin European background showed a powerful crisis predisposition as a response to an environmental adaptation incumbent upon them and they were also more inclined to suggest a proactive type of behavior. To explain their discoveries, Schneider and De Meyer focused on existing divergences in national culture. Nevertheless, the two scholars were not able to detect the elements or the processes that give birth to such divergences, leaving this task to others in the future. Hambrick and Brandon (1988) and Schneider (1989) assume that the diverse values embedded within national cultures may cause the change in the strategic orientation of executive managers. As previously underlined, the way a society comprehends organizations, environments, and their connections is a clear reflection of culture.

As stated by Hofstede (1991), the fundamental dimensions of such comprehension are caught by cultural values, together with wide societal choices that enclose problems of organization and adjustment. Hambrick and Mason (1984) pointed out that executive managers, grown up since they were children within the system of values of their native country, normally tend to orient themselves to that system when they fulfill their duties, and of course also when they make strategic decisions. Therefore, both Hambrick and Brandon and Schneider, believe that executives' strategic decisions are expression of their cultural values, and they specifically argue that such values will be useful not only to address the way executive managers consider organizations and the external events they have to deal with day-by-day, but also their choices regarding different possible options of strategic behavior.

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were more inclined than their European and North American colleagues, except Anglos, to interpret an important problem, discussed in English, as a threat. Barr and Glynn (2004), in their turn, analyzed the way cultural values influence specific attributes of a problem linked to the labels of threat and opportunity. They concluded that cultural values affect the perception of a strategic problem and the way it is labeled, so there was evidence of a definite and immediate connection that binds the specific cultural dimension and the specific problem attribute.

4.3 National-Level Institutions and Managerial Discretion Across Countries

The concept of managerial discretion, defined as latitude of managerial action, was first introduced by Hambrick and Finkelstein (1987): it helps to comprehend if and when executive managers have strategic leeway (Child 1972).

The original conceptualization indicates that three are the levels from which the extension of managerial discretion arises: the individual (e.g., political insightfulness), the organization (e.g., an idle board of directors), and the environment (e.g., industry growth). Many scholars have started to investigate the way discretion is configured at every single level (for instance, Hambrick and Abrahamson 1995; Carpenter and Golden 1997; Finkelstein and Boyd 1998). Nevertheless, until now, the conceptualization of the environmental factors that shape discretion has been mainly viewed in terms of industry features. Only in the last years, the opinion that managerial discretion may be also heavily affected by national-level elements has been taken into account (Crossland and Hambrick 2007).

As it is evident that organizational phenomena differ considerably from a country to another, the lack of research into the sources from which the discretion of executives emanates at national level is an incredible vacuum. Analyses of resemblances and differences among corporate leaders, as those by Mannari (1974), Muna (1980), and Fidler (1981), together with studies on cross-national divergences in corporate governance, the part played by government, and the effects of globalization (e.g., Aguilera and Jackson 2003; Griffiths and Zammuto 2005; Kim and Prescott 2005; Makino et al. 2004; Spencer et al. 2005), all certainly indicate that there is not cross-national uniformity in managerial discretion.

In 2007, Crossland and Hambrick published a paper in which the very first attempt to effectively analyze cross-national differences in managerial discretion was made. The two scholars discovered that US CEOs had a greater influence on corporate performance than their Japanese and German colleagues, and they claimed that the different impact was caused by cultural divergences, diverse corporate ownership models, and different types of governance that characterized every single country.

A study by Crossland and Hambrick (2011) based on their initial analysis (2007), which takes account of the new institutional theory[3] (North 1990), thoroughly examines the mechanisms that allow discretion to be shaped by formal and informal institutions.

[3] All the actors (individuals, organizations, etc.) have to accept and support with their behavior the above-mentioned social structures. A cognitively oriented perspective believes that a process of socialization encodes a certain institution into an actor. When it is absorbed and internalized, it changes into a script, that is a patterned behavior. The institution is enacted if the actor's behavior complies with the script. By this way, institutions constantly repeat themselves. The institution is externalized by its enactment, because other actors realize that it is functioning, so socialization can begin once more. Over time, sedimentation occurs as the institution itself and the consequent patterned behavior is considered as naturally established. Later, every actor may not even be aware that an institution partially controls its actions. People who share the institution rationalize behaving in compliance with it.

These outcomes could better illustrate a series of cross-national divergences in business phenomena. For instance, strategic consequences may derive from national-level managerial discretion. Companies in countries in which executives operate with a high degree of discretion may be perfectly suitable to compete in dynamic industries (e.g., software and high technology), a riskier environment in which it is fundamental to make quick decisions. On the contrary, companies that operate in low discretion countries may get brilliant results in low discretion industries, a context in which the most significant factors are balance and constant enhancement. And even a firm's competitive strategy within its own industry may be affected by national-level managerial discretion.

Nevertheless, it is necessary to stress that, although it has specific effects on strategy, the discretion of executives is not perforce something that is good or bad in itself, but it is a concept which is purely related to the extent of managerial action. Thus, no general relationship between discretion and national-level competitiveness can be found. A higher level of discretion may allow a company to outline a more heterogeneous strategy, make more rapid decisions, and innovate more quickly. If these factors are considered altogether at the national level, the country's competitiveness would probably be enhanced. Nevertheless, a higher degree of discretion may also trigger managerial negligence, arrogance, haughtiness, and the definition of radical strategies that may not be approved by shareholders. Considered altogether at the national level, these elements should undermine the economic strength of a nation.

4.4 Culture and National Learning Styles

In this work, the concept of national learning styles is the result of an effective adjustment and combination of Aoki's work (1994), regarding communication and information flows, and the studies by Di Bella et al. (1996), which were focused on learning orientation and styles. Such elaboration provides a peculiar vision of the differences that arise in the way learning processes occur, as they are shaped by national, institutional, and cultural settings and by consequent variance in organizational frameworks and comprehension of the managerial functions. Contrasts among the learning styles of Japan, Germany, the UK, and the USA are taken into account.

As argued, among others, by Aoki (1994), Japan can be considered a country based on a network economy or organized capitalism, since it is characterized by a quite high level of vertical disintegration and by intricate network connections, suppliers included. Less known is the case of Germany: here, as discussed by Porter (1990) and Lane and Bachmann (1996), despite vertical integration being much higher than in Japan, organized capitalism equally involves solid supplier networks, even if they are not so accurately interlinked. In the USA and the UK, instead, as highlighted by Lippert (1997), because supplier structures are less centralized and are relatively more competitive, capitalism is atomized. Many studies, including those by Sako (1992), Helper and Sako (1995), and Jürgens (2000), confirm these

conclusions, even if they point out differences among the various industries: they also show that in the Western countries network structures and processes are starting to reveal some typical characteristics of the Japanese model.

As argued by Nonaka and Reinmöller (1998), in Japanese networks, internal and external learning, linked to a team approach, is intensively supported. Aoki (1994) and Nonaka and Byosiere (1999) have claimed that, since the Japanese consider knowledge as a common property, they tend to facilitate free and intense flows of information across inter and intraorganizational boundaries. Despite some formal peculiarities, knowledge is generally diffused in an informal way. As a result, implicit knowledge is grasped and can be transformed into explicit, conceptual knowledge. Such learning style is similar to the idea of "communal style," term coined by DiBella et al. (1996). Nonaka and Reinmöller (1998) believe in the ambiguity of the information regarding the contribution of Japanese network to the creation of new conceptual knowledge or the presence of platforms on which different kinds of knowledge can be dynamically transformed.

In fact, distinct bodies of knowledge can be easily combined across boundaries, and this, joined with the tolerance of redundancy, can encourage conceptual learning. Nevertheless, the latter may be even arrested, when, in hierarchically structured networks, domination arises due to a powerful interdependence between big firms and smaller suppliers. However, this possible negative effect can be steadily softened: routinization and self-satisfaction can be discouraged by competition among suppliers, that increases as the customer firm decides to classify them or when lateral communication in suppliers associations occurs. At the same time, cognitive lock-in in strongly interconnected networks may be avoided, since some suppliers are stimulated to deal with numerous customers.

Imai and Itami (1984) explained what can be considered the most appropriate identification of the features of the Japanese style by associating the Japanese networks with their power in encouraging always higher innovation levels. Intense product innovation, together with the extremely positive results in the manufacturing industry, also indicates that the constant incentive of operational learning, combined with the integration of explicit knowledge into efficient systems, effectively improves operational routines, as exemplified by Toyota's perfection of the JIT process. As discussed by Sako (1992) and Helper and Sako (1995), the Japanese learning style can be well understood when examining the set of supplier networks that function on the basis of long-term implicit contracts, are strongly interconnected to the customer firms, also through solid interpersonal links, are highly interdependent and feel heavily obligated to one another.

The learning style which can be found in the USA and the UK, instead, resembles very much the type described by DiBella et al. (1996) as "rugged individualism." Such concept emphasizes personal development and is based on the idea of knowledge as private property. Therefore, creation of knowledge is internal to an organization and its diffusion is informal. When an organization is willing to acquire knowledge from an external source, network interconnections are usually loose and short term, thus proving to be more flexible and dynamic if compared to the Japanese.

As stated by Lippert (1997), network connections are not used at their full potential, since final assemblers take into account only short-term efficiency. Such characteristics are well expressed by the term "competitive network." The building of closed and solid networks is also prevented by other factors, such as antitrust legislation. This learning style is considered to be perfectly suitable to conceptual learning and innovation, but its contribution to operational learning and constant incremental improvement is not so effective. It is not fundamental that actors mutually adjust their learning orientations.

Rugged individualism is generally characterized by a higher presence of short length relations, less developed supplier networks, and more decentralized supplier structures. The network organization is typically described by loose connections, strong competition among suppliers, the prevalence of price on quality, a high level of independence for all actors, and the will to maintain short-term commitments. Although there have been some changes recently, trust within networks in the USA and the UK is considerably lower than that in Germany and Japan.

The German learning style is half way between the two previously discussed styles and can be associated to the term "techno-analytic" style, as defined by DiBella et al. (1996). It encourages both internal and external learning, but the latter is not so relevant as in the Japanese model and is limited to the relations between customer and supplier, as it concerns in particular joint product development. Mechanisms to protect the interests of individual firms strengthen from beneath the ability to be prepared for the accumulation of knowledge and the constant improvement of routines. Generally, knowledge is formally diffused, although informality may seldom arise from the rigidity of formal procedures. As argued by Jürgens (2000), in German networks information flows are more intense than in the USA and the UK, but there is a lower organizational flexibility to take in new knowledge. As pointed out by Audretsch (1995), Kern (1996), and Hirsch-Kreinsen (1997), for German firms maintaining their own independence is more important than for Japanese firms: this means that in Germany knowledge crosses boundaries not as easily as in Japan. Germans attempt to make their routines as perfect as they can and conceptual learning has never been very successful in their networks.

The network organization pertaining to the German learning style is described by long-lasting relations and a high level of mutual trust. As highlighted by Lippert (1997), such trust is especially strong between customers and suppliers of an entire system of essential components. In Germany, networks do not have the same hierarchical form as in Japan and independence within the networks is strongly safeguarded by all parties. Relations are less widespread, more formal, and less individualistic than in Japan. Legal regulations are very diffused, but only seldom have to be enforced. Instead, if a comparison has to be made between German and Anglo-American networks, the following differences can be pointed out: the former are more stable, German actors are linked to one another by a higher level of reciprocity and are able to better share risks.

However, as argued by Hirsch-Kreinsen (1997), the closer relations based on trust have impeded a wider opening to new knowledge, that is fundamental for substantial innovation.

Nevertheless, cooperative relations are not the same in every industry, and the German automotive industry, in particular, is characterized by a higher level of conflict. Although it can seem unusual, the possibilities of creating learning networks have been weakened by strong global competition, that demands constant high innovation. As pointed out by Jürgens (2000), the significant changes occurred in the German automotive industry have not contributed to collaborative learning or relational contracting. It is more common now that strong buyer firms dominate smaller suppliers, although such difference in power is not as evident as in the USA and the UK, because of the strength of German medium-sized supplier firms taken altogether and the presence of social and technical norms that regulate the relations within the industry. As highlighted by Lane and Bachmann (1997), German contract law extends risk sharing and makes it harder to take advantage of differences in power.

4.5 Cross-Cultural Values and Relational Learning

As pointed out by Griffith and Myers (2005), the breadth of the research founded on culture leads to the affirmation of the embedment of the expectations regarding culturally based norms in the relational strategies established between dyad partners. The allies create together the intercultural exchange settings and, while such exchange occurs, they are embedded within the relative national cultural factors. As highlighted by Casmir (1999), intercultural communication studies assume that a hybridization of communication protocols within the relationship is caused by the communication setting established through intercultural exchange.

Earlier studies on how multinational organizations deal with intercultural exchange have pointed out that the decisions made by managers who work for companies that run their global business through relationships with partners from different cultures may be influenced by the cultural distance that divides them (Kogut and Singh 1988). And even inequality in the levels, exchange partners are engaged in the business and are pleased with their relationships is caused by behavioral norms and work-related values, which are fundamentally shaped by cultural divergences (Markoczy 2000).

Every single exchange partner has its own peculiar mechanisms of governing relational norms, including knowledge and information transfer between allies (Zhang et al. 2003); such mechanisms vary considerably according to culturally founded expectations. As argued by Griffith and Myers (2005), for instance, managers who have short-term cultural views and work on an individualistic and small power basis believe that knowledge transfer can be a threat to the company's competitive position, as it gives the partner the possibility to take advantage of the situation for its own benefit. Managers who operate within this culture are less inclined to share knowledge at the same extent as their partners that come from cultures which are less individualistic, more long-term oriented, and maintain large power distance. Basing themselves on this study, Cheung et al. (2011) assume that the

cultural distance between dyads negatively affects the impact of relational learning on cross-national relationship performance of the single exchange partner. Performance improves when partners have similar cultural norm expectations, as the governance of knowledge exchange benefits from the coherence among the relational norms on which it is based.

On the contrary, performance is negatively influenced by cultural divergences as a consequence of the different expectations from relational learning activities.

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Chapter 5
Culture and Cooperative Strategies: Knowledge Management Perspectives

5.1 Introduction

National culture can be defined as the set of norms, values, and beliefs that people from a certain nation have in common and that describes their identity, making them different from people from other nations. Individuals who live in a particular cultural environment may behave in a way they assume is right, but others, who live in a different context, may consider their actions inconvenient or may not comprehend them. Misunderstanding what occurs in a different culture may cause uneasiness, especially when the language and the behavioral norms differ from the ones people are accustomed to. Taking the risk of disowning ideas that have always been regarded as true is not normally convenient.

Cross-fertilization processes imply venturing on a variety of cultures and organizations, testing disparate approaches, and dealing with people and concepts that seem atypical and conflicting. Because organizational learning is influenced by culture, the ability to shape and direct it may be heightened by the comprehension of the cultural differences and their effects on the settings and type of knowledge management.

A good standpoint to investigate, so that cultural blind spots in cooperative relationships are overcome, regards the way organizations begin to learn to reconsider themselves after being forced into the new field, which implied that the concept of knowledge management had to be viewed from several different perspectives.

5.2 Culture's Relevance to Cooperation

Research on organizational learning makes significant progresses in comprehending the field, by analyzing interorganizational processes of learning and knowledge management. Thus, it is not surprising that a stream of research has appeared which examines the organizational features, structural mechanisms, and contextual elements that affect cross-cultural knowledge management.

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The worldwide growth of transactions mainly explains the increasing relevance of investigating interorganizational learning. Such growth implies types of cooperation that lead organizations to confide in one another so that information and learning can be easily shared.

At the beginning, either organizational learning was considered as a result of behavior and instilled into organizational memory through rules and routines, or the way it was connected to work processes remained unclear. Later, conceptualizations of organizational learning were slowly enhanced by insights from studies on organizational culture. The role of interpretation and sense-making processes was enclosed in the theoretical models, recently determining a consciousness of the political processes that are involved in disputed learning and contrasting multiple readings.

The diverse conceptualization and modeling of the elaborate interrelation between learning and organizing processes demonstrates that learning is not a distinct activity, but it is embedded in working and organizing processes.

To understand the way the result of interorganizational learning is determined by individuals in different organizations, it is useful to adopt a multiple international relationship approach, in which cultures are strictly opposed to one another. Such individuals revise information, interact with each other, and create networks in fostering their plans. They tend to cut out different possibilities, while they protect their vision for the future, competing to justify their purposes and accomplishments.

The organizations of origin have their own peculiar culture that incorporates a common way of thinking and behaving. Members are encouraged to consider the organization they belong to as original, and often as better than others: for this reason, they tend to make conservative choices, preferring the "status quo," especially when they have to face partners they are unfamiliar with. Furthermore, if international organizations are involved, members are likely to be strongly attached to their culture of origin, and this will result in an overstatement of the cultural differences among partners, both at managerial and staff level. Advancing globalization is forcing organizations to engage in alliances and networks with partners with widely diverse national or ethnic cultural backgrounds.[1]

When a strategic alliance binds together different cultures,[2] barriers to cooperation may arise, although every partner has the chance to learn something positive

[1] An alliance is a voluntary arrangement among independent firms to exchange or share resources and engage in the co-development or provision of products, services, or technologies (Gulati 1998). Alliances take different forms, including joint ventures, collaborative R&D, and joint marketing. Traditionally, alliances had been conceived of as ad hoc arrangements serving specific needs, but more recently firms have begun to engage extensively in multiple simultaneous alliances.

[2] In the cross-border alliance literature, scholars have argued as an indication of failure owing to irresolvable problems arising from cultural differences (Barkema and Vermeulen 1997; Park and Ungson 1997). To address these gaps, the existing literature takes into account the social or cultural integration, an important issue in the realm of interorganizational attachment research (see Levinthal and Fichman 1988; Luo 2001; Seabright et al. 1992; Uzzi 1997; Zaheer et al. 1998).

from the way of thinking and behaving of his allies.[3] Nevertheless, such learning process cannot occur until barriers are eliminated.

Because of globalization, intercultural distance tends to diminish and differences start to become blended and indistinct; as differences blur, people's degree of awareness about their cultural identities grows (Friedman, 1994). In globalized organizations, employees' social reality is significantly influenced by national identity. The latter is one of many social identities a person has.

In fact, every individual possesses these cognitive and affective aspects of a social identity: the former are expressed by the knowledge of membership, while the latter represent the value and meaning of it. Nonetheless, these aspects appear within a particular social context (Citrin et al. 2001). Such context, which embodies "socio-cultural discourses, national myths, and intergroup relations," is socially built and constantly evolving (Jussim et al. 2001, p. 6). The context models and strengthens ideas regarding beliefs, values, and uniqueness of a group. On the contrary, in a specific context a person may reassess the meaning of his/her group membership or the significance of a specific identity (Nkomo and Stewart 2006; Sen 2006).

An anticooperative barrier may form when culture is made explicit by social identity that is when people identify with a group and keep their distance from the other groups. Such distance will increase if the alliance among the actors is considered a threat to their real interests. By mobilizing their national identities employees aim at making their uniqueness explicit and strengthen their awareness of belonging as strategic means to obtain specific results.

Members truly care about the interests of their organization of origin, and if they believe that harm may arise from the alliance, they tend to resist changes to habitual

[3] Assuming that conflict plays a creative role in organizational learning, the basic problem is not conflict resolution, but conversely conflict creation among team members (divergence), in order to successfully overcome it only subsequently (convergence). A similar process was analyzed by Nonaka and Takeuchi (1995), on a wider scale: the two scholars examined a multinational joint venture created between the US Caterpillar Inc. and the Japanese Mitsubishi Heavy Industries Ltd. At first, the alliance between these two companies was characterized by misunderstanding and conflict regarding divergent ways of developing products. Many issues created contrast between the USA and Japanese engineers, regarding, for instance, who had the leadership of a project, how a process had to be developed or what value had to be assigned to performance criteria (cost, quality, performance, and safety), just to mention a few. Evidently, the divergences in the two cultures and the different paths every group followed to solve a problem made it very tough to communicate over these issues. Nevertheless, rather than avoiding to take any notice or attempting to settle the conflict, the two partners highlighted each other's differences by using a series of mechanisms, such as interplant meetings and the pairing of engineers. The positive consequence was that, on the one hand, the Japanese engineers made their tacit knowledge more explicit to their US colleagues (externalization) and, on the other hand, the US engineers developed tacit knowledge regarding Japanese methods by mixing with their partners (socialization). This process was long and difficult, it caused uneasiness and led to passionate discussions, but finally both Japanese and USA approaches to product development and knowledge creation were successfully synthesized.

practice. As argued by Sathe (1985), shared culture will be a mean to convey and rationalize their preoccupation. If they aspire to a successful cooperation, partners will have to engage in an arduous task, trying to bring together and harmonize the different organizational and national cultures[4] they come from.

5.2.1 Cultures and Conflicts in Value

Barriers to cooperation produced by cultural national differences may be due to mere misunderstanding or, at a more serious level, to contrasting values.

As argued by Das and Kumar (2010), cultures oriented toward the present or the future, that believe in the importance of mastering the external environment and imagine that relationships are ruled by evil, will have to make sense *of* chaos that is a peculiar feature of the environment itself and attempt to control it; instead, cultures that believe that people are essentially good and generally build harmonic relationships will have to make sense *in* and not *of* chaos. Managers who work in the latter context will not try to control the disarray, but will tend to adapt to the situation: distinctive features of such process will be naturalness, incrementalism, and symbolism. When the interpretive schemes of alliance managers are conflicting, the cooperation itself is exposed to a high risk; in fact, even if at the beginning it may not be evident, when managers realize that the conflict is deep-rooted and they cannot solve it successfully, they may start questioning the alliance, because they can no longer count on goal congruence.

The contrasting schemes of "sense-making *of* chaos" and "sense-making *in* chaos" affect the way an alliance evolves: the former aims at reducing complexity, while the latter aims at absorbing complexity. Managers who adopt these schemes will probably not even be aware of the fact that their behavior is based on those assumptions, because they will reckon it is normal to act that way; in fact, culture is so embedded in their unconscious that they do not realize it may be leading their actions.

At first, an interpretational contradiction will arise regarding the following issues: the direction toward which the alliance is advancing and the adequacy of the efforts needed to manage the cooperation. Furthermore, managers will ask themselves if preexistent potential synergies within the alliance are properly exploited and if new potential synergies may emerge in the future for further exploitation.

Partners who adopt the scheme "sense-making *of* chaos" will believe that the alliance is not advancing well, because interruptions have not been properly managed, so top managers will assume that the efforts needed to run the alliance are too high. For the same reason, the assessment regarding the way potential synergies are exploited may also be negative (Fig. 5.1).

[4]Scholars have studied the impact of national culture on cultural value orientations (Woldu et al. 2006), the dynamics of multicultural teams (Von Glinow et al. 2004), and international negotiations (Lee et al. 2006).

	Sensemaking *of* chaos	Sensemaking *in* chaos
Key assumption 1	Predicctability is the system's operating norm	Although predictability may be desirable, it is not inevitable
Key assumption 2	Fluidity and ambiguity are the hallmarks of the operating system	Lack of predictability is the operating norm
Strategic response to chaos	Controlling or eliminating chaos through: (a) information acquisition (b) analysis/planning (c) explicit/implicit modes of control (d) closure	Managing chaos through: (a) experimentation (b) incrementalism (c) symbolism
Interpreting chaos	Chaos is "disruptive"	Chaos is "transformative"

Fig. 5.1 Interpartner sensemaking of and in chaos in cross-national alliances. *Source*: Das and Kumar 2010

Alliance partners who adopt the scheme "sense-making *in* chaos" will probably have completely different opinions. From their standpoint, interruptions will always occur and their relevance cannot be evaluated apart from the chaotic environment in which the alliance operates, so they cannot be considered an inescapable marker of how the cooperation is progressing. For the same reason, a similar conclusion can be drawn regarding the level of effort required to manage the alliance. Finally, the exploitation of potential synergies and the judgement regarding the possibility of exploiting new synergies is based on how the partners manage the disruption and respond to the emerging challenges.

5.2.2 Misunderstanding in the Process of Interpersonal Communication

In international alliances described by cross-cultural contexts, as interpersonal communication proceeds individuals' frames of reference and patterns may not fit together. Such discrepancy involves problems regarding the differences in native language and goes even further.

Misunderstanding may occur because language or behavior is not interpreted the correct way, as when a word or a phrase has a certain meaning in a language, but is not recognized in another and seem incoherent. For instance, the English phrase "*it cost me an arm and a leg*" would be probably misunderstood if heard by an Italian, because in his language the equivalent expression is completely different, so much as it involves other parts of the body (he would say: "*mi è costato un occhio della testa,*"

literally "*it cost me an eye of my head*"). At times the effect of a misinterpretation is hilarious, but it can also cause serious problems of communication.[5]

Mere literal translation may not be sufficient to express the sense of roles as understood by one of the parties involved. The most important fact is the way allies send and receive messages regarding roles. A case of "myopic communication" may cause discrepancies, when one partner encodes a message and believes the other will decode it in the same manner, while the receiver may fulfill that task in a different way, even if the sender does not realize he is doing so. In the case of Sino-British joint ventures discussed by Chi Cui et al. (2002), for example, English and Chinese terms are used to depict the contents of roles. Managers often use such terms to communicate every day. It may be asserted that the basis for transmitting the message, generally through translation, is given by the idea that managerial roles are seen as identical, but no one can assure that terms used in translation do not hide discrepancies in focal points. Because different cultures and languages may conceptually give birth to those focal points in different ways, the hidden discrepancies may lead to the maladjustment of frames of reference and this may induce dyadic partners who participate to cooperative alliances to not correctly understand and interpret the particular role definitions.

Such differences in language and culture need to be carefully managed in order to avoid tricky effects on cooperation. Nonetheless, they should not be too difficult to overcome, since they are not profound, but such goal can be achieved only if the members of cooperating organizations are able to accept behavioral discrepancies, keeping an open mind. More serious concerns may arise at a deeper level of culture, where a conflict among shared embedded values may occur; at this stage, strategic issues become crucial, as the actors outline the path the alliance should follow.

5.3 Culture, Universalism, Particularism

The effects of more profound cultural values can be described with regard to the dimensions of universalism and particularism, on the one hand, and collectivism and individualism, on the other.

[5]Moreover, cultural differences may lead to open contrast, when a peculiar way of speaking and behaving, that is considered normal by an actor, is regarded as disrespectful by another. For example, English people think it is rude to interrupt somebody while they are speaking and they politely wait before replying; in East Asian cultures it is a sign of deference to pause after someone has spoken before giving a response, in order to be respectful and think over what has been said; in Mediterranean cultures, instead, interrupting a speaker is not usually considered irreverent, on the contrary it is a way to show enthusiasm and interest. Thus, people from different nationalities may interpret the same behavior in opposite ways: raising one's voice may be considered a sign of arrogance by one or a way to stress importance on a concept by another; touching a person may be regarded as a display of presumption, on the one hand, or as a sign of friendship, on the other; avoiding eye contact may seem an expression of mistrust in one culture, or a sign of deference in another (Child et al. 1997).

In a nation characterized by universalistic values, the definition of what is good and right never changes and is easily recognizable by the community. Instead, in a nation dominated by particularistic values, the concept of relativity applies and exceptions are made, since particular circumstances have to be considered, especially when personal connections and mutual duties are involved. To underline the difference between the two points of view, Trompenaars (1993: 34) quotes a story told by the American social scientists Stouffer and Toby (1951):

> You are riding in a car driven by a close friend. He hits a pedestrian. You know he was going at least 35 miles per hour in an area of the city where the maximum allowed speed is 20 miles per hour. There are no witnesses. His lawyer says that if you testify under oath that he was only driving 20 miles per hour it may save him from serious consequences. What right has your friend to expect you to protect him?

In a universalistic culture, people will believe that it is not right to help the friend, because he committed a bad action that must be punished according to the law, and false testimony would only mean infringing the law again, with all its negative consequences; and the heavier are the offenses, the more feeble is the friend's right to await support. On the contrary, the particularistic cultural view claims that the friend is entitled to be helped, especially when the matter is grave. Trompenaars performed a survey asking the above-mentioned question and others related, such as "What do you think you would do in view of the obligations of a sworn witness and the obligation to your friend?" to 15,000 employees of various nationalities, three quarters of whom were administrative managers.

His conclusion was that the most particularistic countries were Venezuela, Nepal, South Korea, and Russia, that preceded China, while, at the top of the list, the nations to be regarded as universalistic were Australia, Canada, Denmark, and Finland, that were above the UK and the USA.

These results lead to the conclusion that when a partnership is formed between members of organizations that come from countries which are far from one another on the universalistic–particularistic scale, it will be hard to create a solid and trustworthy alliance: suspicion arises because the universalists tend to mistrust their partners, since they believe that the particularists will do everything in their power to help their friends, while the particularists draw the conclusion that their allies are not reliable because they would never help a friend in need.

