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Research Article

Applied Aspects of Russian Innovation Policy

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Abstract: This study is dealing with applied aspects of Russian state policy towards traditional infrastructure renovation requirements in this country. The streamline of network society emergence, business innovation activities increase etc., enables the modern states to enhance their competitive edge quality worldwide. In accordance with this trend, the key indicators of social and economic development (i.e., life quality, incomes level, main population indexes etc.) are defined primarily by the chances to produce a new level of knowledge. The innovative development structure today is undergoing certain significant changes practically elsewhere. This is caused mainly by the fact that in a course of innovation politics development and implementation the former decisions are falling obsolete swiftly and requiring permanent correction. It causes imminent changes of innovation process perception and means to influence it. Contemporary Russia has a number of substantial political, administrative, social and cultural features which are influencing the process of national innovation policy development and implementation. Lack of effective institutional infrastructure as well as sustainable business motivation to develop innovations, plus the high level of bureaucracy and corruption, are imposing a mission of country modernization under the auspices of a coordination (network) management model for innovation and investment activities. The authors have analyzed the modern situation of innovations management in Russia and came to the conclusion, firstly, that the network (recurrent, recursive) innovation model would be effective to force a "digital gap" in the economy. Secondly, it would allow balanced investment initiation for such trends which would offer innovation products increment and provide economical security and a stable legitimate political structure.

Keywords: Applied politics, deliberative innovation policy, network society, social communication

INTRODUCTION

Russia, as well as a whole civilized world, is facing new social and political challenges which are emerging due to ongoing development complications in the XXI-st. century. We witness the world is changing swiftly, information technologies are undergoing constant modifications and social communication is changing as well. And definition of world society as a most complicated global "network" is becoming one of the most important features of the modern world.

We are dealing now with a new type of society developing on the basis of its specific principles structured and historically determined in relation to production, experience and power. With this regard Castells (2011), the author of a "network society" conception, stresses importance of determined structurally principles in society functioning. He defines the economical growth and production output maximization as such principles for industrial society. Respectfully, it will be technological development for a "network society", i.e., knowledge build-up and higher levels of complication in information processing. New information society, according to Castells (2012) emerges in case of structural reorganization appearance for relations of production, power and experience. These transformations lead to equally sound modifications of time and space social forms modifications and even to new culture emerge. Therefore, dynamic expansion of the "network society" logic gradually absorbs and subordinates previous social forms.

The production capacity source includes knowledge creation technology, information processing and symbolic communication in the new informational mode of development. We consider the network coordination model for innovation policy elaboration and implementation, offered by Castells (2011, 2013), to be the most effective one. Due to its balanced nature it is the most comfortable for all network participators as it creates suitable conditions for a maximally wide circle of actors to participate in discussions venture and policy hammering out. In such event every member of the network society evolves gradually up to a network

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sell which reaches full autonomy under certain circumstances.

All types of communications circulation within this system induces their integration into one common cognitive structure. All cultural manifestations starting from the worst ones to the best, from elite ones to the most popular, are integrated within this digital universe. The past, current and future manifestations of communicative thought are tied together in this giant historical super-text.

The new network system radically transforms time and space which represent the human life's fundamental dimensions, i.e., they lose their cultural, historical and geographical meaning and reintegrate into the functional networks and symbols collages which calls progressing space of information flows to life. Time is obliterated in this new cognitive system: past, current and future are programmed so as to interact together in the same symbols area. In such circumstances an answer for question "who is who" is undergoing specific cultural transformation.

The one who is capable to choose his multidirectional communications chains, is seemingly condemned to have ideological freedom to monitor the Earth and the mankind's history as a whole intellectually, to integrate and to mix any symbol into one super-text. And the one who will be supposed to be fed by the limited amount of previously "packed" options of choice, he will become, most probably, a victim of progressing communicative technologies and will sink down a timeless mental "landscape".

