ISSN 1822 – 7260 SOCIAL SCIENCE. 2013. Nr. 3 (81)

Innovation Strategies in Latecomer Environments: Alternatives for Firms in Small Open Economies

Giedrius Jucevicius

Kaunas University of Technology
Donelaicio 73, LT-44029 Kaunas, Lithuania

crossref http://dx.doi.org/10.5755/j01.ss.81.3.5795

Abstract

This paper is aimed at presenting and discussing the varieties of organizational strategies for innovation in the underdeveloped economic-institutional contexts. It is questioned whether the emphasis on institutional innovation systems (e.g. NIS, RIS), popular with policy makers, represents the key instrument for achieving innovation-driven growth in the latecomer economies and their firms. The latecomer environment can stimulate certain types of innovation strategies. However, to be sustainable in a longer run, they need to be supported by formal or informal institutions of the innovation system. The paper argues the need to combine *institutional* (top-bottom) and *entrepreneurial* (bottom-up) approaches, especially in the emerging innovation systems. Three sets of organizational innovation strategies are discussed in the latecomer context. Each innovation strategy has its potential strengths and weaknesses in the specific contexts, presented in the paper. Based on various cases of firms and empirical observations from the latecomer context, the paper concludes that entrepreneurial dynamics is not in the position to replace an institutional dimension of innovation system.

***Keywords*: innovation strategies, latecomer economy, latecomer firms, NIS, frugal innovation, born-global firms.**

Introduction

Much of the debate about innovation strategies and typologies has been traditionally centred around technologies, lead firms and innovation systems in the developed economies (Schmidt and Rammer, 2007). However, developing and 'latecomer' countries were for long regarded as adaptors of innovations produced in more sophisticated institutional and organizational environments (Hobday, 2005; Maharajh and Kraemer-Mbula, 2010; Paus, 2012).

The concept of latecomer economies is first of all linked to Gerschenkron (1952), claiming that the backward countries are not necessarily at a disadvantage to more developed economies. The 'latecomer effect' implies that catching-up economies can leapfrog the stages of economic development by making use of the existing advanced knowledge and technologies. Mathews (2006) extends this argument to the latecomer firms that can accomplish technological catch-up by entering the global networks of production and becoming net recipients of advanced industrial knowledge. They can rely on three major factors while building their innovative edge: 1) the state of the art industrial knowledge and technologies, 2) institutions supporting industrial learning, and 3) internal management of knowledge and organizational learning.

In this paper, this thesis is extended by claiming that the latecomers, despite their underdeveloped institutional innovation systems, represent a rather unique environment, which is capable of supporting specific innovation strategies of organizations.

The underlying *research problem* of this paper is that the existing academic theories on innovation systems (e.g. Hall, Soskice, 2001; Whitley, 2002) do not take into account the innovation potential of less sophisticated institutional-organizational environments. Much of the research focuses on mature institutional systems and the impact they have on technological innovations. However, strategic alternatives for pursuing innovations in less advanced contexts are not given enough attention.

Therefore, the *aim* of this paper is to present a critical discussion on the repertoire of organizational strategies for innovation in latecomer economies, with a particular focus on the context of small open economies.

The paper integrates several theoretical approaches: system level theories (*varieties of capitalism*, Hall and Soskice, 2001; *national innovation systems*, Lundvall et al., 1994; *regional innovation systems*, Cooke et al., 2004), and firm level theories of innovation (*innovation strategies*, Jaruzelski and Dehoff, 2010; *reverse innovation*, Govindarajan and Trimble, 2012).

The findings are based on the analysis of scientific literature, cases of firms, and empirical research by the author of the paper.

First, the article discusses the latecomer environment for innovations in the context of major theories and debates the appropriateness of institutional theories for describing innovation strategies in latecomer economies.

Secondly, having presented the limitations of the institutional approach, the article discusses the entrepreneurial dimensions of innovation strategies in latecomer economies.

Last, but not least, different types of innovation strategies are presented, their strengths and weaknesses in terms of latecomer development discussed and supported with some empirical cases of firms. The conclusions are drawn on the appropriateness of different strategies.

Institutional vs. entrepreneurial approaches in innovation management research

The research on innovation management can be divided into two general streams of thought and focus of academic analysis.

The first stream of research emphasizes *contextual* variables of innovation activity with a particular focus on the *macro*- or *meso*-level parameters of innovation. Its fundamental assumption is that innovation activities of organizations are largely influenced by national, regional, or sectoral innovation systems. The types and intensity of innovation-related activities depend not so much on the entrepreneurial dimension of organizations, but on the existing institutional, legal, organizational and, to some extent, cultural infrastructure. Such a line of thinking is reflected by some key theoretical approaches in the field, such as *national innovation systems* (Lundvall et al., 1994) *regional innovation systems* (Cooke et al., 2004) *sectoral innovation systems* (Malerba, 2004), or *varieties of capitalism* (Hall and Soskice, 2001). The main contextual variables, regarded by these theories as important for innovation activities of organizations, are: institutional support, financial markets for innovation, research infrastructure, legal basis for contracts and IP protection, structures of governance and management control, systems of education, and skills formation. For the proponents of this approach, the intensity and nature of firm's innovation activities depend on the level and type of institutional infrastructure that is developed over time.

The second stream of research on innovation management emphasizes an *organizational* and *entrepreneurial* dimension of the innovation process. As a result, innovation is not so much shaped by environmental factors (e.g., institutions), but rather by the actions and decisions, made by entrepreneurs and organizations. These actions are relatively autonomous from the external environment, its potential constraints; on the contrary, they are trying to build on the opportunities offered by a variety of specific contexts or even profiting from their limitations (Herrmann, 2008). To a certain extent, entrepreneurial organizations are even capable of shaping some aspects of their external environment rather than being just influenced by it.

Thus, the approach to relationship between *innovation strategies of organizations* and their *external environment* is quite different in each academic campus. The first group of researchers (usually, *institutional economists* or *economic sociologists*) consider organizational choices as inseparable from the characteristics of the external environment. The second group (usually, representatives of *management* and *business strategy*) regard innovation strategies of organizations as potentially autonomous from their external constraints (e.g., on national or regional level), especially in globalised markets and value chains.

