Innovation, Technology, and Knowledge Management

Igor N. Dubina
Elias G. Carayannis *Editors*

Creativity, Innovation, and Entrepreneurship Across Cultures

Theory and Practices

Springer

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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.

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

This 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.

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[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 (Carayannis, E. G. (2009). *International Journal of Innovation and Regional Development*, *1*(3), 235–254).

[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) (Carayannis, E. G. (2009). *International Journal of Innovation and Regional Development*, *1*(3), 235–254).

[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) (Carayannis, E. G. & Kaloudis, A. (Jan 2009). *Japan Economic Currents*, p. 6–10).

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), drawing from related disciplines such 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 Carayannis E. G. & Campbell, D. F. J. (2009). *International Journal of Technology Management*, *46*, 3–4).

- 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 socioeconomic, 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," "lifestyles," "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 coopetitive 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 (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 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 non-governmental 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: (a) 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 (b) 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.
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.

Washington, DC Elias G. Carayannis

Preface

At present, cross-cultural research is one of the most dynamically and rapidly growing kind of multidisciplinary integrative study which has demonstrated its importance and effectiveness in many theoretical and practical fields. At the same time, creativity, innovation, and entrepreneurship are championed in the literature as the critical element that is vital not just for companies but also for the development of societies. A sizable body of research demonstrates that cultural differences may foster or inhibit creative, inventive, innovative, and entrepreneurial activities, and each culture has its own strengths and weaknesses regarding them. Better understanding of cultural diversity in these phenomena can help integrate cultural realities in order to use their advantages, on the one hand, and, on the other, to overcome paralyzing cultural limitations and compensate for the limits of each culture to better foster creativity, innovation, and entrepreneurship in the increasingly globalized social, economic, and business environments.

Recent studies in this field represent a comparatively new class of interdisciplinary research. This is a field where cultural, sociological, psychological, historical, economic, management, technology, and business studies closely intersect. Cross-cultural interest in creativity, innovation, and entrepreneurship has spread widely, resulting in various and often contradictory findings and papers representing both theoretical and empirical research on the cultural impact of these phenomena.

In this book, we review, analyze, systematize, and discuss various concepts, assumptions, speculations, theories, and empirical research which focus on the effect of cultures (mainly national cultures) on creativity, innovation, and entrepreneurship. Some aspects relating to these phenomena may be common among cultures and are universally applicable, while others are strongly determined by the particular cultural factors that make them difficult to transfer into other cultural contexts. Thus, we follow a combined approach of universalism and particularism (Garci´a-Cabrera and Garci´a-Soto 2008).

In this monograph, we deal with the cultural aspects of creativity, innovation, and entrepreneurship. But when we talk about "cultural aspects," we definitely face a challenge of culture understanding. As Raymond Williams, one of the pioneers of cultural sociology, notes, the term "culture" is among the most complicated words

(see Inkster 2007). Actually, people belong to many different "human groups" at the same time (a nation, a gender, a generation, an organization, etc.). Each of these groups has a culture, and each culture influences behavior (Hofstede 1980, 1991). This monograph primarily focuses on only one of these cultures—national culture, i.e., a set of collective beliefs and values that distinguish people of one nationality from those of another (Hofstede 1991).

Although a significant number of studies have been published in this field recently, it is not surprising that no mature theory has yet emerged encompassing the various cultural dimensions and their effect on creativity, invention, innovation, and entrepreneurship. Whereas notable progress is being made by scholars, the literature remains underdeveloped in terms of systematization and integration of the results of cross-cultural research on these phenomena. Clearly, cultural factors do impact creativity and inventiveness and their manifestation in innovation and entrepreneurship, but when it comes to differences across cultures, the picture is far from clear.

In this book, we consider creativity, invention, innovation, and entrepreneurship as closely interrelated phenomena. Etymologically, creativity means "producing something from nothing," and, most generally, creativity manifests itself in producing ideas or some content (intellectual, spiritual, emotional, physical, etc.) (Dubina 2000, 2009). One of the practical aspects of creativity is invention. Invention is broadly understood as a creative idea transformed into an applicable form. So, inventiveness can be considered as the ability to transform a creative idea into an applicable form (a scheme, plan, instruction, etc.) in the technical, economic, business, political, social, and other spheres. Innovation, consequently, can be considered as a practically implemented invention (innovation is a new idea that adds a value). Entrepreneurship, which is widely regarded as an engine of economic growth and development, is understood as creating a new way of doing business. At the same time, creativity is conceptualized "as a process of perceiving new relationships and new challenges, coping with changing situations, and expressing one's unique perceptions and responses" (Raina 1999). A circle has been enclosed.

The aim of this monograph is to further develop the relationship between culture and the manifold phenomena of creativity, innovation, and entrepreneurship in order to promote further and better understanding of how, why, and when these phenomena are manifested themselves across different cultures.

This book was prepared by a strong international and eminently qualified team. The authors present perspectives, insights, and contrasts from China, France, Greece, Iran, Italy, Japan, Russia, Singapore, the UK, and the USA. We hope that this book will be of interest and use for scholars and practitioners who closely deal with the theoretical and practical aspects of cultural and cross-cultural studies of creativity, innovation, and entrepreneurship, as well as international business and management.