That's why this aforementioned coordination model of innovations elaboration and implementation depends on management culture (on those persons "who are able to make a choice"). On the one hand, there is a need for certain organization of power in any society (Tulis, 2003). On the other hand, network society is filled by the new political meaning as it is formed under deliberative democracy conditions and therefore, inside discourse space in order to reveal public benefit and good. Ability to consider, deliberate and discuss while most effective decision choice procedure changes drastically not only political relations structure but their essence as well (Baltovskij *et al.*, 2014).

Steiner *et al*. (2004), like Habermas (2007) and Bessette (2010), calls deliberative democracy model a discourse one as not a single deliberative process version may function without information, maximally wide participation of actors in state decisions discussion and adoption. We are dealing with that mode of democracy which is based on open sound public discussion supposed to have mutual understanding between free and equal discourse participants in order to result as the main source of laws formation. Political legitimacy of this discussion's outcome is founded not simply on the will of majority to reach their private aspirations and personal goals but on the base of commonly sound deliberation of all participants included who are politically equal and interested in this joint project.

Speaking formally (from social-linguistic or social-cultural point of view), a political text means such a systematic and sound combination of words which is written by a politician or on his behalf. This is a text aimed at social changes and its connection with the current political process. For that there is no relevancy to analyze a political text exclusively by its semiotic components meaning (Young and Soroka, 2012). Its main cause-and-effect determinants are represented in political reflection and political communication. The whole process of political text creation and its reproduction due to deliberate activity of the other people was originally interpreted in works of Edelman (1985), Ricento (2000), Morris (2001), Laver *et al*. (2003), Hart *et al.* (2006), Johnson-Cartée (2005), Lakoff (2008), Joseph (2011), Young and Soroka (2012) and Perloff (2014) and a number of the other authors. But one may wonder whether the deliberative procedures are a tool sufficient enough, although a necessary one, to execute management of power in modern democracies-this problem still causes discussions (Gutmann and Thompson, 2004; Rostboll, 2009). By Habermas (1998), public opinion, transformed by its cooperation with established elections model and legislative decisions, is not able to govern on its own. Sometimes it uses administrative power to make certain decisions on the legislative basis.

Information processing within the economy framework where more than a half of the employees are more or less involved in data processing represents a distinctive manifestation of contemporary technological revolution. The Internet-based economy model capable to generate new knowledge and to function inside value creation global networks has to be supported by legitimate political institutions. This study's authors, being in the process of innovation policy analyzing, include it in the political communications context considered as politically defined relations between a human being and society, a person and state (Baltovskij and Belous, 2013; Baltovskij *et al*., 2015).

In such case "political essence" paradigm is evaluated as a sum of conscious and purposeful effective changes aimed at old interaction forms renovation between the main political actors. "Political essence", being considered as such in that wide definition, based on the symbolic and indicative nature of conscience and forwarding new strategies for social interaction, produces new social and culture reality ("network society") in certain meaning and fosters development of social basis for innovations (Castells, 2001; Belous, 2011). In this connection the authors are posing the following tasks: to offer innovation development concepts summary; to analyze a problem of efficient model to form innovation potential within the "network" society; to show the main trends of innovation development strategy in Russia; to study

current innovations status in Russia; to offer discussion and to deliberate on the main scientists' stances concerning obstacles availability on the way of national innovation system development; and to forward relevant conclusions on the issue at last.

MATERIALS AND METHODS

The process of innovation policy generation and implementation in the Russian Federation is a subject of research in this study. "Digital gap" theory (Castells, 2001) has an important methodological meaning for the article. Apparently, the countries which are not having material and culture backgrounds at their disposal to survive under the digital world auspices and not willing to adjust themselves to ongoing changes speed are doomed to lose not only economical stability prospective but the sustainable legitimate political structure. We are speaking now about the so-called "marginal" states. Not a single country has a slightest chance to ensure resources build-up necessary to cover its requirements connected with its steady development in the absence of Internet-based economy and management system. In current situation the network logic based on Internet is "scanning" the Earth in search for favorable opportunities and connecting everything it deemed necessary to reach the programmed goals together. Thus, the fragmentation of societies and governmental institutions occurs which is followed by a dynamic process of highly valued actors unification in the net. Therefore, the main goal of this study is to estimate the future trends of the development model currently functioning in Russia, to analyze the efficiency of innovation policy generation processes in order to switch the country in the "digital" space. The important methodological basis of this study includes also the following issues: new institutional approach, public choice theory and post-industrial society theory.