Such a distinction between two major approaches is important in the context of the *latecomer* or *newly industrializing economies* (NIE) that are looking for pathways to innovation-driven growth. The concept of 'latecomers' takes its roots from the development studies, more specifically, from Gerschenkron (1952), and rests on the assumption that such countries are in a position to leapfrog the stages of economic development through the access to the most advanced knowledge and technologies. The latecomers or NIEs form the middle ground between the developed and developing world by possessing a general institutional infrastructure, but lacking sophisticated industrial culture (e.g., trust), advanced forms of governance (e.g. industrial networks), and mechanisms of cooperation (e.g., R&D partnerships).

Latecomer economies that seek innovation-driven growth are usually given policy advice along the lines of the first stream of thought, i.e. they are supposed to establish a functioning institutional-organizational system on national (NIS), regional (RIS), or sectoral (SIS) levels. Such a view is supported by the examples of the developed countries, characterized by strong (yet diverse) institutions and technological innovations that emerge from these types of environments. The literature on institutional systems of innovations makes *ex-post* generalizations about the relationships of institutional frameworks and innovation strategies of firms. These theories are usually rationalizing the cases of advanced capitalist economies and the technological specialization of their firms (usually, measured by patents per industry). Paradoxically, the theories derived *ex-post* from the advanced economies and societies are applied in *ex-ante* way in a rather different latecomer context (Arocena and Sutz, 2005). Not surprisingly, their applicability for the latecomer economies, for firms and the solution of their innovation-related challenges is rather limited.

For example, a famous theoretical perspective on 'varieties of capitalism' (VoC) by Hall and Soskice (2001) explains well the linkages between *institutions* and *firm strategy* in advanced economic systems, but is less applicable to latecomer contexts. VoC theory treats companies as the crucial actors in capitalist economy and is built around such key concepts as *comparative institutional advantage* (i.e. institutions influence organizational strategies and accordingly shape national competitive profiles) and *institutional complementarity* (i.e. institutional systems are coherent, their institutions complement each other, so a change in one institution leads to change in another). It was the first major theory to identify the linkages between specificities of institutional frameworks and different types of innovation on the organizational level. Hall and Soskice (2001) distinguish between the Anglo-Saxon liberal market economies (LMEs) and Nippo-Germanic coordinated market economies (CMEs), each with a different set of institutions and their impact on organizational innovation strategies.

Organizational strategies for *radical* innovation in products and processes are positively influenced by the institutional system of *liberal market economies* or *LMEs* (e.g. USA, UK). Developed stock and venture capital market, flexible labour markets, educational system with

its emphasis on transferable skills, free competition of industry standards, and profit-, shareholder value-oriented corporate governance structures provide important institutional incentives to focus organizational strategies on radical innovations (with the highest degree of risk, but also highest profitability in the case of success).

Organizational strategies for *incremental* innovation, are positively influenced by the institutional system of *coordinated market economies* or *CMEs* (e.g., Germany, Switzerland, Japan). Strong credit markets, long-term relationships with banks and labour unions, conservative labour market, a developed system of vocational training for specialized skills, no pressure from stakeholders to produce high profit margins in a short-run, and cooperative industrial structures (e.g. strong trade associations), all contribute to a more gradual, long-term oriented profile of innovation strategy – incremental innovations. Not surprisingly, CMEs excel in traditional sectors (and their gradual improvements), while LME firms seek to attain the market power and profitability of temporary monopolist through radical innovation.

The theory has been tested by researchers in a variety of contexts (e.g., Amable, 2003; Herrmann and Peine, 2011). As it has already been mentioned, its generalizability outside a limited number of countries that 'fit' the theoretical framework remains limited. For example, quite a few developed economies from Southern Europe (e.g. France, Italy) with distinctive innovation profiles do not fall into any of the groups. In the doctoral dissertation on comparative management models and innovations, the author of the present paper distinguished a *hierarchical system of governance* and innovation (Jucevicius, 2004), an idea which was later reproduced by quite a few authors (e.g., Schneider (2009) on *hierarchical market economies*) in the context of 'varieties of capitalism'. It can be conceptually linked with the profile of organizational innovation strategies in a 'statist' French system that often depend on centralized technological funds of the state and close networks between the big businesses and public administration. Such hierarchical, state-centred system often leads to commercial innovations that are not directly related to the consumer markets and would be hardly possible without the support from the state (e.g. nuclear technologies, speed railway (TGV) technologies). However, France is more an exception than a rule among the 'hierarchical' market economies and is rather successful at producing viable (and quite specific) technological innovations. There are many hierarchical, 'statist' systems (e.g., in Latin America) that fail to produce economically productive structures and their organization strategies have little to do with innovation. Why isn't there any consistent relationship across the countries between the *institutional environment* and its *innovation*-related outcomes on the *organizational level*? The answer is not that simple.

First, it would be hard to expect that all the cases should fall within two 'ideal' types of an institutional system. Second, there are many economies not driven by innovation, with firms having other strategic considerations (e.g., cost efficiency). Last, but not least, the institutional setup may not be in a full position to explain innovation-related activities and strategic profiles of firms in any given country (Lane, 2008; Lange, 2009). For example, the firms functioning in Italian industrial districts have strong competencies at producing high level consumer goods and are the world leaders in design-related innovations. However, the innovation strategies of Italian firms are not heavily influenced by formal institutions on national-level (unlike in the above mentioned cases of LMEs and CMEs), but rather by informal institutions and highly localized tacit knowledge (usually transferred not through formal training institutions, but rather through family ties). Thus, the 'varieties of capitalism' methodology is not capable (nor are other comparable methodologies, such as NIS, RIS or SIS) of taking into account the whole diversity of institutional-organizational relations in terms of innovation. There can also be other factors at work that influence innovation strategies of firms, not only the institutional environment. It is particularly true of many 'latecomers' (or newly industrialized economies, NIEs) that do not fully correspond to the ideal types, but still manage to produce specific kinds of innovations.

Institutional environment and innovation strategies of firms in latecomer economies: a troubled relationship

The 'latecomer' or 'emerging' economies is far from being a fixed concept with a clear geographical delineation. A conceptual line between the 'emerging' and 'developed' economies is growing thinner, especially in the aftermath of financial crisis, and in certain instances becomes irrelevant. Some former 'latecomers', such as Singapore or South Korea, have already achieved an impressive level of social and economic development, created a sound R&D infrastructure what in a way disqualifies them from the category of 'emerging' economies. Meanwhile, some of the traditionally 'developed' economies (e.g. Southern Europe) face heavy public debts, welfare expenditure, structural problems of productivity and have been hit hard by the recent economic crisis. Recently, even the term of 'submerging' (as opposed to 'emerging') economies was launched into the circulation.

