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INNOVATIVE CLIMATE DEVELOPMENT AS A FACTOR FOR NATIONAL ECONOMY PROGRESS (THE CASE OF THAILAND)

This study includes the analysis of social, cultural and economic features of innovative-investment climate improvement in Thailand; recommendations concerning the principles of innovation progress strategy in the Kingdom, as well as the discussion of the problems associated with integration of Thai national innovation system into the global high-tech production system and in the global market for innovative products. The findings and recommendations are based on the results of Thai younger generation survey concerning the current state and prospects for innovative development of the country.

Keywords: *innovative modernization; innovative strategy progress; national innovative system; Thailand.*

Денис С. Ушаков

РОЗВИТОК ІННОВАЦІЙНОГО КЛІМАТУ ЯК ЧИННИК ПРОГРЕСУ НАЦІОНАЛЬНОЇ ГОСПОДАРСЬКОЇ СИСТЕМИ (НА ПРИКЛАДІ ТАЇЛАНДУ)

У статті проаналізовано соціальні, культурні та економічні особливості покращення інноваційно-інвестиційного клімату в Таїланді, наведено принципи реалізації інноваційної стратегії в Королівстві, досліджено проблеми інтеграції тайської національної інноваційної системи до глобального високотехнологічного простору та світового ринку інтелектуального продукту. Висновки та рекомендації, що пропонуються у дослідженні, знайшли своє підтвердження в результатах опитування тайської молоді стосовно сучасного стану та можливих перспектив інноваційного розвитку країни.

Ключові слова: *інноваційна модернізація; інноваційна стратегія; національна інноваційна система; Таїланд.*

Табл. 6. Літ. 19.

Денис С. Ушаков

РАЗВИТИЕ ИННОВАЦИОННОГО КЛИМАТА КАК ФАКТОР ПРОГРЕССА НАЦИОНАЛЬНОЙ ХОЗЯЙСТВЕННОЙ СИСТЕМЫ (НА ПРИМЕРЕ ТАИЛАНДА)

В статье проанализированы социальные, культурные и экономические особенности улучшения инновационно-инвестиционного климата в Таиланде, приведены принципы реализации инновационной стратегии в Королевстве, обсуждены проблемы интеграции тайской национальной инновационной системы в глобальное высокотехнологичное пространство и мировой рынок интеллектуального продукта. Выводы и рекомендации, предложенные в исследовании, подтверждены результатами опроса тайской молодежи на предмет современного состояния и возможных перспектив инновационного развития страны.

Ключевые слова: *инновационная модернизация; инновационная стратегия; национальная инновационная система; Таиланд.*

Introduction. Today innovative development is the most important source for economic progress, which proves up to 75% of GDP growth in some countries (Western Europe, USA, Japan), reduces national economies' dependence on the fluctuations of world prices for resources, opens new directions and reserves for further development (Auzan et al., 2011: 15–29).

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In Asian countries of the first wave of industrialization (Malaysia, Thailand, Indonesia) the problem of choosing strategic goals for further development is quite relevant (Lundvall, 1992: 76–92). This choice is mostly between: a preservation of cost advantages for traditional manufacturing (the strategy of extensive growth) – or sharp increase of domestic consumption and national economic system transition to a qualitatively new level of development (the strategy of intensive growth).

Implementation of the first strategy requires the maintenance of rather low level of local people living standards and certain budget deficit. Furthermore, a country that implements this strategy, will inevitably face the increasing international competition (especially with economically less developed countries of Asia and Africa), stimulated by international integration dynamics (for example, the launch of the AEC in 2015 will have some negative impacts on Thai economy, associated with the growth of labor migration from economically underdeveloped Laos, Burma and Cambodia, manufacturing might transfer from Thailand to neighboring countries, and competition with imported goods and services would increase). Under such circumstances and the state will have to preserve the development of population living conditions; will be increasingly falling into the dependence on cheap goods export (Rose, 1999: 210–217). This clearly does not meet the benchmarks of national development.

In case of intensive growth strategy implementation the local residents' incomes (wages, social budget expenditures) should increase and domestic consumption would grow, first quantitatively, further – qualitatively. Certainly, it will affect the local business environment (especially for multinational and foreign companies), stimulate capital outflow, transfer of manufacturing facilities to neighbouring countries, reduce the dynamics of economic growth and further will replace some domestic products by cheaper alternatives.