In this study the authors develop M. Castells conclusions who worked out the network society theory. In accordance with this scientist's vision, a traditional national state has to be replaced by a new one based on the network of political institutions and national, regional and local authorities and their inevitable cooperation will transform decision making into the endless talks between them (Castells, 2013). By the authors' perception, an important methodological function goes back to the point of view expressed by the renowned experts in the field of government administration and urbanization (Judge *et al*., 1995). The network structure offers specific language and coordinates system and contemporary management reality under this system might be seen in a new light (Judge *et al*., 1995). Under these coordinates' system a state is losing its exclusive position as a center of administrative and political decisions and the governance process itself becomes mighty more complicated, incorporating a number of actors having multidirectional interests, as a rule (Strom and Mollenkopf, 2007). On the global level of governance an ability and feasibility is appeared to form a unified system of trans-national networks aimed to execute a number of functions delegated to it by the separate countries and to tie international organizations, states and non-governmental bodies together (Slaughter, 1997). Political power hierarchy structure is recomposing currently into a mighty complicated network construction where it is not possible to identify uniquely the only subject of decision making with the absolute sovereignty at its disposal (Acevedo, 2009). All these conclusions are of great importance for the authors.

The main part:

Innovation development concept evolution: There were two competitive approaches which dominated the system of perceptions dealing with innovation activity role in economy development since twentieth century onset up to late 60's.

The first one was based on the driving force of market demand, considered to be the main catalytic agent for technological innovations. It was believed that end consumption market dynamics were supposed to define innovation activities industrial structure and, primarily, innovations increase in the service sector. Services, as a rule, are assisting to spread innovations and exemplify innovation infrastructure required. Meanwhile, it was quite not always possible to match the market requirements and relative innovations appearance. It often happens that it is not a demand which shapes innovations but the innovations themselves are gradually forming demand for them.

The fact is that innovation demand in Russia greatly depends on the region's development level. Russia's economically mixed system is formed on the principle of particular region's specific activity which localizes the innovation market. Innovation activity is higher in the regions having high investment potential like Moscow, Saint-Petersburg, Tyumen city. The subsidized regions are marked with low level of innovation demand. In general, there is a hierarchy of the regions which differ a lot in their development. On the one hand, we have trade and banking capital, attractive for innovations, in the main city (Moscow) and the regions of raw materials and fuel export production (North-Eastern region). On the other hand, there is stagnated industrial belt (Saint-Petersburg-Novosibirsk city) and the agrarian Southern areas.

The second approach was embodied in the concept of technological development dependence on innovation impulse. It fixed a decisive role of individual innovators (scientists, entrepreneurs etc.) but not the market conditions in the process of innovations. This theory was based on the innovation development

model principles articulated by Schumpeter (2011). Exactly Schumpeter happened to be the first economist who established the meaning of "innovation" and tied it up with economical development rate. He stressed that a new idea and technology might always be transformed into finished product and demanded by the market; meanwhile, an entrepreneur who took the innovations' risks surfaced as a main driving force for technological development. Innovation impulses or "circular flow" in Schumpeter's terminology, which are generated by individual innovators, initiate "creative destruction" process which means existing economical structures and relations blurring, therefore, assisting for their sound renovation. Nevertheless, Schumpeter's innovation development model suffered excessive technological determination as it eventually ignored the social, cultural and institutional factors of the innovation process. Besides, it was not in position to offer relevant explanation for the commercial success of certain innovations and the failure of the other ones. In consequence, innovation development opportunities were limited by the specified set of technological development trajectories (Eremeev and Kurochkin, 2014).

Referring to a new innovation development model: XXI century onset was marked by establishing, within economical theory of innovations and management sociology, a stable conception that both approaches were not deemed relevant already to the information age realities and were not in a position to reflect soundly the innovation process which was changing the modern world appearance radically (Stohr, 2013). Therefore, requirement emerged to hammer out a new innovation development model. Thus, we forwarded its following possible prerequisites.