The conflict between universalistic and particularistic norms can be better understood by referring to the different selection criteria adopted by the Chinese and their foreign joint-venture partners when recruiting staff. Foreign companies generally select personnel according to their qualifications and skills, in order to hire the best person for every specific post, without taking into account personal relationships and connections with managers and employees who already work for the firm. They tend to avoid favoritism that could hinder career advancement and cause disaffection among the existing staff. On the contrary, Chinese companies prefer to recruit family members, since a Chinese social norm requires mutual assistance within families and it is believed that this behavior will lead to a higher level of loyalty that will bind the employees to the firm. As evident, in this case there is a dramatic contrast between two cultures that needs to be handled with extreme care and sensitivity, if a positive solution has to be found.

In cultures dominated by individual values, people are more inclined to pursue their personal interest rather than attempting to achieve common goals. Hofstede and Trompenaars' study shows that the most industrialized nations, such as the Netherlands and most of the Anglo-Saxon countries, except Germany and Austria, are characterized by a relatively intense individualism; while the poorest countries and those influenced by the Chinese culture are almost dominated by collectivism. Japan stands in an intermediate position, but it is the most collectivist of the highly industrialized nations.

Problems may occur between cooperating firms that work on the basis of collectivistic or individualistic values. In companies founded on collectivistic principles, it is considered essential to take time before making decisions, consultation is fundamental in order to gain general acceptance, responsibilities are shared among team members, the goals to be achieved are not individual but common, staff cooperate at various levels and a system of benefits applies, which does not bring attention to the single manager or employee.

On the contrary, in companies based on individualistic principles, rapid decisions are considered vital, responsibility is individually recognized, every member of the organization expresses his own ideas and sets his personal goals, so competition for career advancement is high, as the reward system recompenses only the best. It is quite difficult to harmonize these two opposing principles when managing cooperation, but a successful effort could be very profitable for the future of the alliance, as the partners could benefit from the positive aspects of both.

5.4 Culture as a Challenge

Cooperation may assume a different form depending on the level of cultural differences between potential future partners. As pointed out by Shane (1994), when American multinational manufacturers decided to move into countries they mistrusted, they preferred direct investment to licensing: such solution was mainly due to the cultural distance and the low degree of confidence by the side of the local entrepreneurs. Shane concludes that cultural distance induces actors to choose modalities of market entry that present a higher level of control: when cultural differences between potential partners are wide, the search for legal and managerial protection is stimulated, since every ally is willing to defend its own interests. Generally, in cases of large cultural distance, the main investor or the one that provides key resources prefers to give birth to an equity partnership in which it holds the majority of shares, rather than resorting to other types of joint ventures in which managerial control is not fully in its power.

Moreover, the process of creation of a cooperation agreement between potential allies may be slowed down by the existence of a high cultural distance. Although the benefits that may arise from the future cooperation are evident to each partner, problems due to the cultural distance between them may arise, when they attempt to find a common basis to make the partnership work. Trust is essential, so cultural differences have to be overcome, in order to avoid misunderstandings and possible personal offense.

As stated by Williamson (1979), the chances that one of the partners does not behave honestly and a contract is not honored are higher if trust and mutual acceptance do not exist. In particular, if the people who represent the firms and negotiate on their behalf are not well-versed in the cultures of the two companies, overcoming their cultural differences will require a long time, because at first such differences will have to be clearly recognized, then mutual respect will have to be proved and finally ways of harmonizing the opposite points of view will have to be found, so the prospective cooperation can actually work. Furthermore, the partner who is unfamiliar with the cultural scenario in which the operation will take place has to spend more time and resources in order to discover how the local cultural norms and practices may have repercussions on its plans to turn the cooperation into a lucrative venture. For instance, it has to ask itself if its products can be promoted through the partnership and brought to the market the same way as they usually would.

Lastly, various operational problems may be triggered by cultural differences. In the worst case, they could cause an interruption in the working relations between managers and staff. When partners have different priorities and behavioral norms due to their contrasting cultures, the divergent way of regarding staff will be accentuated, and managers and employees will start to consider themselves different, as if their sense of belonging was undermined. Probably such feeling already exists in the early phase of the partnership, but it can be heightened and persist if cultural differences are wide and nothing is done to transcend them.

Strategic alliances depend on interorganizational relationships and are based on communication, so they cannot work well if high cultural barriers are present. Integration between partners may collapse if cultural distance is not narrowed and its impact on the alliance is not addressed in order to avoid clashes. Moreover, the condition for a cooperative organization to develop its own culture relies upon the necessity to first adjust and integrate partner cultures. In some cases, such accommodation may demand that those which appear as inefficiencies, on the basis of the norms of one partner, have to be accepted. For instance, in the case of a joint venture between a West European company and an East Asian one, there will be a different evaluation of performance, related to the different cultural values.

The West European company will presumably operate following universalistic, individualistic, diffuse and long-term norms, while the East Asian firm is more likely to operate on the basis of particularistic, collectivistic, specific and short-term norms. The European partner will probably believe that its ally is wasting time when making a decision, because it has to gain acceptance in compliance with the collective norms. Work organization will appear to cover up personal responsibility within the entire team. The Western firm will presumably accuse its partner to evaluate individual performance using standard particularistic criteria, which do not take into adequate account the results achieved by managers and staff.

This is true as for the East Asian ally, it is essential to consider above all the employee's devotion and loyalty to the firm, as assessed by his boss, rather than involving other more objective elements. The East Asian company is more likely to weigh personal events that may have influenced individual performance, while the West European partner would prefer to use task specific criteria to assess performance at regular intervals, without the interference of particularistic approaches.

The East Asian view focuses on holistic criteria that highlight the long-term contribution of the single employee to the firm, while Western European criteria are based on an established set of responsibilities over a well-defined extent of time. Managers of both the firms need to work together to harmonize these two contrasting approaches that are mutually viewed as suffering from notable restraints.

Operational discrepancies may also occur within the Western culture. Trompenaars (1993) gave an example by analyzing the case of an American computer manufacturer that operates in many European countries. A conflict arose between the American opinion that remuneration should be largely based on individual performance and the predominant idea in Mediterranean countries where managers desired to be more tolerant in case of personal events that influenced performance in a particular period.

5.5 Culture as a Resource

As previously discussed, significant differences between cultures, operatively expressed by different management practices, may cause problems for reciprocal understanding and cooperation, in the case of strategic alliances between firms from countries guided by contrasting principles. Though, if it is regarded from a different standpoint, culture can be viewed as a resource, because a variety of values shows prospective complementarities that may enhance the cultural strength of the allies, since they can both offer their precious contribution. If it is addressed the right way, a mix of cultures does not only trigger difficulties, but it can also bring useful advantages to those organizations that are working together. The entire alliance benefits from cultural diversity insofar as every single ally manages to avail itself of the knowledge and competencies of its partner.

Take the case of a joint venture between a West European firm and a company that operates in an emerging economy market. The former will be driven by specific and universalistic values, that are interdirected and time and goal oriented, as to provide a well-established dynamic approach to organizational management. This culture will be strategically centered on crucial targets, a long-term vision and the perseverance to be successful. From the operational point of view, culture should offer a solid basis for efficient production, good quality levels, and appealing products. Nevertheless, in emerging economies, it is probable that major importance is assigned to particularistic, collectivistic, and diffuse values, which can make cooperation successful in various ways.

Particularism can show managers the way to relate themselves to the local authorities and to representatives of important networks, possibly opening new market opportunities.

Collectivism may lead to a change in human resources management policies, stimulating the devotion and loyalty of the local staff, for example, by taking higher account of group rather than individual performance. Recognition of the value of diffuseness may be useful to increase the probabilities of making good deals in the host country. As pointed out by Boisot and Child (1996), in China, for instance, it is considered highly valuable that managers of foreign companies make their way into

local business and political networks, comprehending and respecting the prevalent diffuse way of transacting typical of that nation.

Furthermore, the development of a corporate culture would be a significant advantage for the partnership. Unless expectations are not satisfied or contrasts between the partners arise, corporate culture can certainly be considered as a strategic resource organization managers can exploit. It can encourage cohesion within an organization, since a common culture ties people together, as they tend to identify with one another. This builds up organizational strength and makes coordination and control easier. A shared set of values limits uncertainty, as the members of an organization have common reference points and ways of thinking. Thus, the employees' motivation is enhanced, as the sense of belonging and the work itself become more meaningful, thanks to the cohesive culture that binds people. This explains why it would be important for a cooperative venture to develop its own culture.

In building a corporate culture, that consists in a set of norms and behaviors adopted by a cooperative organization, both partners should study in depth the typical strengths of their own organizational and national cultures. With regard to this, two considerations can be expressed: first, the partnership can take advantage of the cumulative cultural capitals of both the allies; second, the partners need to keep adequate control over their alliance and share an identity through the achievement of common goals. Except the case of a sleeping partner that is only interested in the alliance as an investment opportunity, generally cooperative companies need to keep awake and be active: this demand is well represented and underlined by sharing a common identity and actuating constant reporting procedures. These links are fundamental to develop a corporate culture: they allow the strengths of the single cultures to combine into the alliance culture and, at the same time, they limit the risk of creating a shared identity which leads to the achievement of goals that contrast with those of the single partners.

Hence, the ideal solution, in cooperative organizations, is to take advantage of the differences between the partners' cultures, building links, and connections that create integration. The diversity of culture is advantageous because it provides an incentive to learning and makes organizational members more sensitive to the local environment, but it is obvious that such diversity has to be managed effectively in order to avoid division. Differentiation and integration need to be combined: different contrasting perspectives have to be harmonized in a common engagement to implementation. A reconciliation of the paradox of organizational differentiation and integration is demanded by the management of culture and learning within alliances, as both elements may be fundamental in determining the success of a partnership in its particular setting.

5.6 Implications for Practice

General managers are highly responsible for achieving the cultural fit within a partnership, since they hold a crucial position in managing the interalliance relations and providing common aims. When they make decisions and have to choose which policy option to adopt, they must take into account two fundamental eventualities:

the first is related to the content of the cultures that exist within the partnership. The second regards the flexibility that may be exploited to change or develop every single culture in relation to the other. The content of cultures has to be evaluated on the basis of how they differ and to what extent. People's capabilities and behavior are strictly linked to the culture they belong to, and an evaluation of the practical consequences is essential to outline the benefits and disadvantages every culture generates from the point of view of achieving the partnership's goals. This represents the basis to manage the issue of cultural selection, by deciding which elements derived from the single cultures should be maintained and integrated, and which should be rejected. The wider are the cultural differences, the more challenging is the task to achieve a cultural fit between the resources the alliance is willing to absorb. When divergence is significant, reconciliation between cultures may become really troublesome, and, in this case, general managers may prefer the dominating option, choosing to take into consideration only one culture, or they may decide for cultural segregation, even if only at the beginning of the cooperation.

Cultural divergence has to be always taken into account by managers who decide which policy to adopt within a multicultural partnership. Another relevant element is flexibility that is related to the embeddedness that binds one culture to another and describes to which extent those cultures can be modified during the process of reconciliation and integration. The problem is understanding how enduring and well-planted the partners' cultures are, and the kind of cultural web that supports them. As defined by Johnson (1990), the cultural web of an organization is made of the structures of power and authority, the set of routines and rituals, myths and symbols that express the reality to which the members of that organization are accustomed and through which its prevailing cultural paradigm is strengthened and preserved.

The important aspect to be highlighted here is that the more deep-rooted and intricate is the cultural web of an organization, the stronger will be the opposition of its members and the groups it has relations with to any attempt at modifying that culture. And if the cultural history is long-lasting, it will be more probable that it will be seen as well satisfying personal interests, so it is likely to persist and become even deeper established. This is the reason why it is fundamental within an alliance that managers who have to choose a policy option know exactly how the cultural web is spread and on what basis. A correct evaluation will show which contextual elements have to be taken into account and directed during the process of combining cultures within a partnership. For instance, some members of an organization could tend to not identify with the alliance, because they feel as if their career advancement and compensation were determined by the partner's management and not by the alliance's. This way staff is still entangled within the cultural web of the original firm, through a reward system that is no more than a control system.

It is obvious, at this point, that both partners of an alliance need to gain complete comprehension of the other's organizational and national cultures, in order to evaluate their content and manage them efficiently. Such understanding is essential to develop acceptance toward the partner's culture and will lead to the discovery of those aspects that could strengthen the alliance and need to be enhanced or those

that could, instead, weaken it and require a change of practice on the part of one of the actors. At the same time, it can be advantageous to discover those cultural aspects that are inconsistent with the alliance's objectives and the partners can focus their attention on the need to modify them. By way of example, the culture of hiring staff mainly on the basis of family ties could be mentioned. Moreover, this perspective may be quite revealing about the partner's cultural embeddedness, especially with regard to those aspects that are potentially more resilient to change.

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Chapter 6
Cultural Differences Across and Within Countries: Emerging Economies Matter

6.1 Introduction

While acknowledging the contributions of IO and RBV, international business (IB) and international management (IM) analysts have emphasized the significance of social, political, cultural, economic, and institutional differences across countries and have asserted that countries recognize the importance of giving account of the behavioral and performance fluctuations of multinational corporations (MNCs).

Institutional differences are especially important for MNEs that operate in several institutional settings. Since great part of the literature on strategic management has been developed with regard to advanced market economies, a substantial issue concerns the appropriateness of examining, for instance, the behavior of Chinese or Indian firms, on the base of comparable elements. Some scholars have claimed that, to understand business organizations, it is necessary to consider their "embeddedness" in cultural contexts, that can be quite dissimilar. Thus, the mobilization of fundamental Western constructs in Japan, India, or China may be useless. Nevertheless, business behavior in emerging economies may be heavily affected by the diffusion of "marketization," the arrival of new firms, also foreign, and the rise of competition. Researchers have recently investigated the effects of foreign entrants on local firms and, vice versa, the competition posed by local firms to foreign companies, and even the potential occurrence of spillovers and competition among local firms and among foreign entrants.

The economies of scale and scope of the industry's knowledge pool can be increased by a wider variety of foreign direct investment (FDI) country origins, since different technologies and management abilities are brought to the host country.

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As argued by Zhang and Li (2010),[1] local firms may have a more extensive scope for knowledge seeking, if they are in contact with numerous different foreign technologies and management practices, and, in this way, it is more probable that they will discover new, useful combinations of these knowledge factors and generate their own technologies and practices.

As pointed out by Hymer (1960) and Khanna et al. (2005), foreign firms may enjoy considerable advantages due to their technology and brands, but cultural differences and insufficiently developed social, economic, and political infrastructures in the host countries may undermine their strength. Moreover, as highlighted by Makino and Delios (1996) and Lu and Xu (2006), local firms may have local knowledge that foreign entrants may not have the possibility to access, or may have the chance of taking advantage of government policies and social networks which are locally embedded.

In conclusion, it can be argued that the performance of foreign firms changes not only between parent firms and between industries, but also between host countries, because of the various comparative and competitive advantages and the diverse institutional settings foreign firms have to operate in. The basic issue discussed in this study is to which extent the differences in foreign affiliate performance depend upon cultural differences across country and subcultural differences within country.

6.2 Institutions, MNEs, and Cultures

Strategic management analysts have recently given credit to the new institutional perspective when examining the significance of social and cultural influences on strategic decisions (Ingram and Silverman 2002).

A very interesting IB literature focused on culture has been developed (Leung et al. 2005). At this point, there is a fundamental question to answer: what is the kind of relationship that links cultures and institutions? Hofstede et al. (2002: 800) provide a helpful tip, when they define culture as "a substratum of institutional arrangements." In particular, culture can be considered as a part of informal institutions in the environment that "underpin formal institutions" (Redding 2005: 1988). As argued by Meyer and Rowan (1977), the organization requires the creation of institutional relations because it has to gain cultural support for its business and it needs to prove its social validity and conformity with institutional rules, norms, and regulations.

[1] From an organizational learning standpoint, Ghoshal (1987), Huber (1991), and Zhang et al. (2010) claim that two elements are fundamental for the real occurrence of FDI spillovers: *domestic firms' opportunity to learn from foreign firms* and *domestic firms' capacity to learn from foreign firms*. The local firms' *opportunity to learn* may be enhanced by the variety of FDI country origins because domestic firms are exposed to different systems of technologies, management practices, and cultural values that foreign firms from various origins bring: positive spillover effects will come as a natural consequence. Moreover, the local firms' *capacity to learn* from FDI determines the effect of the variety of FDI country origins on the productivity of local firms. If local firms manage to better assimilate the knowledge and techniques brought by foreign firms, such effect will be more intense.

Furthermore, also differences in economic growth may be caused by national differences in cultural values. As stressed by Franke et al. (1991), the economic performance of the countries that emphasize Confucian[2] dynamism and group cohesion is much better than the performance of other countries that do not follow that route. Likewise, in countries in which the degree of trust is high and solid rules of civic collaboration exist, which make business much easier to operate (Knack and Keefer 1997), firms can enhance their performance because they are able to reduce the cost of monitoring and enforcing contracts (La Porta et al. 1997). The firms' performance systematically changes across countries, since the costs of operating a business in a specific country depend upon the steadiness and efficiency of such institutions (North 1990; Westney 1993; Zaheer and Zaheer 1997; Bergara et al. 1998; Kostova and Zaheer 1999; Delios and Henisz 2000; Henisz 2000). The latter not only affect the performance of domestic firms, but have also consequences on foreign firms that do business in the host country.

Expanding firms may face several problems due to the cultural differences between the home and the host country, above all because they are unfamiliar with local norms and values.

Normative mechanism gives priority to moral beliefs and internalized obligations as the basis for social meaning and social order (Scott and Christensen 1995). In this conception, organizational behavior is guided by not only self-interest and expedience, but also an awareness of one's role in a social situation and a desire to behave appropriately in accordance with other's expectations and internalized standards of conduct (Scott 1995). According to Simon (1959), decisions are socially and culturally determined. The cultural distance between the home and host country affects the choice of foreign expansion form (Kogut and Singh 1988). A great deal of research supports that the existence of significant cultural similarities between the home and host country will result in high control entry modes and early entry (e.g., Gatignon and Anderson 1988; Kim and Hwang 1992).

In the case of significant cultural distance, MNEs may perceive high risk in entering a foreign market and feel intense pressure deriving from the need to serve markets who differ culturally from those to whom the MNE has become accustomed. Accordingly, they may prefer no entry. Alternatively, MNEs may choose to enter countries with cultures that are similar to the home market before entering countries with dissimilar cultures. See, for example, retailing sector (Vida 2000). Thus, UK retailers have favored Ireland; French retailers have favored Spain; and Japanese retailers have favored Hong Kong and Taiwan (Sternquist 2007). In these cases, retailers may choose high control modes because a high level of understanding of norms and values already exists; therefore, local partners are less necessary.

Firms should acknowledge the most significant aspects of the host country's culture, in order to avoid or at least play down the negative effects of cultural differences. Nevertheless, such knowledge is tacit and this means it cannot be easily gained (Polanyi 1966). Establishing a greenfield WOS for this reason is not a quick way to assimilate the norms, values, and habits of the host country: it is just a waste

[2] See Chap. 7.

of time, because of the too many hurdles. A much better solution is to set up a JV with a local firm (Gatignon and Anderson 1988; Kogut and Singh 1988).[3]

As argued by Fagre and Wells (1982), Lecraw (1984), and Contractor (1990), host countries can actually create an attractive climate, for example, organizing a good judicial system, or offer investment incentives, for example, lowering corporate tax, which would capture foreign investment by MNCs and would make business much easier, but they may even enforce formal rules, such as local investment regulations and ownership restrictions to prevent the foreign firms' profit opportunities by reducing their possibility to take part in local competitions and their advantageous access to local resources.

The degree foreign MNEs may own local businesses can be limited by host governments; nevertheless, a few MNEs manage to set up WOSs regardless of limitations, since they are able to effectively bargain with the local government.

Moreover, foreign activities may be damaged by variations in the structure of taxations and regulations. For instance, the assets of foreign firms could be expropriated, for the only benefit of the host government (Henisz 2000) or the latter may be requested to intervene in order to give the local firms a competitive advantage at the expense of foreign firms (Henisz and Williamson 1999). Such uncertain institutional setting is risky for foreign firms and actually makes the total ownership cost in the host country rise substantially.

When instability and unforeseeability are the dominant features of a country's political, cultural, and economic setting, MNEs are liable to lose many resources because of unpredictable occurrences, as in the event of a nationalization.

If a local governance structure is feeble, its protection function is weakened. The most common consequence is political and economic unsteadiness, which is quite

[3] The RBV and TCE provide different theoretical lenses to analyze entry strategies. They are based on different assumptions about the nature of economic actors, and therefore point to different conclusions regarding optimal firm behavior (Leiblein 2003). Yet, they complement each other in explaining mode choice and its underlying motives of cost efficiency and value creation. The unit of analysis is the firm in RBV, but the transaction in TCE. With RBV we analyze which mode of entry is most suitable to exploit and augment the existing resource base of the firm. Meyer et al. (2009) framework thus considers operations from a *firm*-level perspective, while TCE-based models require the isolation of a specific *transaction*. Joint consideration of multiple activities reflects interdependence and knowledge flows between units of the same firm. Entry modes may be chosen to enhance the knowledge base, for instance, by creating learning opportunities, rather than to optimize each transaction in isolation, an effect missed using transactions as the unit of analysis. A second difference is that Meyer et al. framework focuses on *resource augmentation* as a distinguishing criterion of entry modes, whereas TCE-based frameworks focus on *control*. Many TCE-based studies focus on integration vs. contracting out decisions, and emphasize asset specificity, opportunism, and uncertainty. Yet, evidence on the role of uncertainty in the TCE framework is inconclusive (Carter and Hodgson, 2006), while it is controversial whether opportunism is necessary to explain market failure (Kogut and Zander, 1993; Love 1995; Conner and Prahalad, 1996). Knowledge-intensive firms generally attain competitive advantages by combining different types of knowledge held at different levels of the organization (Brown and Duguid, 2001), and "communities of practice" may be essential to facilitate this sharing and combining of knowledge (Kogut and Zander, 1996). Opportunistic imitators cannot easily replicate this combination, so opportunism may be of less concern to businesses than theorists assume (Malhotra, 2003).

usual in developing or emerging economies (Hoskisson et al. 2000). Globerman and Shapiro (2003) assert that countries that are not able to reach a minimum level of effective governance will probably not obtain FDI. If they are willing to receive foreign investment, those countries have to improve their governance infrastructure. Such phenomenon is well explained by China's experience in capturing foreign investment. As mentioned by Tse et al. (1997), foreign investors were not pleased to go to China, without any laws and regulations.

In the last two decades, numerous laws and regulations have been enacted in China in order to limit the degree of risk and instability foreign firms had to face. In this way, foreign firms that invest in China feel more protected. Also, the timing of entry seems to be strongly dependent on the improved legal environment (Leung et al. 2003). Moreover, Meyer (2001) claims that it is more probable that foreign firms set up WOS in transitional economies such as Eastern Europe, as their path along institutional reform is much more developed. Thus, it is easy to infer that foreign firms will probably make their entry earlier and provide more resources, when the host country's governance infrastructure becomes more solid.

Nevertheless, if the governance structure gets stronger, but laws and regulations become more restraining, the context may be considered adverse by the foreign firm, and, consequently, entry may be differed or the provision of less resources may be regarded as preferable when making the decision to enter.

6.3 Individualism, Collectivism, and Performance

Foreign firms have to conform to various sources of institutional pressure, as they are subject both to the influences of the host country and the home country institutional settings (Rosenzweig and Singh 1991; Westney 1993; Scott 1995; Kostova and Zaheer 1999).

Two kinds of sources of institutional pressure can be detected: the first is external and consists of the demand to conform to local requirements in the host country; the second is internal and is imposed by the parent firm to support coherence (Rosenzweig and Singh 1991; Westney 1993; Kostova and Zaheer 1999). If the foreign firm conforms to external pressure by imitating local institutionalized practices, its level of legitimacy may be increased and the chance of survival may be higher. Nevertheless, imitation is not directly connected to efficiency (DiMaggio and Powell 1983). It could even negatively affect the economic results of the foreign firm's business,[4]

[4] From this viewpoint, the problem of coordinating and configuring MNCs is fundamentally solved on the base of comparative differences between countries and between the different possibilities provided by regional environments. Porter (1986, 1990), stressed the relevance of the home base of MNCs in the process of enhancing competitive advantage. Although he pointed out that global firms' competitiveness originates from their capacity to combine advantages received from their home base with those deriving from situating specific businesses in other nations and those arising from the entire global network (Porter, 1990), his diamond model indicates that the abilities of MNCs are heavily affected by the competitive and institutional conditions of the countries of origin.

by hindering the efficient transfer of the practices and routines from the parent firm to its foreign affiliates that represents the basis of the parent firms' FSA. As asserted by Anderson (2002), a firm cannot be isolated, but it exists only in connection to the others in a network environment. In this way, others' actions have an impact on the firms' decisions. Previous actions or decisions made by other firms enhance the legitimacy of similar actions and decisions. Imitation is driven by uncertainty (DiMaggio and Powell 1983). The process of imitation is encouraged by the fact that some firms tend to repeat the actions of their similar when they believe they are more legitimate or more successful than themselves, as this limits instability (Grewal and Dharwadkar 2002). Moreover, the experience of other firms and what occurs around them may be useful, as one firm's specific experience is never sufficient (Sengupta 2001).

According to strategic choice theories, imitation can be considered a strategic response to competitor activities, as late-movers benefit from the fact that first-movers have absorbed the risks and costs related to the new circumstance (Lieberman and Montgomery 1988). In the meantime, organizations within the same population that are forced to undergo the same set of contextual limitations will have the tendency to be isomorphic to each other and to their environment as they have to cope with similar conditions. As pointed out by Lu (2002), cognitive forces may be influenced by normative forces: the scholar illustrated how Japanese firms tend to adopt regular mimetic behaviors which may be connected to a normative reason, such as their collectivistic values.

Countries dominated by collectivistic values tend to be less creative, but they are very skilled at putting into practice the ideas they develop. On the contrary, countries in which individualistic principles are prevalent show a high level of creativity, but are less successful at turning their ideas into products attractive to the market, a process that requires an organized collective approach. A remarkable example is the way Japan developed some management techniques, such as total quality management (TQM), that came from the USA and were translated into the so-called "Japanese management system." If a way is found to combine the complementary strengths of the collectivistic and individualistic cultures, an effective synergy can produce positive effects; and this was the goal that many US–Japanese joint ventures intended to achieve, by taking advantage of the synergy created by the combination of the individualistic approach typical of the USA that led to new ideas and inventions and the collectivistic approach through which the Japanese managed to bring those ideas to concrete production.

In some cases, such joint ventures faced a few problems, since the Japanese were smarter than their allies at learning from the common experience. Some analysts argue that this could be due to a deceitful behavior on the part of the Japanese, but Casson (1995) gives a different explanation that deserves to be taken into account. He sustains that the cultural differences between Americans and Japanese partly clarify the discrepancies in benefit: Americans, for their marked individualism and high competitiveness, are more closed and tend to not fully trust their partners, so they learn less from cooperation, while Japanese have an open view and benefit much more from the common experience.

6.4 Social Networks and Cultures

Social networks in local business communities face a barrier constructed by the differences in cultural and social orientations between the institutional settings of the home and the host country, and this reduces the possibility of accessing to the intangible assets and know-how possessed by domestic firms and to the potential advantageous exchanges with some of these and the local authorities (Kogut 1991; Chen and Chen 1998; Ghemawat 2001; Peng and Luo 2000; Luo 2001).

In the emerging economies of Africa, Asia, and the Middle East, social networking and bonds are predominant, since strong collectivistic cultures[5] are present. In sub-Saharan Africa, strong collectivistic cultures prevail: here the lives of people and organizations are heavily influenced by the extended family and wider community. Jacobs (1965) illustrated a similar concept discussing about the solid network of personal and social relations built over the years that is the basis on which community action is carried out. African community leaders, such as local chiefs and religious authorities, play an important role in gathering resources and giving businesses the chance to access to precious information and knowledge. In Ghana, for example, two parallel political systems and authorities can be identified: (1) the traditional political systems that existed before the establishment of the modern nation state and (2) the formal political system of the modern nation state. In the latter, government officials exercise formal power and authority, while chiefs and leaders of ethnic groups, towns, and villages are the traditional political authorities in command. Their responsibilities concern the establishment of ownership and the distribution of property within the communities. They manage to build solid ties among people, through the creation and enforcement of the social norms and values that characterize their communities, including traditional religious ceremonies.

As highlighted by Ray (2003), Ghanaians not only regard themselves as citizens of the Republic of Ghana, but also as "subjects" of their traditional leaders. Therefore, people who are members of a specific ethnic group or community prove to be truly faithful to their traditional social and political system and their leaders. Evidence of the importance of the traditional political and social authority is shown by its acknowledgement in the constitution of Ghana's Fourth Republic. Traditional community leaders are intermediaries between an organization and the communities, conveying information and resources needed by the firm to operate locally.