Innovative development is an important factor for successful resolution of this dilemma. Effective development of innovative enterprises, innovative environment and high-tech industries together with rising living standards and domestic consumption, will not only prevent negative impacts of the intensive growth strategy, but would also promote its more successful implementation by filling the gap between local economic conditions and domestic consumption with new high-tech industries (including export-oriented ones), foreign investment and skilled labour attraction.

Literature review. Problems of national innovation systems formation and national innovative climate improvement have been the object of research since the 1970s. Social, economic, cultural influence and the importance of innovative modernization as such, its dependence on all spheres of human activity have made innovative climate the popular research area for economists, sociologists, cybernetics, philosophers, politicians and cultural scientists.

Principles of innovative development of economical systems, infrastructural and institutional transformations, required for innovative climate improvement have been considered by Z. Bauman (1992), P. Drucker (1995; 1966), A. Giddens (2007), D. Ivanov (1998), M. Rose (1999).

Studies on certain countries experience in developing national innovative climate and building national innovative models have been carried out by A. Azuan et al. (2011), W. Hutton (2007), B. Lundvall (1992), C. Piening (1997), B. Smart (2009) etc.

The features of Thai society in its innovative modernization, the problems of innovative climate improvement in Thailand were also considered by M. Chulavatnatol (2005), S. Lorlowhakarn (2005), S. Parniangthong (2005), N. Sookpreedee (2005), T. Virasa (2005), P. Youngsuksathaporn (2005).

Despite numerous studies already available, the problems of innovative climate improvement, basing on the values and features of Thai society, on the necessity for modernization and integration of economy of the Kingdom, requires further fundamental and applied research.

The hypothesis of the study is based on the need for innovative modernization of Thailand economic system through improvement of national innovative climate in order to ensure long-term and sustainable well-being of citizens, national security, dynamic economic development and strengthening Thailand position among ASEAN countries and in the world.

At the same time effective innovative development of Kingdom's economy is possible only due to taking in account international experience and domestic socio-economic reality.

Thus, at the present stage of economic globalization, on the eve of ASEAN transition to a fundamentally new form of international integration in 2015, Thailand has no other alternative but own innovative development. This apparently determines the relevance of the study.

The purpose of this study is to analyse the benefits and capabilities of Thai society to implement the national strategy on improvement of innovative climate and innovation progress.

The objectives of the study are as follows:

- to highlight the features of national strategy on innovative progress and the conditions for its effective implementation;
- to identify benefits and challenges of the national innovative climate improvement;
- to analyse the principles of Thai economic system innovative modernization;
- to identify the priorities in government stimulation of the innovatization of Thai society and economy;
- to survey the younger generation of Thai regarding their assessment of the needs and the tools of Kingdom innovative modernization.

Main focus of the study. According to the findings of the previous research, Thailand is a country with an imbalance between the level of local society's innovative potential and the level of local demand for innovations. This means that actively stimulated development of Thailand innovation infrastructure creates a situation when high-tech production goes ahead of the real willingness of Thai society to generate new knowledge. This imbalance leads to the growth of high-tech imports, budget expenditures (for implementation of innovative infrastructure projects) and overall reduces the effectiveness of country's innovative development.

At the same time Thai society has certain economic, social, cultural and religious advantages in implementing the strategy of national innovative development. These advantages can be used as stimulators of innovative potential of the whole society or of particular social groups.

These advantages of Thais are: innate tolerance, willingness to intake a variety of information, respect, propensity to team work and in-group collaboration. Thai education system (at its every level) is inextricably linked with education of individuality, its involvement in traditional (usual) social processes. The behaviour of pupils, students, their ethics, appearance, manners are the equal essential elements of assessment as the learning outcomes – knowledge, skills, abilities.

On the one hand, these characteristics of society are keeping Thais out of heightened individualism, are decreasing interpersonal competition, initiative and the strive to invent new solutions to the problems (like in most of Western civilization). This is inhibiting innovations mostly because of Thais' fear to stand out from the circle of respected colleagues and friends. On the other hand, Thais are less organized than their northern neighbors, appreciate their own freedom, always have a personal opinion, perception of reality (even if it is contrary to accepted formal or informal norms).

The modern Thai society is highly structured and is a matrix system of social interactions, in which horizontal stratification (formal or informal groups) is laid on vertical interactions (the authority of the head, the older, inter-generational and intra-family connections). Thai society obviously has some important unifying frameworks and basis, which together form the unique ethnic identity of Thai nation. They are, for example, the powerful educational basis for socialization, the unquestioned authority of religion and the Royal family. An important factor of today's Thai nation unification and development is the "phenomenon of opposition". For example, Thai and Indian Buddhism[2], Thai idealization of the past ("Thailand never was a colony") and the national language (with a unique alphabet).