Firstly, we consider it necessity to change the understanding of the innovation process essence itself. Innovations should not be interpreted as some exclusive events or rather accidental impulses generated by a specific combination of circumstances. It is a phenomenon which widely manifests itself, in any economy or social life area. Eventually the ever-increasing number of studies concerning mobile phones deployment seemingly emphasizes the fact that cell communication even nowadays drastically transforms the social structure organized around "the communities of choice" and individualized interaction (Castells *et al*., 2009). Wireless Internet qualitative development brought to uncountable personalized nets creation which enhances individuals' abilities to reorganize social structures from the bottom to the top. Still, it is not feasible to consider innovations solely as a radical breakthrough in technological environment which define the course of the scientific and technical development. They include incremental innovations as well. As considered by Davila *et al*. (2006), this type of innovations leads to minor improvements of the existing goods and business processes, hones activity sectors existing already which has been created by the radical information breakthrough. In this case more improved goods than the previous ones appear and more reliable referring to their applicability possibilities or deployment efficiency. Thus, radical modernizations have not to be separated of partial changes in equipment, technology and processes.

Secondly, any innovations are created under specific social and political conditions (national culture, institutional environment, certain economic actors' coalition etc.) and are greatly depending on themselves accordingly. In that sense, they are a product of complicated, open, multi-actors interaction process, but not a result of some separate innovators activity as it was considered by Schumpeter (2011). Social determination of innovations grants them cumulative effect. The presence of specific innovation systems that are eventually "development technological trajectories" is supposed within the framework of "dependence road". Scientific knowledge development level (quantitatively and qualitatively) is not a guarantee for a swift pace of innovations appearance and deployment. There is quite lengthy and complicated way between an idea producing, its transforming into models and its following market introduction. Most often innovations are a recursive, recurrent process characterized by a number of feedback couplings. Therefore, a problem of innovation process prediction, structuring and management appears, which has no solution within the framework of the linear model. "Inside-out" and "Outside-in" processes, described, for example, by Keeley *et al*. (2013), exemplify one of the possible solutions for this problem which outlines recursive model structuring, inner logic and graphical visualization.

Thirdly, we deem it necessary to reorient the role of state in generation of innovations potential. New requirements to innovation development content impose a need of transferring to communicative models, the main meaning of which is to generate different knowledge, to combine local management decisions having non-state actors' assistance (to counterbalance bureaucratic universalism). The key factors of such models become as follows: deliberation, cooperation, private-state partnership, new network forms of political involvement and joint management in order to have a constructive dialogue between all stakeholders involved. The management process within the framework of global cyberspace suggests dialogue availability and consensus aspiration in all sectors of society's development. Such model's effectiveness is based on permanent new knowledge producing and circulation, search for most convincing arguments and values orientation generation on the base of innovations (Kurochkin, 2013).

Thus, an implication for the key functions of state reorientation in order to ensure effective innovation policy is as follows:

- New synthetic (institutional, organizational and resourceful, but not the unilateral one) provision of cooperation which sets the framework for representatives of different science, education, business and non-commercial sectors to be included into the innovation process.
- Creation of new common information and technology infrastructure on the state scale and technological environment leveling for innovation activity in separate regions and municipalities which is an actual issue for Russia's developing economy.
- Forming of virtual systems to ensure advanced experience exchange in the field of innovation process organization and tuning (competitive benchmarking), open innovation database creation (concerning economy branches and regions level), as well as different non-state actors stimulation to participate in such systems' activities.
- Provision of educational policy in compliance with innovation development goals and tasks and aimed to ensure comfortable conditions for new knowledge generation. Eventually, we are speaking on the issue of totally new understanding in approaches to Internet-space where its material and virtual essences are influencing one another, thus to lay foundation for new forms of social life, new way of life and new forms of social organization appearance.

