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EDITORIAL

Competition and innovation for smart and creative society (CISCS)

Sang-Chul Park

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The globalization of world economy has changed many aspects of economic structure, speed of technology development, patterns of innovation, competition between nations as well as between companies. In addition, humanity is facing a new historical crisis of global climate, which has prompted varied perspectives of the impact and implication of this crisis on socio-economic horizon of societies. However, despite these various perspectives, there seems to be a converging view that global forces of technology and innovation have strengthened globalization of economic processes. Given this positivist view, it seems that the globalization process will be further intensified regardless of neo-liberalist groups or political progressive groups. (Dicken 2011; Stern et al. 2006).

While the intensification of the globalization process has made the world economy more integrated than ever, it has generated a harsh competition environment for small- and medium-sized corporations (SMEs) and multinational corporations (MNCs) in domestic and global markets. Such a severe competition pushes companies, regional and national governments, and universities to collaborate with one another for creating technological innovation and development that arise from R & D activities. In order to be competitive, many advanced nations and newly industrialized nations have built a system of triple helix collaboration that is corporatism between industry, academia, and government. The platform of the triple helix is an innovative cluster in a region, representing a symbol of regional competitiveness as well as that of a national competitiveness in a nation. (Park 2012; Shienstock 2007; Porter 1998).

Although there may still be gaps in our understanding of the innovation processes, it is clear that the technological innovation has made a major contribution to the world economy, as well as to the globalization processes. In particular, information and communication technologies (ICT) and transportation technologies have played pivotal roles in improving productivity based on automatization and flexibility, as well as in global logistics based on a rapid transportation system. Additionally, frequent innovation shortens product life cycles that increase competition between companies on national and global markets. (Dicken 2011; Florida 2008).

The expanding globalization process based on economic competition between major economic actors has lead to the emergence of global environmental issues that we have to tackle in the twenty-first century. As a result, sustainable development has become the uppermost important issue in the global community. To create sustainable development, proper energy consumption and protecting environment have become key parameters of the global environmental agenda. Therefore, many nations are keen to integrate technology innovation into low-carbon-based green growth strategies that can be the first step towards building a smart and creative society. (Kang 2012).

Furthermore, the global economic environment has been changed fundamentally since the global financial crisis starting with subprime mortgage crisis in the US housing market in 2008. Since then the major world economies such as the USA, the EU, and Japan have been sluggish, while the new emerging markets such as China and India continue to generate a relatively high economic growths. Due to the global economic downturn, national economies have been facing challenges how to recover their economic

S.-C. Park (✉)
Graduate School of Knowledge Based Technology and Energy, Korea Polytechnic University, Seoul, South Korea
e-mail: scpark@kpu.ac.kr

growth by using vigorous technological innovation and strong entrepreneurship. Some economists argue that the capitalism with the neo-liberalistic point of view has ended and a new normal economy based on low economic growth has started. Thus, it is academically a rather challenging and stimulating period to examine whether the world economy can be revived by creative destruction mainly based on technology innovation and entrepreneurship argued by Schumpeterian economists. (World Bank 2012; IMF 2012).

This special issue consists of three parts; the first part is concerned with the change of global economic environment and innovation: theory and practice, the second part deals with competition and innovation in Asia, Europe, and Australia, and the third part discusses sustainable development for smart and creative society. Twelve papers from thirteen nationalities covering four continents discuss and analyse the issues of globalization, competition, and innovation that focus on how to build the smart and creative society for sustainable development.

In part I, papers discuss changing globalization processes and frameworks of global economic systems that affect companies regardless of their sizes in national and global markets.

Naoyuki Yoshino et al. examine the financial turmoil of US subprime loan crisis and Japanese asset bubble. There are common factors and individual unique factors. In order to maintain the stability of the financial system after the bursting of the bubbles, it is important to institute measures such as a rescue plan and a deposit insurance system in each country. The authors report that the causes of the Japanese and US bubbles can be seen in the expansionary monetary policy and aggressive credit expansion in the housing or real estate market. They also explain the difference of global financial effects between Japanese and US cases. The Japanese bubble was contained within Japan. On the other hand, the US subprime loan crisis spread all over the world, since housing loans in the United States had been securitized and sold outside the country. Credit rating agencies gave high ratings to securitized products of mortgage, since they were believed to keep rising in value. Many investors trusted the good rating of securitized products and suffered after the collapse of the US housing market.

Aron Perenyi argues that we need to explore the present academic research trend for adopting various concepts and theories in the rapidly changing global economic system more thoroughly than ever. The paper discusses the question relating to such a generalized ability in the context of global, innovative industries. Statistical methods are applied to compare results of a quantitative investigation of firm life-cycle theory between two developed countries. Such a comparison implemented with statistical rigour on a quantitative basis is not common, and is difficult to execute. Results show that even though life-cycle theory has been found meaningful and valid on both country-specific populations, the quantitative comparison of these results has highlighted a substantial amount of statistically significant differences. This leads to the conclusion that the extension of social theory between various country contexts needs to consider a variety of contextual parameters, cautioning computer scientists offering solutions to various problems around the world coming from their own, unique, country-specific perspectives to keep an open mind.