What is clear from the above, is that too many cases fall outside the pre-defined institutional categories. For example, there is a body of research on 'hybrid statism' or the so called 'mixed market economies' (MMEs), especially in relationship to the countries of Southern Europe (Italy, Spain, Portugal). In a way, it is possible to claim that they combine the 'worst of the two worlds' by having excessive regulation in some parts of the economy and extreme deregulation in others (e.g., inflexible collective agreements and unprotected workers under temporary contracts). In South European systems, the coordinated labour bargaining is not accompanied by strong industrial associations and vocational training (as in CMEs, such as Germany), which is an important premise for specialised incremental innovations. At the same time, their stock- and venture capital markets are

underdeveloped, corporate governance structures are hierarchical with little direct accountability to markets and stakeholders, which provides no solid environment for radical innovations. Thus, the overall institutional framework of South European economies is not supportive of technological innovation on the firm level.

Similar trends can be noticed in the institutional environments of many Latin American countries, which are stuck in a vicious circle of atomistic labour relations, low skills, and rigid corporate hierarchies that inhibit the innovativeness of organizations (Schneider, 2009). Although the new EU member states from Central and Eastern Europe (CEE) represent a somewhat special brand of 'latecomers' (i.e. they are not the 'newly' industrializing countries *per se*, but have to deal with the legacy of Soviet industrialization), they seek to avoid a Latin American or South European 'vicious circle' and strive to build institutional framework that is more comparable to CME or LME profiles of the advanced innovation-oriented market economies. Feldmann (2006) notices that some countries of CEE are developing institutions closer to the *liberal market economy* profile (e.g. Estonia), while others (e.g. Slovenia) are more closely related to the profile of *coordinated market economy*. However, in such environments there is no complementarity across institutions and organization-level innovations.

The observations presented above allow us to conclude that most of the 'emerging' (and 'submerging') economies can be characterised by a lack of coherent and stable institutional environment that poses some serious limitations to the emergence of technological innovations on the organizational level. At the same time, as mentioned in sections above, such imperfect institutional environment (e.g. in Italy) is still capable of containing some highly innovative firms.

The next section is devoted to the discussion on organizational innovation strategies that emerge out of such fragmented institutional environments, and more specifically, innovation-related activities of firms that are not too constrained by the limitations of institutional context. The articles will discuss the repertoire of innovation strategy choices available to firms in the underdeveloped institutional environments that are not fully supportive of radical or incremental technological innovation.

Innovation strategies for 'latecomers': entrepreneurial dimension

The discussion presented above has stated out from the delineation of two major approaches in innovation management. As we can see, the first approach with its emphasis on institutional environment for innovation has some serious limitations at explaining (and driving) innovation processes in latecomer economies with incoherent and unstable institutional frameworks. It also poses problems for the effectiveness of policy makers that seek to implement institutional systems for innovation on national, regional, or sectoral levels, based on some theoretically coherent methodology (NIS, RIS, or SIS) and see their attempts fall below expectations due to a lack of supporting informal institutions in the society (e.g. trust, social capital, traditions in rule of law). Therefore, another complementary approach to institutional capacity building is necessary for the latecomers to achieve some breakthroughs in the innovation-related activities. This is where the second approach, with its emphasis on the *entrepreneurial* dimension of the innovation process can be of a good use for the emerging economies and their firms, looking for innovation-related growth opportunities.

Cooke et al. (2004) draw a valuable distinction between the *institutional regional innovation systems* (IRIS) and *entrepreneurial regional innovation systems* (ERIS). The latter systems are very much based on the firm-level (more than institutional) factors, which are much better off explaining the dynamics of innovations emerging from weaker or more fragmented national institutional environments (e.g. in Italy). It is true of many latecomer contexts, where 'soft' individual or organizational *entrepreneurship* is a stronger driver behind innovations than 'hard' *institutional framework*. It may not be easy for an entrepreneur to escape the constraints of underdeveloped institutional framework, yet not impossible, especially in the globalised business environment.

So what are the actual and potential strategies for entrepreneurs and firms in the latecomer countries to achieve the innovation-driven growth?

There have been quite a few attempts to analyse various aspects of innovations in the context of the 'emerging' economies (Lynn and Salzman, 2007; Valdani and Arbore, 2007). Some researchers focus on the above mentioned *macro*-level questions, i.e. what innovation system and macro-level innovation strategy should be implemented in emerging or developing countries. Others pose more *micro*-level questions, such as what types of innovation can the firms of the emerging economies successfully specialise in the global competition arena. They usually focus on a specific aspect, instead of trying to analyze a systemic 'architecture of choice' for entrepreneurs who wish not to be bound by imperfect institutional environment in their innovation activities.

Jaruzelski and Dehoff (2010) of Booz & Co. distinguish three fundamental types of innovation strategies of firms:

1) *'Technology driver'* innovation strategy builds on technological capabilities (usually in incremental way) aiming to meet the unarticulated needs of customer through new technology.
2) *'Need seeker'* innovation strategy is focused on engaging the existing and potential customers to shape new products and services, based on superior end-user understanding and being the first to market with offerings.
3) *'Market reader'* innovation strategy emphasises the analysis and capitalization on the market trends.

How relevant are such strategies for firms in latecomer environments that usually are not on the technological frontier and do not have direct access to the latest market trends or high-end users? Can these strategies be adapted to suit the latecomer perspective and make use of their specific advantages in terms of innovation? The article will

look at each strategy separately and will illustrate the latecomer choices with specific cases or empirical evidence.

'Technology driver': strategies focused on industrial learning, adaptation, and global niches in technology

Firms in the emerging economies suffer from inadequately developed research and institutional infrastructure that severely limits their technological capabilities. Therefore, it is primarily in technological innovations that latecomers are faced with greatest constraints (Fagerberg and Godinho, 2003; Shan and Joly, 2011). Besides, their firms tend to be concentrated in traditional industries of low technological intensity. In such contexts, prospects for technology-driven innovation do not seem too optimistic. However, there are several major strategies that latecomers are in a position to undertake. First, to climb the technological learning curve through the cooperation with advanced industrial partners and gradually provide them (or end customers) with potentially innovative (technological/design) solutions. It can be related to technological adaptation, imitation, and maybe even recombinant innovation (i.e. new system out of old elements). The second option is the exploitation of global niches and offering specialised solutions based on exclusive technological competences.