Therefore, this social Internet-cooperation is playing an ever increasing role in country innovation potential forming. Under such conditions the main mission of state and political management system in general amounts to form, support and constantly renovate institutional infrastructure for new knowledge generation and dissemination. Not computer communications ban within the Internet-environment, but communication abilities of Internet and mobile cell net development will ensure deliberative cognitive agreement between "net members" towards state innovation policy goals, tasks and methods. Thus, being subjected to online communication influence, sound renovation of state management methods themselves is occurring which are implemented to solve innovation tasks: innovation projects co-financing by the state and private business; orientation to macroeconomic indexes of innovation and investment support efficiency; advanced technologies implementation to manage the risks of innovation and investment. State participation in innovation processes stimulation is executed via budget subsidizing, preferential credits and taxes, customs preferences, pricing system, amortization policy, patenting-licensing, normative and legislative regulation, hedging currency risks etc. These methods are based not on such traditional management tools like administrative command, hierarchy, direct imposing of managing subject's will to an object etc., but on formation of cross-sector (state/business/non-commercial sector) arrangement to coordinate economy subjects interactions and innovations introduction.

Innovation development strategy analysis in contemporary Russia: The issues of institutional and legislative support of innovation development process in Russia and transition to new network economy based on information flows have been quite actively addressed in the last five years.

The most feasible innovation policy principles in Russia were reflected in the document named "Russian Federation innovation development strategies for the period up to 2020" (Russian Government, 2011). It contained the key performance indicators for innovation development up to 2020:

- The increase of innovation sector's gross added value in GDP up to 17-20% (approximately doubling as compared with 2009)
- Growth in 2-2,5 times of internal expenses for research and development (half of which should be allotted by the private sector at least)
- The increase of Russian scientists and inventors share in the total number of publications in reviewed and rated science magazines from 2.48% in 2008 up to 5% in 2020

In science the goal is to rejuvenate the community of science workers and to reach the average age of researchers around 40 years up to 2020, as well as to establish positions of "federal science workers" and "federal professors" with total finding 15 billion rubles (2008 prices).

There are some basic provisions in this analyzed document which attract attention and require critical approach. Firstly, one deals with "national innovation system" meaning which represents a central issue for the whole concept. National innovation system understanding as a simple combination of certain elements is not fully relevant to the information economy challenges. This document lacks the principle of consistency by itself, as well as a notion of any coordinating tool which would produce the synergy effect on the whole state level. Apparently, more productive approach would be to define the national innovation system from the point of view of specific structure (authority) responsible for interactions coordination between certain projects participants. Thus, clear perception about unified coordination tool in the framework of Russian innovation policy was not formulated.

Secondly, the document refers to the economy branches coordinated by the separate ministries. And one might easily trace here formation of dissipated coordination model with insufficient integration level of science, education and business. There is a lack of

clarity as on the level of theoretical model and on the level of announced strategy practical implementation towards the issue of how "innovations lifts", geared to ensure communication between development institutions and high level of integration for innovation activity different subjects, are supposed to function.

Finally, the third notion refers to insufficient involvement of representative governmental bodies in the process of innovation policy generation, including the ones on the regional and especially municipal management levels. To our mind, these shortages significantly complicate and retard the process of institutional and resourceful support of innovation development in Russia.

The current state of innovations in Russia: Despite of the abovementioned shortages of conceptual approach to current innovation policy, generally positive shifts in the field of state innovations management in Russia resulted with the changes in evaluation of innovation activity external conditions by the participants of this process. Thus, more than 21% of respondents (managers of large and medium-sized enterprises involved into innovations elaboration process) in 2011 pointed out that the obstacles for innovations were almost not existing in the country, whereas their number reached 5% only back in 2005. The amount of respondents who criticized the lack of tax tools to stimulate innovations went down from 45% in 2005 to 23% in 2011. There was also a modest reduction of those who mentioned the lack of effective tools to finance innovations in joint state-private projects: from 15% down to 12%. More than 39% of companies marked definite growth in demand of innovation products which were intended directly for population consumption. The changes which are happening on the macro level of innovation development control are considered positive and effective by business community (Ivanov *et al*., 2012).

General preconditions for new information and communication technologies development in Russia and governmental services improvement on their basis were stipulated in a state program "Information society (2011-2020)" which was adopted by the government directive # 1815-r as of October 20, 2010. This program involves implementation of a number of specific projects which are directed to improve innovation infrastructure and formalized as separate subprograms.