Kamaruddin Abdulsomad explains a practical matter of multinational corporations with evolutionary perspectives. MNCs have a long history of evolution. A 100 years of internationalization process transformed MNCs greatly due to the evolution of the motives and the way companies integrate and expand their business around the world. Therefore, it is true to say that the MNC of the late twentieth century had little in common with the international firms of 100 years ago. A new phenomenon in the field of MNCs occurs as a result of rapid liberalization, globalization, and technological changes. According to the United Nations Conference on Trade and Development (UNCTAD), MNCs in emerging economies accounted for only 0.4 % of world outward Foreign Direct Investment (FDI) in 1970. That share grew to 15.8 % in 2008. The traditional explanation for multinational activity is a version of a theory called 'the O, L, I paradigm', that is MNCs exploit three sets of advantages: ownership-specific, localization, and internalization advantages. These explanations of MNCs apply in the case of MNCs from developed countries but are less likely to explain the recent trend of MNCs from emerging economies. Firms from emerging economies are very heterogeneous in terms of their origin, maturity, position in the value chain, and strategy (UNCTAD 2006). This suggests that the variety of drivers for internationalization with huge heterogeneity makes it difficult to generalize about how MNCs from emerging economies are similar or dissimilar to more traditional MNCs from developed countries (Contessi and El-Ghazaly 2010).

Part II deals with issues of competition and innovation, in particular activities of firms, entrepreneurship, and policy in four continents Asia, Australia, Europe, and Africa that illustrate a common trend of competition and innovation: how various companies react to the globalizing process and global economic system in different continents.

Bruno Mascitelli et al. explore a genuine but a unique industrial sector of organic food industry. With the rapid industrialization and globalization process, the availability of agricultural products is not guaranteed any longer due to the global climate change. In addition, a general concern

about health foods in the advanced nations increases rapidly owing to over use of fertilizer to maximize the production of basic agricultural products. To produce and distribute organic foods need not only technological innovation, but also innovation in organization and management. The paper notes that the organic industry has become one of the world's fastest growing food categories growing by an average of 30 % annually; this has been replicated in Victoria at equally high levels (Business Victoria 2011). The aim of this research is to investigate issues impacting small and medium enterprises relating to the supply chain network of organic products in Victoria, evaluate global best practices in the supply chain management, and provide recommendations for corrective action and future strategies relating to the supply chain management of organic products in Victoria.

Small and medium food producing enterprises in Victoria face challenges of globalization, with implementing a sustainable and innovative organic business model. Often this model is in contrast to the way in which the traditional and mature food industry competes in the world. The production of organic food creates opportunities for SMEs in the food industry, a range of studies have also underscored the constraints which exist to expand their businesses. This study reveals that small and medium food enterprises must adopt new food technology and innovations to compete in the world.

Chun Ding et al. argue that technological innovation and upgrading have played important roles in the rapid Chinese economic development. The authors explain that the technological progress has made contribution to the rapid economic growth of China during its past three decades of reform and opening up. During this process, China's total productivity factor has been uplifted by a large margin, and its achievements have been made in diverse fields. An empirical analysis of China's total productivity factor certifies that China's scientific and technological progress really plays an important role in its economic development. They further explore the various stages of the change of China's total productivity factor and the causes of these changes, and undertake an examination of the present flaws of China's innovation system and offer some reflections.

Erja Kettunen focuses on a transformation of Chinese government policies on technology innovation and transfer from foreign companies exercising their business activities in the Chinese market. The author explains that Finnish firms are regarded as objectives of technology innovation and transfer based on the policy of the Chinese state. Some of the concerns of this policy are the aim of China to acquire higher technology (e.g. by the newly announced guidelines for inward FDI and the promoted/prohibited sectors), and at the same time, the generally challenging institutional environment for foreign firms including experiences of protectionism and IPR violations in China. In practice, however, Finnish firms show that they perceive the Chinese policy measures as increasingly protective, strict towards foreigners, and favouring of local companies, and the firms need to guard their technology in various ways when dealing with the Chinese public sector and firms. Despite such policy barriers, the companies have various ways to cope with these challenges, and at the same time, the Chinese market presents such a potential that attracts them to increasingly invest in the country. The implication is that succeeding in a challenging institutional environment, often requires a major strategic adaptation from a foreign enterprise. One possible trend is to move more and more research and development (R&D) operations to China, to benefit from the rapidly growing pool of skilled labour forces, enhanced by the Chinese innovation policy.

Chandran Govindaraju et al. argue that collaborative R&D activities between public universities and industry are of importance for sustainable development of the innovation ecosystem. However, policy makers especially in developing countries possess little knowledge on the issues. This paper analyses the level of university–industry collaboration in Malaysia. Furthermore, it examines the fundamental conditions that hinder university–industry collaboration despite government's initiatives to improve such linkages. The reason for it is that the private sector involved in incremental innovation requires less R&D investments, while the universities engage in basic and fundamental R&D. The different nature of R&D of industries seeks closer cooperation between firms and not with the universities. Among others, the lack of intermediary role, absorptive capacity, and lack of collaborative initiative by the industry also hinder collaboration between industry and the university. The study suggests that the collaborative activities can benefit both if deliberate and effective efforts on reducing the R&D mismatch are made between industry and the university. In addition, proper institutional arrangements in coordinating these activities are required.