[5] There have been few empirical studies examining the effects of social capital developed from managerial networking and social ties on a firm's activities in emerging economies. Most having concentrated on advanced economies. The exceptions are a few studies using data from Asia (e.g., Park and Luo 2001; 2000; Lee et al. 2001). Peng and Luo'sus (2000) work, which shows that managerial networking relationships and ties with top managers at other firms and government officials help improve organizational performance in China, is the most comprehensive study of the micro–macro link in an emerging economy. This is because it is the only study to examine the ties managers develop not only with top managers of other firms but also with government officials.

Precious access to information and resources is gained through the relationships constructed by the organization's managers and the community leaders who support the organization and its business and report it to their communities. In this way, the organization has the chance to receive financial resources, reach new customers, have access to new market segments or even gain technological know-how. Therefore, community leaders, by conveying precious information and resources, link organizations with their communities, and consequently to a wide marketplace. As pointed out by Kuanda and Buame (2000), thanks to the social networking and bonds built with community leaders in Ghana, entrepreneurs received valuable information concerning business opportunities, connections with financing sources and, of course, markets for their products. Hence, if the firm's managers are able to build solid social networking relationships with community leaders they will manage to exploit the advantages arising from such relationships in order to improve the firm's performance.

Local governments preserve the historical and cultural heritage of the state or province and thus foster residents' sense of belonging and identity, networks of individuals and organizations, and social capital (Putnam 1993; Evans 1996; Amin 1999; Wallis and Dollery 2002). Our second argument is that within-country regional institutions create unique opportunities and challenges for foreign affiliates that, in turn, influence their performance. These institutions affect the productivity of economic activities (Hall and Jones 1999), firm strategic choices (Peng 2003; Griffiths and Zammuto 2005), and firm profitability (Khanna and Rivkin 2001; North 1990). They also form location-specific conditions that entail the formation of routines of economic behavior (Storper 1995; Scott and Storper 2003). Such routines are developed in a path-dependent manner, are strongly culturally rooted, and are not transferable from one subnational region to another (Amin 1999; Storper 1995). Subnational regional institutions thus have a persistent influence on firm behavior and performance.

Social institutions are derived from the populace (Berger and Luckmann 1966; Giddens 1984; March and Olsen 1989; Scott 2001; Searle 1995), and the informal frameworks that determine acceptable behavior vary from region to region (Meyer and Nguyen 2005; Putnam 1993). These regional differences within a country can be attributed to distinct local traditions and the cultural values shared by the members of the locality (Cooke et al. 1997; Tung 2008). As these local traditions and cultural values differentiate one institution from another, regional social institutions influence interpersonal trust (Johnston and Soroka 2001; Tung et al. 2008), work values (Kanungo and Bhatnagar 1978), attitudes toward work (Tung et al. 2008), political trust (Johnston and Soroka 2001), and social capital (Putnam 1993), all of which, in turn, affect the cost of engaging in business activities. For example, differences in social capital across subnational regions have been found to affect the performance of local governments (Putnam 1993). Differences in the level of trust and reciprocity among firms in these different regions have also been found to explain differences in economic performance (Locke 1995), because trust enables people to produce socially efficient outcomes and avoid falling into inefficient, noncooperative traps (Coleman 1990; Fukuyama 1995).

In sum, economic, political, and social institutions vary across regions within host countries. Such differences in subnational institutions create opportunities and challenges for foreign affiliates and thus affect their performance.

The subnational regions in emerging economies also tend to be more culturally and ethnically diverse than those in advanced economies. For example, China has more than 50 officially recognized ethnic minorities, and Russia comprises more than 80 federal subjects (regions, republics, and cities). India has at least ten major languages and numerous minor ones and vast regional cultural differences (Prahalad and Lieberthal 1998).

Fearon (2003) finds the degree of both ethnic diversity (ethnic fractionalization) and cultural diversity (cultural fractionalization) to be lowest in Western countries (including Western Europe, the USA and Canada, and Australia and New Zealand), followed by Eastern Europe/the former Soviet Union, Asia (excluding Japan), Latin America/the Caribbean, North Africa/the Middle East, and the sub-Saharan African countries. An understanding of cultural, ethnic, and social diversity is also of particular importance to the successful operation of MNCs in emerging economies.

Prahalad and Lieberthal (1998) argue that the consumer base in these economies is far more diversified than that in advanced economies in terms of size, income structure, and cultural background, which suggests that MNCs should rethink every element of their business models when doing business in such economies. London and Hart (2004) also emphasize within-country differences in social relations in the business environments of emerging economies, noting that the successful MNCs in these economies tend to have strong capability in social embeddedness—the ability to "create competitive advantage based on a deep understanding of and integration with the local environment" (London and Hart 2004: 15). Furthermore, Luo and Park (2001) find that MNCs whose strategies are appropriately aligned with distinct local environments are more likely to achieve superior performance in emerging economies, such as China. More recently, Lin et al. (2009) find that network and learning effects on foreign firms' M&A activities significantly vary between China and the USA due to the difference in the level of institutional development.

An important dimension of competition in China is the geographic market. China is a collection of regional markets with enormous differences in income levels, consumer tastes, and subcultures. Roughly speaking, each Chinese province is a regional market; over time, China developed a system of de facto "federalism" and regional decentralization at the provincial level (Jin et al. 2005). Differences in governmental policies between provinces effectively segmented regional markets (Vanhonacker 1997). The operations of multinational firms in China have been bound by these regional boundaries (Prahalad and Lieberthal 1998).

6.5 Learning in Global Networks

Amsden (1989) was the first scholar to recognize that the most significant strategy a latecomer firm can use to reach technological leaders is corporate learning by imitation. She analyzed in general the situation in recently industrialized East Asian countries, such as Taiwan, Singapore, and Hong Kong, and she investigated in detail

the situation in South Korea: she concluded that innovation is not a distinctive feature of a learner and the ability to produce and innovate is acquired on the basis of imported technology, quality refinement of already manufactured products, increasing productivity, and low salaries.

Amsden's point of view is absorbed by Hobday's (1995) "East Asian innovation approach." Thoroughly investigating what had occurred in the above-mentioned countries, Hobday realized that latecomer firms gain continuous experience day-by-day and they internalize knowledge by collaborating with one another, so they constantly manage to improve their products and their production processes. In fact, latecomer firms are able to catch up with their competitors, not by bringing new products and processes to the market, but by learning to imitate and innovate: in other words, they learn to manufacture products that have already reached the standardization stage. Thus, the consolidated Western model of product life cycle is dismissed, as in the case under discussion innovation does not consist in introducing a product or process that is new to the marketplace, but is new to the latecomer firm. From this viewpoint, it can be sustained that the innovation itself is represented by the continuous improvement of products and processes. Hobday thought that imitation and innovation cannot be separated, but creativity is necessary both for learning to imitate and consequently to innovate.

Hobday argued that, as it is true for individual learning, it is also difficult to examine corporate learning, because it is usually a qualitative and informal process, the results of which are not certain. The researcher indicated how technological learning can be made easier by institutional channels, such as all the kinds of connections among firms, and determinants, especially the part played by the state. The institutional channels comprise joint ventures, local subsidiaries entirely owned by foreign firms, subcontracting, licensing, and other types of partnership.

Hobday pointed out that a joint-venture partner or a local subsidiary totally in foreign hands learns to organize a production routine, by understanding how to use the imported equipment. Furthermore, when dealing with other actors in relation to licensing and subcontracting, it learns to purchase material and develop full production abilities. The local firm internalizes knowledge and skills when it manages to autonomously design production.

As argued by Amsden (1989), Lall (1992), and Hobday (1995), the state can be considered a crucial factor that accelerates technological learning of latecomer firms. The authors claim that individual firms are often discouraged from gaining technological knowledge because of the associated risks and costs: in fact, the construction of technological skills has to come along with the development of new abilities, new forms of organization, and connections among firms. For this reason, state intervention is required to balance out costs and risks related to the acquisition of knowledge. In Singapore, Hong Kong, and Taiwan, for example, the local governments have facilitated corporate learning, through a series of specific regulations, financing research and development in crucial industries, training human resources, and disseminating production and marketing knowledge.

6.6 Cross-Fertilization of Fields

Learning does not consist in mere information processing or passive behavioral adjustment, but it is an active and social process. Both in global and local networks, firms continuously interact with one another and with their customers and are variously interconnected with their foreign partners. Firms begin to operate by simply assembling the tools they have imported and verifying the equipment. During the production process the firms acquire technological knowledge, improve their production abilities, and develop organizing routine. From the Chinese experience, it can deduced that, at first, informal procedures prevail in the local networks, so manufacturers can explore the situation, limiting the use of information technology to store and disseminate production and organizational knowledge, although information acquisition and diffusion processes are not precluded. In fact, if a firm avails itself of foreign technology, information regarding licensing and the use of operational manuals has to be acquired. And also if a local firm is willing to open a branch in a country nearby, it needs information about the way foreign investments are regulated, and the labor and taxation systems, just to mention a few elements. As a matter of fact, the expertise required by Chinese firms to be successful in global and local networks is made of many other factors: most of it is determined by the interaction with business people and local government officials, besides the acquisition of concrete technology. For this reason, the information-processing approach is insufficient to fully understand the learning processes in Chinese firms which operate in Taiwan, Singapore, and Hong Kong. Such approach has both strong and feeble elements. Order is one of its positive characteristics, as it makes the social learning process more compact, distinguishing it in a series of discrete processes and does not take into account the superimposition of processes and the possibility of feedback loops between them. The approach under discussion is useful to the extent it expresses the learning of abstract and formalized knowledge. It can also be helpful when indications have to be given for creating the information infrastructure within a firm, although this strengthening alone cannot be sufficient to improve learning, because, according to Weick (1979), structure and process are not rigidly connected.

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Chapter 7
The Management of Cultural Pluralism to Address the Challenges of the Emerging Markets: Entrepreneurial Experiences in China

7.1 Introduction

As previously discussed, differences in leading principles accepted by members of distinct societies are likely to produce significant behavioral variances. This conclusion has induced many scholars to examine whether some particular management practices have become typical of various countries as a consequence of their cultural differences or as a result of their specific political and economic systems. The inter-organizational knowledge transfer process asserts that a considerable divergence in cultural aspects of management between developing countries and emerging economies may be expected: this gap may cause a high and serious level of complexity facing a company, which seeks to invest in an emerging economy.

A major barrier to learning between the home and host country stems from the threat that the expanding activities, and the way in which they are being implemented, poses to indigenous cultural identities.

In the unsettling conditions of radical organizational change, and with expatriate managers often being perceived as arrogant and controlling, the knowledge transfer that actually takes place amounts to reluctant compliance rather than acceptance and the achievement of complementarity.

The unfamiliarity of most emerging-economy environments to the managers of international investment companies indicates a need to keep both their minds and the channels of communication with local actors (government, firms, population, etc.) open, each of these is vital if they are to learn about those contexts.

7.2 Culture and Human Behavior as a Sign of Diversity

In an analysis of the changes that the Chinese market is going through and the speed with which these are happening is essential to stress how the historical-cultural Chinese question influences the behavior of the population and, in particular, the way of interaction with westerners in the business setting. Seeing the concepts of diversity

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in terms of traditions and of life experiences of the person, at the basis of the psychological mechanisms of social dynamics, becomes an asset of primary importance for anyone operating in complex international settings, so they may know the behavior to adopt and what to expect on the basis of the "comparison" of mental schemes and cultural heritage of human resources for the purposes of business management.

Western businesses which have had the greatest success transferring their activity are those which have been able to favor a totally flexible labor market which has incentives to invest in human capital in order to build an active social environment and create a sense of belonging. Such examples of cross-cultural performance are of primary importance.

For a western business, which takes the cross-cultural management approach the first problem that emerges in their relationships with the Chinese human resources is of a behavioral type. This problem is mainly due to the Chinese education system of the last few decades: even today much of the formation at a local level is still controlled by the state bureaucracy and is based on purely mechanical and repetitive principles. The system certainly does not encourage independent thought, nor does it give any incentives to resolving problems through individual initiative. On the contrary, it leads people to follow precise rules and, when these are not applicable, to stop and wait for another person to give them further instructions regarding what to do.

The management of human resources in the light of greater cultural sensitivity brings about an alignment of Chinese thought and philosophy (justifying the bureaucracy) with the western ideas of dynamism and initiative and with the idea that committing oneself is a necessary condition for increasing your own well-being and social standing.

We may specifically identify the relationship with responsibility as the first great obstacle to management. In fact, unlike their western colleagues the Chinese personnel has a much stronger concept of responsibility and in some cases it may appear "dramatic." Even the smallest responsibility is avoided for fear of failure and the consequent loss of face. On the contrary, the western counterpart tries to take on the maximum responsibility in order to show his own ability.

It is clear, therefore, that the ability of western managers to transfer responsibility to their own Chinese colleagues, while avoiding that the latter make a bad impression and thereby lose face within their own social group (in this case with their colleagues), is the winning approach for overcoming the problem and sets the basis for a profitable work relationship. It is important to understand that the low propensity toward taking on responsibility does not derive only from opportunist motivation or from a lack of interest either in the work or in the company. The phenomenon, in fact, has social origins.

Chinese culture identifies the fundamental elements for the life of the individual in society and in its structures. The single person is recognized as part of his social group and every aspect of daily life makes sense when it is in relation to the group. The main social structure is the family, in the form of an extended clan, and it is from here that the main decisions of all its members start. Other structures with the same characteristics, and therefore able to satisfy the needs for interaction of the single members, are created besides the family. These structures may vary greatly, the party is an example, and have the common characteristic of creating a very

strong link with the single members who recognize, in the group, a social structure of which they are proud and to which acts as a reference point.

On the other hand, not recognizing businesses, mainly foreign ones, as social structures, the single worker does not manage to develop a marked sense of belonging toward a business and toward all its members. For success in involving all the types of employees (workers, managers, agents, etc.) as much as possible it is necessary to set up a very shrewd style of management. Every group has different needs to be understood, but the basic principles are very similar for all of them: the people need to be involved at an emotional level which goes beyond simple duties, with their relative roles and responsibilities, by promoting activities of extended team building and trying to have both the workers and their respective families (following the idea of extended clan) participate.

7.3 The Basis of Cultural Compromise: Relationship Mechanisms and Acquaintanceship Processes

Cultural sensitivity, in the sense of knowing the country, the language, the traditions, and the market rules is an indispensible need for the top managers of western multinationals of the 2000s. At the same time understanding how to present oneself and conduct relations with one's own work team, both with one's own human resources and with suppliers and clients, is one of today's most difficult and important challenges.

As a background to basic managerial ability, a notable ability for interrelations allows top management to move adroitly and to understand the mechanisms of the Guangxi and of Chinese politics.

For centuries, the "Guangxi," or acquaintance networks, have been the main business instrument for Chinese entrepreneurs. This practice is very complex and has several levels of influence in the minds of individuals, according to the geographical region, age, position held, and social extraction.

Simplifying the question, one may imagine that around every person there is a network of acquaintances (personal) to whom he may turn both for business and for any other question (and all those who are part of the network may do the same with him). If an individual needs to deal with other people outside his Guangxi, the only way available is to find out whether the person in question is connected to one of his acquaintances. If this is so, then he may obtain an introduction from the common acquaintance and become a part of the circle of "friends" of the person he needs to deal with.

This behavior may be defined as indirect social access, and is valid both for first level contacts (i.e., from one network to another) and for contacts at less direct levels (from one network to another, passing through other intermediate networks).

It is understandable that, through these mechanisms, businessmen may theoretically have access to any person whatsoever and therefore to any resource whatsoever in China and in the rest of the world (spread all over the world through the Chinese community).

However, it is often the case that Chinese counterparts are not able to act on the territory as they would wish or they do not manage to access high enough acquaintance

networks to obtain specific concessions. When this is so, admitting to being unable to access certain information becomes a moment of great social embarrassment, because it is as if they are admitting to belonging to an inadequate social level.

In particular, interpreting environmental and institutional stimuli through Chinese parameters, and not western ones, favors the development of an ability which, in today's China, can certainly make the difference: an ability to understand power games and try to use them to your own advantage (or to counter them with the right means).

Considerations on Guangxi give us several reasons for reflection on the culture of Chinese business and on how to interact with it. Lessons like never doubting the gerarchic role of a counterpart, never doubting his Guangxi or like not giving merit to an individual if he is part of a group, are relevant to all the problems relating to cross-cultural knowledge management.

7.4 Comparing Management and Culture

On the basis of positions of top management in China, the position of foreign managers is particularly delicate. These managers often have the difficult task of representing the point of contact between the management of the business in its home country and the economic activity carried out in China.

The tasks that these managers find themselves facing are often complex, in that they may range from setting up the business under Chinese law, finding premises for offices, recruiting personnel, creating the sales network for products, etc. In many cases, the success of investments in China is due to the ability of an expatriate, to his ability to frame the business and to understand/respect Chinese culture, to interact with his personnel and with the business in the country of origin. Therefore, the strategic value of this type of manager is very high. Normally, the positions they cover are those of top managers (General Manager, CEO, etc,), or they have covered them over the years and shall probably cover them again in the future.

The China of the 2000s requires a manager more aware of the Chinese culture and language than able in his specific role. The cultural variable takes on a critical relevance for expatriate personnel in China, for people who, on the one hand cover positions of responsibility and on the other have an ability with local problems and in adapting to the Chinese approach to understanding questions and resolving problems.

The importance of the question of personal cultural adjustment is proved by the consideration that many expatriates terminate their assignments early. Expatriate managers end their assignments early because they are not able to fit in with the foreign environment and their performance is insufficient, while those who do not leave continue to operate at a low level of effectiveness. Although these results do not comprise only expatriates who manage multinational strategic alliances, but also those who work in branches and subsidiaries, they obviously show the importance of personal cultural adjustment, a matter that cannot be ignored within a partnership. Moreover, the costs of expatriate failure are high, without considering the fact that a dissatisfied manager, who is not working well, will probably cause problems when he relates to his foreign colleagues.

Expatriate managers represent a very high cost for a business both in monetary terms and in terms regarding the cultural compatibility with the country. Supposing that businesses require at least the presence of a "coordinating" manager there are alternatives to the employment of foreign personnel which in the last few years have been more and more successful.

The solution to the issue of personal cultural adjustment may be facilitated by resorting to specific measures.

First, selecting people who have already gained experience in international settings, coming from other foreign businesses, also of Chinese nationality. This is opting for a very efficient category of manager, even though it is often much more expensive than may be imagined. In this category there are also all Chinese emigrants, in different Asian countries where there are well established and active presence of Chinese origin populations, who are returning or who wish to return. These managers have some interesting strong points: they speak Chinese (as well as other Asian languages and English), compared to western culture their culture is much more similar to the Chinese one, and it is more natural for them to integrate at a local level.

Second, training managers before they are sent to work in contexts they are not familiar with, should make personal adjustment to the new assignment much easier, as they build up realistic expectations. The training mechanisms and placement in the local settings are aimed at producing an additional value for the managers who become able to interface with Asian countries and with settings which have a high level of cultural complexity.

Nevertheless, the effectiveness of these measures mainly relies on whether the experience was positive or not. For instance, there are two cultural adjustments that do not represent a valid experience. The first occurs when, in order to adjust to the local culture, an expatriate holds back from getting involved with the local community: this is the case of many expatriates in China who do not suffer from cultural shock because they keep away from their Chinese colleagues; but this practice proves to be very narrow-minded and does not help to construct a solid collaborative relationship. The second is accomplished by denigrating the other culture and firmly demanding that everything is done as the expatriate's cultural norms require. The process of staff selection is fundamental for an effective cultural adjustment: an organization must hire people who are flexible and open-minded and, among those who have already had previous experiences in international contexts, it must choose the ones who have proved to have a strong positive approach.

To be effective training has to be realistic and always up-to-date; in addition, trainees have to be taught to speak Chinese fluently. If training is inadequate, it may create false expectations or an excessive feeling of confidence that could hinder or prevent the process of cultural adjustment. For this reason, it is preferable that the trainer is a Chinese native and lives there or has constant contact with the local environment. For cooperation to work effectively and for a person to better fit within the context, communication skills are of fundamental importance: thus, language proficiency is essential and should be searched for among the candidates or developed during the training course.

Training has to be intense and wide-ranging, involving culture, environment, and language, so it requires time and is expensive. That is why some companies often prefer to skip training or reduce it, by choosing people who are culturally and linguistically

akin to the people who work for their foreign partner. This is the case of US companies that have started-up joint ventures with Chinese firms and prefer to appoint Chinese-Americans as top managers. Moreover, at the initial stage of a partnership, the partner who technology and managerial expertise may send a team of expatriates to the host country for a short length of time, together with colleagues who are accustomed to the local culture and speak the local language. The aim is to put things into motion as soon as possible and then return home. In doing so, team members are somehow kept safe from culture shock and are only moderately exposed to the issues related to cultural adjustment. Only large and robust companies can adopt such approach, because its implementation requires tact and has to be well explained to the partner, otherwise it could be considered as offensive and cause a loss of trust.

In the last few years, the MNEs have tried to create stronger and stronger links and structures in the territory, stimulating the demand for competent local human resources trained to the needs of the business and who have acquired a flexible and advanced executive education in the prestigious international business schools.

These business people face the problem of personal cultural adjustment. The greatest difficulty they have to confront is handling the cultural duality originating from the enormous amount of information they absorb during the preparatory training for managing intercultural business outside their country of origin. From this standpoint, it can be well understood why, for instance, Chinese entrepreneurs send their children, unaccompanied, to the USA to acquire an education, even when they are very young; or why they prefer their heirs to specialize abroad and get an MBA at a western university, in order to give them the opportunity to learn all the managerial know-how required by their expanding firms, so they can put it into practice when they succeed to their fathers. Such experience may hinder the process of succession or even impede it, because of the cultural differences between the father and the unaccompanied child, created by the western education. Effective successions within Chinese family firms may occur only if the designated successor manages to preserve his own cultural identity, while he acquires competencies with another culture, thereby becoming bi-culturally qualified.

7.5 Following Distinctive Paths of Intercultural Communication

Effective communication is fundamental to successfully address a cooperative strategy. This involves communication between partners, among the staff that works for the company and between the latter and the parent company's headquarters.

7.5.1 The Role of Communication Between Partners

Every time communication is undertaken, cultural limits internal to the organization or even national cultural boundaries are crossed. When cultural differences are wide, it is more probable that misunderstandings will take place, because of the creation of barriers to communication.

A crucial element to ensure an adequate intercultural communication is the intercultural "boundary-spanner." The term was used to describe the success of a Chinese-American partnership, the Nantong Cellulose Fibers Company (NCFC), that was mainly due to clever boundary spanning. According to Newman, such process builds a bridge that links two different organizations or people from different cultures. He calls boundary-spanners those who are responsible for setting-up the bridge; these people have to be skilful and talented, they need to be empathetically involved in comprehending, explaining and interpreting the habits, values and resources that characterize people and organizations on both sides, they have to figure out, unfold, and analyze the technical problems that arise in a relationship, addressing their findings to people on both sides of the boundary. It is rare to find an individual who can be considered a successful boundary-spanner in foreign partnerships, because such a person will commonly need to be assisted by somebody who has full knowledge of the local culture and language. Returning to the above-mentioned case of the NCFC, the active boundary-spanner was a woman who spoke both English and Chinese and had a complete knowledge of both cultures, as she was born from American parents, but had been brought up in China. She also had 10 years working experience on the field and was very much into Chinese business practices. For this reason, the US partner gained excellent understanding of the Chinese culture and their way of working, and also the Chinese partner was content as it fully trusted the adviser it dealt with. The role played by boundary-spanners in facilitating the creation and growth of intercultural partnerships is fundamental, either as external mediators or as internal top managers.

To ensure an adequate intercultural communication, managers on both sides have to realize the reasons underlying the unfamiliar actions of their foreign colleagues. From this standpoint, the importance of boundary-spanners, expert managers, and substantial preparatory training can be clearly understood. These factors cannot solve significant conflicts of interest or enhance a weak strategic fit, but can be important to fulfill the potential of a valuable intercultural strategic alliance.

Just as delicate is the information flow toward clients and suppliers. Unlike in the USA and in Europe, there the tendency is for businesses to have the greatest amount of impartial information about all the actors in their own market, in China, perhaps because of the long period it was closed to the outside, perhaps because of the size of the country, perhaps because of the geographical fragmentation of most of its businesses, this does not happen. For a client or a supplier to find a business interesting, in particular one with foreign capital, it is necessary that this business presents itself and explains the advantages of doing business together with its Chinese partners, creating that minimum of intimacy necessary for doing business in China.

7.5.2 The Role of Communication Between Management and Chinese Personnel Working in the MNEs

For a complete analysis of the flows in intercultural communications, it is interesting to evaluate communication inside the business studying the capacity of managers to communicate with their own personnel. For many reasons, it is necessary that

the information moving between the management and the rest of the group is clear, unambiguous, and detailed. Above all, the low level of preparation of the Chinese personnel means always giving precise and exact instructions, so as to avoid incomprehension or cases of paralysis because of insufficient information. It is in the Chinese culture to "receive" information without interacting and asking for possible clarifications; this is also true for the employees of foreign businesses in China. If the information given is not exhaustive, either the personnel do not act or they act following their own, often inadequate, standards.

To avoid losing control and risking delegitimation managers have to constantly send signals of impartiality and discipline. Impartiality is necessary to maintain very clear hierarchy within the work group. For the workplace hierarchy to become part of the social structure of the Chinese workers, managers must use the Guangxi to keep the group united but at the same time cannot allow its subordinates take strategic decisions only on the basis of their network of acquaintances (choosing suppliers, clients, personnel, etc.). It is essential to create the right balance between the typical relationship structure of the local management and the economic logic of the multinational for which the Chinese human resources are working.

7.5.3 The Role of Communication Between the Organization and the Parent Company's Offices

The final level of communication is that between the business in China and the headquarters in the country of origin.

This strategic level of communication regards a fundamental aspect of the management of an economic activity abroad: the flow of information toward the top management in another country.

The very high dynamism of the country and the different costs which are not condensed centrally (in particular, cultural costs, possible benefits for your own clients/suppliers, various public relations expenses, etc.) make financial planning full of conflicts. Therefore, it is important that foreign managers constantly transmit detailed and complete information back home, so as to make clear the complexity of the country to planners and to constantly update predictions on the activity of the business in China.

If we consider that often the reports and the communications on the part of the general manager in China represent the only information channel considered reliable by those who manage the business at home, it is easy to understand how essential it is that this information, on leaving China, is filtered and tailored so that it may be rationally evaluated. It is important that the management in China provides an adequate flow of information and is able to select the problems and the questions to bring to the attention of the central management so as to simplify the times of the analysts.

In fact, consolidated cultural and behavioral questions must often be managed in a pragmatic way without being directly reported to the central headquarters; therefore, it is the task of the manager to choose the critical points of the information to pass on.

Appendix A. Western Companies and Emerging Markets: Cross-Cultural Management Practices

Motorola was founded in 1930, the earliest production of the car radio and sound, and later developed into wireless communications, space communications. The "Fortune" magazine included Motorola between 500 global firm with the amount of 29.398 billion US dollars revenue, profit 962 million US dollars, the amount of assets 28.728 billion US dollars.

The main reason of success of Motorola is its corporate culture: to provide users with superior quality, reasonable price products and services to meet the needs of the community; enterprises are to reap the benefits of this process, and continuously develop and grow, so as to provide the employees and shareholders the opportunity to achieve their legitimate objectives.

To benefit the global positioning of the cultural strategy Motorola's corporate values are respect for every employee as an individual human dignity, openness, so that each employee directly involved in the dialogue, so that they have the opportunity to share common goals with the company to play out their maximum potential; so that each employee being subjected to training and access to development opportunities, ensure that the company has the most competent, most pay attention to the efficiency of the workforce; respect for the senior staff of the labor; to wages, benefits, material encouragement of employees to make a corresponding return of labor; competency-based; implement the universally recognized—providing equal development opportunities to staff policy.

Motorola, the values of these companies for each employee to create a healthy and positive culture. Motorola to humanism as a starting point of the world's cultural strategy, Motorola, as multinational corporations face of the diverse culture, develop their strategies in their culture is neither stubborn nor blindly follow his country's culture, the company has always maintained that a diversified is a positive tool to business ethics opinion applies to international business management, the key is to properly deal with cultural diversity. This capability can be acquired through training and become a part of corporate culture.

For multinational operations, the right understanding of local culture and a different result, there will be a huge difference, outside the field are familiar with culture, to promote personal growth and, more broadly, to learn different ways to deal with the problem, learn more outside the domain of cultural respect. Establishment of a genuine multinational, in which each national culture where multinational companies are likely to solve international problems, their opinions and contributions, and this organization is possible, have the ability to absorb the essence of each culture.