I sincerely and greatly appreciate the valuable efforts of my respectful colleagues who kindly took up my initiative to prepare a monograph on such an interesting topic and submitted their chapters. I also express my deepest gratitude to Prof. Dr. Elias Carayannis, the Editor of the Springer Innovation, Technology, and Knowledge

Management Book Series and Coeditor of this volume, and Nicholas Philipson, the Editorial Director for Business, Economics, and Statistics at Springer Science + Business Media, as well as his diligent and hardworking team, for their initial and continual support of this project. Thanks to all our efforts and energy, this book has come to reality, and it will hopefully contribute to developing a contemporary framework of understanding and explanation of multilateral issues and variances of creativity, innovation, and entrepreneurship across cultures.

Barnaul, Russia Igor N. Dubina

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Contents

Chapter 1
Culture as a Driving Force of Individual and Organizational Behavior

Igor N. Dubina, Suzanna J. Ramos, and Hector Ramos

Abstract Culture is deemed as a fundamental determinant of human behavior. Cross-cultural studies on management, business, and entrepreneurship practices represent a comparatively new class of interdisciplinary research. This movement represents the intersection of the cultural, sociological, psychological, historical, economic, management, technological, and business studies. This chapter encompasses the main definitions of culture and the theoretical assumptions of the impact of culture on creativity, innovation and entrepreneurship.

Introduction

Culture is deemed as a fundamental determinant of human behavior. Aristotle once said, "What is honored in a culture will be cultivated there" (as quoted in Raina 1999, p. 456). Culture underpins the "rules of the game" in any society and provides the informal constraints on human interaction (North 1990; Taeube 2004). In the context of the challenge of creativity research, Andrey Kolmogorov, a Russian academician, said, "One must model culture if one wants to model creativity" (as cited in Dubina 2000, p. 45).

Cross-cultural studies on management, business, and entrepreneurship practices represent a comparatively new class of interdisciplinary research. This movement, driven by both theoretical and practical interests, started 50 years ago. It represents the intersection of the cultural, sociological, psychological, historical, economic, management, technological, and business studies. Business studies, in particular, was connected with a growing number of large-scale multinational corporations and

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the global context in which firms developed and implemented business strategies (Jones and Davis 2000). Thus learning culturally-appropriate business and innovation strategies became significant for managers (Shane 1995).

The book *The Chrysanthemum and the Sword* (1946) by Ruth Benedict, one of America's most famous anthropologists, can illustrate the importance of understanding cultural differences. In the second half of World War II, Benedict was assigned to study Japanese culture so that American forces could understand Japanese militarism and patriotism. She concretized the notion of the "East" and "West" dichotomy and the main patterns of Japanese culture, such as social hierarchy, honor, and duty. Her study was used by the US occupation administration in Japan from 1945 to 1952 to help the Americans understand and cooperate with the Japanese. This war-time research helped the Americans to interact with the Japanese and build a long lasting partnership.

An understanding of a culture can also help predict the behavior of typical members of the culture and explain some intangible factors by which all societies are governed. Cross-cultural studies discredited the myth of universalism in managerial thinking and practices (Amado et al. 1991). The development of management models is embedded in the cultural specificities of their environments, and it is therefore problematic to fully export them to other cultural contexts. The starting point for developing new and adjusting old managing practices in different geographical contexts should be driven by cultural values (García-Cabrera and García-Soto 2008). As Amado and colleagues (1991, p. 92) pointed out, the awareness, tolerance, and appreciation of cultural diversity help to succeed in establishing transcultural synergies in the modern age of internationalization and globalization and lead to flexible and innovative management approaches, an imperative for survival and development. Further, in an increasingly globalized international business environment, the effectiveness and efficiency of projects are affected by their cross-cultural characteristics (Chevrier 2003).

An extensive body of theoretical and empirical research on cross-cultural issues of general management describes diversity of entrepreneurship and managerial systems in various countries, cultural impact on managerial behavior, and other aspects of national cultures in the context of international business and management strategies (Andrews and Mead 2009; Bartlett and Ghoshal 1989; Chevrier 2003; Cullen and Parboteeah 2011; Ghoshal and Bartlett 1987; Hampden-Turner and Trompenaars 2000; Jones and Davis 2000; Moran et al. 2007; Mead 2005; Schneider and Barsoux 2003a, b; Smith et al. 2008; Thomas 2008; Usunier 1998). The management implications of identifying and understanding the differences in national cultures are wide ranging. A large literature (Earley and Erez 1997; Simons et al. 1993; Thiederman 1991) focuses on cultural diversities and appropriate behaviors in international work environment. Many authors are concerned with effective global leadership (House 2002; Simons et al. 1993), the relationship between culture and site selection when locating R&D (research and development) facilities overseas (Jones and Davis 2000), coordination and management in global teams (Harvey and Novicevic 2002), negotiation agreements and joint activities with potential foreign partners (Graham et al. 1994; Tung 1991), issues of global advertising (House et al. 2010) and other cross-cultural issues.