T1. Strategy for industrial learning, imitation and gradual innovation

Together with a doctoral student, the author of the current investigation has conducted a survey on the industrial-technological learning of Lithuanian furniture manufacturers, involved in the regional networks of production of the Baltic sea area (Puidokas and Jucevicius, 2009). The study was based on semi-structured interviews with the managers of 14 furniture manufacturers in Lithuania. Its aim was to determine the main factors underlying their industrial/technological learning in the production value chains and the intensity of learning in different areas of the value chain. The research was very much focused on assessing the strategic complementarities of MNCs and the local firms. The furniture manufacturing industry was chosen for study because during the last 20 years its firms were successfully restructured and achieved good productivity growth, which tends to be associated with the exposure to international value chains. The survey has shown that most industrial learning was taking place in such fields as management and automatization of the manufacturing processes, quality controls, and operations management. On the technological front, the managers admitted that contacts with MNCs had helped them get acquainted with the latest technological achievements in furniture processing and allowed to receive some training in technologies. However, these contacts did little to promote technological innovations on behalf of local firms, but rather led to a fast transfer / imitation of the existing technologies. Nevertheless, the managers admitted that some technological learning took place, while the received advanced industrial knowledge caused some changes in organizational and production culture.

Another instructive case has been offered by Lithuanian sports garment manufacturer 'Audimas' that had started out by contract manufacturing for 'Nike Co.' However, the subcontracting relationship was only an element in the overall strategy of the local firm that included the development of brand, design, and new technology-based textile solutions. The company was employing people with competence and experience in cloth design, so it was not long before they suggested the improvements in model design to Nike Co., and the collaboration of firms evolved to another qualitative level. From then on, it has been not only basic outsourcing of manufacturing competence, but also an element of co-creation in a higher value added chain of production. In a way, the company is successfully balancing two roles – the one of original equipment manufacturer (OEM) with that of an original design manufacturer (ODM). However, this is hardly a chrestomatic case of industrial learning because a relatively advanced competence already pre-existed in the local firm, and, due to the partnership, it only got a more productive use. Thus, incremental innovations in design by the local firm (which in parallel was working on its own brand and product design) happened because of the existing human capital. This supports a more general conclusion that latecomer firms will find it hard to implement their innovation strategies in technology and design, unless sufficient human capital and organizational absorptive capacity is present. It supports the thesis that in order to accomplish technological catch-up, a strong local institutional infrastructure must be present (i.e. coordinating governmental bodies, developed educational system, organizations of business support and technology transfer, laboratories, etc.) that would provide local firms with sufficient *absorptive capacity*. Otherwise, the focus on the establishment of linkages with MNCs is of a rather limited value.

T2. Global niche strategy

Although it is hard to expect radical technological innovations and new general purpose technologies emerging from the firms located in the latecomer economies, it is quite possible that their firms have specialised high-level technological competence that can be quite unique on the global scale. Such competence may help produce customised technological products and even achieve leadership in certain global niches.

Dlugoborskyte and Petraite (2013) have analysed two 'born-global' R&D intensive firms from Lithuania. EKSPLA Ltd. specialises in laser technologies and is a global niche market leader in one type of scientific lasers. The company customises its products to meet the specific needs of their global clients (in USA, China and Japan). V-LT is a high-tech company manufacturing and distributing non-invasive ultrasonic technologies for measurement and monitoring of key physiological intracranial parameters for customers in medicine and health care markets.

What can be noticed as very special about such companies is that despite the imperfections of the institutional innovation system of a latecomer economy they are capable of building on their exclusive internal competencies and producing globally competitive technological products. Besides, they fall into the category of 'born global' firms that run their operations around the globe and are not too dependent on the imperfections of the home environment. However, one can raise a question, to what extent their success can be sustained in a longer run, if the NIS of their home country is not capable of reproducing the necessary specialized skills. For example, the competencies of Lithuanian companies in laser technologies derive from the Soviet military industry sector, which means that the skills shaped in one innovation system are being used in the other (radically different one), but not necessarily reproduced on a sustainable scale. It means that latecomer economies and their firms can hardly expect sustainability of the *global niche leadership strategy* unless it is supported by appropriate institutional elements of the innovation system. The leadership in global niches of technological products remains more of an exception than a rule in the emerging economies, because it is not linked with any particular advantages of their environment (unlike the innovation strategies presented in the next section).

2. 'Need seekers': strategies focused on frugal solutions to low-end customers

Firms in the emerging economies usually have much better access to and knowledge of the low-end than high-end market segments. Viewed from the traditional innovation perspective, such a situation puts them into a disadvantaged position, compared to firms from the developed countries that are able to focus on more sophisticated needs of the higher-end market segments (i.e. most usual focus of innovating firms). However, the geography and nature of customer-need driven innovation strategies have changed dramatically over the last decade. 'Bottom of the pyramid' or frugal innovation strategies gain an ever stronger ground (Bound and Thornton, 2012).

Frugal innovation responds to limitations in resources and turns the constraints into an advantage. By minimising the use of resources in development, production, and delivery, or by leveraging them in new ways, frugal innovation results in dramatically lower-cost products and services. They tend to outperform the alternative and are mass produced. The global market for such cost-saving innovations has never been larger.

The examples of frugal innovation are abundant, and many of them stem from India with its co-called *jugaad* culture – a creative solving of problems with limited resources at hand. For example, Devi Shetty has founded a clinic of heart surgery that in many ways functions in accordance with the fordist principles of mass production. Surprisingly to some, however, it manages to produce a success rate comparable to the best American clinics, but only at a fraction of the cost (maximum price for surgery in India 5.000 USD instead of 100.000 USD in U.S.). Thus, comparable value is offered to price-sensitive customers without compromising the quality. It comes as no surprise that the clinic receives many patients from the developed countries seeking a better value than offered at their home market.

Some other illustrative examples of frugal innovations in products and services could also be noted:

- Tanaji Malusure City (TMC) – affordable homes for the poor, small homes at prices between 4.000 and 10.000 USD; employing cost effective construction methods, low profit margins compensated by high turnover;
- *Bharti Airtel* – mobile phone operator that attracted millions of users by offering very low tariffs, but com-pensating through scale;
- *Amul* - raw milk processor purchasing from 2,2 mln. farmers, each owning 1-2 cows, in around 10.000 towns; collection points in towns, sophisticated logistics, decentralized supply, centralized processing;
- *Portable electrocardiograph (ECG)* by *General Electrics*, developed by Indian engineers and offered at one fifth of the cost of ECD in the European markets;
- PC mouse with a wireless chip by *Rapoo*, Chinese company, made specifically for customers who use mouse instead of TV remote control for surfing Internet video sites, because satellite or cable TV is too expensive;
- *Nokia* phones with lighters or fridges with batteries in India – specifically designed to solve customers' problems during electricity block-outs due to overloaded infrastructure.