For instance, in China, Motorola constantly encouraged the career advancement of its business executives, and investments in the country were made on the basis of four major strategies, proving a profound understanding of both Chinese and Western cultures:

1. To increase the scale of investment in China, even before the year 2000 to reach more than 25 billion US dollars.

2. Localization of the full realization of personnel, including senior managers, but also to the use of Chinese workers.
3. To speed up the local procurement, the procurement before the year 2000 to more than one billion US dollars.
4. To expand joint ventures, domestic enterprises promote common development of enterprises, including the Midwest.

Motorola's investment in China's seven joint ventures and set up a production base in Tianjin are the introduction of Motorola's advanced technology and first-class products. In China, Motorola implemented a series of technical cooperation projects in which cross-cultural exchange and the integration of enterprise development played an important role in allowing cross-border cooperation to gain momentum, ensuring a dynamic and bright future.

The company employees create a good environment, material culture, and institutional cultural environment. Motorola provides 80 h of paid leave to staffs each year to ensure the physical and mental health and good working condition. The company, through the Employee Assistance Program to employees and their family members, provides mental health counseling and organizes health education. Motorola employees enjoy the host government by providing all medical, pension, and unemployment protection. Furthermore, this company in cooperation with Tsinghua University establishes a "Motorola Manufacturing Research Center, Beijing Asia." This center is Motorola's first one outside the US manufacturing technology Research laboratories.

Intel is a leader in innovative technologies that change the way people live and work. Their every success is due to the efforts of their global, diverse workforce. They are committed to investing in their employees and celebrating the myriad of cultures, lifestyles, experiences, and ideas they have to offer.

The concept of diversity is present in their vision like: "At Intel, diversity is a way of life. It's the way they do business; it's the key to their success as an innovative leader in technology."

The diversity of their employees is the ingredient for success that sets Intel apart. Their employees are located all over the world and represent a variety of different backgrounds, yet each person has one thing in common, a commitment to creating market-driving products and technology designed to make a difference. The perspectives, abilities and experiences of their workforce are key to the success of their company and fundamental to their role as a technology leader. Through their innovative

thoughts and actions, their employees, based in over 40 countries, have proven that it is possible to impact and change the way that people live and work around the world.

Company's Intel was built on great ideas and core values, including discipline, quality, and risk taking. They honor, value, and celebrate the unique viewpoints of their employees, communities, customers, suppliers, and other partners in the global marketplace. They are committed to creating a work environment that is stimulating and inspirational.

The company's dedication to diversity is evident in its hiring practices: between 1989 and 1998, Intel almost doubled its hiring of women and under-represented minorities in technical fields. It recently pledged to spend at least $1 million per year over the next decade on programs such as scholarships, job training, and internships to bring more women, minorities, and the disabled into the workplace.

Their employees are as diverse as our customers, vendors, and colleagues in the global market. This worldwide perspective helps us anticipate, and provide for, the growing needs of a changing marketplace. Here are a few examples: the collaboration of Intel teams halfway across the world from each other was key to the development of Intel® Centrino® processor technology.

The leaders of their Technology and Manufacturing Group use diversity to broaden team perspective on projects.

Through training, intercultural initiatives, and employee groups, Intel is creating stronger bonds between employees, helping them celebrate their diverse cultures, and giving them the resources they need to develop and achieve their personal goals.

Source: http://www.intel.com

ERICSSON

Ericsson was founded by Lars Magnus Ericsson in 1876 and has today grown to having 78,000 employees and customers in over 175 countries. The company's main business is telecom network equipment and related services, where it is the world's largest provider. Contracts with most telecom operators mean that Ericsson today serve more than 40% of all mobile users. Ericsson also manages operator-owned networks, serving 250 million subscribers around the world.

Ericsson is a world-leading provider of telecommunications equipment and related services to mobile and fixed network operators globally. Over 1,000 networks in 140 countries utilize Ericsson's network equipment and 40% of all mobile calls are made through our systems. Ericsson is one of the few companies worldwide that can offer end-to-end solutions for all major mobile communication standards.

India represents a very important country on the Ericsson map. Ericsson has been associated with the Indian telecommunications industry for almost a century. At Ericsson there is a view upon diversity that all culture has their sides. It is more up to the individuals working in Ericsson to use their common sense and be more patient when working abroad. The managers should assume difference when working abroad and thereby not being surprised when differences occur. Ericsson has not had any problems due to diversity in their working places.

The fact that the majority of Indian citizens understand and speak English makes India a more attractive country to enter. Ericsson sees this fact as one of India's strengths as a market compared with the Chinese market. English is the language that holds the country together, it is the only language that all Indians can use and understand each other.

Ericsson does not have any communication problems due to difference in languages, Swedish and English. The large difficulty that Ericsson has encountered related to communication misunderstandings is the fact the Indian employees has problems with leaving a negative answer to a question that a manager asks. When an Indian employee is asked to perform a task he will avoid a negative response to the manager even though he knows that he will not be able to finish the task in the given time frame, it shows weakness. This is the major problem that Ericsson has encountered when dealing with communication problems.

Managers at Ericsson must be clear and specific in their communication with Indian employees concerning time and task assignment to avoid misunderstandings.

At Ericsson, throughout the entire working process, there is a risk for misunderstandings in communication. The philosophy of European companies when dealing with processes there is a straight line from point A to point B and all obstacles that you encounter you try to solve as efficient as possible. In India, it is different, when they face a problem they can be stuck there for weeks before someone makes a decision and the process can continue. This is a problem encountered by Ericsson that the misunderstandings can occur anywhere in the working process. The time perspective is quite different when dealing with Indian culture and Swedish culture.

Ericsson has noticed that their Indian employees are not as addicted to deadlines as their Swedish counterparts. It is not unusual that it can take up to a week longer than planed for an Indian employee when performing an assignment.

The leadership style in India is hierarchical and employees in India have great respect for their leaders and managers. It is not considered polite to confront a leader or argue against him. On the other hand, at Ericsson, there is a more consensus leadership style, or so to say a "Swedish management style." There is a respect toward your managers but you are not afraid to confront him or argue with him.

Ericsson has not encountered any major difficulties dealing with this, and there is some adaptation of the leadership style when dealing with Indian employees but this is mainly done by the individual manager. Some Indian employees prefer the Swedish consensus management style and there are individuals who prefer the more hierarchical approach to management style.

Alcatel·Lucent

Alcatel-Lucent is a global communications industry leader with the innovation, expertise and vision for a connected world that moves at the speed of ideas. On December 1, 2006, Lucent Technologies was merged with Alcatel, with its headquarter in Paris.

Having operations in more than 130 countries, Alcatel-Lucent is a local partner with global reach. China, one of the most rapid developing markets in communication industries in the world, plays a crucial role in Alcatel-Lucent's global development strategy. In 2008 Alcatel-Lucent had about 10,000 employees in China, of which more than 4,000 were R&D-related staffs. China is one of the countries where Alcatel-Lucent locates its main R&D and production centers. With strong competence in local R&D and production, Alcatel-Lucent set R&D centers in Beijing, Shanghai, Chengdu, Qingdao, and Nanjing, respectively.

In this combination of western and eastern cultural environment, cross-cultural management is an important factor that needs to be considered for successful operations. On the basis of the previous theoretical discussions on cultural aspects in communication interactions, the following sections contain some empirical comparisons which explain the differences between the Chinese and western R&D project teams as well as the cultural implications of these differences. Thereafter we present the lessons learned from Alcatel-Lucent R&D centers in China about the encounters between high context culture and low context culture.

An Alcatel-Lucent China R&D product quality improvement program was initiated according the following lines: Normally a project work is divided into several feature tasks, and each has a feature owner being responsible for technical implementation and subteam leadership. In addition to the established review process, a "second feature owner" is assigned to the one who does his/her own feature and who is willing to help others and take charge of documentation review and code inspection procedure.

The relationship among team members is strengthened through the working process. On the other hand, quality is improved given the second owner's more objective leadership role at the review checkpoint. Alcatel-Lucent's software project management process is based on a stage gate model, which is called Quality Gate Procedure. It provides a general list of tasks whose completion is important to new product development.

The purpose is to reflect the driving criteria for defining, creating, and verifying the hierarchical development work, i.e., releases, products, and features. A release is a full solution, which consists of multiple product lines. And a product line in turn covers several features which interwork to serve specific functions. Each stage-gate consists of a series of tasks to release product line and feature levels. A formal review will be held at the end of each stage-gate to check the completion of the tasks, then a go/no go decision will be made by the gate keepers.

Source: http://www.alcatel-lucent.com

Chapter 8
How Should Cross-Cultural Knowledge Be Managed in Strategic Alliances? Dynamics of Partner Relationships in Corning's Alliances

8.1 Introduction

Cooperation between international organizations is affected by the differences in their organizational and national cultures. While the feasibility of a partnership relies upon the achievement of a strategic fit, an effective cultural fit helps the alliance to counteract the risks triggered by misunderstanding and dislike.

Management behavior and policy directions differ because they are influenced by the culture and the institutional apparatus that governs the national social-economic and political systems. Such divergence has to be adjusted when two companies are willing to create a partnership.

Cultures are expressed in different ways, from exterior mannerisms to strong principles. Unless a dramatic event occurs, people generally tend to preserve their values, but within specific contexts, such as the place of work, they may tend to be more open-minded and notice the intercultural differences, so they are more inclined to adjust their habitual behavior, as they agree this is the best way to act. Thus, intercultural adaptation has more than one possibility to be achieved.

Culture must never hinder cooperation: the contact between two different cultures does not only bring issues to resolve but can be positive for a partnership. Every partner, in fact, has the possibility of learning from the practices that originate from the ally's culture and consist of specific competencies. The partnership can take advantage of the cultural diversity and change it into an opportunity.

Three are the modalities by which cultural differences and the consequent practices can be adjusted: the culture of one of the partners can be adopted as dominant, or cultures and practices of both partners can exist at the same time, but operate in distinct areas.

The third possibility is the most challenging and consists in trying to integrate the partners' practices to produce a beneficial synergy. Finally, the importance of a cultural fit has been demonstrated and the ways to improve it have been shown: these have turned out to be very valuable to address partner cross-cultural accommodation,

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ensure adequate intercultural communication, and enhance the effectiveness of multicultural teams.

8.2 Corning and Cooperative Alliances: Strategic and Organizational Issues

Corning Inc. is most famous for its oven-ready glassware; however, the company has diversified into fiber optics, environmental products, and laboratory services through various alliances.

Corning Inc. has been an innovative leader in foreign alliances for over 73 years. One of its first successes was an alliance with St. Gobain, a French glassmaker, to produce Pyrex cookware in Europe during the 1920s.

Corning has formed approximately 50 ventures over the years. Only nine have failed, which is a phenomenal number, considering that a recent study revealed that over one-half of foreign and national alliances do not succeed. Over the last 5 years, Corning's sales from joint ventures have been over $3 billion and have contributed more than $500 million to its net income. It is clear that alliances are quickly becoming one of the primary vehicles for expanding economic growth and driving convergence in the marketplace.

Corning decided to enter into joint ventures for two primary reasons: the first reason was to bring its technology to market. For example, the strategic alliance of Corning with Mitsubishi led to the creation of Cometec Inc. Corning produces the ceramic substrates in automotive catalytic converters. The venture employs coating technology developed by Mitsubishi that extends Corning's business into stationary pollution control.

The second reason was to gain access to markets that it cannot penetrate quickly enough to obtain a competitive advantage. Corning currently has multiple ventures that exemplify market penetration. Another example is the alliance between Samsung and Corning, in which Corning provides its distinctive competency of television tube production while Samsung provides expansion into the television market. Corning was able to achieve a strong market share in the Asian market, with sales in excess of $500 million. Corning reports that the venture is quite successful.

The CEO of Corning, James R. Houghton, after various alliances, indentified the following major criteria for deciding whether an equity venture is likely to succeed:

1. A solid business opportunity is required.
2. The two partners should make comparable contributions to the new enterprise.
3. The new enterprise should have a well-defined scope and no major conflicts with either parent company.
4. The management of each parent firm should have the vision and confidence to support the venture through its inevitable rough spots.
5. An autonomous operating team should be formed.
6. Responsibility cannot be delegated.

Houghton also emphasized that the most important dimension of a successful joint venture is trust between the partners.

The alliance between Corning and Samsung is particularly important and has achieved a great success. Indeed, part of the alliance's allure for Corning was that Samsung had also created alliances and knew what it was doing; the Korean company's executives understood the critical factors of alliance success and the constant attention required by such relationship. For the most part, the alliance developed and operated smoothly, both companies marching toward common objectives. Then, to everyone's surprise, the venture hit a cultural landmine the moment it became profitable. Corning, driven by its ingrained corporate philosophy and the scrutiny of Wall Street, moved to issue dividends to its stockholders. Samsung, guided by its own distinctive culture and the philosophy of its Korean investors, couldn't imagine not pouring profits back into the business to boost market share. Strategic alliances, after all, are formed to unite culturally different partners in pursuit of a common objective.

Successful alliance leaders manage the relationship in the context of the partner's cultural divergences, finding ways to create value from complementary differences and reduce the impact of those that impede alliance success. The successful alliance keeps its collective mind open to different ways of approaching a common goal; while the partners work toward specific, clear, commonly defined objectives, the actual day-to-day pursuit is more a function of collaborative discovery, rather than the execution of a predefined tactical plan articulated in a contractual agreement.

Alliance success is fundamentally based on whether the stakeholders have confidence that the risk they share is commensurate with the rewards they seek. The only way to build that mutual trust is by following a comprehensive, proven process, which ensures that partners consider, address, and, where appropriate, resolve issues relating to 15 critical success factors:

Clear and common vision
Shared objectives
Mutual needs
Strategic fit/complementary strengths
Senior management/championship involvement

Shared risk
Shared rewards
Shared control
Team problem solving
Shared decision making
Cultural compatibility
Mutual trust
Measurable goals
Partner accountability
Appropriate scope

The awareness of these elements from Corning and Samsung has guaranteed a successful joint venture. Before deciding to make a joint venture, both firms had examined three factors:

National/Ethnic Culture
Industry/Organizational Culture
Professional Culture

National/ethnic culture is defined by the norms and values that exist in the society in which the partner organization is based. These cultures drive thinking, communication styles, attitude toward hierarchy, gender roles and other aspects of individual and group behavior.

As Corning Incorporated has worked closely with customers to understand their problems, explore possible solutions, and then bring those solutions to life through their world-class scientific and manufacturing capabilities, visionary leadership has been guided by an enduring set of values that define their relationships with employees, customers, and the communities in which they operate around the world.

Quality

Total Quality is the guiding principle of Corning's business life. It requires each of them, individually and in teams, to understand, anticipate, and surpass the expectations of their customers. Total Quality demands continuous improvement in all their processes, products, and services. Their success depends on the ability to learn from experience, to embrace change, and to achieve the full involvement of all their employees.

Integrity

Integrity is the foundation of Corning's reputation. They have earned the respect and trust of people around the world through more than a century of behavior that is honest, decent, and fair. Such behavior must continue to characterize all their relationships, both inside and outside the Corning network.

Performance

Providing Corning shareholders a superior long-term return on their investment is a business imperative. This requires that they allocate their resources to ensure profitable growth, maintain an effective balance between today and tomorrow, deliver what they promise, and tie their rewards directly to their performance.

Leadership

Corning is a leader, not a follower. Their history and their culture impel them to seek a leadership role in the markets, multiple technologies, manufacturing processes, management practices, and financial performance. The goods and services they produce are never merely ordinary and must always be truly useful.

Innovation

Corning leads primarily by technical innovation and shares a deep belief in the power of technology. The company has a history of great contributions in science and technology, and it is this same spirit of innovation that has enabled them to create new products and new markets, to introduce new forms of corporate organization and to seek new levels of employee participation. They embrace the opportunities inherent in change, and they are confident in their ability to help shape the future.

Independence

Corning cherishes, and will defend, its corporate freedom. That independence is their historic foundation. It fosters the innovation and initiative that has made their company great and will continue to provide inspiration and energy to all parts of their network in the future.

The Individual

They know that in the end the commitment and contribution of all their employees will determine their success. Corning believes in the fundamental dignity of the individual. Their network consists of a rich mixture of people of diverse nationality, race, gender, and opinion and this diversity will continue to be a source of their strength. They value the unique ability of each individual to contribute, and they intend that every employee shall have the opportunity to participate fully, to grow professionally, and to develop to his or her highest potential.

Then*, Industry/Organizational culture* reflects the norms and values that permeate the organization. It is distinguished by the following: orientation toward risk, collaborative management style, maturity, corporate arrogance, level of centralization, and market focus, among others.

Some core values are shared with Samsung and can be summarized as follows:

People

Quite simply, a company is its people. At Samsung, they are dedicated to giving their people a wealth of opportunities to reach their full potential.

Excellence

Everything they do at Samsung is driven by an unyielding passion for excellence and an unfaltering commitment to develop the best products and services on the market.

Change

In today's fast-paced global economy, change is constant and innovation is critical to a company's survival. As they have done for 70 years, they set our sights on the future, anticipating market needs and demands so they can steer their company toward long-term success.

Integrity

Operating in an ethical way is the foundation of their business. Everything they do is guided by a moral compass that ensures fairness, respect for all stakeholders, and complete transparency.

Coprosperity

A business cannot be successful unless it creates prosperity and opportunity for others. Samsung is dedicated to being a socially and environmentally responsible corporate citizen in every community where they operate around the globe.

Professional culture considers the norms and values embodied by professionals of a specific discipline. People in different occupations usually incorporate the professional biases associated with their roles within the organization. Over time, these professional norms and values become entrenched paradigms further affecting their roles and behavior within the organization. Additionally, these paradigms are reinforced by the company's incentive structure that rewards one discipline within a company differently from other disciplines. For example, creativity, collaboration, and excellence are the hallmarks of leadership at Samsung. By attracting the world's most talented managers and continuously evolving company's culture to support

them, they foster innovative ideas that advance technology, create new products and markets, and improve the everyday lives of their customers.

8.3 Cultures Toward a Synthesis

It is possible to find the point of convergence between Corning's and Samsung's cultures: indeed, they are both innovative companies and market leaders, and they respect their stakeholders. Thus, Corning recognized and valued Samsung's knowledge of the market and sale expertise. Samsung valued the technology and supplier experience that Corning had developed over the years. It has been considered by both parties to be a success. Thereof, Corning proposed and Samsung agreed to establish an independent equity venture, Samsung Corning Precision Glass Company Ltd. (SCP), based on the Samsung Corning collaboration model. The reasons of this success are integration between different corporate cultures and a good synergy and combination between Samsung's world-class manufacturing expertise and Corning's knowledge of advanced materials. The success of this strategic alliance depends on the partners' *commitment to learning*. The CEO of Corning, Jamie Houghton, and the CEO of Samsung, Lee Byung Chull, sent out clear signals to their employees that learning is very important. The process of gaining skill or awareness was introduced in both firms, where the employees could know the partner's culture and the way such knowledge would strengthen the company's competitive position. Even when skills cannot be fully internalized or transferred, learning can take place, provided there is a right attitude.

As a result, Samsung-Corning has placed itself in the vanguard of the country's transformation from a manufacturing to a knowledge-based economy. Its dedication to research, begun by the opening in May 1984 of its research center, has been highlighted by a string of stellar achievements. They include the launch in 2002 of the commercial production of indium tin oxide (ITO) nanopowder (Fig. 8.1), a substance used in transparent conductive coatings of liquid crystal displays (LCDs), and the development of the world's first thin-film transistor (TFT) LCD flat backlight for computer monitors and TV screens. Indeed, the company has set a standard for versatility and adaptability in the recent period of industrial and economic upheaval. Few foreign-invested companies have received as many accolades as the joint venture forged by the two corporations at the end of 1973 and have become a byword for success and achievement in the corporate world.

Corning also publicly lauded Samsung-Corning as its most successful overseas joint venture. From the Korean perspective, too, Samsung Corning has established itself as the model of what a foreign-invested company should be. Furthermore, Seoul National University, one of Korea's premier institutes of higher learning, ranked Samsung Corning as the joint venture that had contributed most to the Korean economy in terms of three criteria: financial soundness, contribution to exports, and the degree and significance of its transference of technology.

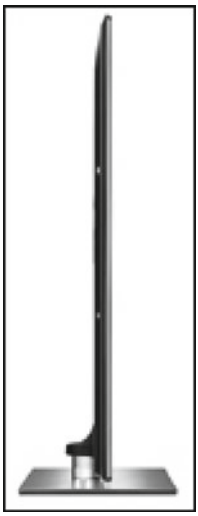

Fig. 8.1 The first product made by Corning Precision Glass Company, Ltd. (SCP). *Source*: http://www.corning.com

Nevertheless, Corning's alliances were not always successful: one of the alliances that can be remembered as a failure was the joint venture between Corning and Vitro. Vitro is a Mexican glass manufacturer located in Monterrey, Mexico. Vitro's product line focuses on drinkware, but includes dozens of products, from automobile windshields to washing machines. Vitro has a long history of successful joint ventures and is globally oriented. Like Corning, Vitro has a long history of successful joint ventures and globalization. Vitro and Corning share similar corporate cultures and customer-oriented philosophies.

The similarities in history, philosophy, culture, goals, and objectives of both companies would lead to the logical conclusion that this alliance should be an instant success. Although both companies appeared so similar on the surface, they were quite different indeed. Cultural clashes erupted from the very beginning of the venture because of differing approaches to work.

One example was in the marketing area. Vitro's sales approach was less aggressive than the Americans at Corning thought necessary; the slower, deliberate approach to sales in Mexico was a result of the previously highly controlled Mexican economy. Corning's more quick-action oriented and aggressive sales approach had developed from decades of competition. Once in the venture, the Mexicans thought the Americans were too forward and the Americans believed that their Mexican partners wasted time being too polite. The Americans perceived the Mexican characteristics to include an unwillingness to acknowledge problems and faults. With respect to speed, the Mexicans thought Corning moved too quickly, while the Americans thought Vitro moved too slowly.

Another obvious cultural difference was the conflicting styles and time allotment for decision making. Vitro is bureaucratic and hierarchical and loyalty is to family members and patrons in the ranks of the company. Decisions often are left either to a member of the controlling family or to top executives, while middle-level managers

seldom are asked to contribute their opinions, let alone to make important decisions.

These examples indicate that culture was an especially sensitive issue between Corning and Vitro, and the alliance was not able to overcome these problems. Corning felt that the cross-cultural differences were depriving both companies of the flexibility to take the fast management action that is necessary in the dynamic business climate of both countries. Vitro basically agreed and Corning gave Vitro back its $130 million investment, and the joint venture was called off. However, the companies still recognize the opportunity to continue business with one another. They have changed their relationship into a mutual distribution of each other's products.

Therefore, the cause of failure was defined cultural mismatch, where the cultural difference of the firms made cross-functional relationships hard. For this reason, managing the cultural differences in a cross-cultural alliance begins in the due diligence phase of alliance planning.

The first step is to examine culture in a more structured way, by identifying not only the organizational structure but the distinguishing characteristics of their national/ethnic, industrial/organizational, and professional cultures. The distinguishing aspects of a firm's culture determine not only its approach to business objectives but how those objectives are defined. The wider the cultural gap within an organization, the more difficult it is to achieve a "fit" between the partners, because finding a common ground that links them together becomes a rather challenging task. The term "fit" expresses the proportion to which diverging cultures can merge in, so the partnership can work without contrasts and misunderstandings between the partners or the employees. Different cultures may be fitted together and cultural differences managed successfully, only if the organizational members are truly willing and skilled to do so. In fact, a cooperation can reach its full realization, only if cultural diversity is actively managed in order to achieve the "fit" between partners. Such cultural fit is accomplished when the partners' cultures are combined or adjusted in a commonly acceptable way. Complete cultural integration is not the most obvious expression of the "fit," as adjustments may occur in different forms. For the good functioning of a partnership trust between partners and staff is necessary. Trust and cultural fit are strictly related: if the latter is weak, it will probably create a barrier to the development of trust within the organization. If trust is somehow damaged, this event will reawaken the meaning of cultural difference and will lead back to the idea of separate identity. Cultural diversity can be managed through various policy choices, some of which work better than others in achieving the cultural fit. The most important policy options in managing cultural diversity are based on the assumption whether one culture should dominate the other in operational terms or, by contrast, contributions from both the partners' cultures should be balanced; and whether an integration should be attempted in order to profit from the consequent synergy or, on the contrary, segregation should be preferred in order to reduce potential contrasts and limit the commitment to cultural management.

Second, in order to build an alliance that will serve both partners, allied companies must consider the relationship an entirely new venture that represents an amalgam of

the strength each brings to the table. The companies that build those successful ventures at the speed the global marketplace requires will do so with a proven team of alliance professionals. An international multicultural partnership is mainly developed through the work of multicultural teams that are of fundamental importance to ensure the success of the initiative. Managers and staff work together, meeting on a regular basis in order to activate the decisional process and find effective solutions to all the issues that may arise. The starting point is quite similar in all the experiences: relations among the members of the teams and consequent action are driven by cultural differences and a stereotypical vision, but as time passes they evolve in diverging directions, as teams begin to behave differently according to various contextual factors. This way, frictions among team members are triggered and intensified by external threats. Moreover, contrasts and mistrust arise within teams that are not based on a similar level of experience, but only on the balance of numbers and influence. Besides, the joint venture's leadership appears to be effective at encouraging team members to accept particular working practices reducing the impact of differences in cultural identities. The achievement of such goal is facilitated if general managers could organize themselves to be as present as possible on the field, constantly interacting with team members.

Other investigations lead to different conclusions. The first design of a partnership should provide for a reward and career-advancement system, together with other measures, so a sense of identification with the alliance team can build-up among the single members. General managers should also take account of the effects of their statements and actions on the expectations of team members. Moreover, they should promote identification within the team, highlighting the skills of the single members and underlining their contribution to the achievement of specific goals and the defense from external threats. The specification of major goals to be achieved by the team in its early stages is an important task for the alliance's general managers, who have to exploit external conditions, so that opportunities and threats do not become cause of contrast, but unifying elements: fixing the team's goals and creating a control and feedback system facilitated learning within the work group and made its progress much easier.

Source: http://www.samsung.com/it/
http://www.corning.com/index.aspx

Chapter 9
Wal-Mart and Cross-Cultural Approaches to Strategic Competitiveness

9.1 Introduction

The evidence, the paradoxes, and the questions that arise from research on the mechanisms through which businesses generate profits are at the center of an important theoretical debate, within which numerous theories about business have been presented and examined. On the one hand, such theories have colored academic research in the last few decades, and on the other, they have missed the objective of attributing decisive and/or exclusive effects to the paradigms, which we are used to studying and interpreting, or to suggest interventions for business as a whole or for some of its parts.

The ex post analysis of the management literature seemed to indicate that there were clear theoretical alternatives (which were also believed to be measurable). Today, these alternatives must adapt to sharing and, often, to developing the paradoxes and the contradictions so as to seek coherence in managerial and management applications at ever wider and deeper levels, and not in the single events in the life of a business.

The growing complexity of managerial activity pushes toward verifying the relationship between business theory and practice: the continuity between themes and empirical models, models on which we build and codify managerial experience, becomes the condition for avoiding theorizing and practicing one-dimensional management. The presentation of this case suffers from this imposition.

For this purpose, the managerial literature introduces, in a logically coherent manner, performance levers, the way in which they interact and the consequences which derive from them; the verification of that logic applied to an exemplary case of top-performing firm, Wal-Mart, seems to suggest apparently incompatible business realities. In particular, the economic choices of the business, dealing with

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international development, are not necessarily based on maximizing calculations, in that they are molded by institutions and social values, which determine the possible behavior types.

This "institutionalist proposition" means, in a widely accepted meaning, that the culture of a country and its institutions define what is permitted and what is illegal to do, define what is right and what is wrong, what actions may be pursued and what must be avoided, thereby giving certain rules to the behavior of businesses, and providing them opportunities and limits.

9.2 Financial Highlights

Wal-Mart Stores, Inc. (NYSE: WMT), branded as *Walmart* since 2008 and *Wal-Mart* before then, is an American public multinational corporation that runs chains of large discount department stores and warehouse stores. The company is the world's 18th largest public corporation, according to the Forbes Global 2000 list, and the largest public corporation when ranked by revenue. The company was founded by Sam Walton in 1962, incorporated on October 31, 1969, and publicly traded on the New York Stock Exchange in 1972. It is headquartered in Bentonville, Arkansas. Wal-Mart is also the largest grocery retailer in the USA. In 2009, it generated 51% of its US$258 billion sales in the USA from grocery business. It also owns and operates the Sam's Club retail warehouses in North America (Table 9.1).

Wal-Mart has 8,500 stores in 15 countries, under 55 different names. The company operates under its own name in the USA, including the 50 states and Puerto Rico. It operates in Mexico as Walmex, in the UK as Asda, in Japan as Seiyu, and in India as Best Price. It has wholly owned operations in Argentina, Brazil, and Canada. Wal-Mart's investments outside North America have had mixed results: its operations in the UK, South America, and China are highly successful, while it was forced to pull out of Germany and South Korea when ventures there were unsuccessful.