Due to these social conditions of innovative development, effective improvement of Thailand innovative climate is impossible both by European (based on personal efficiency, competition, rivalry), and authoritarian (strict government control and impact of a powerful national leader) scenarios.

Market (liberal) innovative modernization in Thailand will transfer in total industrial espionage, streams of black PR and information wars. Authoritarian modernization would threaten Thais feelings of pride, freedom, and non-tolerance for violence, and finally will lead to the creation of pseudo-innovative projects, corrupted from the very beginning and aimed only at active exploration of budget money.

The concept improving the innovative climate in Thailand, should be adapted to the specifics of Thai society, accumulating its advantages and avoiding the disadvantages of Thai innovation potential. For determination of priorities and conditions for Thailand innovative climate improvement we carried out a survey of 440 presenters of Thai young creative generation (students of the International College at Suan Sunandha Rajabhat University, Bangkok). Student's personal data is presented in Table 1.

Trying to influence national innovative climate through personal perception of modernization processes would be not effective in Thailand due to non-acceptance of interpersonal competition. Taking into account the complexity of Thai society structure state innovative policy should be oriented on stimulating the innovative race

[2] Thai Buddhism is very different from its Indian counterpart.

between social groups (for example, between different institutions, organizations and enterprises). But at the same time leadership in this race has to be extremely influential and prestigious. This is easily achieved through the effect of common central institutions – family, intergenerational relations, religion, Royal family, uniqueness of own country and nation.

Table 1. **Personal data of the surveyed students,** *authors'*

Groups	Younger than 18 y.o.		Older than 18 y.o.	Total
Male	From Bangkok	12	62	
	Out of Bangkok	18	48	**140**
		30	110	
Female	From Bangkok	20	130	
	Out of Bangkok	16	134	**300**
		36	264	
Total				**440**

For enhancing its innovative climate the country needs to develop a "cult of innovators", innovative leadership with involvement of media and Thai celebrities. Of course, the main innovative leader for the Thais is His Majesty the King, whose personal example can and has to encourage and inspire millions of people nationwide. The representatives of science, business, education, government, who achieved significant innovative results, must become the heroes of the nation, the most prestigious and respected persons, whose experiences and achievements are the main property of the Thais.

The prestige of science can be enhanced through the activities of religious institutions. Buddhism is one of the most ancient and peaceful religions and can become a philosophical basis for the development of social innovative thinking. This thinking is expressed in the needs to evolve to meet the changing world, to have the abilities for improvement and becoming a more harmonious person.

As can be seen in Table 2 all 4 categories of surveyed students mentioned the important role of a strong national leader (together with quality of education, law and national discipline, natural resources) in the innovative progress of the country.

Table 2. **Factors of successful innovative development,** *the results of the students' survey*

#	Factors of national innovative development	Groups of respondents				Total
		Males from Bangkok	Males, from out of Bangkok	Females from Bangkok	Females from out of Bangkok	
1	Education	37	40	59	52	**188**
2	Natural resources	27	60	41	36	**164**
3	Discipline, living by the laws	29	42	46	21	**138**
4	A strong national leader	24	40	34	30	**128**
5	New technologies	27	30	36	29	**122**
6	Help from developed countries	14	21	15	19	**69**
7	Computers and Internet	19	21	9	12	**61**
8	Science	8	21	15	12	**56**
9	Entrepreneurship	8	24	13	10	**55**

One of important Thai society's features, limiting national innovative potential, is the so-called "complex of a small country". Thais propensity to opposition and own uniqueness is often limited by neighbouring countries – Myanmar, Laos, Cambodia, Indonesia, Vietnam. Any comparison with neighbours is originally possible only for the favour of Thailand, what limits the desire to develop further own potential, including innovative one at the same time, comparison of Thailand and China, or Thailand and Japan would be initially deemed by the most Thais as incorrect.

The list of countries that the surveyed students identified as "global leaders" predictably includes the United States, Japan, China, European Union countries and Russia (Table 3). But it is interesting to note that the surveyed students do not dream of living in some of the "global leading" states (USA, China).

Table 3. **Thailand and advanced countries of the world,** *%, the results of the students' survey*

	USA	Germany	Australia	UK	China	Russia	Japan	South Korea
Which country is really globally strong, powerful and respected?	34	5	7	7	17	4	23	2.2
Which country do you dream to live in? (out of Thailand)	20	4	7	13	2	2	20	16

As Tables 4–6 show the most of surveyed students said that Thailand is less developed than the advanced innovative countries. At the same time the level of Thailand's computerization was estimated as relatively high; but the level of education and quality of scientific research in the country as low.