The list of examples is not exhaustive, yet we are more interested in the conceptual significance of frugal innovation for the growth of latecomer economies and firms. On the conceptual level, there is nothing new about the innovative solutions that are born from the environment of constraints. For example, many engineers in the post-Soviet Europe are well acquainted with the methodology for the creative solution of technical problems (*TRIZ*), formulated by G. Altschuller back in 1960s-1970s. Despite the fact that a former Eastern block was not a free market environment, many of the creative technical solutions from the period can be regarded as frugal innovations, which were meant to solve the constraints posed by the environment of constant deficit. So, the often cited Indian *jugaad* mentality is not unusual for other societies that had to adapt creatively under the conditions of shortages and restraints.

There is also a degree of frugality in many of the 'no frillz' business models that have recently permeated even the Western industries. Quite a few of them originate from the latecomers or peripheries of the developed economies. The low-cost carriers, such as Wizzair (Hungary) or Ryanair (Ireland), cheap budget hotel chains, such as Formule or 'always low prices' retailer Wal-mart (started out from de-industrialised areas of the USA) represent innovative business models, based on rethinking and optimizing value chains in specific industries. Many of these models prospered in the economic environment of declining customer purchasing power.

And yet we should ask ourselves, whether frugal innovation can become a strong engine for growth in small open latecomer economies and its firms. Should frugal innovation become a dominant innovation strategy in an environment that did not yet develop an adequate system of R&D and technological capabilities? The answer is not simple.

On the one hand, the success stories in frugal innovation hold valuable lessons for any firm or organization, especially for those which tend to position themselves in the lower end of the market. As far as business strategy is concerned, we can see a growing polarization of consumer needs across numerous industries. We see growth in luxury segments, also we catch growth in price-conscious segments, and then we have "collapse of the middle". There is no reason to suggest that the market for cost-effective solutions is going to diminish any time in a foreseeable future. The principles of thinking under constraints and optimizing value through downscaling are valuable for any innovator. Another question is, to what extent the focus on frugality is applicable to small open latecomers and could really lead to sustained growth in the future.

On the other hand, most business success stories in frugal innovation originate from huge markets of India and China, where economy of scale is an important precondition of success. Firms from small open economies (e.g. *Ryanair* from Ireland) can profit from the liberalization of international markets, but they will always be at a disadvantage to Indian or Chinese companies when it comes to offering low-price mass-scale solutions, oriented to meet the specific needs of local customers in huge domestic markets. Thus, *internationalization* possibilities of domestic demand for frugal solutions (e.g. cheap flights) is an important precondition, when considering such a type of innovation strategy from the perspective of firms in small open latecomer economies (e.g. Lithuania). Besides, it is likely that many frugal innovations, especially in the field of services, are prone to imitation. This imitation can hardly be prevented by patents (especially when talking about countries with a low level of IPR protection), while imitation barriers are usually established by the first mover advantage (i.e. building on network effect, brand, natural monopoly, de facto standard, etc.). More often than not, firms from smaller latecomer economies may find themselves disadvantaged against the players from big countries in frugal segments when time is crucial to the market factor. So, to conclude, the firms at small open latecomer economies may possess the right mentality for creating and commercializing frugal innovations, but quite often they lack instruments to turn this into a sustainable growth strategy.

3. 'Market reader': globalising local specialised competences for innovative solutions

The examples and discussion presented above indicate the need for firms to be always aware of the market trends and opportunities they offer, especially on the international markets. Firms in small open latecomer economies (e.g., Lithuania) not only face the constraints of underdeveloped institutional environment, which limits their potential for technological innovation, but also have a disadvantage of a small domestic market, which limits their potential growth from addressing the specific needs of the domestic customers on a mass scale (i.e. compared to India or China). Not surprisingly, firms from small open economies have much greater urge for internationalization in their strategies of business and innovation. Today's business environment, thanks to liberalization of trade and explosion of ICT solutions, has never been more favourable for selling local competencies in globalised markets. It lends us one more valuable alternative in terms of innovation strategy for the latecomers.

The latecomers are in a good position (and in no significant disadvantage, compared to the developed institutional environments) to respond to the global market trends by offering the solutions to globalised problems on the basis of their specific competencies and experiences. More often than not, these special competencies stem from the already mentioned environment of constraints.

A good example of such an innovator is Lithuanian company 'DTecNet', which has achieved commendable rates of growth and has even introduced a global market standard in an area of major concern for global media and IT businesses – piracy on the net. It has created a business intelligence solution for firms that seek knowledge and access to the macro- and micro-level trends about the nature of illegal downloads of their digital content. The developed software solutions have, in a way, changed the mentality in addressing piracy issues by firms. Instead of tracking individual cases, the firms were enabled to get a picture of consumer behaviour trends on the net and insights into the ways of providing a better value proposition and monetizing on their non-customer groups (i.e. illegal downloaders). Such software becomes a business model toolkit for companies operating in the markets of digital content. What is instructive for the present analysis is that such a company has been born out of the environment of constraints (e.g. at times of financial crisis) and has been based on the competencies accumulated in a specific latecomer environment. This environment was for long characterised by low levels of IPR protection and quite massive piracy on the net. Paradoxically, such behaviour was even indirectly promoted by one of the best internet infrastructures in the world (in terms of speed and network coverage). Looking back, it seems natural that solutions to problems are quite likely to emerge in places where they are known "from within" and supported by appropriate framework conditions.

Another comparable example is Sproxil Co., originating from Nigeria and one of the world market leaders in brand protection. It offers global pharmaceutical companies a solution in fighting against counterfeit drugs that amount up to 50 percent of all drug sales in the markets of the developing countries. The counterfeit drugs is a major concern not only for businesses, but also poses grave health risks. The company tags pharmaceutical products with a scratch-off code (like the ones used in pre-paid phones), which is verified by sending a text message

to Sproxil's product authentication service. Traditional methods in dealing with counterfeit drugs have been either too complex (e.g. chemical tests, laser scanning), or too expensive (e.g. barcodes that can only be used with smart-phones) for customers in developing countries. Therefore, Sproxil has come up with a practical solution that suits well the behavioural patterns of the market, addresses the needs of pharmaceutical companies, and society at large. Besides, it is supported by a viable revenue model (flat fee paid by the clients).

