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SUSTAINING INNOVATION: THEORY AND POLICIES FOR NEW EUROPE

Valdas (Val) Samonis

PhD, CPC
Web Professor of Global Management (SM)
Royal Roads University, Canada, and
Vilnius University, Lithuania
E-mail: val@samonis.com

The paper attempts to propose a theoretical frame needed to sustain innovation processes in the enlarged European Union. Sustainable innovation processes are seen in the paper as the main driver of competitiveness (and therefore productivity) in the European Union, as called for by the Lisbon Strategy in 2000. Actionable policy and business strategy implications of the proposed theoretical frame are also outlined using a knowledge management perspective. They center on the cluster method of modern development as proposed by Harvard's Prof. M. Porter. Suggestions for further and related research are also included in the paper.

Keywords: *innovation, sustainability, knowledge economy, competitive advantage, Lisbon strategy, entrepreneurship.*

Starting from the 1995 Green Paper on Innovation, the European Union (EU) has increasingly placed innovation at the heart of its economic policy objectives. This process culminated in the strategic goal set by the European Council in Lisbon, March 2000. The Lisbon Strategy is usually defined by its main goal for Europe by 2010 – "the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion". The time left for the implementation is rather short given the advances of competitors (e.g., USA), so the Lisbon Strategy has been catapulted into probably the main issue on the agenda of the EU economic policy, the discussion of which was joined by new EU members by 2004.

Judging by the traditional understanding of global economic development experience, the core goal of the Lisbon Strategy is not entirely coherent. This primarily relates to attempting to create conditions for economic growth, employment, increased competitiveness and at the same time promoting the social cohesion. The specific objectives set in the Lisbon Strategy are diverse in their character and directed to different stakeholders. Some

of them are presented as shared and broader horizontal objectives (e.g., promotion of competition), others are defined as narrower measures. Often tasks that are formally assigned to member states should be primarily directed to private companies, as state institutions have a very limited direct influence on the objectives of the Lisbon Strategy. Therefore, the implementation of the Lisbon Strategy depends heavily on market responses at the micro level. To foster adequate market responses at the micro level, best practice research, formulation, and exchange are very important, especially in the crucial area of innovation. Most analysts agree that innovation is a crucial source of European competitiveness, given the comparative performance of the continent versus North America, for example. What can EU firms do to cultivate disruptive yet sustainable innovation? What market responses are needed to propel the modern innovation based growth? How to study and shape innovation and knowledge management processes in diverse systemic and cultural contexts (e.g., Europe vs. North America)? What theories are relevant to the context of propelling and modernizing growth through innovation and knowledge management? From a strategic and comparative international perspective, what are the lessons on how to shape conditions for building a knowledge economy? What are some broader strategic and some tactical / practical systemic conditions that need to be fostered, especially at the intersection of government, business, and society (reforms)?

My above questions are based on my international comparative "hands-on" knowledge of transforming policy environments, e.g., City of Tampere in Finland, some Polish, Canadian, US innovative agglomerations or clusters, etc., and on my research, graduate teaching, and PhD supervision in the fields of entrepreneurship, knowledge engineering & management in the global economy.

Jumpstarting the Innovative and Sustainable Knowledge Economy

There have been a lot of controversies in the world literature on the relative merits of deliberate policy initiatives aimed at jumpstarting new stages and/or modes of economic development. Most of the arguments center around the effectiveness or ineffectiveness of "continuity" approaches and mechanisms during the periods of revolutionary changes in economic and business paradigms underwritten by breakthroughs in technology, e.g., the advent of the Internet and the global digital economy. The ineffectiveness of such "continuity" approaches is of varying degree and sometimes, especially in more extreme cases, might be interpreted as "market failures".

One major line of thinking regards such policy initiatives as little more than a creeping government interventionism leading, in extreme cases, to costly "government failures" substituting for less costly "market failures". The new growth theory or rather theories (e.g., Romer's) present powerful arguments in favor of such policy initiatives based on the interpretation of more and more of technological progress as endogenous (as opposed to exogenous) in the last decades. The birth of the Internet can well be regarded as an example in favor of such interpretation.

The overarching hypothesis of this paper is that the issue may be more complex than somewhat oversimplified general lines of thinking have it. On top of more theoretical research (e.g., based on new growth theories) and the relevant argumentation advanced, there is a need to critically analyze experience from a number of new and old incubators, innovation

centers, etc., in such countries as Finland, Poland, USA, Canada.

Case-study type insights need to be presented on specific approaches that worked well within specific institutional / systemic settings called policy environments. Such policy environments (their parameters) are created mainly on the interaction of business, government (various levels), and other elements of a civil society in particular countries or integration groupings. Apparent failures in this regard are to be studied as well. By going deeper into the nature of policy environments (especially incentives they create), we need to refine the discussion on this issue.