Information environment: Aimed at national information resources development (primarily electronic media), TV and broadcasting facilities construction and renovation, Russia's participation broadening in international information space.

Information and telecommunication infrastructure for information society and the services provided on its basis: Called for federal mail system development and its services availability on the countrywide basis, improvement of radio frequencies spectrum management.

Information state: Specified to raise the quality level of state management and services by creation and implementation of contemporary information technologies linked together by the following factors:

- Development of specified servers, based on information technologies in education, science and culture and regions information and communications projects support.
- Creation of cloud calculations national platform which is supposed to serve as a basis to supply state and local management bodies with specified programming servers including collective paperwork, commonly accessible network database storage, means of remote program applications placement etc.
- Improvement of electronic government system (including feedback electronic system to send requests via personal Cabinet on unified portal, call-centers expert system, server for certificates and electronic signature keys verification, unified identification and authentication system, electronic inter-agencies cooperation system, creation of mobile applications to ensure electronic government servers accessibility etc).

There is significant increase in Russian Internet users' activities as well as gross volume of state and business online services largely due to the program "Information society (2011-2020)" implemented measures. According to the data provided by a Public Opinion Foundation, current monthly Internet audience in Russia amounts to 66.1 million people over the age of 18 or 57% of this country's population. The volume of Internet contents and services in Runet equaled 563 billion rubles (including Internet shopping-285 billion rubles) in 2012. The share of Internet users who are getting online via mobile gadgets daily reached 59% in summer 2013 (Akulova *et al*., 2012).

Therefore, the necessary conditions are forming gradually in Russia for network economy full development and integration into European and global innovation markets.

RESULTS AND DISCUSSION

Nevertheless, the course of the defined goals for innovation policy implementation and its modalities causes recently a lot of questions.

The global innovation index: It is possible to figure out the main problem zones of innovation policy executed currently in Russia by major indexes analysis which were obtained by World Intellectual Property Organization (WIPO Cornell University and INSEAD, 2014) and International Graduate Business School and

Research Institution (INSEAD) in cooperation with Cornell University (2014). Their Global Innovation Index (GII) exemplifies the most competent rating counted on the base of 80 different variables and covered 143 states of the world in 2014. The final index represents a correlation between total costs spent to improve national innovation systems and an effect gained in result which allows evaluating effectiveness of innovation policy conducted by a state most objectively. Comparison of situation in Russia by the ratings of 2012 and 2014 offers the following conclusions.

Generally speaking, the situation in Russia did not changed much in two past years. It was on 51st position out of 141 countries in 2012 rating and raised a bit on 49th position in 2014 rating, provided that the number of countries evaluated increased as well up to 143. Apparently, the strongest positions in Russia are traditionally connected with the human resources development (30th position in rating) and new knowledge generation (34th position). The weakest positions are institutional infrastructure (88th position) and market development level (111st position) Thus, the Achilles heel for current innovation policy is weakness of the present institutions, primarily those which are responsible for unimpeded interaction between subjects of business, education and science in the course of innovation development. Let us consider the reasons of such situation in more details.

Main obstacles for national innovation system development: Comprehensive review of contemporary Russia's innovation development is yet to be completed as there is a necessity to further commence scrutinized analysis of prime factors in innovation slowdown. Majority of experts explain the current situation by shortage of enterprises' funds, bureaucratic obstacles and lack of sound taxes policy, management obsolete comprehension and their narrow outlook in solving problems. The achieved results allow outlining several approaches in the aforementioned facts interpretation. Currently "the institutionalists" are especially highlighting the following factor impeding innovation development:

- Prevail of informal institutions and unstable subjective strategies of interaction for coordination of key innovations agents activity which are oriented to reach a market-type of agreements, i.e., to benefit maximally here and now
- Weak protection of ownership rights (including intellectual ones) which implicates low prediction of innovation activity modalities
- Under-developed competitive business environment
- Significant administrative barriers on the innovation activity road
- Insufficient effectiveness of institutional tools for state interaction with the small and medium business innovation companies especially in the area of state and business cooperation for innovation infrastructure facilities creation and management (Emel'janov, 2013)