One should also mentione *Getjar Co.* from Lithuania that emerged as world's largest open mobile application platform. Its founder Ilja Laurs notes that company's success owes quite a lot to its origins in a "latecomer" environment with former low levels of IPR protection and high individual IT literacy of its population that was indirectly helped by high levels of piracy in society.

Some general conclusions need to be made, regarding this last group of latecomer innovation strategies.

First, most of them are in one way or another associated with the "born global" pattern of firms, i.e. firms that due to the nature of activity or ICT dimension are not bound to limitations of the home market and its institutional environment.

Second, they are originally based on the local competencies that are directly related to the latecomer context (i.e. opportunities and specific solutions stemming from constraints), but their global growth potential largely depends on linkages with institutional infrastructures of the developed innovation systems. All the three firms mentioned above have gone global soon after their initiation, and at this particular moment are more related to Silicon Valley and other advanced innovation ecosystems than to their home contexts. For example, 'DTecNet' was originally founded by Lithuanian entrepreneurs as a Danish company in order to have a more smooth access to their key markets and partners. Despite being based, physically located, in Lithuania, it is, at the moment, owned by the US-based 'MarkMonitor', the largest brand protection company. 'Sproxil', despite being founded by a Ghanaian entrepreneur, has by now its headquarters in Cambridge, Massachusets and considered as a US-based venture capital firm. 'GetJar' has also migrated away from Lithuania towards San Francisco Bay area in order to profit from the opportunities of Silicon Valley ecosystem that no global ICT-related company can afford to miss.

So once again we can see the possibilities and potential limitations to the innovation strategies of latecomers. The debate about the most prospective innovation strategies for latecomers cannot lead to one specific answer, but rather show a repertoire of possible choices. Despite all the presented limitations, none of the alternatives discussed above should be ruled out as unviable.

Organizations should make best use of their strengths and minimize potential weaknesses while formulating the strategy for innovation and growth. Small firms in latecomer economies tend to possess entrepreneurial culture, relatively simple capital structure, organizational flexibility, lower internal communication costs, and a strong role of charismatic entrepreneurship in corporate governance (Yu, 2011). They tend to apply guerilla entrepreneurial strategies against the incumbent firms, replication and fast imitation of established products, and maybe some reverse engineering.

These are all viable weapons that latecomer firms can invoke for the competitive battles against incumbents, yet their sustainability cannot be taken for granted.

Conclusions

The discussion and cases presented above indicate that latecomer economies can be regarded as a special case in the innovation management studies.

Innovation strategies of their firms are not likely to draw on the institutional environment (as in the developed systems), but on localised competencies, specific sets of market- and technology-related knowledge and entrepreneurial use of opportunities in the environment of constraints.

However, innovation strategies adopted by the latecomers may not be sustainable if the firms cannot profit from a more developed institutional system of innovations. Localised competences and the knowledge that stand at the source of latecomer innovation may not be sufficient for business growth and lead to gravitation of firms away from the latecomers towards more advanced innovation systems. It means that entrepreneurial 'bottom-up' approach needs in longer run to be supplemented by formal and informal institutional capacity building in order to be sustainable.

Firms from small open latecomer economies are more likely to adopt 'born global' firm strategies and/or focus on global niches. However, not all small latecomers succeed in building a *globalised regional innovation system* (such as, e.g., Singapore).

There is no 'optimal' innovation strategy for firms in latecomer economies, only possible alternatives, which are not mutually exclusive. Overemphasis on one of the strategies (e.g. 'technology driver') may produce undesirable side-effects over time. Therefore, strengthening of absorptive capacity and dynamical capabilities of the latecomer firms remains of key importance, no matter which strategy is undertaken.

This paper draws on the project The innovation strategies of organizations in the emerging economic-institutional environment (reg. Nr. MIP-12350), sponsored by the Research Council of Lithuania, whose financial support is gratefully acknowledged.

References

1. Amable, B. (2003). *The Diversity of Modern Capitalism*. NY: Oxford University Press. http://dx.doi.org/10.1093/019926113X.001.0001
2. Arocena, R., & Sutz, J. (2005). Innovation systems and developing countries. *DRUID Working Paper*, 02-05.
3. Bound, K., & Thornton, I. (2012). *Our Frugal Future: Lessons From India's Innovation System.* Nesta.
4. Cooke, Ph., Heidenreich, M., & Braczyk, H-J. (2004). *Regional innovation systems.* London and NY: Routledge.
5. Dlugoborskytė, V., & Petraitė, M. (2013). Systemic Factors for the Formation of a Born Global R&D Intensive Firm. *Social Sciences*, 2, (80), 7-16.