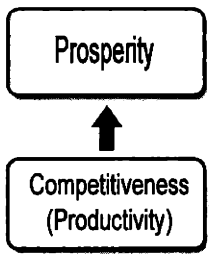
The Changing Institutional Wisdom

As the conventional Bretton Woods wisdom has it, macro stabilization and privatization is important. This is a *conditio sine qua non*. But this is not enough by far. Moreover, the conventional wisdom inspired beliefs in the universal omnipotence of macropolicies, especially of the monetary policy, are misguided fallacies in some cases bordering on intellectual fraud. And not just "intellectual" in many cases, because such "wisdom" in large part underpinned the financial scandals in the last years (Enron, Parmalat, etc.). And the institutional fit of these policies matters a lot. The most important influences on the micro level are determined not by formal privatization but by the nature of institutions in any given region or society.

From Macro to Micro

Governments and macro institutions have traditionally (especially in Europe, USA) focused on the importance of the role played by fiscal and monetary policies in the competitiveness of a region (Washington Consensus), in spite of the fact that it is microeconomic policy that creates prosperity in a region or country.

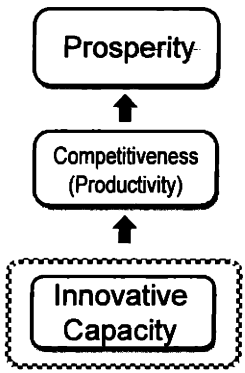
A solid macroeconomic policy only paves the way for productivity, it does not improve it. This first diagram demonstrates how, through the application of microeconomic policies, productivity can be improved.



The theory progresses with the introduction of innovation and the importance it has within an industry. The diagram depicts how the level of productivity of a region is mirrored in that region's development (standard of living), where a steady, sustainable growth is required to maintain a high standard. In advanced regions like Europe, prosperity is influenced by a continuous rate of innovation, especially sustainable innovation. The new field of knowledge management (KM) offers insights into the mechanics of driving sustainable innovation. The American Productivity & Quality Center (APQC) gives practical advice on driving sustainable innovation by managing knowledge.

1. Use knowledge management (KM) to become more efficient innovators. Access to information, ideas, and experience enables individuals and teams to devote time to building on good ideas and incorporating them into innovative products and processes.

2. Leverage content management systems, portals, and other information technology (IT) systems effectively. They are central to how innovation happens. IT applications can enable virtual work, distributed teams, and access to content by various players.
3. Reuse knowledge. Best-practice partners overcome reticence to reuse knowledge by facilitating diverse teams, making experts available to explain how an earlier invention can be used in a new setting, rewarding for reuse, and storytelling about knowledge sharing success.
4. Identify potential experts and facilitate access with expertise locators. Access to people with knowledge is at least as important as access to information.
5. Enable work. Best-practice partners use various KM approaches and principles to put information and knowledge in the hands of people when they need it. APQC's studies have found that if you want people to use knowledge and information during projects, you have to put it where they trip over it.
6. Build communities of practice (CoPs) to provide forums for intra-disciplinary knowledge sharing among professionals. CoPs also play the essential role of expeditor to overcome barriers created by formal structures.
7. Publicize available resources, connect people across boundaries, and address rewards systems that help or hinder knowledge flows. Best-practice organizations showcase success stories and lessons learned as key ingredients to innovation and the prevention of mistakes.
8. Incorporate innovation into human resource practices, including your hiring and selection process, rewards and recognition, and your expectations for knowledge sharing in daily work.
9. Link KM efforts with your learning function. The World Bank has a core group that enables communities and distance learning, while helping multidisciplinary teams to build both their own and client capacities to address challenges. The program provides facilitators to assist the team in tapping into its own diverse knowledge.
10. A KM infrastructure that supports, guides, and links all KM initiatives is critical. Executive support and dedicated information managers are also critical to success.



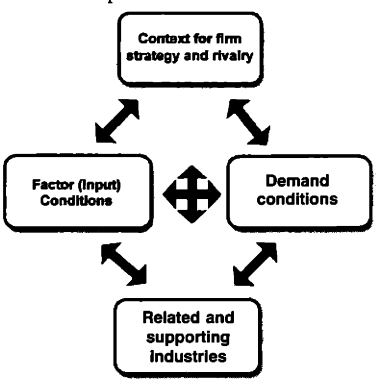
Prosperity in a region is created by the microeconomic foundations of competitiveness, which is based on the sophistication of its companies (including small and medium enterprises, entrepreneurship) and industries. However, as the business environment within which the firms operate determines this sophistication, the focus must be on improving the quality of the region's business environment.

The quality of the region's business environment is embodied in four broad attributes that affect both productivity and the capacity to innovative on a sustainable basis. Prof. Michael E. Porter created the "diamond" in order to analytically present these four attributes.

The Diamond Approach

The four points of the diamond represent the four basic attributes that affect regional productivity and innovation. Each of the four attributes is self-reinforcing, has a unique and important role to play in the region's business environment and they all operate together as a system. These four attributes are: environment or context in which firms build their strategies and compete; what are the factor (input) conditions in which firms operate; what are demand conditions in which firms operate; what are related and supporting industries that firms collaborate with.

The links among the four attributes of the diamond are presented below.