The other researchers stress the great importance of organizational and technological factors for innovation development (Dezhina and Kiseleva, 2008). Their underestimation leads to the following:

- Structural limitations which influence state institutions in complicated innovation processes management
- Predominance of communications channels which are supposed to deliver information only but not to execute resources exchange and new knowledge formation for the other users
- Lack of balanced arrangement to fund education and science

Finally, there are proponents to consider social and culture factors in innovation modernization (Goregljad *et al*., 2005). If these factors are overlooked, it will result with the following shortages:

- Bureaucratic inertness of administrative machine and its reluctance to accept critic as a feedback
- Lack of sound motivation for business community to be involved into innovation activity as it prefers the other highly profitable options (market monopoly stature, administrative preferences utilization etc)

Thus, the build-up of all these retardation factors leads to obstacles' critical mass accumulation on the road to effective national innovation network system implementation. Eventually, the problems of human resources quality, knowledge generation to share it with the others, its adaptation for wide-scale utilization, lack of coordinating efforts and tools of interaction between innovation activity subjects are deemed to be the secondary ones. Actually, all aforementioned gaps are crucially important for national innovation system development and provision of innovation policy effectiveness strategically. They are not only impeding integration of education, science and professional activity via network and cooperative ties and relations generation, but, as a result, interfere with Russian innovation system transition into so-called the second model of academic knowledge which, in general, defines Russian economy and social modernization model as s catching-up one (Schweitzer *et al*., 2006).

CONCLUSION

Under the new knowledge economy conditions the network-coordinated management mechanism happens to come out as a most important one to form effective

innovations generation and employment. Its introduction will result with the qualitative changes in economy, namely high tech and intensive elaborations, dynamic development of technology, science and innovations. Thus, Russian economy revamping towards a new network and technological structure of the economy represents the sole way to high effectiveness, quality and competitiveness. Nowadays such a leap by recursive coordination of management modalities is required considering the following reasons:

- Expanded meaning of innovation concept which includes not only virtual technological development, but symbolic, humanitarian, cultural, social and political dimension of not less importance
- Widened utilization of complex analysis for social reality and Internet virtuality in order to design online interaction
- Complicated network structure of innovation process coordination
- The need to redefine the role of state in forming innovations potential by different virtual "innovation lifts" activation which ensure social communication
- Socially oriented state policy which endorse favorable economic conditions and required institutional infrastructure to deploy human resources
- Innovation policy high status which envisages the highest echelons of state power obligatory participation in innovation policy direction designing and approving
- Introduction of electronic government technologies to balance the interaction of service and participative components in the state and municipal management system
- Strongly pronounced partnership character of relations between state and non-state sectors in the process of network infrastructure projects generation and implementation (highways, railroads, pipelines, airports, health care, water, electric and gas supplies, energy sector, telecommunications and so on)
- Duality in subordination of agents for resources supply and innovation coordination process (foundations, councils, centers etc.) to state power entities and science and business community
- Strong ties of innovation policy with regional and municipal development (as the local and regional powers play the key role to ensure conditions for innovations introduction and infrastructure development to be established on certain territory)

Currently the problem of network infrastructure generation and development becomes most crucial for contemporary Russia which is connected primarily with requirement of transition from resources-oriented to cyber-innovated economy including qualitatively new forms of management organization on the basis of robotics, telecommunications, information services, biotechnology, genetic engineering etc. Under such conditions "network" society effective development is based on two coherent missions, at least: network infrastructure formation which provide primarily institutional, organizational and technical communication capabilities and human potential development which should ensure sufficient number of competent and active participants in network interaction.

REFERENCES

Acevedo, M., 2009. Network cooperation: Development cooperation in the network society. Intern. J. Inf. Commun. Tech. Hum. Dev., 1(1): 1-21.