Sang Chul Park underlines regional competitiveness based on technology innovation and economic growth that results from strong interaction between innovative actors such as industry, university, and government in innovative clusters. In a knowledge-based economy, the role of regions is regarded as very significant for creating and dispersing knowledge. Particularly, geographical clusters of firms in a single subnational region and cross-border regions may contribute to transmitting certain kinds of knowledge between and among firms. In addition, markets prefer to favour specialized firms with a coherent body of knowledge when knowledge creation and the use of new knowledge become increasingly important for maintaining

and improving a firm's competitiveness. This means that regional policy makers may not interfere directly with markets and firms when the process of globalization pushes national economies into a world of learning and innovation because the institutional framework for market exchange favours knowledge exchange in a globalizing economic system. This paper argues how a cross-border cluster between Denmark and Sweden has been created, and which strategies it focuses on in order to strengthen its competitiveness and to generate a further development that aims to become a global innovative cluster. Moreover, it discusses whether the Nordic cross-border cluster, the Medical Cluster, is a unique approach in the EU context or not. Finally, it argues how it has created technology innovation as well as contributed to the regional economic growth.

In the part III, sustainable development is the major focal point that contributes to building a smart and creative society. The issue of sustainable development has become the upper most important agenda in the global community since the end of twentieth century owing to the rapid global climate change. As a result, it is high time for us to concern ourselves to protecting the environment and efficient energy consumption in order to reduce the total emission of carbon dioxide. It is by building a smart and creative society can we solve complex environmental problems we face.

Ari-Veikko Anttiroiko et.al explain that recent changes in service environments have changed the preconditions of their production and consumption. These changes include unbundling services from production processes, growth of the information-rich economy and society, the search for creativity in service production and consumption and continuing growth of digital technologies. These contextual changes affect city governments because they provide a range of infrastructure and welfare services to citizens. Concepts such as 'smart city', 'intelligent city', and 'knowledge city' build new horizons for cities in undertaking their challenging service functions in an increasingly cost-conscious, competitive, and environmentally oriented setting. What is essential in practically all of them is that they paint a picture of cities with smooth information processes, facilitation of creativity and innovativeness, and smart and sustainable solutions promoted through service platforms. The paper discusses this topic, starting from the nature of services and the new service economy as the context of smart local public services. It also analyses how smart services through digital technologies can increasingly be embedded in social creativity.

Dieter Eissel et al. deal with the EUs transport issues closely linked to minimization of the emission of carbon dioxide, while creating an efficient transport system in the EU. The authors explain that the EU has launched targets for energy efficiency and the reduction in pollutant emissions in the transport sector, and has established a framework to foster the promotion and development of a market for clean vehicles. All in all, the EU transport policies aim at fostering clean, safe, and efficient travel throughout Europe, which require innovations in many areas—like safe electric cars—and need to engage not just the users but the entire transport industry facing drastic structural changes.

Harald Dolles et al. discuss an emission trading market in South Africa, which is a rather unique market. The authors argue that the Kyoto Protocol and its implementation brought forward issues of climate change and its mitigation strategy by national measures through the creation of market mechanisms in carbon trading. The trading of emission certificates has become an important trade commodity worldwide, and its markets have diversified. While this opportunity has created new markets for entrepreneurs and actors that range from farmers to brokers, unequal involvement in most developing countries is noted. In addition, South Africa has spearheaded other African countries in its implementation of clean development mechanism (CDM) projects leading to carbon trading. The paper discusses South African entrepreneurship and its involvement in the carbon market. It also analyses that the complex nature of CDM projects themselves limits participation due to lack of the necessary skills on the national level leading to uneven distribution of CDM projects on provincial levels in South Africa.

Hurng Jyuhn Wang et al. explore land conservation activities for protecting environment that provides better quality of life for local people. The study employs an experiment investigating cognitive mapping of fifth-grade children living in a remote village environment, wherein characteristics of the landscape include paths, landmarks, nodes, edges, and districts. Two aspects of analysis were salient. First, important landscape characteristics and their frequency of appearance in the cognitive maps were tabulated and illustrated as a layout map. Second, inaccurate cognitive maps were structurally analysed to account for any incompleteness, distortions, and augmentation of actual environments found in some map samples. Focus on gender differences in children's environmental cognition in terms of symbolic representation skills utilized in cognitive mapping is of special interest in the case study. Results confirm Piaget's theory that older children, aged ten or more, begin to use projective and Euclidean concepts. Furthermore, boys used a greater variety of symbols to represent a particular landscape characteristic, a cultural temple, than did the girls. Finally, the paper hypothesises that the 'hunter-gatherer' social divisions of labour between men and women in the village's early historical social structure is consequentially related to gender discrepancies in cognitive mapping symbolic representation skills, in non-English speaking children.

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