Wal-Mart's attempts to sustain its growth during the past few years, however, have been met with enormous challenges and setbacks.

Its same-store sales numbers are down, its stock is flat, its growth has leveled off and it is continuously plagued by self-inflicted public relations problems. While other large US retailers like Target and Costco are prospering, Wal-Mart is floundering.

In a presentation to shareholders in 2005, Wal-Mart CFO Tom Schoewe boasted there was room for 4,000 Supercenters in the US market. However, by late 2006, Wal-Mart conceded that it could not continue growing in the same way.

In 2007, Wal-Mart was scaling back its expansion plans, failing to enter key markets such as New York City and facing numerous lawsuits, including the largest

Table 9.1 Financial highlights

Fiscal year ended January 31 (in billions, except per share data)	2010	2009	2008	2007	2006
Net sales[a]	$405.0	$401.1	$373.8	$344.8	$308.9
Net sales increase	1.0%	7.3%	8.4%	11.6%	9.8%
Operating income[a]	$24.0	$22.8	$22.0	$20.5	$18.7
Earnings per share[a]	$3.72	$3.35	$3.16	$2.92	$2.72
Dividend per share[b]	$1.09	$0.95	$0.88	$0.67	$0.60

Fiscal year ended January 31 (in billions)	2010	2009
ROI[c]	19.3%	19.3%
ROA	8.9%	8.4%
Free cash flow[c]	$14.1	$11.6
Net cash provided by operating activities	$26.2	$23.1

[a]Additional details can be found in the footnotes of the Five-Year Financial Summary
[b]Annual dividend declared for fiscal year 2011 is $1.21
[c]ROI and free cash flow are non-GAAP measures, which are shown with their closest GAAP measures, ROA, and net cash provided by operating activities, respectively. The reconciliations and other information regarding these non-GAAP measures can be found in the Management's Discussion and Analysis of Financial Condition and Results of Operations included in this Annual Report
Source: http://walmartstores.com/sites/annualreport/2010/financial_highlights.aspx

gender discrimination class-action lawsuit in the nation's history. Unfortunately, even after significant public criticism of its business practices, Wal-Mart refuses to change its ways. With issues like wage caps, health benefits, and discrimination coming to the forefront, Wal-Mart is in serious trouble.

A recent Wal-Mart Watch poll shows just how much Wal-Mart's reputation has fallen in recent years. "More than a quarter (27%) of respondents report developing a more negative opinion of Wal-Mart over the past year – more than twice the percentage of respondents who report more negative perceptions of Target (11%) or Costco (4%) over the same period of time" (Wal-Mart watch, "Wal-Mart in crisis: How the world's largest retailer lost its way," Annual Report, June 2007).

9.3 Wal-Mart's Urban Expansion Problems

Wal-Mart has problems entering the urban markets it desperately needs for success.

In their own words, Wal-Mart's "expansion strategy depends upon our ability to execute our retail concepts successfully in new markets within the USA and upon our ability to increase the number of stores in markets in which we currently have operations."

The new markets the company is targeting (45% of their stores are located in rural and semi-rural counties and are verging on store saturation) are in urban areas

where labor has a strong presence, political tension is high, and zoning regulations are tougher to navigate.

Cities like New York, Los Angeles, and San Diego have fostered resistance against the expansion policy of the world's largest retailer. City leaders, activists, and labor unions are opposed to Wal-Mart's move into urban centers. Because of this, Wal-Mart has increased charitable giving, donated money to the various political campaigns, and created jobs and opportunity zones in an effort to improve its image.

Without much prospect of expanding in urban areas, Wal-Mart's business performance is in great jeopardy. Currently, 45% of their stores are located in rural and semi-rural counties and are verging on store saturation. Wal-Mart reported that it opened about 318 new stores domestically (including conversions) in 2006.

Though they made their target rate, it was a loss from the previous year when they opened 320 stores and were ambitious about drastically increasing that rate the year after.

Management sees no shortage of opportunities to expand in the USA, particularly in many urban areas where Wal-Mart has little or no presence and in filling in existing markets where returns are still attractive. However, the response they have been getting from these cities is hardly encouraging.

9.3.1 Wal-Mart in New York City

Wal-Mart in New York City? It hasn't happened so far and New Yorkers have worked hard to make sure that it never becomes a reality.

Lee Scott, who once declared, "We will be in New York," most recently announced that Wal-Mart was giving up its attempts to build a store in New York. Later on, Wal-Mart's public relations personnel clarified his position and said he was talking about Manhattan rather than the entire New York City area. Wal-Mart is still looking to expand into the city's other boroughs, namely Queens and Staten Island. This was in spite of past rejections from these areas of the city. In 2004, Wal-Mart tried to open its first store in Rego Park, Queens and this move was met with opposition from a coalition of politicians, union organizers, and community members.

Similarly, in 2005, Wal-Mart was working to open a store in Staten Island and due to resistance from local residents have still not built a store.

Wal-Mart opened its first store in Chicago in 2006 amidst much public debate and local protest.

The demographics of neighborhoods in Queens and Staten Island are not as urban as those of Manhattan; nonetheless, they are well-informed consumers and still withhold their purchasing power from Wal-Mart as a result of the company's negative reputation.

Credit Suisse analysts confirmed this by noting, "Political pressures resulting from Wal-Mart's image and labor practices will continue to make it challenging for the company to open new stores in the largest cities in the U.S."

9.3.2 Wal-Mart in Inglewood

Wal-Mart has always wanted to build as many stores as possible in California. With the largest population of any state, and a thriving economy, Wal-Mart was optimistic that years of store expansion and sales growth were in their future. In 2004, this optimism came to a screeching halt when Wal-Mart met fierce resistance from the

residents of Inglewood, California. This suburb of Los Angeles, with its diverse, working class citizenry, fought hard, in conjunction with unions, to defeat a ballot initiative to permit the building of a 60-acre Wal-Mart shopping complex that would be exempt from state and local regulation.

Wal-Mart invested over $1 million dollars to garner support for the initiative, which they put on the ballot after their development plans were rejected by local officials.

When the people on Inglewood finally voted on the measure, Wal-Mart was defeated by 3-2 margin. This was a grave setback for the company that was attempting to build 40+ Supercenters throughout the state and was met with mass resistance from local grocers. Additionally, the Los Angeles City Council prepared an ordinance that outlawed the building of massive Supercenters in the city.

9.3.3 Wal-Mart in San Diego

Influenced by the decisions of Turlock and Long Beach, in November 2006, the City Council of San Diego, the eighth largest American city, voted to ban giant retail stores, specifically targeting Wal-Mart's Supercenters. This decision harms Wal-Mart because building supercenters is the favorite method of growth for the retailer. In Turlock, where supercenters were also banned, Wal-Mart challenged the law in state court but lost. This derailed possible legal challenges in the future. San Diego's measure prohibited "stores of more than 90,000 square feet that use 10% of space to sell groceries and other merchandise that is not subject to sales tax." In voicing his support for limiting the size of stores in San Diego, City Councilman Tony Young said: "I have a vision for San Diego and that vision is about walkable, livable communities, not big, mega-structures that inhibit people's lives."

9.3.4 Wal-Mart in St. Louis

Wal-Mart's lack of presence in St. Louis has been astounding considering the city's close proximity to northwest Arkansas. In 2003, local St. Louis grocers and UFCW led a strike against the arrival of Wal-Mart in their city as "the companies with union employees feared that they couldn't compete with a national giant that paid lower wages and skimped on health coverage." The strike was later settled but the union strength has since continued to keep the retailer at bay. Wal-Mart has been able to build on the outskirts of the city but it has not found a place in metro St. Louis. While upscale urban populations have embraced Target, Wal-Mart cannot shake its image of being a low-quality, budget store. Wal-Mart desperately needs to expand in urban markets to maintain its growth, but with a reputation for bad employment practices, bankrupting local retailers, and impoverishing communities, its efforts have led to constant disruptions. Additionally, due to heavy regulation of retailers in cities, Wal-Mart has been forced to play by a completely new set of rules. It has had

to adopt new tactics, from choosing a more humanitarian image to promoting "progressive" rhetoric that embraces minorities, women and gays, in an attempt to appease urban populations and win their favor.

9.4 Wal-Mart's Lessons

Wal-Mart has used various tactics in order to increase its appeal and build stores in these urban centers:

1. Increased marketing
2. Store of the Community
3. Charitable giving
4. Political contributions
5. Urban enterprise zones
6. Support of women and homosexuals

9.4.1 Increased Marketing

With former Target executive, John Fleming, in charge of the company's marketing, Wal-Mart took great risks to shed their "always low prices" image and increase their desirability to a hipper, high-income crowd of consumers. With new and increased marketing, Wal-Mart took strange steps like taking out ads in Vogue magazine, airing holiday television commercials with high-profile celebrities like Destiny's Child and Jesse McCartney, and rolling out a line of women's urban appeal, Metro 7, along with an exhibition in Miami's high-fashion and trendy South Beach.

Fleming was also given the authority to completely enhance the marketing team, bringing in young professionals from Frito-Lay and DaimlerChrysler. But has this strategy been successful? Wal-Mart's new clothing lines have failed to impress consumers and analysts alike, and the firing of Julie Roehm shows how her drastic changes to Wal-Mart's marketing and advertising strategy did not go over well with Wal-Mart's leadership. In general, the new marketing overhaul has led to more negative controversy and generally inconsistent marketing messages.

9.4.2 Store of the Community

With this concept, Wal-Mart has sought to isolate one segment of the population that shops at a particular store and gear the products toward their preferences. The communities they specifically target include African-Americans, Latinos, and affluent populations. In Evergreen Park, IL, Wal-Mart has customized the store to fit the tastes of the predominantly African-American clientele by including a selection of ethnic hair care products, urban sportswear and gospel, rap, and R&B music.

At Plano, TX, in an effort to target affluent communities, Wal-Mart offers $500 wines and houses a coffee shop and sushi bar. In El Centro, California, the Latino customers are offered a fresh selection of produce such as peppers, papaya, and tortillas.

While these are interesting new steps implemented mainly by Eduardo Castro-Wright, they are not sustainable. With over 4,000 stores, it would be virtually impossible to identify the target population of each store and customize the products accordingly. This will be a difficult strategy to implement in urban communities in particular due to the diverse nature of the potential shopping demographic.

9.4.3 Charitable Giving

Wal-Mart was recognized as the largest corporate cash-giver in the USA. In their press releases, they laud themselves for donating to humanitarian groups like the American Cancer Society and Boys & Girls Clubs and seek to present themselves as a generous community supporter. However, no one but Wal-Mart really knows what other organizations the company donates to and their lack of disclosure is discouraging.

When trying to build a store in Chicago, Wal-Mart would often try to pay off local leaders as well as church groups to gain their support. When Wal-Mart needed the support of Ald. Emma Mitts they sent 50 calculators to Austin High School and $1,000 for toys and clothes for poor children in her ward.

In the 2007 proxy, there was a shareholder proposal that urged Wal-Mart to disclose information regarding the Company's:

1. Policies and procedures for charitable contributions (both direct and indirect) made with corporate assets.
2. Monetary and non-monetary contributions made to non-profit organizations operating under Section 501(c)(3) and 501(c)(4) of the Internal Revenue Code, and any other public or private charitable organizations.
3. Rationale for each of the charitable contributions.

Predictably, Wal-Mart's Board recommended that shareholders vote against this proposal claiming this is up to the local store and that providing additional information than what is on the Web site, otherwise known as responsible corporate governance, would be "unduly burdensome." Predictably, the proposal failed at the 2007 shareholders meeting.

9.4.4 Political Contributions

Over the years, Wal-Mart has steadily been increasing its political contributions to officials who make decisions on issues affecting the company like minimum wage and healthcare. There was another shareholder proposal, which requested that the company disclose an accounting of how Wal-Mart uses its funds for political contributions.

Wal-Mart has flexed this political and financial muscle to its use in many site fights, most notably in Chicago. In July 2006, the Chicago City Council passed a living wage ordinance which was subsequently vetoed by Mayor Richard Daley. The aldermen had a chance to override the veto but failed to do so, thanks to Wal-Mart. The company, along with a partner PAC, the Illinois Retail Merchants Association, donated thousands of dollars to various aldermen's campaigns and essentially bought their vote.

The company had a chance to set a precedent by supporting the ordinance, which demanded that the living wage be $9.50, and supporting families and low-income communities. However, it failed to take up this opportunity and further smeared its name in the opinion of urbanites.

9.4.5 Urban Enterprise Zones

Urban enterprise zones promote entrepreneurial development in low-income communities by offering tax breaks for companies that start a business there. Wal-Mart has appropriated this concept and renamed it as its Jobs and Opportunity Zones Initiative. It announced recently that it had chosen nine communities as the ground to develop this project. The nine zones are Cleveland, OH, Decatur, GA, El Mirage, AZ, Landover Hills, MD, Portsmouth, VA, Richmond, CA, Sanger, CA, East Hills, PA, and Chicago, IL.

The company claims that these areas will serve as hubs "in which local businesses will be able to advertise inside Wal-Mart stores and in which the retailer will offer funding for local chambers of commerce."

While this seems rather charitable of Wal-Mart, the truth is that because of market economics, there will not be any local businesses left once Wal-Mart moves in. Additionally, this move would not seek enfranchise the blighted population of these communities nor would it uplift them out of poverty even if they worked for Wal-Mart.

9.4.6 Support of Women and Homosexuals

The conservative community went into a frenzy when the traditionally Republican, conservative retailer announced that it would be partnering with the National Gay and Lesbian Chamber of Commerce to promote diversity. The NGLCC represents the interests of over a million LGBT-owned businesses that are generally located in urban regions. Thus, establishing a relationship with them would serve Wal-Mart's best interest as it would not only improve their image in the eyes of young, urban consumers but also, despite the temporary backlash, it would not really affect their traditional customer base.

Wal-Mart has also attempted to promote itself as the retailer for women, whether they are consumers or employees. Most recently, Working Mother magazine named

Wal-Mart the "2007 Best Company for Multicultural Women." Despite such positive publicity, Wal-Mart cannot ignore the looming shadow of Dukes vs. Wal-Mart. As the largest class-action lawsuit against a private employer, Dukes accuses Wal-Mart of discriminating against its women employees and not providing them the same privileges it awards the males. Dukes has garnered tremendous publicity and attention for the company, most of it unpleasant, and has served to portray Wal-Mart as a misogynistic company that has a lot of progress to make on gender issues.

9.5 Wal-Mart's International Success

Today, Wal-Mart operates nearly 8,500 stores in 15 countries and Puerto Rico. Sales generated by this division represent more than 20% of the company's total revenues, and its operating profits account for about 18% of Wal-Mart's total. Wal-Mart has already considerably expanded its operations worldwide, has acquired majority stake interests in many joint venture companies, and is expanding to up-and-coming markets like India and Russia. While Wal-Mart has grown to dominate the retail market in the Western Hemisphere, it has stumbled elsewhere. Wal-Mart is finding out that global competition is much tougher when its business model is rigid and uniform. Wal-Mart often lacks the cultural understanding in many of the areas it enters, which has created a situation that may not be sustainable for a company that will be very dependent on international expansion in the future.

9.5.1 Missteps in South Korea

South Korea has always held a special place in the psyche of Wal-Mart's leadership. "Even the hokey Wal-Mart cheer was based on one Walton heard at a factory in South Korea." Like many other western retailers, Wal-Mart attempted to break into the competitive South Korean market, because it saw opportunity in the rapidly expanding economy. Wal-Mart opened sixteen outlets in the country but as in so many other countries, they tried to apply their western retail model to the South Korean market. Wal-Mart entered the market with the same strategy and plan that they enter every market—low prices. Nevertheless, Wal-Mart's low price/big-box strategy alone did not appeal to South Korean consumers. In particular, the food and beverage selection was considered unsatisfactory to South Korean women. South Korea is a country that requires cultural context to succeed in the marketplace. This is something Wal-Mart lacks, and this is a pattern that has been repeated in other nations.

9.5.2 *Problems in the Land of the Rising Sun*

Many of the problems Wal-Mart faced in South Korea, with regards to tailoring a store to the local culture and facing major distribution issues, are also reflected in Wal-Mart's Japanese retail acquisitions. Despite the retailer's best efforts, Seiyu has remained a problem for Wal-Mart even to this day. Seiyu has yet to be profitable venture for Wal-Mart for nearly 60 years, costing the retailer billions of dollars. There is a unique cultural wrinkle to Japan, which makes Wal-Mart's focus on low-priced, low-quality goods unsustainable in Japan. The Japanese culture is one where higher price is often associated with higher quality, and the Japanese are perfectly willing to pay more for a quality product. Since space is at a premium in Japan, the culture of Wal-Mart of low-priced, almost-disposable goods does not fit the Japanese lifestyle. This has created a problematic situation for a company with a monolithic strategy for every market it enters.

"Always Low Prices" is equated with "not worth the money" or possibly insulting in the Japanese culture.

It is this lack of understanding of the Japanese culture that has created significant problems for Seiyu. Another problem for Wal-Mart is that its Japanese stores are not centrally located. In fact, they are often cited in poor locations on the outskirts of urban centers, which is problematic for a primarily urban population that is highly dependent on public transportation.

Many successful retailers in Japan are not those that offer deep discounts of low-quality merchandise, but centrally located retailers willing to distinguish themselves with specialty stores offering high-quality merchandise.

In addition to the problems regarding Wal-Mart's low-price focus, Wal-Mart faces major logistical problems. The primary problem is that the grocery business in Japan is significantly different than North America. Japanese consumers largely rely on regionally grown products and local food preference varies significantly throughout the country. This means instead of relying on centralized distribution system, Wal-Mart must seek produce locally.

This means Seiyu is on the same level as the rest of the market, taking away the price advantage that comes from the centralized distribution system Wal-Mart stores in the Americas enjoy. The distribution issues are not exclusive to food, however, as the limited space and transportation system of Japan is not conducive to Wal-Mart's North American model for product distribution. That means Wal-Mart cannot maximize efficiencies using its North American distribution model, so the cost savings for products are limited at the Seiyu subsidiary. Even if these cost savings were present, it would not address the fact that Wal-Mart has failed to tailor Seiyu to distinguish itself in the ultra-competitive Japanese retail marketplace where discounting is viewed suspiciously.

Wal-Mart treated Japan like every other retail environment, not the retail-saturated, quality-conscious market with distribution complexities that Japan has always been. While Wal-Mart is speaking about profitability in Japan, they are also contemplating a pullout in the future.

9.5.3 The Impossibility of the European Union

The European mainland is a market Wal-Mart has difficulty breaking into and may be unable to break into successfully. In the land of unionization, expensive gasoline, and smart growth policies, the Wal-Mart model simply does not fit.

Wal-Mart attempted to enter the German market, but found that the Wal-Mart model was not sustainable and did not fit the German culture or economy. Wal-Mart basically found its US business model of high saturation of stores on the outskirts of towns, massive distribution centers and an influx of foreign goods was unlikely to succeed in the highly urban German market where public transportation is extremely important and space is at a premium.

Wal-Mart could not dot the land with big-box stores the same way it had in North America. In addition, the cultures of Wal-Mart and Germany did not blend well. Wal-Mart tried to impose many American management styles in Germany, which were either alien to the German people, or against the law in Germany. For example, Wal-Mart did not allow employees to date colleagues and were found in violation of the law for attempting to set up a hotline for employees to inform on their fellow associates. In addition, Wal-Mart buyers were almost exclusively American, which resulted in stores not catering to the German people.

In addition to the cultural hurdles Wal-Mart could not manage, the company entered a well-established market where German retailers and grocers, such as Metro AC, Aldi, and Kaufland, were already strong. Retailers such as Metro AC are better situated than Wal-Mart, because they had not only the cultural context to succeed in Germany but also well-established ties to European and German suppliers. Wal-Mart on the other hand relied heavily on its pre-existing supplier relationships formed in Bentonville and management from the USA. This resulted in poor product selection and a lack of cultural context with regards to what Germans expect out of a retail experience. Wal-Mart could not compete with Metro and other retailers because it lacked the cultural understanding that was essential to running a successful business in Germany.

While Wal-Mart tried and failed in Germany, the company may not even attempt to enter the remainder of Western Europe, which is dominated by other retailers such as France's Carrefour. In addition, most of Western Europe runs under strict land use and labor laws that create significant problems, considering Wal-Mart's anti-union stance and development strategy. The remainder of Western Europe may be culturally different when compared to Germany, but the significant level of retail competition, the development policies, labor policies and cultural hurdles remain similar throughout the EU or, in the case of France, even more of a hurdle than Germany.

9.5.4 Trying to Change the Face of the UK

Wal-Mart's UK subsidiary ASDA is a profitable, yet problematic venture for Wal-Mart. The number two retail and grocery chain in the UK has problems competing against its more flexible and dominant UK rival Tesco. Wal-Mart has

sought changes in the UK planning policy in order to implement the same big-box strategy that it uses in North America to compete with the multi-format and ultra-flexible Tesco.

Furthermore, Wal-Mart has lobbied heavily for the elimination of the national smart growth policies that have kept cities in the UK highly centralized and public transportation-friendly affairs. Wal-Mart's solution was not to adapt to the UK market, but rather seek fundamental change in urban planning in the UK and force an American planning regime there that would create unsustainable land-intensive development environment on an island with limited space. With ASDA, Wal-Mart has sought to force its unsustainable practices into the UK because it has difficulties competing with the urban market conditions of the UK, where Tesco has the upper hand in terms of real estate and supplier relations. ASDA is also beginning to face the same types of site fights that are found in the USA with Wal-Mart when it seeks to put an ASDA on the outskirts of British towns. Wal-Mart is facing difficulties competing in the UK with Tesco and would rather change UK planning laws than adapt to the market and regulatory system in the UK.

Wal-Mart may be realizing that its model of big-box stores does not work in the UK and may be seeking to remedy the problem by acquiring small-store grocer Sainsbury. It is likely that such a move would raise antitrust questions.

Source: our personal research
http://www.wal-mart.com/
Wal-Mart Annual Reports

Chapter 10
Cross-Cultural Knowledge Management and Open Innovation Diplomacy: Definition of Terms

New frontiers of the mind are before us, and if they are pioneered with the same vision, boldness, and drive with which we have waged this war we can create a fuller and more fruitful employment and a fuller and more fruitful life.

Franklin D. Roosevelt
November 17, 1944

10.1 Open Innovation Diplomacy,[1] Quadruple Innovation Helix,[2] "Mode 3" Knowledge Production System,[3] Fractal Research, Education and Innovation Ecosystem[4]

Developed and developing economies alike face increased resource scarcity and competitive rivalry. Science and technology increasingly appear as a main source of competitive and sustainable advantage for nations and regions alike. However, the key determinant of their efficacy is the quality and quantity of entrepreneurship-enabled innovation that unlocks and captures the pecuniary benefits of the science enterprise in the form of private, public, or hybrid goods. In this context, linking

[1] See Carayannis, BILAT Conference, Vienna, Austria, March 2011; Johns Hopkins School of Advanced International Studies Transatlantic Research Center Conference, Washington, DC, June 2011 and Springer Journal of the Knowledge Economy (JKEC), Fall 2011.

[2] See Carayannis and Campbell, Quadruple Innovation Helix and Mode 3, IJTM, 2009

[3] See Carayannis and Campbell, Quadruple Innovation Helix and Mode 3, IJTM, 2009

[4] See Carayannis, BILAT Conference, Vienna, Austria, March 2011; Johns Hopkins School of Advanced International Studies Transatlantic Research Center Conference, Washington, DC, June 2011 and Springer Journal of the Knowledge Economy (JKEC), Fall 2011 (forthcoming).

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university basic and applied research with the market, via technology transfer and commercialization mechanisms including government–university–industry partnerships and risk capital investments, constitutes the essential trigger mechanism and driving device for sustainable competitive advantage and prosperity. In short, university researchers properly informed, empowered, and supported are bound to emerge as the architects of a prosperity that is founded on a solid foundation of scientific and technological knowledge, experience, and expertise and not in fleeting and conjectural " financial engineering" schemes. Building on these constituent elements of technology transfer and commercialization, *Open Innovation Diplomacy* encompasses the concept and practice of bridging distance and other divides (cultural, socio-economic, technological, etc.) with focused and properly targeted initiatives to connect ideas and solutions with markets and investors ready to appreciate them and nurture them to their full potential.

The emerging glo*C*alizing, globalizing and localizing (Carayannis and Zedtwitz 2005; Carayannis and Alexander 2006), frontier of converging systems, networks, and sectors of innovation that is driven by increasingly complex, nonlinear, and dynamic processes of knowledge creation, diffusion, and use, confronts us with the need to reconceptualize—if not reinvent—the ways and means that knowledge production, utilization, and renewal take place in the context of the knowledge economy and society (*gloCal knowledge economy and society*).

Perspectives from and about different parts of the world and diverse human, socioeconomic, technological, and cultural contexts are interwoven to produce an emerging new worldview on how specialized knowledge, that is embedded in a particular sociotechnical context, can serve as the unit of reference for stocks and flows of a hybrid, *public/private, tacit/codified, tangible/virtual good* that represents the building block of the knowledge economy, society, and polity (Gerybadze et al. 1999).

We postulate that one approach to such a reconceptualization is what we call the *"Mode 3" Knowledge Production System* (expanding and extending the "Mode 1" and "Mode 2" knowledge production systems) which is at the heart of the *Fractal Research, Education and Innovation Ecosystem (FREIE)* consisting of "Innovation Networks" and "Knowledge Clusters" (see definitions below) for knowledge creation, diffusion and use (Carayannis and Campbell 2006a). This is *a multilayered, multimodal, multinodal, and multilateral system,* encompassing mutually complementary and reinforcing innovation networks and knowledge clusters consisting of human and intellectual capital, shaped by social capital and underpinned by financial capital.

The "Mode 3" Knowledge Production System is in short the nexus or hub of the emerging twenty-first century FREIE,[5] where *people*,[6] *culture*,[7] *and*

[5] Furthermore, see Milbergs (2005).

[6] See discussion on democracy in the conclusions.

[7] "*Culture* is the invisible force behind the tangibles and observables in any organization, a social energy that moves people to act. Culture is to the organization what personality is to the individual—a hidden, yet unifying theme that provides meaning, direction, and mobilization" (Killman 1985).

technology[8,9] (Carayannis and Gonzalez 2003; forming the essential "Mode 3" Knowledge Production System building block or "knowledge nugget" [Carayannis 2004]) meet and interact to catalyze creativity, trigger invention, and accelerate innovation across scientific and technological disciplines, public, and private sectors (government, university, industry, and nongovernmental knowledge production, utilization, and renewal entities as well as other civil society entities, institutions, and stakeholders) and in a top-down, policy-driven as well as bottom-up, entrepreneurship-empowered fashion. One of the basic ideas of the article is *coexistence*, *coevolution*, and *cospecialization* of different knowledge paradigms and different knowledge modes of knowledge production and knowledge use as well as their cospecialization as a result. We can postulate a dominance of knowledge heterogeneity at the systems (national, transnational) level. Only at the subsystem (subnational) level we should expect homogeneity. This understanding we can paraphrase with the term "Mode 3" Knowledge Production System.

Embedding concepts of knowledge creation, diffusion, and use in the context of general systems theory could prove mutually beneficial and enriching for systems theory as well as knowledge-related fields of study, as this could:

(a) Reveal for systems theory a new and important field of application.
(b) At the same time, provide a better conceptual framework for understanding knowledge-based and knowledge-driven events and processes in the economy, and hence reveal opportunities for optimizing public sector policies and private sector practices.

Thus, the major purposes of this chapter could be paraphrased as follows:

(a) *Adding to the theories and concepts of knowledge* further discursive inputs, such as suggesting a linkage of systems theory and the understanding of knowledge, emphasizing multilevel systems of knowledge and innovation, summarized also under the term of *"Mode 3" Knowledge Production Systems Approach to knowledge creation, diffusion, and use* that we discuss below.

[8] *Technology* is defined as that "which allows one to engage in a certain activity … with consistent quality of output," the "*art of science and the science of art"* (Carayannis 2001) or "*the science of crafts*" (Braun 1997).

[9] We consider the following quote useful for elucidating the meaning and role of a "*knowledge nugget*" as a building block of the "Mode 3" Innovation Ecosystem": "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 Fig. 10.3, 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" (Carayannis and Gonzalez 2003, p. 593; see also Carayannis et al. 2003).