The diamond is unique to each business agglomeration as its structure is affected by the regional business environment, i.e. the regional configuration of factors, and the strategy / attitude each region exhibits towards competitiveness in today's global economy.

Advantages of Clusters

Clusters: Definition

The cluster is a business agglomeration producing the critical mass of geographically proximate and linked businesses, industries and institutions – from suppliers to associations, from universities to government agencies – that enjoy unusual competitive success in a particular field or fields. Cluster members are linked by commonalities and complementarities. As the value of the cluster is greater than the sum of its parts (all individual companies or institutions, etc.), clusters create a synergy that raises productivity and competitiveness in the final analysis.

Clusters improve competitiveness (which results in improved productivity) in three ways:

1. Improve productivity through improved access to specialized suppliers, skills, and knowledge.
2. Innovation is more sustainable and given more importance as the need for improvement in processes of production is highlighted. And firms working together in the cluster can satisfy this need much better that otherwise the case would be.
3. Once established, clusters will grow as a result of the creation of new firms and the entrance of new suppliers (incubation effect).

Reasons for the Growing Importance of Clusters and the Cluster Method of Development

- The growing number of people involved in economic development activities. The decentralization of decision-making processes to the regional, city, and local levels and the renewed importance of international organizations have left many new policy planners with the need to find new tools to define their policies.
- The use of increasingly frustrating traditional industrial policies such as provi-

ding subsidies for uncompetitive industries (e.g., agriculture in the EU), attempting to build new industries from scratch and from above, and trying to attract incompatible (enclave-like) foreign investments are unproductive.

- The globalization of markets. With the reduction in the number of barriers to trade (e.g., WTO processes in Cancun, Doha), producers can compete freely globally, especially under the conditions of the global knowledge economy. Given this, regions realize that they must compete globally in the industries in which they enjoy a competitive advantage. Globalization is thus leading to a specialization of regional economies. Clusters support this trend by building on local differences, seeking endogenous growth sources of regional economies, reinforcing the assets already present in the local economies, etc., and so fostering the bottom-up approaches to development as opposed to top-down approaches.

In Lieu of Conclusions: Recapitulation; Suggestions for Further and Related Research

The cluster method fosters high levels of productivity and innovation and lays out the implications for competitive strategy and economic policy. Economic geography in an era of global competition poses a paradox that is not well understood, needs further research. On the one hand, location should no longer be a source of competitive advantage. Open global markets, rapid transportation, and high-speed communications should allow any company to source any thing from any place at any time. But on the other hand, claims Prof. Porter, location remains important to competition. The global economic map is characterized by clusters: critical masses in one place of linked industries and institutions – from suppliers to universities and government agencies – that enjoy unusual competitive success in a particular field or fields. Porter explains how clusters affect competition in three broad ways: first, by increasing the productivity of companies based in the area; second, by driving the direction and pace of innovation; and third, by stimulating the formation of new businesses within the cluster. The geographic, cultural, and institutional proximity provides companies with special access, closer relationships, better information, powerful incentives, and other advantages that are difficult to tap from a distance, according to Porter. The more complex, knowledge-based, and dynamic the global economy becomes, the more this is true, claims Porter. Competitive advantage lies in local things – knowledge, relationships, and motivation – that distant rivals cannot replicate very efficiently, Prof. Porter continues. However, the advent of the Internet, knowledge management, and the global knowledge economy seems to be changing that and profoundly affecting the essence of "thinking globally but acting locally".

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TOLYGIŲ INOVACIJŲ PALAIKYMO TEORIJA IR POLITIKA NAUJAI EUROPAI

Valdas Samonis

Santrauka

Straipsnyje siūlomi teoriniai rėmai, reikalingi palaikyti tolygių inovacijų procesus išplėstoje Europos Sąjungoje. Argumentuojama, kad šie procesai yra pagrindinis konkurencingumo (ir produktyvumo) variklis Europos Sąjungoje, o to siekiama Lisabonos strategijoje, paskelbtoje 2000 m. Žvelgiant iš žinių vadybos perspektyvos, čia nurodomos ir praktinės siūlomų teorinių rėmų implikacijos ekonominei politikai bei verslo strategijai. Jos koncentruojasi apie „klasterinį" modernaus vystymosi kelią, kaip siūlo Harvardo universiteto prof. M. Porter. Straipsnyje nurodomi būdai, kuriais klasteriai pagerina konkurencingumą ir produktyvumą: 1) per geresnį prieinamumą prie specializuotų tiekėjų, kvalifikacijų ir žinių; 2) per tolygesnius inovacijų procesus, nes klasteriuose labiau išryškėja poreikis tobulinti gamybinius procesus bei juose bendradarbiaujančios firmos ši poreikį gali patenkinti geriau; 3) per „inkubatoriaus efektą", kai klasteryje kvazibiologiniu būdu yra kuriamos naujos firmos. Straipsnyje taip pat siūlomos tolesnių ir giminingų tyrimų kryptys.

Įteikta 2004 m. liepos mėn.