Table 4. **Surveyed students opinion about the period during which Thailand can achieve the same technological level with developed countries,** *%, authors'*

	Already achieved	in < 10 years	in 10–20 years	in > 20 years	never
When Thailand will achieve the some level of innovativeness as the advanced countries?	9	29	41	10	6

Meanwhile, globally competitive innovative climate requires globally competitive innovative potential, which would allow Thais adequately and objectively compare themselves with the leading nations of the world. Thai authorities should pursue an information policy more focused on outside of ASEAN and Asian continent; inform the public about the existing achievements of the country and individuals (even if the results are quite modest). For example, the most of the surveyed students did not know Apichatpong Weerasethakul (currently the only one Thai film director awarded by Cannes film festival in 2010). The names of Thai scientists, who received international recognition and awards, are known by young people much less than the names of actresses, models or even children of rich Thai families.

Table 5. **Future and current potential of Thailand,** *%, the results of the students' survey*

	High standards of living	Modern army and military power	Developed technologies and science	Highly developed culture and arts	Human rights supremacy	Well developed system of education	Natural resources	Huge territory
What does the country need to be respected and powerful in the world?	43	18	44	33	35	54	19	3
What does Thailand have now for being respected and powerful in Asia and in the world?	39	15	34	46	34	40	34	11

Table 6. **Comparison of Thailand with advanced countries of the world,** *%, the results of the students' survey*

	much higher	higher	same level	lower	much lower
Quality of research	5	5.5	16.3	32	12.2
Quality of education	4	14.5	17.7	33	22
Level of technologies use	5	19	27	28	12
Level of PC and Internet use	5	26	26	22	13
Level of innovative products consumption	3	25	34	26	7
Level of Thai researchers' professionalism	5	20	27	25	9

Thus, the socio-cultural conditions of Thailand innovative climate improvement logically show two directions for further improvement: the development of intergroup innovative competition and the development of external innovative competitiveness of the nation, which has to be based on the prestige of science and research inside the country.

The development of favourable innovative climate in Thailand is based on three pillars of the national model of innovative progress. The first is the development of technological cooperation with innovative and technologically advanced countries.

Important advantage of Thailand in this area is highly favourable conditions for life and work (climate, nature) and by the impact of human factors (infrastructure, high level of services including housing, healthcare, education, cultural characteristics of Thai society etc.). Due to these reasons Thailand can and should become the place of permanent (temporary) residence of the global creative class (which is obviously inseparable from its own innovative capacities and is the most important productive factor in today's global economy). Now many researchers (mainly in the fields of design, media and creativity) choose Bangkok, Chiang Mai and Thai resorts for permanent living.

We can suggest some tools for improvement of conditions for research activities. For example:

- formation of the national grants system on the principles of "Thailand Open" when scientists from anywhere can participate, but have to conduct research only in Thailand university or laboratories;

- attraction of academia by the simplified procedures of obtaining Thai resident status; by centralization of academics employment in national universities;

- promotion of foreign scientists research (not only teaching) in Thailand;

- transformation of Thailand in a comfortable place for international research conduction, for example, through the development of specific research zones, liberalization of tax regime and customs regime for imported scientific equipment and materials.

As the results of these tools realization the inflow of scholars both from catching up countries (which financial and infrastructural problems hinder scientists professional development) and also from innovative advanced countries (such scientists can be attracted in Thailand by local living conditions, special conditions for research, scientists status in the society) can be expected. Arriving professionals can give a huge boost to Thai national science development and formation of new national research centers and schools.

The Government through the National Agency of Innovations should promote international cooperation with research centers and innovative corporations, primarily in the areas in which Thailand has some natural advantages. In this case, the results of R&D obtained in Thailand could be much more successful than at places of innovations origin. As good examples of these areas we can consider agriculture (biotechnology, agricultural chemistry, agronomy, irrigation, food processing, agricultural machinery, "green" technologies, biofuels), healthcare (alternative medicine, cosmetics, plastic surgery and anti-aging medicine, neurosurgery), the chemistry of polymers, alternative energy, communications, logistics and transport, design and media.