6. Fagerberg, J., & Godinho, M.M. (2003). Innovation and Catching-up, *Working Papers*, 24, Centre for Technology, Innovation and Culture, University of Oslo.
7. Feldmann, M. (2006). Emerging Varieties of Capitalism in Transition Countries: Industrial Relations and Wage Bargaining in Estonia and Slovenia. *Comparative Political Studies*, 39, 7, 829–854. http://dx.doi.org/10.1177/0010414006288261
8. Gerschenkron, A. (1952). Economic Backwardness in Historical Perspective. In B. Hoselitz (Ed.), The Progress of Underdeveloped Areas.
9. Govindarajan, V., & Trimble, Ch. (2012). *Reverse innovation*. Harvard Business Press.
10. Hall, P.A., & Soskice, D. (2001). *Varieties of capitalism. The institutional foundations of comparative advantage*. Oxford: Oxford University Press. http://dx.doi.org/10.1093/0199247757.001.0001
11. Herrmann, A.M., & Peine, A. (2011). When 'national innovation system' meet 'varieties of capitalism' arguments on labour qualifications: On the skill types and scientific knowledge needed for radical and incremental product innovations. *Research Policy*, 40, 687-701. http://dx.doi.org/10.1016/j.respol.2011.02.004
12. Hobday, M. (2005). Firm-level Innovation Models: Perspectives on Research in Developed and Developing Countries. *Technology Analysis & Strategic Management*, 17, 2, 121-146. http://dx.doi.org/10.1080/09537320500088666
13. Jaruzelski, B., & Dehoff, K. (2010). How the top innovators keep winning: The Global Innovation 1000, Strategy+Business, i61 Winter, Booz & Co.
14. Jucevičius, G. (2004). *Integruotas požiūris į vadybos modelius ekonominės transformacijos sąlygomis kultūrinių ir institucinių veiksnių aspektu*. (Daktaro disertacija, Kauno technologijos universitetas, 2004).
15. Lane, Ch. (2008). National capitalisms and global production networks: an analysis of their interaction in two global industries. *Socio-Economic Review*, 6, (2), 227-260. http://dx.doi.org/10.1093/ser/mwm010
16. Lange, K. (2009). Institutional Embeddedness and the Strategic Leeway of Actors: The Case of the German Therapeutical Biotech Industry. *Socio-Economic Review*, 7, (2), 181-207. http://dx.doi.org/10.1093/ser/mwn029
17. Lundvall, B-A., & Johnson, B. (1992). *National systems of innovation*. London: Frances Pinter.
18. Lynn, L., & Salzman, H. (2007). 'Innovation Shift' to the Emerging Economies: Cases From IT and Heavy Industries, Sloan Industry Studies. *Working Papers*, No. WP-2007-22.
19. Maharajh, R., & Kraemer-Mbula, E. (2010). Innovation Strategies in Developing Countries. In E. Kraemer-Mbula, W. Wamae (eds.), *Innovation and the Development Agenda*, OECD Publishing.
20. Malerba, F. (2004). *Sectoral Systems of Innovation*. Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511493270
21. Mathews, J.A. (2002). Competitive Dynamics of the Latecomer Firm: a Resource-Based Account of Industrial Cath-up Strategies. *Asia Pacific Journal of Management*, 19, 4, 467-488. http://dx.doi.org/10.1023/A:1020586223665
22. Niosi, J. (2012). Innovation and Development through Imitation (in Praise of Imitation). Paper presented to the meeting of the International Shumpeter Society.
23. Papa, J. (2012). Sailing Through Stormy Waters. The Case of Latecomer firms in Argentina. Paper presented at the 8th International PhD School on Innovation and Development, Globelics Academy.
24. Paus, E. (2012). Confronting the Middle Income Trap: Insights from Small Latecomer. *Studies in Comparative International Development*, 47, 2, 115-138. http://dx.doi.org/10.1007/s12116-012-9110-y
25. Puidokas, M., & Jucevičius, G. (2009). The Inter-Organizational Industrial Learning of Lithuanian Furniture Manufacturers in the International Value Chains. *Social Sciences*, 3, (65), 29-39.
26. Schmidt, T., & Rammer, Ch. (2007). Non-technological and Technological Innovation: Strange Bedfellows? Centre for European Economic Research (ZEW) - Industrial Economics and International Management Research.
27. Schneider, B.R. (2009). Hierarchical Market Economies and Varieties of Capitalism in Latin America. *Journal of Latin American Studies*, 41, 553-575. http://dx.doi.org/10.1017/S0022216X09990186
28. Shan, J., & Jolly, D.R. (2011). Patterns of Technological Learning and Catch-up Strategies in Latecomer Firms: Case Study in China's Telecom-Equipment Industry. *Journal of Technology Management in China*, 6, 2, 153-170. http://dx.doi.org/10.1108/17468771111142964
29. Storper, M., Thomadakis, S.B., & Tsipouri, L.J. (1998). *Latecomers in the global economy*. London and NY: Routledge.
30. Valdani, E., & Arbore, A. (2007). Strategies of Imitation: An Insight. *Problems and Perspectives in Management*, 5, 3, 198-205.
31. Whitley, R. (2002). Developing innovative competences: the role of institutional frameworks. *Industrial and Corporate Change*, 11, (3), 497-528. http://dx.doi.org/10.1093/icc/11.3.497
32. Yu, F.L.T. (2011). Entrepreneurial Strategies for Small Firms in Latecomer Economies. *New Perspectives on Economic Development*, 157-172. http://dx.doi.org/10.3920/978-90-8686-716-5_9

G. Jucevičius

Įmonių inovacinės veiklos strategijos „vėluojančių" ekonomikų kontekste

Santrauka

Šiuo straipsniu siekiama sistemiškai išnagrinėti ir įvertinti inovacines strategijas, kurias taiko įmonės, veikiančios besiformuojančioje ekonominėje ir institucinėje šalių aplinkoje; šių strategijų privalumus ir ribotumus mažos atviros ekonomikos kontekste.

Tyrime integruojamos kelių lygių teorinės perspektyvos: sistemos lygio inovacijų teorijos (kapitalizmo įvairovės teorija (Hall, Soskice, 2001); nacionalinių inovacijų sistemų požiūris (Lundvall et al., 1994); regioninių inovacijų sistemų požiūris (Cooke et al., 2004); įmonės lygmens inovacijų teorijos (inovacijų strategijos (Jaruzelski, Dehoff, 2010); atvirkštinės inovacijos (Govindarajan, Trimble, 2012). Tyrime taikomi mokslinės literatūros ir įmonių atvejų analizės metodai; teiginiams iliustruoti taip pat pateikiami autoriaus atliktų apklausų duomenys.

Didžioji dalis inovacijų srities tyrinėtojų pagrindinį dėmesį skiria išsivysčiusiose pasaulio ekonomikose vykstantiems technologinių inovacijų procesams ir juos įgalinančioms institucinėms sistemoms. Tokiu būdu daugelis sukurtų teorinių modelių yra orientuoti į brandžių institucinių sistemų atskleidimą. Deja, tokios ex post būdu sukurtos teorijos vėliau yra ex ante būdu taikomos vertinant besiformuojančias sistemas ar net nustatant jų vystymo gaires. Nenuostabu, kad toks požiūris pasižymi ženkliais ribotumais. Šiame straipsnyje remiamasi pagrįsta prielaida, kad "vėluojančios" ekonomikos pasižymi savitais konteksto pranašumais, įgalinančiais įmones pakankamai sėkmingai įgyvendinti savitas inovacijų strategijas. Vis dėlto pastebima problema, kad šios strategijos nėra pakankamai išgrynintos ir struktūruotos.

Pirmojoje straipsnio dalyje atliekama lyginamoji institucinių inovacijų kontekstų analizė (remiantis kapitalizmo įvairovės ir nacionalinių inovacijų sistemų teorijomis), leidžianti padaryti išvadą, kad didžioji dalis nagrinėjamų šalių negali būti priskirtos nė vienam "idealiajam" instituciniam tipui, nors savo ruožtu pakanka empirinių duomenų, kad jose veikiančios įmonės vykdo savitą inovacinę veiklą (pvz., Italijoje). Tai leidžia daryti prielaidą, kad anaiptol ne visose sistemose inovacinės veiklos pobūdis ir rezultatyvumas priklauso nuo veikiančių formaliųjų institucijų.