(b) This diversified and conceptually pluralized understanding should *support practical and application-oriented decision-making with regard to knowledge, knowledge optimization, and the leveraging of knowledge for other purposes*, such as economic performance: knowledge-based decision-making has ramifications for knowledge management of firms (global multinational corporations) and universities *as well as* for public policy (knowledge policy, innovation policy).
(c) The *exploration, identification, and understanding of the key triggers, drivers, catalysts, and accelerators of high quality and quantity (continuous as well as discontinuous, reinforcing as well as disruptive) innovation and sustainable entrepreneurship* (financially and environmentally—see work by the authors on the *Quintuple Innovation Helix*—Carayannis and Campbell, IJSD 2010) that serve as the foundations of robust competitiveness within the operational framework of *Open Innovation Diplomacy* (Carayannis 2011) and *Diaspora Entrepreneurship and Innovation Networks* (Carayannis 2011).

10.2 Definition of Terms

10.2.1 Diplomacy

The art and practice of conducting negotiations between nations.
A skill in handling affairs without arousing hostility.

- http://www.merriam-webster.com/dictionary/diplomacy

Diplomacy is the art and practice of conducting negotiations between representatives of groups or states. It usually refers to international diplomacy, the conduct of international relations through the intercession of professional diplomats with regard to issues of peace-making, trade, war, economics, culture, environment, and human rights. International treaties are usually negotiated by diplomats prior to endorsement by national politicians. In an informal or social sense, diplomacy is the employment of tact to gain strategic advantage or to find mutually acceptable solutions to a common challenge, one set of tools being the phrasing of statements in a nonconfrontational or polite manner.

- http://en.wikipedia.org/wiki/Diplomacy

10.2.2 Science Diplomacy

What is "Science Diplomacy?" Science Diplomacy (SD) is the exchange of Science and Technology across borders. A valuable resource and little understood tool of awareness, understanding, and capacity building, its power is not widely known or considered often enough.

- http://mountainrunner.us/2007/04/science_diplomacy.html

10.2.3 Cultural Diplomacy

Cultural diplomacy specifies a form of diplomacy that carries a set of prescriptions which are material to its effectual practice; these prescriptions include the unequivocal recognition and understanding of foreign cultural dynamics and observance of the tenets that govern basic dialogue.

Milton C. Cummings Jr. draws out the meaning of these cultural dynamics in his description of cultural diplomacy as "…the exchange of ideas, information, art, lifestyles, values systems, traditions, beliefs and other aspects of cultures…."

- http://en.wikipedia.org/wiki/Cultural_diplomacy

10.2.4 Economic Diplomacy

Berridge and James (2003) state that "economic diplomacy is concerned with economic policy questions, including the work of delegations to conferences sponsored by bodies such as the WTO" and include "diplomacy which employs economic resources, either as rewards or sanctions, in pursuit of a particular foreign policy objective" also as a part of the definition.

Rana (2007) defines economic diplomacy as "the process through which countries tackle the outside world, to maximize their national gain in all the fields of activity including trade, investment and other forms of economically beneficial exchanges, where they enjoy comparative advantage; it has bilateral, regional and multilateral dimensions, each of which is important."

- http://en.wikipedia.org/wiki/Economic_diplomacy

10.2.5 Innovation Diplomacy

Science, despite its international characteristics, is no substitute for effective diplomacy. Any more than diplomatic initiatives necessarily lead to good science. These seem to have been the broad conclusions to emerge from a 3-day meeting at Wilton Park in Sussex, UK, organized by the British Foreign Office and the Royal Society, and attended by scientists, government officials, and politicians from 17 countries around the world. The definition of science diplomacy varied widely among participants. Some saw it as a subcategory of "public diplomacy," or what US diplomats have recently been promoting as "soft power" ("the carrot rather than the stick approach," as a participant described it).

Others preferred to see it as a core element of the broader concept of "innovation diplomacy," covering the politics of engagement in the familiar fields of international scientific exchange and technology transfer, but raising these to a higher level as a diplomatic objective.

- http://scidevnet.wordpress.com/category/science-diplomacy-conference-2010/

"Science and innovation together have a role that can be used to promote global equality and sustainable development," Seabra da Cruz said. He pointed out how Brazil's surging capacity in science and technology has provided a new channel for establishing relations with other countries, particularly emerging economies such as China and India, and those in other parts of the developing world: "The big challenge to us and other emerging economies is to find ways of using scientific knowledge to enhance our competitiveness and create a new international division of labour. Without linking scientific knowledge to innovation policy, it is impossible to have sustainable development." As an example of innovation diplomacy in action, he pointed to how technical knowledge can be exchanged between countries about the best ways of using cheap, sustainable sources of energy—as Brazil is doing with its experience in biofuels—helping to improve relations between the providers of such knowledge and those that receive it. "This is an example of where we can exchange information about best social and innovation practices – which are all likely to involve science to a greater or lesser degree – and also provide an immediate and relatively easy way of making innovation work for diplomacy." He admitted that, as with science diplomacy, innovation diplomacy presents a number of challenges. Diplomats need to be well informed on innovation-related issues, embassies need to develop "observatories" that monitor the innovation landscape of the countries in which they are based, and ways need to be found to engage a country's scientific and technological diaspora.

More specifically, Innovation Diplomacy leverages Entrepreneurship and Innovation as key drivers, catalysts and accelerators of economic development and envisions, in particular, the development of efforts and initiatives along the following axes concerning, in particular, the socio-economic condition and dynamics in Greece currently:

1. *Reengineer mindsets, attitudes, and behaviors* to help people—and especially the younger ones—realize the true nature and potential of innovation and entrepreneurship as a way of life and the most powerful lever for and pathway to sustainable growth and prosperity with positive spill-over effects staunching the braindrain, reduced cynicism and increased optimism and trust in the future and each other, reduced criminality and social unrest, higher assimilation of migrant groups, etc.
2. *Engage in sustained, succinct, and effective dialog with stakeholders and policy makers within the involved countries* to pursue the reform and as needed re-invention of institutions, policies, and practices that can make flourish entrepreneurship and innovation in areas such as related laws, rules and regulations, higher education, public and private Research and Development, civil society movements, and nongovernmental organizations.
3. *Identify, network and engage purposefully and effectively with the Diaspora professional and social networks around the world* to trigger, catalyze, and accelerate their involvement and intervention in a focused and structured manner to help with goals 1 and 2 above as well as help establish, fund, and manage

entrepreneurship and innovation promoting and supporting initiatives and institutions such as business plan competitions, angel and other risk capital financing of new ventures, mentoring of and partnering with said ventures to ensure their survival, growth and success both within a given country and in the global markets. Of particular interest and importance would be communities of practice and interest among the Diaspora Entrepreneurship and Innovation Networks.

To fully leverage the potential of systems (and systems theory) one should also demonstrate, how a system design can be brought in line with other available concepts, such as innovation networks and knowledge clusters. With regard to clusters, at least three types of clusters can be listed:

1. *Geographic (spatial) clusters*: In that understanding, a cluster represents a certain geographic, spatial configuration, either tied to a location or a larger region. Geographic, spatial proximity, for example, for the exchange of tacit knowledge, is considered as crucial. While "local" clearly represents a subnational entity, a "region" could be either subnational or transnational.
2. *Sectoral clusters*: This cluster approach is carried by the understanding that different industrial or business sectors develop specific profiles with regard to knowledge production, diffusion, and use. One could even add that sectoral clusters even support the advancement of particular "knowledge cultures." In innovation research, the term "innovation culture" already is being acknowledged (Kuhlmann 2001, p. 958).
3. *Knowledge clusters*: Here, a cluster represents a specific configuration of knowledge, and possibly also of knowledge types. However, in geographic (spatial) and sectoral terms, a knowledge cluster is not predetermined. In fact, a knowledge cluster can cross-cut different geographic locations and sectors, thus operating globally and locally (across a whole multilevel spectrum). Crucial for a knowledge is, if it expresses an innovative capability, for example, produces knowledge that excels (knowledge-based) economic performance. A knowledge cluster, furthermore, may even include more than one geographic and/or sectoral clusters.

Networks emphasize *interaction, connectivity, and mutual complementarity and reinforcement*. Networks, for example, can be regarded as the internal configuration that ties together and determines a cluster. Networks also can express the relationship between different clusters. *Innovation networks and knowledge clusters thus resemble a matrix,* indicating the interactive complexity of knowledge and innovation. Should the (proposed) conceptual flexibility of systems (and systems theory) be fully leveraged, it appears important to demonstrate how systems relate conceptually to knowledge clusters and innovation networks, as they are key in understanding the nature and dynamics of knowledge stocks and flows. What we suggest is to link the two basic components (attributes) of systems ("elements/parts" and "rationale/self-rationale"; Campbell 2001, p. 426) with clusters and networks

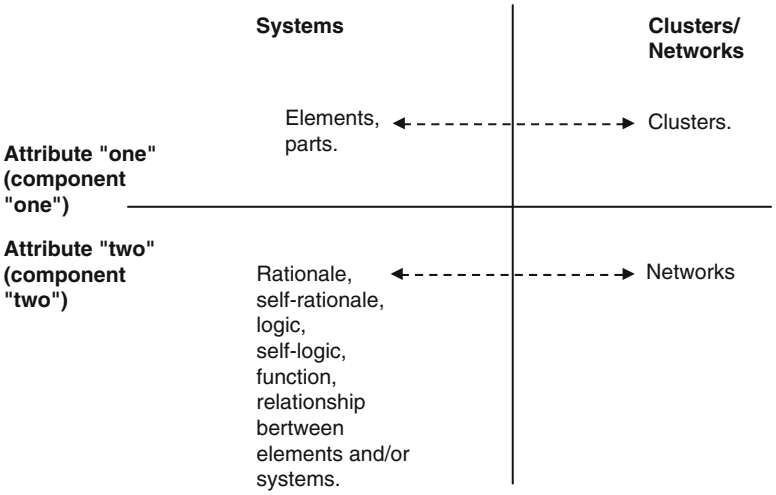

Fig. 10.1 Theoretical equivalents between conceptual attributes of systems and clusters/networks. *Source*: Authors' own conceptualization

(Carayannis and Campbell 2006a, pp. 9–10). What results is a formation of two pairs of theoretical equivalents (see Fig. 10.1):

1. *Elements and clusters:* The elements (parts) of a system can be regarded as an equivalent to clusters (knowledge clusters).
2. *Rationale and networks:* The rationale (self-rationale) of a system can be understood as an equivalent to networks (innovation networks).

The rationale of a system holds together the system elements and expresses the relationship between different systems. It could be argued that, at least partially, this rationale manifests itself ("moves through") networks. At the same time, elements of a system might also manifest themselves as clusters. Perhaps, networks could be affiliated with the functions of a system, and clusters with the structures of systems. This would help indicating to us, should we be interested in searching for structures and functions of knowledge and innovation systems, what exactly to look for. This, obviously, does not imply to claim that structures and functions of knowledge (innovation) systems only fall into the conceptual boxes of "clusters" and "networks." However, clusters and networks should be regarded as crucial subsets for the elements and rationales of systems.

This equation formula (between elements/clusters and rationales/networks) might need further conceptual and theoretical development. But it lays open a convincing route for better understanding knowledge and innovation, through tying together two strong conceptual traditions (systems theory with clusters and knowledge).

A further ramification of networks, as we will demonstrate later on, could also imply to understand (at least the large-scale) knowledge strategies as complex network configurations.

As a new input for discussion, we wish to introduce the concept of *the* "Mode 3" *knowledge creation, diffusion, and use system,* and we define below the essential elements or building blocks of "Mode 3." The notion "Mode 3" was coined by Carayannis (late fall of 2003), and was as a concept jointly developed by Carayannis and Campbell (2006a, b).

In the following, we list some of the key definitions, which refer to "Mode 3" and associated concepts (see also Carayannis and Campbell 2006c).

- *The "MODE 3" Systems Approach for knowledge creation, diffusion, and use:*

  "Mode 3" is a multi-lateral, multi-nodal, multi-modal, and multi-level systems approach to the conceptualization, design, and management of real and virtual, "knowledge-stock" and "knowledge-flow," modalities that catalyze, accelerate, and support the creation, diffusion, sharing, absorption, and use of co-specialized knowledge assets. "Mode 3" is based on a system-theoretic perspective of socio-economic, political, technological, and cultural trends and conditions that shape the co-evolution of knowledge with the "knowledge-based and knowledge-driven, gloCal economy and society."[10]

- *Innovation networks:*

  Innovation Networks[11] 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[12,13]).

- *Knowledge clusters:*

  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.

- *Twenty-first century fractal research, education and innovation ecosystem (FREIE):*

  A twenty-first century FREIE is a multi-level, multi-modal, multi-nodal and multi-agent system of systems. The constituent systems consist of innovation meta-networks (networks of innovation networks and knowledge clusters) and knowledge meta-clusters (clusters of innovation networks and knowledge clusters) as building blocks and organized in a

[10] Carayannis and Zedtwitz 2005.

[11] Networking is important for understanding the dynamics of advanced and knowledge-based societies. Networking links together different modes of knowledge production and knowledge use, and also connects (sub-nationally, nationally, trans-nationally) different sectors or systems of society. Systems theory, as presented here, is flexible enough for integrating and reconciling systems and networks, thus creating conceptual synergies.

[12] Carayannis and Alexander (2004).

[13] Carayannis and Alexander (1999a,b).

self-referential or chaotic[14] fractal[15] (Gleick 1987) knowledge and innovation architecture (Carayannis 2001), which in turn constitute agglomerations of human, social, intellectual and financial capital stocks and flows as well as cultural and technological artifacts and modalities, continually co-evolving, co-specializing, and co-opeting. These innovation networks and knowledge clusters also form, re-form and dissolve within diverse institutional, political, technological and socio-economic domains including Government, University, Industry, Non-governmental Organizations and involving Information and Communication Technologies, Biotechnologies, Advanced Materials, Nanotechnologies and Next Generation Energy Technologies.

10.3 Mode 3, Quadruple Helix, Schumpeter's Creative Destruction, and the Co-Evolution of Different Knowledge Modes

In the following paragraphs, we present in greater detail different aspects of advanced knowledge and innovation. Crucial for the suggested "Mode 3" approach is the idea that an advanced knowledge system may integrate different knowledge modes. Some knowledge (innovation) modes certainly will phase out and stop existing. However, what is important for the broader picture is that in fact a coevolution, codevelopment, and cospecialization of different knowledge modes emerges. This pluralism of knowledge modes should be regarded as essential for advanced knowledge-based societies and economies. This may point to similar features of advanced knowledge and advanced democracy. We could state that competitiveness and sustainability of the glo*C*al knowledge economy and society increasingly depend on the elasticity and flexibility of promoting a coevolution and by this also a

[14] Carayannis (2001, pp. 169–170) discusses chaos theory and fractals in connection to technological learning and knowledge and innovation system architectures: "Chaos theory is a close relative of catastrophe theory, but has shown more potential in both explaining and predicting unstable nonlinearities, thanks to the concept of self-similarity or fractals [*patterns within patterns*] and the chaotic behavior of attractors (Mandelbrot) as well as the significance assigned to the role that initial conditions play as determinants of the future evolution of a non-linear system (Gleick 1987). There is a strong affinity with strategic incrementalism, viewed as a third-order (triple-layered), feedback-driven system that can exhibit instability in any given state as a result of the operational, tactical, and strategic technological learning … that takes place within the organization in question".

[15] "A *fractal* is a geometric object which is rough or irregular on all scales of length, and so which appears to be "broken up" in a radical way. Some of the best examples can be divided into parts, each of which is similar to the original object. Fractals are said to possess infinite detail, and some of them have a self-similar structure that occurs at different levels of magnification. In many cases, a fractal can be generated by a repeating pattern, in a typically recursive or iterative process. The term *fractal* was coined in 1975 by Benoît Mandelbrot, from the Latin *fractus* or 'broken.' Before Mandelbrot coined his term, the common name for such structures (the Koch snowflake, for example) was *monster curve*. Fractals of many kinds were originally studied as mathematical objects. *Fractal geometry* is the branch of mathematics which studies the properties and behavior of fractals. It describes many situations which cannot be explained easily by classical geometry, and has often been applied in science, technology, and computer-generated art. The conceptual roots of fractals can be traced to attempts to measure the size of objects for which traditional definitions based on Euclidean geometry or calculus fail" (http://en.wikipedia.org/wiki/Fractal).

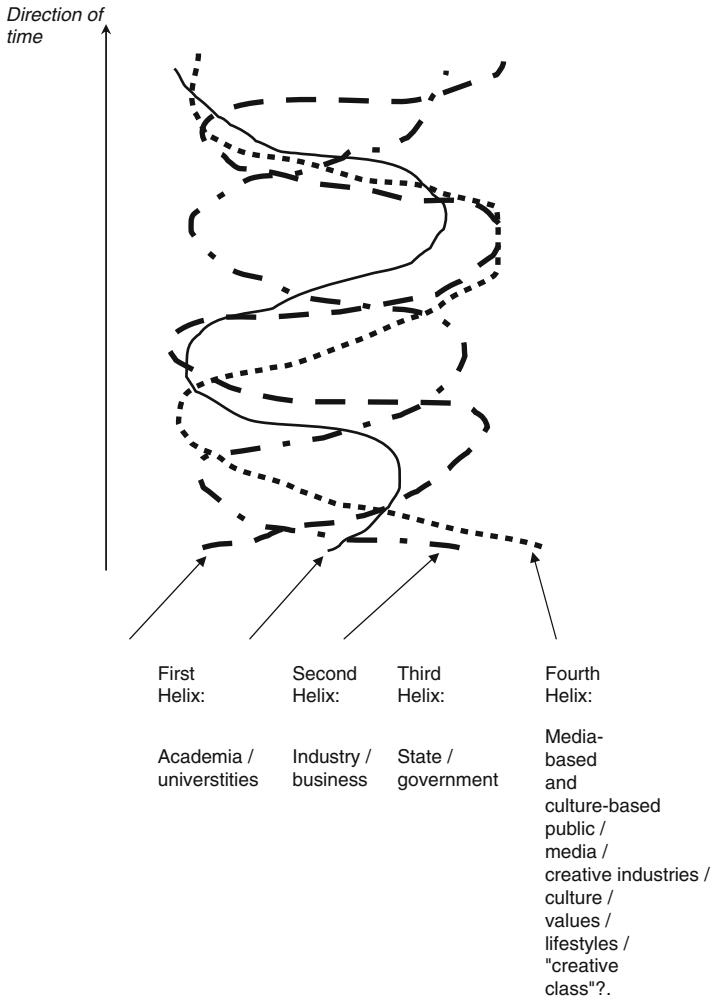

Fig. 10.2 The conceptualization of the "Quadruple Helix." *Source*: Carayannis and Campbell, IJTM, 2009

cross-integration of different knowledge (innovation) modes. This heterogeneity of knowledge modes should create hybrid synergies and additionalities.

The "Triple Helix" model of knowledge, developed by Henry Etzkowitz and Loet Leydesdorff (2000, pp. 111–112), stresses three "helices" that intertwine and by this generate a national innovation system: academia/universities, industry, and state/government. Etzkowitz and Leydesdorff are inclined of speaking of "university–industry–government relations" and networks, also placing a particular emphasis on "tri-lateral networks and hybrid organizations," where those helices overlap. In extension of the Triple Helix model we suggest a "Quadruple Helix" model (see Fig. 10.2). Quadruple Helix, in this context, means to add to the above stated helices a "fourth helix" that we identify as the "media-based and

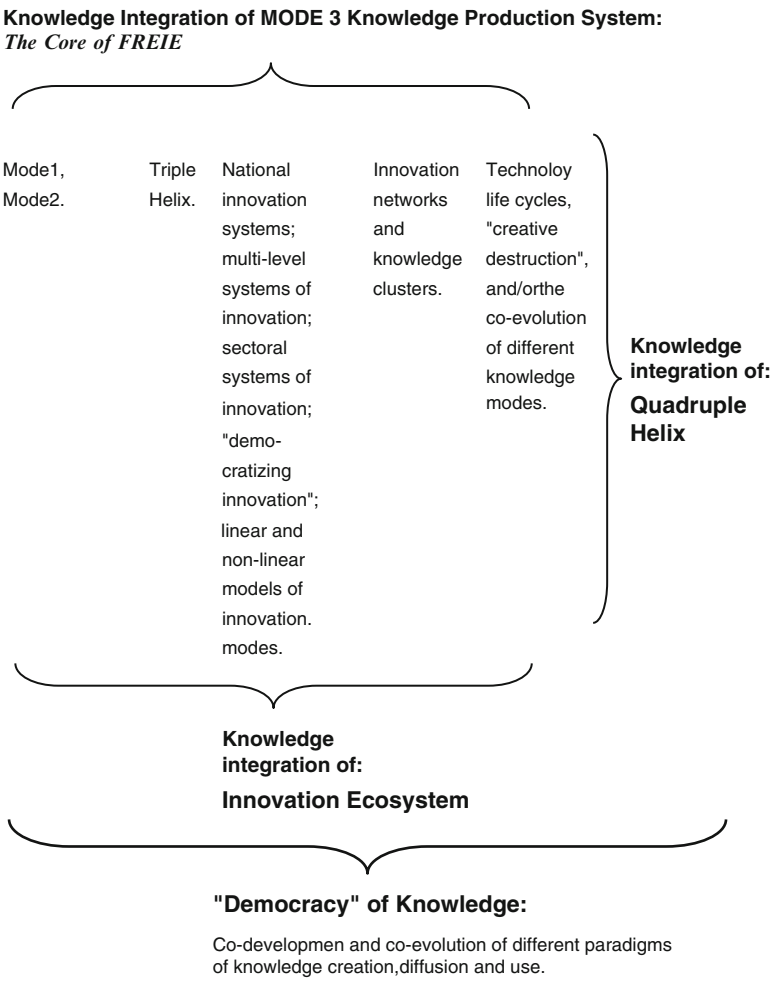

Fig. 10.3 Knowledge creation, diffusion, and use in a Glocal Knowledge Economy and Society. *Source*: Carayannis and Campbell, IJTM, 2009

culture-based public." This fourth helix associates with "media," "creative industries," "culture," "values," "life styles," and perhaps also the notion of the "creative class" (a term, coined by Richard Florida 2004). Plausibility for the explanatory potential of such a fourth helix are that culture and values, on the one hand, and the way how "public reality" is being constructed and communicated by the media, on the other hand, influence every national innovation system. The proper "innovation culture" is key for promoting an advanced knowledge-based economy. Through public discourses, transported through and interpreted by the media, are crucial for a society to assign top-priorities to innovation and knowledge (research, technology, education).

Figure 10.3 displays visually from which conceptual perspectives the coevolution and cross-integration of different knowledge modes could be approached.

"Mode 3" emphasizes the additionality and surplus effect of a coevolution of a pluralism of knowledge and innovation modes. "Quadruple Helix" refers to structures and processes of the glo*C*al knowledge economy and society. Furthermore, the "FREIE" stresses the importance of a pluralism of a diversity of agents, actors, and organizations: universities, small- and medium-sized enterprises, and major corporations, arranged along the matrix of fluid and heterogeneous innovation networks and knowledge clusters. This all may result in a "democracy of knowledge," driven by a pluralism of knowledge and innovation and by a pluralism of paradigms for knowledge modes.

In the "Frascati Manual," the OECD (1994, p. 29) distinguishes between the following activity categories of research (R&D, research and experimental development): basic research; applied research; and experimental development. Basic research represents a primary competence of university research, whereas business R&D focuses heavily on experimental development. Assessed empirically for the USA, one of the globally leading national innovation systems, with regard to the financial volume of R&D resources the experimental development ranks first, applied research second, and basic research third (see Fig. 10.4; OECD 2006).[16] Interesting, however, is the dynamic momentum, when observed for a longer period of time. Basic research, in the USA, grew faster than applied research. In 1981, 13.4% of the US R&D was devoted to basic research. By 2004, basic research increased its percentage share to 18.7%. During the same time period the percentage shares of applied research and experimental development declined (Fig. 10.5). This links up to the question, whether we should expect an R&D "U-curving" for US innovation system, implying that basic research further will increase its percentage shares of the overall R&D expenditure. This would go hand-in-hand with an importance in gain of basic research. Furthermore, would such a potential future scenario for the USA also spill over to other national innovation systems?

In a simple understanding, the "linear model of innovation" claims: first, there is basic university research. Later this basic research converts into applied research of intermediary organizations (university-related institutions).[17] Finally, firms pick up, and transform applied research to experimental development, which is then being introduced as commercial market applications. This linear understanding often is referred to Vannevar Bush (1945), even though Bush himself, in his famous report, neither mentions the terms "linear model of innovation" nor even the word "innovation." "Nonlinear models of innovation," on the contrary, underscore a more parallel coupling of basic research, applied research, and experimental development. Thus, universities or higher education institutions (HEIs) in general, university-related institutions and firms join together in variable networks and platforms for creating innovation networks and knowledge clusters. Even though there continues to be a division of labor and a functional specialization of organizations with regard to the

[16] The data in Fig. 10.4 express the R&D performance of the USA, for the period 1981–2004, in million 2000 dollars in constant prices and PPP (purchasing power parities).

[17] In the German language, "university-related" would qualify as "außeruniversitär" (Campbell 2003, p. 99).

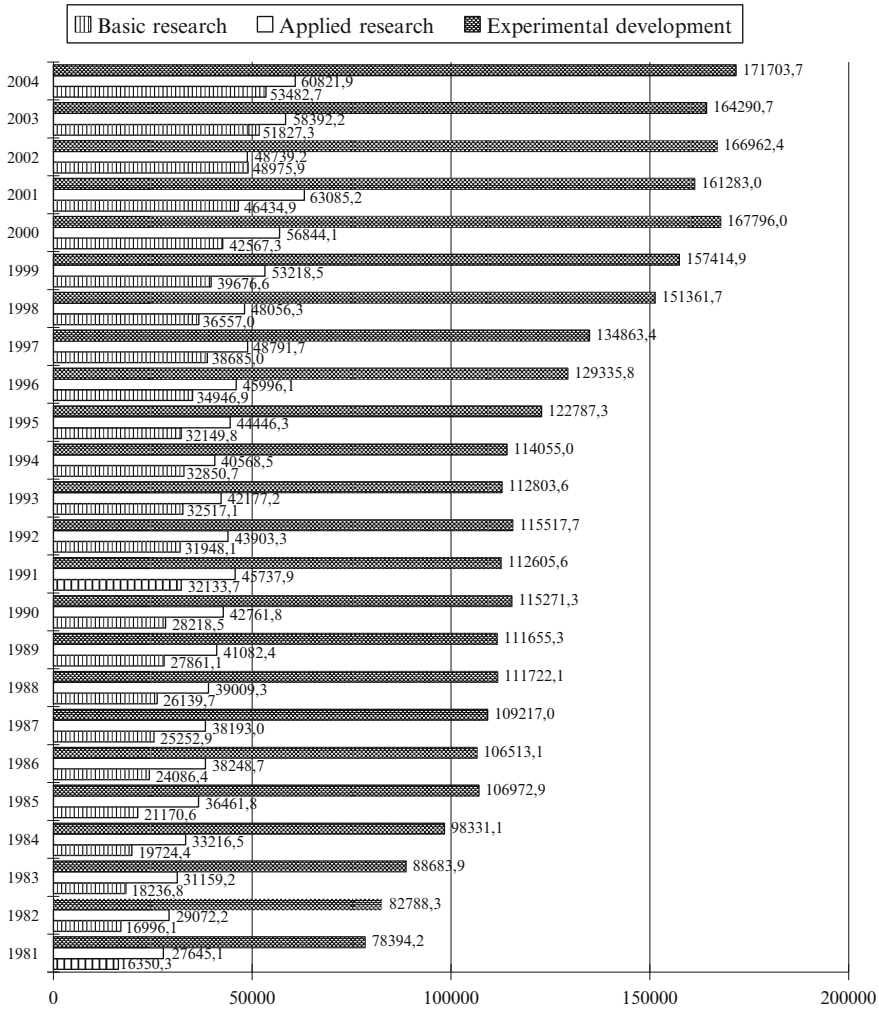

Fig. 10.4 National R&D performance of the USA according to the "R&D activities" of basic research, applied research, and experimental development (million constant $2,000 prices and PPPs, 1981–2004). *Source*: "Research and Development Statistics" (OECD 2006; on-line data base)

type of R&D activity, universities, university-related institutions and firms can perform, at the same time, basic and applied research and experimental development. Surveys about sectoral innovation in the pharmaceutical sector (McKelvey et al. 2004) and the chemical sector (Cesaroni et al. 2004) reveal how each of these industries may be characterized by complex network configurations and arrangement of a diversity of academic and firm actors. The Mode 3 Innovations Ecosystem

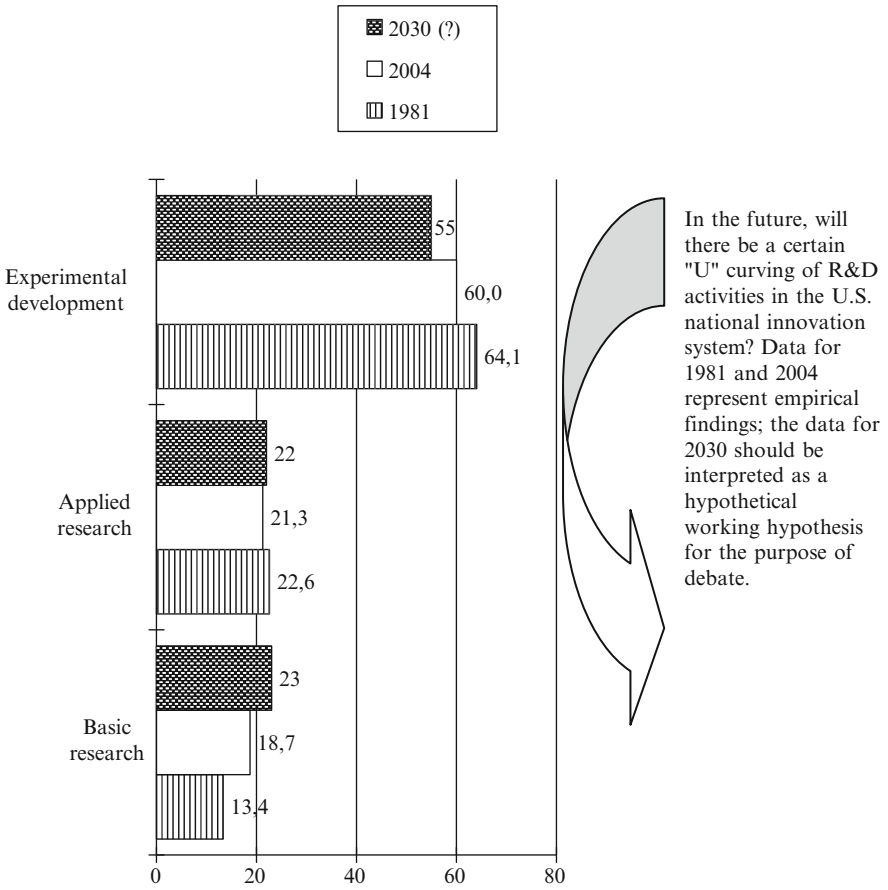

Fig. 10.5 National R&D performance of the USA according to the "R&D activities" of basic research, applied research, and experimental development (% of annual R&D activities; 1981, 2004, and a possible projection for 2030). *Source*: Authors' own conceptualization; hypothetic projection, based on "Research and Development Statistics" (OECD 2006; on-line data base)

thus represents a model for a simultaneous coupling of "nonlinear innovation modes" (see Fig. 10.6).