The second pillar of Thailand national strategy of innovative development is infrastructure, which includes material objects and, above all limited state regulation and public-private partnership. As recommended infrastructure measures to modernize the Thai economy we can also mention:

- The growth of domestic consumption of innovative (high-tech) products. Thailand should be the country with high capacity of national demand for innovative products. On the one hand, this would stimulate the nationwide innovative progress through demand for innovations, innovations coming into traditional sectors of national economy. On the other hand, this would become in an additional factor in attracting foreign high-tech corporations to Thailand. In order to promote domestic consumption of innovative products the Government should ease the tax and customs burden for producers of high-tech products (for example, value added tax, sales tax), develop the system of credits and loans (for purchases of innovative industrial equipment, communication systems etc.), introduce the system of obsolete tech products (computers, office equipment, machines etc.) recycling.

- Attraction of venture capital into innovative industries, promotion of domestic and international investment in national innovative sectors (through tax incentives, public promotional support, governmental insurance of investments, government coparticipation in investment projects).

As an effective mechanism for the innovative-investment cycle we can propose the establishment (under the governmental patronage) of a national model that consolidates the efforts of population (creative rector representatives, scientists, inventors), business (representatives of innovative and high-tech industries) and the state (via specialized agency).

As a basis for national model of innovative modernization an online governmental project say, "Inno-Forum" – can be implemented. At this Internet portal the creative class would present their own innovative ideas for further commercialization.

The fundamental principle of this national online project functioning is the presumption of idea's authorship. After new idea's posting online it is automatically patented. Authorship is recognized by authorities automatically, after a discussion of this idea online.

Of course, the state must provide an appropriate regulatory framework, which should first guarantee the protection of intellectual property, and, second, create the conditions to block form of plagiarism. It should be noted that the online work of "Inno-Forum" would allow any member of the creative part of Thai society participate in the discussion of new projects or publish their own suspicions about the authorship of an idea, thus influencing the Government's (through moderators, portal administration) copyright decision.

Thus, all ideas will pass the so-called "people's control", and will be not only checked for purity of authorship, but will also be modernized as the result of collective discussions, additional experiments, studies and evaluations. Consequently, this national online project, in fact, will become a platform for crowd-sourcing, for development of mass cooperation.

For the creative part of Thai society to get involved in this online project it is required to implement certain motivational measures. Participant's motivation has to be based on traditional material values, distributed according to the indicators of individual participant involvement. These indicators are:

- the number of proposed ideas (for example, each participant gets a certain number of points, increasing own status for every posted idea, and is able to get remuneration yearly, quarterly, monthly);
- the number of views, comments, suggestions expressed by participants;
- the number of ideas expressed by participants, which were approved by business and commercialized;
- comments and reviews of other participants (for example, the results of voting, rating).

Participants, who match the requirements and conditions of "Inno-Forum" shall receive not only automatic patenting of their own inventions, but also some sort of material benefit for their active involvement in research and innovative life of the country. The budget spending has to be open and transparent when it comes to distribution awards among active participants of this project.

Thus, the proposed project is a kind of national forum or a conference in a field of practical and fundamental research; and at the same time it is a national repository of new knowledge and inventions, with quite traditional regulating functions (patenting and intellectual property protection).

At the same time this project is not only about collection of ideas and new knowledge, but also about their exchange, thus its functioning is intended to attract venture capital into innovations development and commercialization. Therefore business and financial institutions are very important members of this model due to their logical interest in modernization of own manufacturing processes, products and relationships.

Conclusions. Taking into account the features of Thai society, the strategic guidelines of country's innovative modernization must include the following levels:

- organizational innovations, based on the uniqueness of Thai culture and social system, including innovations in the areas of corporate governance, education, integration into the world technologies and innovations market, motivation for specialists, creating innovative culture at the corporate, institutional, regional and national levels;
- through organizational innovations (taking in account the current situation in Thailand innovative industries) it is logically achievable to develop the innovative areas related to design (of new high-tech products, product lines differentiation etc.);
- through the development of design and creative activities, it is possible to develop further other national high-tech enterprises to satisfy the growing domestic demand;
- as a result of national enterprises development it's achievable to produce and offer globally own Thai high-tech goods and services.

Anyway, a successful strategy for innovative modernization of Thailand should be based on the fundamental principles, such as, support of domestic competition, transparency of economic and social regulation, and, most importantly, humanity of Thai socioeconomic model, ensuring the supremacy of life, health, environmental quality, living conditions for Thais or foreigners in the Kingdom. This requires from the state to continue the implementation of social initiatives, increasing the quality and availability of public services, solving environmental problems etc.

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Стаття надійшла до редакції 10.07.2015.