Antrojoje straipsnio dalyje atskleidžiamas probleminis institucinės aplinkos ir įmonių inovacinių strategijų santykis „vėluojančių" ekonomikų kontekste, ypač akcentuojant jų struktūrinį kompleksiškumą ir hibridines formas. Šis pastebėjimas taikytinas daugeliui Pietų Europos, Lotynų Amerikos ir Vidurio ir Rytų Europos sistemų ir jose veikiančių organizacijų strategijoms.

Trečiojoje straipsnio dalyje atskleidžiama „vėluojančiose" ekonomikose veikiančių įmonių inovacinių strategijų įvairovė. Nagrinėjant "vėluojančiųjų" ekonomikų inovacinį kontekstą remiamasi Cooke et al. (2004) išskiriamais institucionalizuotų ir antreprenerinių regioninių inovacijų sistemų tipais. Atlikti tyrimai rodo, kad institucionalizuotose inovacijų kontekstuose labiau išreikštos technologinės inovacijos, o mažiau institucionalizuotuose kontekstuose vyrauja netechnologinės, antrepreneryste grįstos inovacijos. Daugelis „vėluojančiųjų" ekonomikų prisikirtinos būtent pastarajam kontekstui (dėl fragmentuoto institucinio konteksto) ir daroma prielaida, kad jose santykinai daugiau vyrauja netechnologinio pobūdžio inovacijos. Toliau Jaruzelski ir Dehoff (2010) išskirti trys inovacinių strategijų tipai

(orientacija į technologijų tobulinimą, orientacija į vartotojų poreikius ir orientacija į rinkos tendencijų išnaudojimą) adaptuoti „vėluojančiųjų“ ekonomikų kontekstui ir atlikta išsami strategijų raiškos analizė, išskiriant atitinkamus privalumus ir ribotumus.

Pirmuoju, *orientacijos į technologijų tobulinimą* aspektu, pažymima, kad tai yra būtent ta sritis, kurioje daugelis „vėluojančiųjų“ įmonių susiduria su didžiausiais apribojimais (lyginant su įmonėmis iš brandžių inovacijų sistemų). Išskiriami ir pagrindžiami keli šių įmonių taikomų strategijų tipai: 1) industrinio mokymosi, adaptavimo, imitavimo ir laipsniškų technologinių inovacijų strategija, 2) pasaulinės nišos strategija. Iliustruojant šias strategijas pateikiami ir analizuojami Lietuvos įmonių atvejai. Daroma išvada, kad šių strategijų sėkmė didele dalimi priklauso nuo įmonės absorbcinių gebėjimų (pirmuoju atveju), turimų kompetencijų pasaulinio unikalumo ir gebėjimo jų pagrindu pateikti užsienio rinkoms specializuotus produktus/sprendimus (antruoju atveju). Be to, pastebima, kad tolesnė į technologijų tobulinimą orientuotų strategijų sėkmė priklausys nuo insitucionalizuotos inovacijų sistemų formavimosi (kaip rodo atliktų įmonių atvejų studijos, nemaža dalis technologinių kompetencijų yra įgytos dar senojoje sovietinėje institucionalizuotoje sistemoje).

Antruoju, *orientacijos į vartotojų poreikius* aspektu, pažymima, kad „vėluojančiųjų“ šalių įmonės neturi prieigos prie aukščiausio rinkos lygio vartotojų, todėl savo veiklą orientuoja į „piramidės apačios“ poreikių tenkinimą, pasiūlant mažiau mokiems vartotojų segmentams novatoriškus savo verte sprendimus. Pateikiama nemažai „atvirkštinių inovacijų“ pavyzdžių. Pažymima, kad šios inovacijos formuojasi apribojimų aplinkoje. Tokia aplinka iš esmės palanki veiklos ir kaštų optimizavimo sprendimų paieškai, žemų kaštų verslo modelių radimuisi. Pastebima tendencija, kad šios strategijos yra itin paplitę masto ekonomiją užtikrinti leidžiančiose (Indijos, Kinijos) rinkose, o mažų atvirų ekonomikų įmonės šiuo požiūriu nėra itin palankioje padėtyje.

Trečiuoju, *orientacijos į rinkos tendencijų išnaudojimą* aspektu, aptariami sėkmingų „vėluojančiųjų“ šalių įmonių atvejai (DtecNet, Sproxil, GetJar), kurie atskleidžia, kaip dėl specifinių vietos sąlygų susiformavusios kompetencijos leido pasiūlyti novatoriškus sprendimus, atliepiančius į naujausias pasaulio rinkų tendencijas ir poreikius tokiose srityse kaip kova su padirbtais vaistais ar neteisėtais parsisiuntimais internetu. Nepaisant savo kilmės šalies, visos aptariamos įmonės priklauso „gimusių globaliomis“ kategorijai. Apibendrinant daroma prielaida, kad „vėluojančios“ šalies kontekstas suteikia pakankamas prielaidas tokio pobūdžio inovacinėms strategijoms inicijuoti, tačiau ne veiklai palaikyti ir vystyti (visos nagrinėtos įmonės, nepaisant kilmės šalies, esminę veiklą vykdo JAV, kurioje palankiausia inovacijų infrastruktūra). Todėl siekiant geriau išnaudoti tokio pobūdžio inovacinės veiklos potencialą yra būtina stiprinti nacionalinę inovacijų sistemą, kuri ilgainiui gali įgyti ir globalizuotos inovacijų sistemos bruožų.

Apibendrinant straipsnyje pasiektas įžvalgas, teigiama, kad „vėluojančios“ ekonomikos negali remtis išskirtinai antreprenerinio pobūdžio inovacijų strategijomis, nes ilguoju laikotarpiu iškyla tokių strategijų tvarumo klausimas. Būtina lygiagrečiai stiprinti formaliąsias ir neformaliąsias inovacijų sistemos institucijas, labiausiai lemiančias absorbcinių gebėjimų kokybę ir unikalių kompetencijų tęstinumą.

Reikšminiai žodžiai: inovacijų strategijos, vėluojančios ekonomikos, kapitalizmo įvairovė, gimusios globaliomis įmonės.

First received: August, 2013
Accepted for publication: October, 2013