The concept of the "entrepreneurial university" captures the need of linking more closely together university research with the R&D market activities of firms (see, e.g., Etzkowitz 2003). As important, as the entrepreneurial university, is for us the concept of the "academic firm,"[18] which represents the complementary business organization and strategy *vis-à-vis* the entrepreneurial university. The interplay of

[18] The "academic firm," as a notion and concept, was first developed by Campbell and Güttel (2005).

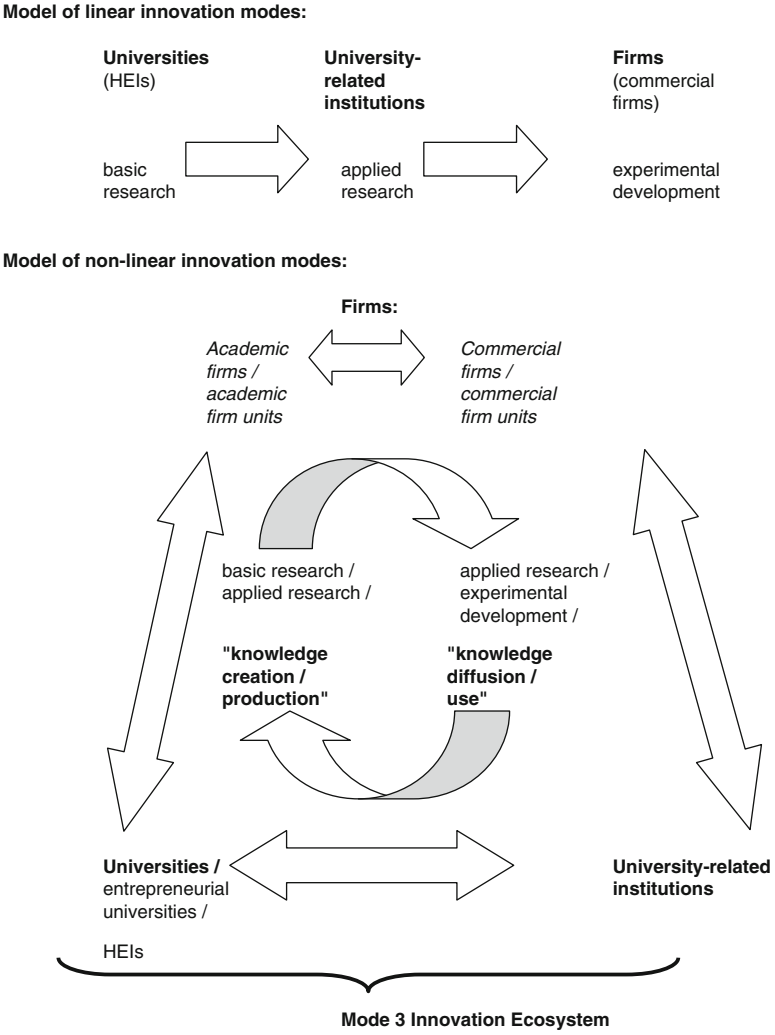

Fig. 10.6 Linear and nonlinear innovation modes linking together universities with commercial and academic firms (firm units). *Source*: Authors' own conceptualization

academic firms and entrepreneurial universities should be regarded as crucial for advanced knowledge-based economies and societies. The following characteristics represent the academic firm (Campbell and Güttel 2005, p. 171): "support of the interfaces between the economy and the universities"; "support of the paralleling of basic research, applied research and experimental development"; "incentives for employees to codify knowledge"; "support of collaborative research and of research networks"; and "a limited 'scientification' of business R&D." Despite continuing important functional differences between universities and firms, also some limited

hybrid overlapping may occur between entrepreneurial universities and academic firms, expressed in the circumstance that entrepreneurial universities and academic firms can engage more easily in university/business research networks. In an innovation-driven economy, the business R&D is being supported and excelled when it can refer to inputs from networking of universities and firms clearly supports business R&D. The academic firm also engages in "basic business research." Of course, we always must keep in mind that academic firms and universities are not identical, because academic firms represent commercial units, interested in creating commercial revenues and profits. Alternatively, the academic firm could be seen in two ways: (1) as a concept for the whole firm; (2) or as a concept only for a subdivision, subunit or branch of the firm. In many contexts, this second option appears to be more realistic, particularly when we analyze multinational companies or corporations (MNCs) that operate in global context. *For the future, this may have the following implication: How can or should firms balance, within their "organizational boundary," principle of the academic and of the traditional "commercial" firm?*

The "technology life cycles" explain why there is always a dynamic momentum in the gloCal knowledge economy and society (Tassey 2001). The "saturation tendency" within every technology life cycle demands the creation and launch of new technology life cycles, leading to the market introduction of next generation technology-based products and services. In reality, always different technology life cycles with a varying degree of market maturity will operate in parallel. To a certain extent, technology life cycles are also responsible for the cyclicality (growth phases) of a modern market economy. The perhaps shortest possible way of describing the economic thinking of Joseph A. Schumpeter is to put up the following equation: entrepreneurship, leveraging the opportunities of new technology life cycles, creates economic growth. Addressing the cyclicality of capitalist economic life, Schumpeter (1942) used the notion of the "Creative Destruction." "Mode 3" may open up a route for overcoming or transforming the destructiveness of the "creative destruction" (Carayannis et al. 2007).

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Chapter 11
Cross-Cultural Knowledge Management and Open Innovation Diplomacy: The Conceptual Understanding of Knowledge and Innovation

11.1 The Conceptual Understanding of Knowledge and Innovation

Knowledge does matter: but the question is when, how, and why? Moreover, with the advancement of economies and societies, *knowledge matters even more* and in ways that are not always predictable or even controllable (e.g., see the concepts of *strategic knowledge serendipity* and *strategic knowledge arbitrage* in Carayannis et al. 2003). The successful performance of the developed *and* the developing economies, societies, and democracies increasingly depends on knowledge. One branch of knowledge develops along R&D (research and experimental development), S&T (science and technology), and innovation.[1]

Innovation is a word derived from the Latin, meaning to introduce something new to the existing realm and order of things or to change the yield of resources as stated by J.B. Say quoted in Drucker (1985). In addition, innovation is often linked with creating a sustainable market around the introduction of new and superior product or process. Specifically, in the literature on the management of technology, technological innovation is characterized as the introduction of a new technology-based product into the market:

"Technological innovation is defined here as a situationally new development through which people extend their control over the environment. Essentially, technology is a tool of some kind that allows an individual to do something new. A technological innovation is basically information organized in a new way. So technology transfer amounts to the communication of information, usually from one organization to another" (Tornatzky and Fleischer 1990).

The broader interpretation of the term "innovation" refers to an innovation as an "idea, practice, or material artifact" (Rogers and Shoemaker 1971:19) adopted by a person or organization, where that artifact is "perceived to be new by the relevant

[1] Another branch of knowledge can be based on education and its diversified manifestations.

M. Del Giudice et al., *Cross-Cultural Knowledge Management*, Innovation, Technology, and Knowledge Management, DOI 10.1007/978-1-4614-2089-7_11,

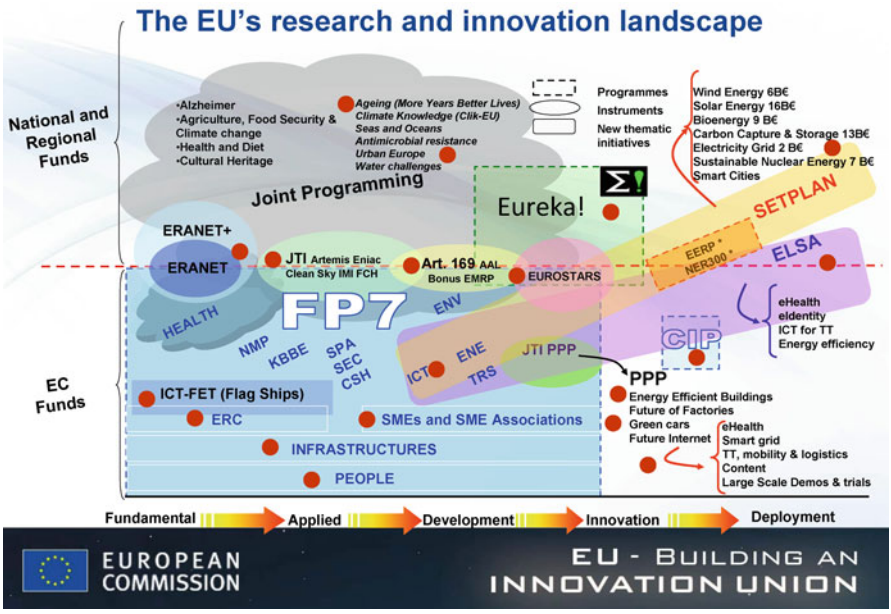

Fig. 11.1 The EU's research and innovation landscape. *Source*: European Commission Website (http://ec.europa.eu/)

unit of adoption" (Zaltman et al. 1973). Therefore, innovation tends to change perceptions and relationships at the organizational level, but its impact is not limited there. Innovation in its broader sociotechnical, economic, and political context, can also substantially impact, shape, and evolve ways and means people live their lives, businesses form, compete, succeed and fail, and nations prosper or decline (see Fig. 11.1).

From a business perspective, an innovation is perceived as the happy ending of the commercialization journey of an invention, when that journey is indeed successful and leads to the creation of a sustainable and flourishing market niche or new market. Therefore, a technical discovery or invention (the creation of something new) is not significant to a company unless that new technology can be utilized to add value to the company, through increased revenues, reduced cost, and similar improvements in financial results. This has two important consequences for the analysis of any innovation in the context of a business organization.

First, an innovation must be integrated into the operations and strategy of the organization, so that it has a distinct impact on how the organization creates value or on the type of value the organization provides in the market.

Second, an innovation is a social process, since it is only through the intervention and management of people that an organization can realize the benefits of an innovation.

The discussion of innovation clearly leads to the development of a model, to understand the evolving nature of innovation. Innovation management is concerned with the activities of the firm undertaken to yield solutions to problems of product, process, and administration. Innovation involves uncertainty and dis-equilibrium. Nelson and Winter (1982) propose that almost any change, even trivial, represents innovation. They also suggest, given the uncertainty, that innovation results in the generation of new technologies and changes in relative weighting of existing technologies (ibid). This results in the *disruptive process* of dis-equilibrium. As an innovation is adopted and diffused, existing technologies may become less useful (reduction in weight factors) or even useless (weighing equivalent to "0") and abandoned altogether. The adoption phase is where uncertainty is introduced. New technologies are not adopted automatically but rather, markets influence the adoption rate (Carayannis 1997, 1998). Innovative technologies must propose to solve a market need such as reduced costs or increased utility or increased productivity. The markets, however, are social constructs and subject to noninnovation-related criteria. For example, an invention may be promising, offering a substantial reduction on the cost of a product which normally would influence the market to accept the given innovation; but due to issues like information asymmetry (the lack of knowledge in the market concerning the invention's properties), the invention may not be readily accepted by the markets. Thus, the innovation may remain an invention. If, however, the innovation is market accepted, the results will bring about change to the existing technologies being replaced, leading to a change in the relative weighting of the existing technology. This is in effect *dis-equilibrium.*

Given the uncertainty and change inherent in the innovation process, management must develop skills and understanding of the process a method for managing the disruption. The problems of managing the resulting disruption are strategic in nature. The problems may be classified into three groups, *engineering, entrepreneurial, and administrative* (Drejer 2002). This grouping correlates to the related types of innovation namely, *product, process, and administrative innovation*:

- *The engineering problem is one of selecting the appropriate technologies for proper operational performance.*
- *The entrepreneurial problem refers to defining the product/service domain and target markets.*
- *Administrative problems are concerned with reducing the uncertainty and risk during the previous phases.*

In much of the foregoing discussion, a recurring theme about innovation is that of *uncertainty*, leading to the conclusion that an effective model of innovation must include a multidimensional approach (uncertainty is defined as unknown unknowns whereas risk is defined as known knowns). One model posited as an aide to understanding is the Multidimensional Model of Innovation (MMI) (Cooper 1998). This model attempts to define the understanding of innovation by establishing three-dimensional boundaries. The planes are defined as product–process, incremental–radical, and administrative–technical. The product–process boundary concerns itself with the end product and its relationship to the methods employed by firms to

produce and distribute the product. Incremental–radical defines the degree of relative strategic change that accompanies the diffusion of an innovation. This is a measure of the disturbance or dis-equilibrium in the market. Technological–administrative boundaries refer to the relationship of innovation change to the firm's operational core. The use of technological refers to the influences on basic firm output while the administrative boundary would include innovations affecting associated factors of policy, resources, and social aspects of the firm.

11.2 The Relationship Between Knowledge and Innovation

What is the relationship between knowledge and innovation? From our viewpoint it makes sense, not to treat knowledge and innovation as interchangeable concepts. Ramifications of this are (see Fig. 11.2):

1. There are aspects, areas of knowledge, which can be analyzed, without considering innovation (e.g., "pure basic research" in a linear understanding of innovation).
2. Consequently, also there are areas or aspects of innovation, which are not (necessarily) tied to knowledge. For example, see different contributions to Shavinina (2003).

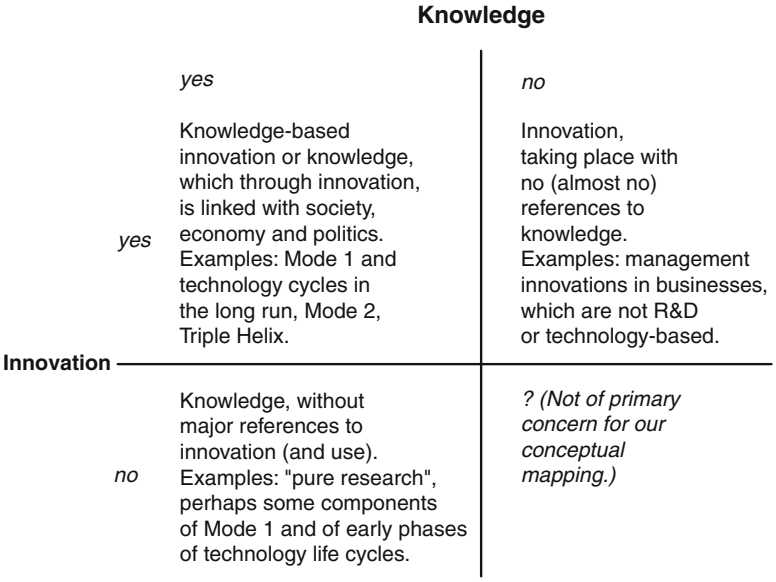

Fig. 11.2 A fourfold typology about possible cross-references and interactions between *"knowledge" and* "innovation." *Source*: Authors' own conceptualization

3. However, there are also areas, where knowledge and innovation coexist. These we would like to call *knowledge-based innovation,* indicating areas, where knowledge and innovation express a mutual interaction.

In the case of knowledge-referring innovation, we then can speak of innovation that deals with knowledge. Our impression is that in many contexts, when the focus falls on innovation, almost automatically this type of "knowledge-referring" or "knowledge-based" innovation is implied. Even though we will focus on this knowledge-based innovation, it still is important to acknowledge these possibilities of a knowledge without innovation, *and* of innovation, independently of knowledge. To further illustrate our point, the notion of the "national innovation system" or "national system of innovation" (NSI) conventionally expresses linkages to knowledge (see Lundvall 1992; Nelson 1993).

11.3 The "Mode 3" Knowledge Production System Multilevel Approach to Knowledge and Innovation

In research about the European Union (EU), references to a "multilevel architecture" are quite common (see, e.g., Hooghe and Marks 2001). Originating from this research about the EU, this "multilevel" approach is being applied in a diversity of fields, since it supports the understanding of complex processes in a globalizing world. Inspired by this, we suggest using the concept of *multilevel systems of knowledge* (see Fig. 11.3; see, furthermore, Carayannis and Campbell 2009). One obvious axis, therefore, is the spatial (geographic, spatial-political) axis that expresses different levels of spatial aggregations. The national level, coinciding with the nation state (the currently dominant manifestation of arranging and organizing political and societal affairs), represents one type of spatial aggregation. Subnational aggregations fall below the nation state level, and point toward local political entities. Transnational aggregations, for example, can refer to the supranational integration process of the EU. This raises the interesting question, whether we should be prepared to expect that in the twenty-first century we will witness a proliferation of supranational (transnational) integration processes also in other world regions, possible implying a new stage in the evolution of politics, where (small and medium-sized) nation state structures become absorbed by supranational (transnational) clusters (Campbell 1994). The highest level of transnational aggregation, we currently know, is globalization. Interestingly, the aggregation level of the term "region(s)" has never been convincingly standardized. In the context and political language of the EU, regions are understood subnationally. American scholars, on the other hand, often refer to regions in a state-transcending understanding (i.e., a region consists more than one nation states). The new term glo*C*al (global/local; Carayannis and Von Zedtwitz 2005) underscores the potentials and benefits of a mutual and parallel interconnectedness between different levels.

Despite the importance of this spatial axis, we wish not to exhaust the concept of multilevel systems of knowledge with spatial-geographic metaphors. We suggest

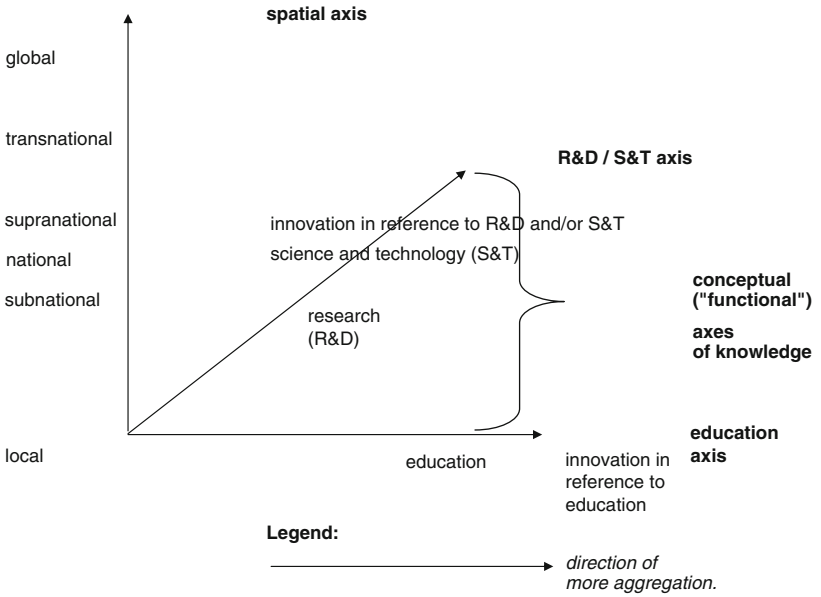

Fig. 11.3 A "three-dimensional" modeling of knowledge in a multilevel system understanding: axis of spatial aggregation, axis of R&D aggregation, axis of education aggregation. *Source*: Authors' own conceptualization

adding on nonspatial axes of aggregation. These we may call conceptual (functional) axes of knowledge. In that context, two axes certainly are pivotal: education and research (R&D, research and experimental development). For research, the level of aggregation can develop accordingly: R&D; S&T (science and technology)[2]; and R&D-referring innovation, involving a whole broad spectrum of considerations and aspects. Obviously, every "axis direction" of further aggregation—as demonstrated here for R&D—depends on a specific conceptual understanding. Should, for example, a different conceptual approach for defining S&T be favored, then the sequence of aggregation might change. (Concerning the education axis, for the moment, we want to leave it to the judgment of other scholars, what here meaningful terms at different levels of aggregation may be.) In Fig. 11.3, we present a three-dimensional visualization of a multilevel system of knowledge, combining one spatial with two nonspatial (conceptual) axes of knowledge (R&D and education).

How many nonspatial (conceptual) axes of knowledge can there be? We focused on the R&D and education axes. By this, however, we do not want to imply that there may not be more than two conceptual axes. Here, at least in principle, a multitude or diversity of conceptual model-building approaches is possible and also appropriate. Perhaps, we even could integrate "innovation" as an additional conceptual

[2] In that context also the mutual overlapping between R&D, S&T, and ICT (information and communication technology) should be stressed.

axis, following the aggregation line from local, to national and transnational innovation systems. We then would have to contemplate what the relationship is between such an "extra innovation axis" with the "innovation" of the research and education axes. "Regional" innovation could cross-reference local and transnational innovation systems, implying even glo*C*al innovation systems and processes that simultaneously link through different aggregation levels.

We already discussed the conceptual boundary problems between knowledge and innovation. One approach, how to balance ambiguities in this context, is to acknowledge that a partial conceptual overlap exists between a *knowledge-centered* and *innovation-centered* understanding. Depending on the focus of the preferred analytical view, the same "element(s)" can be conceptualized as being part of a knowledge or of an innovation system. Concerning knowledge, we pointed to some of the characteristics of multilevel systems of knowledge, underscoring the understanding of aggregation of spatial and nonspatial (conceptual) axes. Introducing multilevel systems of knowledge also justifies speaking of multilevel systems of innovation, developing the original concept of the national innovation system (Lundvall 1992; Nelson 1993) further. For example, the spatial axis of aggregation of knowledge (Fig. 11.3) also applies to innovation. Of course, also Lundvall (1992, pp. 1, 3) explicitly stresses that national innovation systems are permanently challenged (and extended) by regional as well as global innovation systems. But, paraphrasing Kuhlmann (2001, pp. 960–961), as long as nation state-based political systems exist, it makes sense to acknowledge national innovation systems. In a spatial (or geographic) understanding, the term multilevel systems of innovation is already being used (Kaiser and Heiko 2004, pp. 395, 405–406; and Kuhlmann 2001, pp. 970–971, 973). However, only more recently has it been suggested to extend this multilevel aggregation approach of innovation also to the nonspatial axes of innovation (Campbell 2006; Carayannis and Campbell 2006a). Therefore, multilevel systems of knowledge as well as multilevel systems of innovation are based on spatial and nonspatial axes. A further advantage of this multilevel systems architecture is that it results in a more accurate and closer-to-reality description of processes of globalization and glo*C*alization. For example, internationalization of R&D cross-cuts these different multilevel layers, links together organizational units of business, academic, and political actors at national, transnational, and subnational levels (Von Zedtwitz and Heimann 2006). One interpretation of R&D internationalization emphasizes how different subnational regions and clusters cooperate on a global scale, creating even larger transnational knowledge clusters.

The concept of the "sectoral systems of innovation" (SSI) cross-cuts the logic of the multilevel systems of innovation or knowledge. A sector often is being understood in terms of the industrial sectors. Sectors can perform locally/regionally, nationally, and transnationally. Reviews of SSIs often place a particular consideration on knowledge and technologies; actors and networks; furthermore institutions. Malerba (2004 p. i) recommends that analyses of SSI should include "the factors affecting innovation, the relationship between innovation and industry dynamics, the changing boundaries and the transformation of sectors, and the determinants of the innovation performance of firms and countries in different sectors."

11.4 Linear vs. (and/or) Non-linear Innovation Models (Modes)

Is the *linear model of innovation* still valid? In an ideal typical understanding the linear model states: first there is basic research, carried out in a university context. Later on, this basic research is converted into applied research, and moves from the university to the university-related sectors. Finally, applied research is translated into experimental development, carried out by business (the economy). What results is a *first-then relationship,* with the universities and/or basic research being responsible for generating the new waves of knowledge creation, which are, later on, taken over by business, and where business carries the final responsibility for the commercialization and marketing of R&D. National (multilevel) innovation systems, operating primarily on the premises of this linear innovation model, obviously would be disadvantaged: the time horizons for a whole R&D cycle, to reach the markets, could be quite extensive (with negative consequences for an economy, operating in the context of rapidly intensifying global competition). Furthermore, the linear innovation model exhibits serious weaknesses in communicating user preferences from the market end back to the production of basic research. In addition, how should the tacit knowledge of the users and markets be reconnected back to basic research? In the past, after 1945, the USA was regarded as a prototype for the linear innovation model system, with a strong university base, from where basic research gradually would diffuse to the sectors of a strong private economy, without the intervention of major public innovation policy programs (see Bush 1945, Chapter "The Importance of Basic Research"). As long as the USA represented the world-leading national economy, this understanding was sufficient. But with the intensification of global competition, also the demand for shortening the time horizons from basic research to the market implementation of R&D increased (OECD 1998, pp. 179–181, 185–186). In the 1980s, Japan, in particular, heavily pressured the USA. In the 2000s, global competition within the triad of the USA, Japan, and the EU escalated further, with China and India emerging as new competitors in the global context. In a nutshell, further-going economic competition and intrinsic knowledge demands challenged the linear innovation model.

As a consequence, we can observe a significant proliferation of *nonlinear innovation models*. There are several approaches to nonlinear innovation models. The "chain-linked model," developed by Kline and Rosenberg (1986; cited according to Miyata 2003, p. 716; see furthermore Carayannis and Alexander 2006), emphasizes the importance of feedback between the different R&D stages. Particularly, the coupling of marketing, sales and distribution with research claims to be important. "Mode 2" (Gibbons et al. 1994, pp. 3–8, 167) underscores the linkage of production and use of knowledge, by referring to the following five principles: "knowledge produced in the context of application"; "transdisciplinarity"; "heterogeneity and organizational diversity"; "social accountability and reflexivity"; and "quality control" (furthermore, see Nowotny et al. 2001 and 2003).[3] Metaphorically speaking,

[3] Should we add a further comment to the concepts of Mode 1 and Mode 2, it would be interesting to consider, how Mode 1 and Mode 2 relate to the notions of "Science One" and "Science Two," which were developed by Umpleby (2002).

the *first-then* sequence of relationships of different stages within the linear model, is replaced by a *paralleling* of different R&D activities (Campbell 2000, p. 139–141). Paralleling means: (1) linking together in real time different stages of R&D, for example, basic research and experimental development, and/or (2) linking different sectors, such as universities and firms. The "Triple Helix" model of Etzkowitz and Leydesdorff (2000, pp. 109, 111) stresses the interaction between academia, state, and industry, focusing consequently on "university–industry–government relations" and "tri-lateral networks and hybrid organizations." Carayannis and Laget (2004, pp. 17, 19) emphasize the importance of cross-national and cross-sectoral research collaboration, by testing these propositions for transatlantic public–private R&D partnerships. Anbari and Umpleby (2006, pp. 27–29) claim that one rationale, for establishing research networks, lies in the interest of bringing together knowledge producers, but also practitioners, with "complementary skills." Etzkowitz (2003) speaks also of the "entrepreneurial university." An effective coupling of university research and business R&D demands, furthermore, the complementary establishment of the entrepreneurial university and the "academic firm" (Campbell and Güttel 2005, pp. 170–172). Extended ramifications of these discourses also refer to the challenge of designing proper governance regimes for the funding and evaluation of university research (Geuna and Martin 2003; see, furthermore, Shapira and Kuhlmann 2003, and Campbell 1999; 2003). Furthermore, this imposes consequences on structures and performance of universities (Pfeffer 2006). Interesting is also the concept of "democratizing innovation." With this concept, Eric von Hippel proposes a "user-centric innovation" model, in which "lead users" represent "innovating users," who again contribute crucially to the performance of innovation systems. "Lead users" can be individuals or firms. Users often innovate, because they cannot find on the market, what they want or need (Von Hippel 2005; also, Von Hippel 1995). Nonproprietor knowledge, such as the "open source" movement in the software industry (Steinmueller 2004, p. 240), may be seen as successful examples for glo*C*ally self-organizing "user communities."

Put in summary, one could set up the following hypothesis for discussion: while Mode 1 and perhaps also the concept of "Technology Life Cycles"[4] appear to be closer associated with the linear innovation model, the Mode 2, and Triple Helix knowledge modes have more in common with a nonlinear understanding of knowledge and innovation. At the same time we should add that national (multilevel) innovation systems are challenged by the circumstance that several technology life cycles, at different stages of market maturity (closeness to commercial market introduction), perform in parallel. This parallel as well as sequentially time-lagged unfolding of technology life cycles also expresses characteristics of Mode 2 and of nonlinear innovation, because organizations (firms and universities) often must develop strategies of simultaneously cross-linking different technology life cycles. Universities and firms (commercial and academic firms) must balance the nontriviality of a fluid pluralism of technology life cycles.

[4] Concerning a further-going discussion of the Technology Life Cycles, see Cardullo (1999); Tassey (2001).

11.5 Extending the "Triple Helix" to a "Quadruple Helix" Model of Knowledge and Innovation

In their own words, Etzkowitz and Leydesdorff (2000, p. 118) say that the "Triple Helix overlay provides a model at the level of social structure for the explanation of Mode 2 as an historically emerging structure for the production of scientific knowledge, and its relation to Mode 1." Triple Helix is very powerful in describing and explaining the helices dynamics of "university–industry–government relations" that drives knowledge and innovation in the glo*C*al knowledge economy and society. We suggest that advanced knowledge-based economy and advanced democracy have increasingly similar features, in the sense of combining and integrating different knowledge modes and different political modes.[5] Modern political science claims that democracy and politics develop along the premises of a "media-based democracy." Fritz Plasser (2004, pp. 22–23) offers the following description for media-based democracy: media reality overlaps with political and social reality; perception of politics primarily through the media; and the laws of the media system determining political actions and strategies. Politics may convert from a "parliamentary representative" to a "media presenting" democracy, where "decision" politics moves to a "presentation" politics. Ramifications of the "multimedia information society" clearly impact "political communication" (see also Plasser and Plasser 2002).

The "fourth helix" of the Quadruple Helix refers to this "media-based and culture-based public" (see again Fig. 10.2). Knowledge and innovation policies and strategies must acknowledge the important role of the "public" for a successful achieving of goals and objectives. On the one hand, public reality is being constructed and communicated by the media and media system. On the other hand, the public is also influenced by culture and values. Knowledge and innovation policy should be inclined to reflect the dynamics of "media-based democracy," to draft policy strategies. Particularly, when we assume that traditional economic policy gradually (partially) converts into innovation policy, leveraging knowledge for economic performance and thus linking the political system with the economy, then innovation policy should communicate its objectives and rationales, via the media, to the public, to seek legitimation and justification (see Fig. 11.4; furthermore, see Carayannis and Campbell 2006a, p. 18; Carayannis and Campbell 2006b, p. 335). Also the PR (public relation) strategies of companies, engaged in R&D, must reflect on the fact of a "reality construction" by the media. Culture and values also express a key role. Cultural artifacts, such as movies, can create an impact on the opinion of the public and their willingness, to support public R&D investment. Some of the technical and engineering curricula at universities are not gender-symmetric, because a majority of the students are male. Trying to make women more interested

[5] A political mode could be seen as a particular political approach (clustering political parties, politicians, ideologies, values, and policies) to society, democracy, and the economy. Conservative politics, liberal politics or social democratic politics could be captured by the notion of a "political mode."

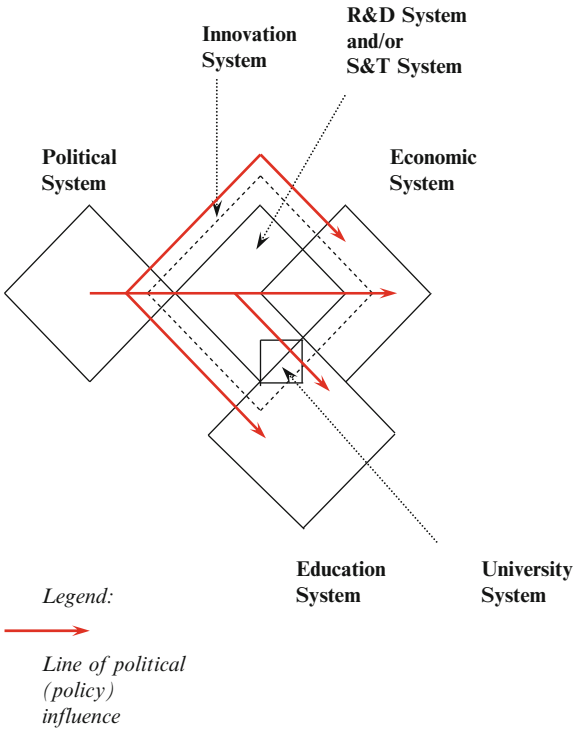

Fig. 11.4 Different societal systems: lines of political (policy) influence. *Source*: Carayannis and Campbell (2006a, p. 18, Figs. 1–7).

in enrolling in technical and engineering studies would imply also changing the "social images" of technology in society. The sustainable backing and reinforcing of knowledge and innovation in the glo*C*al knowledge economy and society requires a substantive supporting of the development and evolution of "innovation cultures" (Kuhlmann 2001, p. 954). *Therefore, the successful engineering of knowledge and innovation policies and/or strategies leverages the self-logic of the media system and leverages or alters culture and values*. Etzkowitz and Leydesdorff, in their stated quote, emphasize their intention that the Triple Helix model should help displaying patterns of "social structure." This in fact provides a rationale why a fourth helix of "media-based and culture-based public" could serve as a useful analytical tool, providing additional insights.

11.6 Coexistence and Coevolution of Different Knowledge and Innovation Paradigms

Discussing the evolution of scientific theories, Thomas S. Kuhn (1962) introduced the concept of *paradigms*. Paradigms can be understood as basic fundamentals, upon which a theory rests. In that sense paradigms are axiomatic premises, which

guide a theory, however, cannot be explained by the theory itself: but, paradigms add to the explanatory power of theories that are interested in explaining the (outside) world. Paradigms represent something like beliefs. According to Kuhn, there operates an evolution of scientific theories, following a specific pattern: there are periods of "normal science," interrupted by intervals of "revolutionary science," again converting over into "normal science," again challenged by "revolutionary science," and so on (Carayannis 1993, 1994, 2000, 2001; see also Umpleby 2005, pp. 287–288). According to Kuhn, every scientific theory, with its associated paradigm(s), has only a limited capacity for explaining the world. Confronted with phenomena, which cannot be explained, a gradual modification of the same theory might be sufficient. However, at one point a revolutionary transformation is necessary, demanding that a whole set of theories/paradigms will be replaced by new theories/paradigms. For a while, the new theories/paradigms are adequately advanced. However, in the long run, these cycles of periods of normal science and intervals of revolutionary science represent the dominant pattern.

Kuhn emphasizes this shift of one set of theories and paradigms to a new set, meaning that new theories and paradigms represent not so much an evolutionary off-spring, but actually replace the earlier theories and paradigms. While this certainly often is true, particularly in the natural sciences, we want to stress that there also can be a *coexistence and coevolution of paradigms* (and theories), implying that paradigms and theories can mutually learn from each other. Particularly in the social sciences this notion of coexistence and coevolution of paradigms might be sometimes more appropriate than the replacement of paradigms. For the social sciences, and politics in more general, we can point toward the pattern of a permanent mutual contest between ideas. Stuart A. Umpleby (1997, p. 635), for instance, emphasizes the following aspect of the social sciences very accurately: "Theories of social systems, when acted upon, change social systems." Not only (social) scientific theories refer to paradigms, also other social contexts or factors can be understood as being based on paradigms: we can speak of ideological paradigms, or of policy paradigms (Hall 1993). Another example would be the long-term competition and fluctuation between the welfare-state and the free-market paradigms (with regard to the metrics of left–right placement of political parties in Europe, see Volkens and Klingemann 2002, p. 158).

These different modes of innovation and knowledge creation, diffusion and use, which we discussed earlier, certainly qualify to be understood also as linking to *knowledge paradigms*. Because knowledge and innovation systems clearly relate to the context of a (multilevel) society, the (epistemic) knowledge paradigms can be regarded as belonging to the "family of social sciences." Interestingly, Mode 2 addresses "social accountability and reflexivity" as one of its key characteristics (Gibbons et al. 1994, pp. 7, 167–168). In addition to the possibility that a specific knowledge paradigm is replaced by a new knowledge paradigm, the relationship between different knowledge and innovation modes may often be described as an ongoing and continuous interaction of a dynamic coexistence and (over time) a coevolution of different knowledge paradigms. This reinforces the understanding that, in the advanced knowledge-based societies and economies, linear and nonlinear innovation models can operate in parallel.

11.7 The "Co-Opetitive" Networking of Knowledge Creation, Diffusion, and Use

Knowledge systems are highly complex dynamic and adaptive. To begin with, there exists a conceptual (hybrid) overlapping between multilevel knowledge and multilevel innovation systems. Multilevel systems process simultaneously at the global, transnational, national, and subnational levels, creating glo*C*al (global and local) challenges. Advanced knowledge systems should demonstrate the flexibility of integrating different knowledge modes; on the one hand, combining linear and nonlinear innovation modes; on the other hand, conceptually integrating the modes of Mode 1, Mode 2, and Triple Helix (for an overview of Mode 1, Mode 2, Triple Helix, and Technology Life Cycles, see Campbell 2006a, pp. 71–75). This displays the practical usefulness of an understanding of a coexistence and coevolution of different knowledge paradigms, and what the qualities of an "innovation ecosystem" could or even should be. The elastic integration of different modes of knowledge creation, diffusion, and use should generate synergistic surplus effects of additionality. Hence for advanced knowledge systems, networks and networking are important (Carayannis and Alexander 1999a,b; Carayannis and Campbell 2006b, pp. 334–339; for a general discussion of networks and complexity, see also Rycroft and Kash 1999).

How do networks relate to *cooperation and competition?* "Co-opetition," as a concept (Brandenburger and Nalebuff 1997), underscores that there can always exist a complex balance of cooperation and/or competition. Market concepts emphasize a competitive dynamics process between (1) forces of supply and demand, and the need of integrating (2) market-based as well as resource-based views of business activity. To be exact, networks do not replace market dynamics, thus they do not represent an alternative to the market–economy–principle of competition. Instead, networks apply a "co-opetitive" rationale, meaning: internally, networks are based primarily on cooperation, but may also allow a "within" competition. The relationship between different networks can be guided by a motivation for cooperation. However, in practical terms, *competition in knowledge and innovation often will be carried out between different and flexibly configured networks. While a network cooperates internally, it may compete externally.* In short, "co-opetition" should be regarded as a driver for networks, implying that the specific content of cooperation and competition is always decided in a case-specific context.

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Chapter 12
Cross-Cultural Knowledge Management and Open Innovation Diplomacy: Conclusive Remarks

Until philosophers are kings, or the kings and princes of this world have the spirit and power of philosophy, … cities will never have rest from their evils – no, nor the human race as I believe… [emphasis added]

Plato, The Republic, Vol. 5, p. 492

The empires of the future are the empires of the mind

Winston Churchill, 1945

12.1 Some Conclusive Remarks About Cross-Cultural Knowledge Management and Innovation Diplomacy

The "Mode 3" systems approach for knowledge creation, diffusion, and use emphasizes the following key elements (Carayannis and Campbell 2006):

1. *GloCal multi-level knowledge and innovation systems*: Because of its comprehensive flexibility and explanatory power, systems theory is regarded as suitable for framing knowledge and innovation in the context of multilevel knowledge and innovation systems (Carayannis and Von Zedtwitz 2005; Carayannis and Campbell 2006c; Carayannis and Sipp 2006). GloCal expresses the simultaneous processing of knowledge and innovation at different levels (e.g., global, national, and subnational; see, furthermore, Gerybadze and Reger 1999, and Von Zedtwitz and Gassmann 2002), and also refers to stocks and flows of knowledge with local meaning and global reach. Knowledge and innovation systems (and concepts) express a substantial degree of hybrid overlapping, meaning that often the same empirical information or case could be discussed under the premises of knowledge or innovation.
2. *Elements/clusters and rationales/networks*: In a theoretical understanding, we pointed to the possibility of linking the "elements of a system" with clusters and

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the "rationale of a system" with networks. Clusters and networks are common and useful terms for the analysis of knowledge.

3. *Knowledge clusters, innovation networks and "co-opetition"*: More specifically, we emphasize the terms of "knowledge clusters" and "innovation networks" (Carayannis and Sipp 2006). Clusters, from an ultimate perspective, by taking demands of a knowledge-based society and economy seriously for a competitive and effective business performance, should be represented as knowledge configurations. Knowledge clusters, therefore, represent a further evolutionary development of geographical (spatial) and sectoral clusters. Innovation networks, internally driving and operating knowledge clusters or cross-cutting and cross-connecting different knowledge clusters, enhance the dynamics of knowledge and innovation systems (Carayannis and Laget, 2004; Carayannis and Provance, 2008). Networks always express a pattern of "co-opetition," reflecting a specific balance of cooperation and competition. Intranetwork and internetwork relations are based on a mix of cooperation and competition, i.e., co-opetition (Brandenburger and Nalebuff 1997). When we speak of competition, it often will be a contest between different network configurations.
4. *Knowledge fractals*: "Knowledge fractals" emphasize the continuum-like bottom-up and top-down progress of complexity. Each subcomponent (subelement) of a knowledge cluster and innovation network can be displayed as a microlevel subconfiguration of knowledge clusters and innovation networks (see Fig. 12.1). At the same time, one can also move upward. Every knowledge cluster and innovation network can also be understood as a subcomponent (subelement) of a larger macrolevel knowledge cluster or innovation network in other words, innovation metanetworks and knowledge metaclusters (see again Fig. 12.1).[1]
5. *The adaptive integration and co-evolution of different knowledge and innovation modes, the "Quadruple Helix"*: "Mode 3" allows and emphasizes the coexistence and coevolution of different knowledge and innovation paradigms. In fact, a key hypothesis is *The competitiveness and superiority of a knowledge system is highly determined by its adaptive capacity to combine and integrate different knowledge and innovation modes via co-evolution, co-specialization and co-opetition knowledge stock and flow dynamics* (e.g., Mode 1, Mode 2, Triple Helix, linear, and nonlinear innovation). The specific context (circumstances, demands, configurations, cases) determines which knowledge and innovation mode (*multimodal*), at which level (*multilevel*), involving what parties or agents (*multilateral*) and with what knowledge nodes or knowledge clusters (*multinodal*) will be appropriate. What results is an emerging fractal knowledge and innovation ecosystem ("Mode 3 FREIE"), well configured for the knowledge economy and society challenges and opportunities of the twenty-first century by being endowed with mutually complementary and reinforcing as well as dynamically coevolving, cospecializing, and co-opeting, diverse and heterogeneous

[1] Perhaps, only when the whole world is being defined as *one global knowledge cluster and innovation network*, then, for the moment, we cannot aggregate and escalate further to a mega-cluster or mega-network.

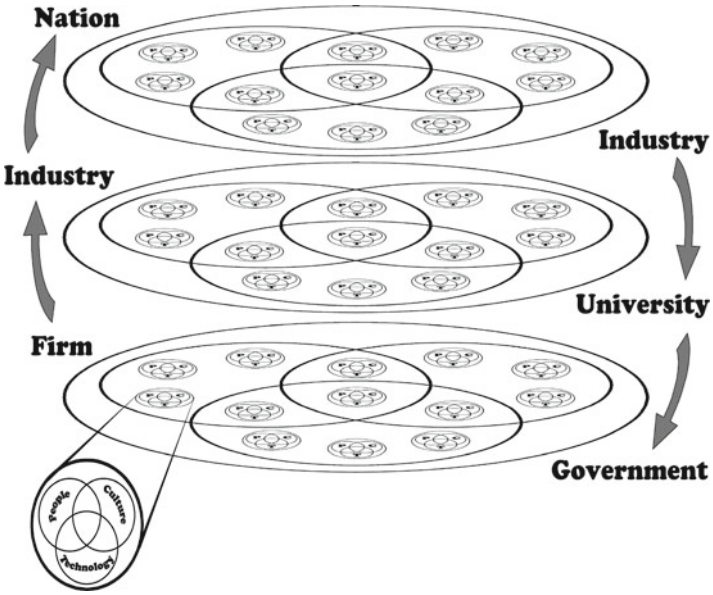

Fig. 12.1 The twenty-first century fractal research, education and innovation ecosystem (FREIE). *Source*: Elias G. Carayannis notes and lectures at GWU, 2000–2011

configurations of knowledge creation, diffusion, and use. The intrinsic litmus test of the capacity of such an ecosystem to survive and prosper in the context of continually glo*C*alizing and intensifying competition represents the ultimate competitiveness benchmark with regards to the robustness and quality of the ecosystem's knowledge and innovation architecture and topology as it manifests itself in the form of a knowledge value-adding chain. The concept of the "Quadruple Helix" even broadens our understanding, because it adds the "media-based and culture-based public" to the picture.

The societal embeddedness of knowledge represents a theme that already Mode 2 and Triple Helix explicitly acknowledge. As a last thought for this contribution we want to underscore *the potentially beneficial cross-references between democracy and knowledge* for a better understanding of knowledge. In an attempt to define democracy, democracy could be shortcut as an interplay of two principles (Campbell 2005): (1) *Democracy can be seen as a method or procedure,* based on the application of the rule of the majority.[2] This acknowledges the "relativity of truth" and "pluralism" in a society, implying that decisions are carried out, not because they

[2] For example, Joseph A. Schumpeter (1942, Chapters XX–III) emphasized this method-based criterion for democracy.

are "true" (or truer), but because they are backed and legitimized by a majority. Since, over time, these majority preferences normally shift, this creates political swings, driving the government/opposition cycles, which crucially add to the viability of a democratic system. (2) *Democracy can also be understood as a substance* (*substantially*), where substance, for example, is being understood as an evolutionary manifestation of fundamental rights (O'Donnell 2004, pp. 26–27, 47, 54–55). Obviously, the method/procedure and the substance approach overlap. Without fundamental rights, the majority rule could neutralize or even abolish itself. On the other hand, the practical "real political" implementation of rights also demands a political method, an institutionally set-up procedure. For the purpose of bridging democracy with knowledge and innovation, we want to highlight the following aspects (see Fig. 12.2 for a suggested first-attempt graphical visualization; see also Godoe 2007, p. 358; and Carayannis and Ziemnowicz 2007):

1. *Knowledge-based and innovation-based democracy*: The future of democracy depends on evolving, enhancing, and ideally perfecting the concepts of a knowledge-based and innovation-based democratic polity as the manifestation and operationalization of what one might consider the, paraphrased, "twenty-first century platonic ideal state": "It has been basic United States policy that Government should foster the opening of new frontiers. It opened the seas to clipper ships and furnished land for pioneers. Although these frontiers have more or less disappeared, the frontier of science remains. It is in keeping with the American tradition—one which has made the United States great—that new frontiers shall be made accessible for development by all American citizens" (Bush 1945, p. 10). Knowledge, innovation, and democracy interrelate. Advances in democracy and advances in knowledge and innovation express mutual dependencies.[3] The "quality of democracy" depends on a knowledge base. We see how the Glocal Knowledge Economy and Society and the quality of democracy intertwine. Concepts, such as "democratizing innovation" (Von Hippel 2005), underscore such aspects. Also the media-based and culture-based public of the "Quadruple Helix" emphasizes the overlapping tendencies of democracy and knowledge.[4]
2. *Pluralism of knowledge modes*: Democracy's strength lies exactly in its capacity for allowing and balancing different parties, politicians, ideologies, values, and policies, and this ability was discussed by Lindblom (1959) as *disjointed incrementalism*[5]: "… as the partisan mutual adjustment process: Just as entrepreneurs

[3] For attempts, trying to analyze the quality of a democracy, see, for example, Campbell and Schaller (2002).

[4] On "democratic innovation," see, furthermore, Saward (2006).

[5] The *disjointed incrementalism approach* to decision making (also known as *partisan mutual adjustment*) was developed by Lindblom (1959, 1965) and Linblom and Cohen (1979) and found several fields of application and use: "The Incrementalist approach was one response to the challenge of the 1960s. This is the theory of Charles Lindblom, which he described as 'partisan mutual adjustment' or disjointed incrementalism. Developed as an alternative to RCP, this theory claims that public policy is actually accomplished through decentralized bargaining in a free market and a democratic political economy" (http://www3.sympatico.ca/david.macleod/PTHRY.HTM).

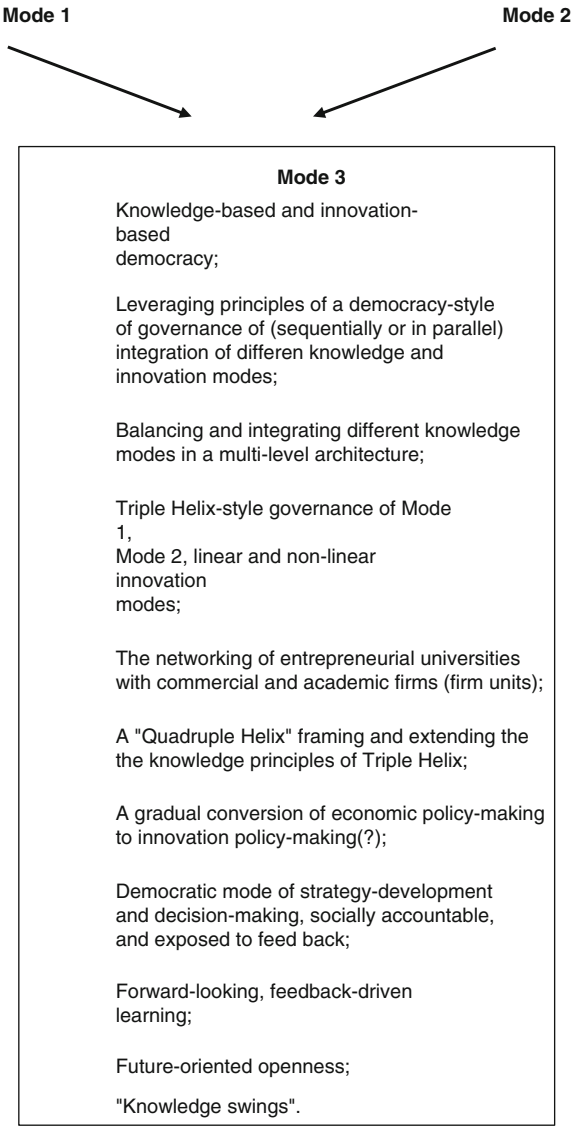

Fig. 12.2 Knowledge, innovation, and democracy. Glocal governance styles of the Glocal Knowledge Economy and Society? *Source*: Authors' own conceptualization based on Godoe (2007, p. 358)

and consumers can conduct their buying and selling without anyone attempting to calculate the overall level of prices or outputs for the economy as a whole, Lindblom argued, so in politics. Under many conditions, in fact, adjustments among competing partisans will yield more sensible policies than are likely to be achieved by centralized decision makers relying on analysis (Lindblom 1959, 1965). This is partly because interaction economizes on precisely the factors on which humans are short, such as time and understanding, while analysis requires their profligate consumption. To put this differently, the lynchpin of Lindblom's

thinking was that analysis could be—and should be—no more than an adjunct to interaction in political life" (http://www.rpi.edu/~woodhe/docs/redner.724.htm). Similarly, democracy enables the integrating, coexistence and coevolution of different knowledge and innovation modes. We can speak of a pluralism of knowledge modes, and can regard this as a competitiveness feature of the whole system. Different knowledge modes can be linked to different knowledge decisions and knowledge policies, reflecting the communication skills of specific knowledge producers and knowledge users to convince other audiences of decision makers.

3. *"Knowledge swings"*: Through political cycles or *political swings* (Campbell 1992) a democracy ties together different features: (1) decides, who currently governs; (2) gives the opposition a chance, to come to power in the future; (3) and acknowledges pluralism. Democracy represents a system which always creates and is being driven by an important momentum of dynamics. For example, the statistical probability for governing parties to lose an up-coming election is higher than to win an election (Müller and Strøm 2000, p. 589). Similarly, one could paraphrase the momentum of political swings by referring to "knowledge swings": in certain periods and concrete contexts, a specific set of knowledge modes expresses a "dominant design"[6] position; however, also the pool of nonhegemonic knowledge modes is necessary, for allowing alternative approaches in the long run, adding crucially to the variability of the whole system. "Knowledge swings" can have at least two ramifications: (1) What are dominant and non-dominant knowledge modes in a specific context? (2) There is a pluralism of knowledge modes, which exist in parallel, and thus also codevelop and coevolve. Diversity is necessary to draw a cyclically patterned dominance of knowledge modes.
4. *Forward-looking, feedback-driven learning*: Democracy should be regarded as a future-oriented governance system, fostering and relying upon social, economic, and technological learning. The "Mode 3 FREIE" is at its foundation an open, adaptive, learning-driven knowledge, and innovation ecosystem reflecting the philosophy of *Strategic or Active Incrementalism* (Carayannis 1993, 1994, 1999, 2000, 2001) and the strategic management of technological learning (Carayannis 1999; see, furthermore, De Geus 1988). In addition, one can postulate that the government/opposition cycle in politics represents a feedback-driven learning and mutual adaptation process. In this context, a democratic system can be perceived of as a pendulum with a shifting pivot point reflecting the evolving, adapting dominant worldviews of the polity as they are being shaped by the mutually interacting and influencing citizens and the dominant designs of the underlying cultures and technological paradigms (Carayannis 2001, pp. 26–27).

In conclusion, we have attempted to provide an emerging conceptual framework to serve as the "intellectual sandbox" and "creative whiteboard space" of the mind's

[6] "Studies have shown that the early period of a new area of technology is often characterized by technological ferment but that the pace of change slows after the emergence of a dominant design" (http://www.findarticles.com/p/articles/mi_m4035/is_1_45/ai_63018122/print).

[7] The term constitutes the brainchild or *conceptual branding* of the authors as part of this journey of discovery and ideation.

eyes of "knowledge weavers" (*Wissensweber*)[7] across disciplines and sectors as they strive to tackle the twenty-first century challenges and opportunities for socioeconomic prosperity and cultural renaissance based on knowledge and innovation: "As a result of the glocalized nature and dynamics of state-of-the-art, specialized knowledge … one needs to cope with and leverage two mutually reinforcing and complementary trends: (1) the symbiosis and coevolution of top-down national and multinational science, technology, and innovation public policies … and bottom-up technology development and knowledge acquisition private initiatives; and (2) the leveling of the competitive field across regions of the world via technology diffusion and adoption accompanied and complemented by the formation and exacerbation of multidimensional, multilateral, multimodal, and multinodal divides (cultural, technological, socioeconomic, …) … In closing, being able to practice these two functions—being able to be a superior manager and policy-maker in the twenty-first century—relies on a team's, firm's, or society's capacity to be superior learners … in terms of both learning new facts as well as adopting new rules for learning-how-to-learn and establishing superior strategies for learning to learn-how-to-learn. Those superior learners will, by necessity, be both courageous and humble as these virtues lie at the heart of successful learning" (Carayannis and Alexander 2006). Already, the early Lundvall (1992, pp. 1, 9) underscored the importance of learning for every national innovation system.

Mode 3, in combination with the broadened perspective of the Quadruple Helix, emphasizes a Cross-Cultural Innovation Ecosystem that encourages the coevolution of different knowledge and innovation modes as well as balances nonlinear innovation modes in the context of multilevel innovation systems. Hybrid innovation networks and knowledge clusters tie together universities, commercial firms and academic firms. Mode 3 may indicate an evolutionary and learning-based escape route for Schumpeter's "creative destruction" (Carayannis and Ziemnowicz 2007). The "knowledge state" (Campbell 2006) has the potential to network "high-quality" democracy with the gloCal knowledge economy and society.

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