Akulova, O. *et al*., 2012. The Fund "Public Opinion" Open Government: What do People Know About it and How They Relate to it (Public Opinion Poll "FOMnibus". Retrieved form: http://bd.fom.ru/report/map/dominant/dominant2012/dom2412/d241206. (Accessed on: June 16-17, 2012)

Baltovskij, L. and V. Belous, 2013. Communicative element in the activities of Russian political parties: Past and present. World Appl. Sci. J., 23(7): 936-940.

Baltovskij, L., V. Belous and A. Kurochkin, 2014. Applied aspects of Russian political discourse. Res. J. Appl. Sci. Eng. Technol., 8(21): 2167-2171.

Baltovskij, L., V. Belous and A. Kurochkin, 2015. Society and authorities: New mechanisms of communication in conditions of the network world. J. Appl. Sci., 15(3): 538-544.

Belous, V., 2011. Filosofija vremeni Andreja Belogo i istorija stanovlenija samosoznajushhej dushi [Philosophy of time and Andrei Bely and the history of becoming self-conscious soul]. Russkaja Literatura Russian Literature, 70(1/2): 39-48.

Bessette, J.M., 2010. The Mild Voice of Reason: Deliberative Democracy and American National Government (American Politics and Political Economy Series). University of Chicago Press, Chicago, pp: 305, ISBN: 9780226044248.

Castells, M., 2001. The Internet Galaxy: Reflections on the Internet, Business and Society. Oxford University Press, Oxford; New York, pp: 303.

Castells, M., 2011. A network theory of power. Int. J. Commun., 5: 773-787.

Castells, M., 2012. The Rise of the Network Society (Series: The Information Age: Economy, Society and Culture), 2nd Edn., Wiley-Blackwell, Malden, Mass., 1: 597.

Castells, M., 2013. Communication Power. 2nd Edn., Oxford University Press, Oxford, UK., pp: 624.

Castells, M., M. Fernández-Ardèvol, J. Qiu *et al*., 2009. Mobile Communication and Society: A Global Perspective. A Project of the Annenberg Research Network on International Communication (Series: The Information Revolution and Global Politics / IRGP). MIT Press, London, pp: 343, ISBN: 9780262513180.

Davila, T., M.J. Epstein and R.D. Shelton, 2006. Making Innovation Work: How to Manage it, Measure it and Profit from it. Wharton School Publishing, Upper Saddle River, N.J., pp: 360, ISBN: 9780131497863.

Dezhina, I. and V. Kiseleva, 2008. Gosudarstvo, nauka i biznes v innovatsionnoi sisteme rossii [State, Science and Business in Russia's Innovation System]. The Institute of Transition Economy, Moscow, pp: 227, ISBN: 9785932552513.

Edelman, M., 1985. Political language and political reality. Polit. Sci. Polit., 18: 10-19.

Emel'janov, Ju.S., 2013. Gosudarstvenno-chastnoe partnerstvo: Innovacii i Investicii. mirovoj i otechestvennyj opyt [Public-private Partnership: Innovation and Investment. International and Domestic Experience]. Librokom, Moscow, pp: 368.

Eremeev, S.G. and A.V. Kurochkin, 2014. Gosudarstvennoe upravlenie i innovacionnaja politika v uslovijah setevogo obshhestva: Novye principy jeffektivnosti [Public Administration and Innovation Policy in a Network Society: New Principles of Efficiency]. RHGA Press, S. Petersburg, pp: 192, ISBN: 9785888126851.

Goregljad, V.P., V.V. Simonov, S.D. Valentej *et al*., 2005. Innovacionnyj Put' Razvitija dlja Novoj Rossii [Innovative Development Path for the New Russia]. Nauka Publication, Moscow, pp: 343, ISBN: 5-02-034930-5.

Gutmann, A. and D. Thompson, 2004. Why Deliberative Democracy? Princeton University Press, Princeton, pp: 217, ISBN: 9780691120188.

Habermas, J., 1998. The inclusion of the other: Studies in political theory [Die Einbeziehung des Anderen. In: Cronin, C. and P. De Greif. (Eds.): Studien zur Politischen Theorie]. MIT Press, Cambridge, Mass., pp: 337.

Habermas, J., 2007. Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy [Faktizität und Geltung], Rehg W. (Transl.). MIT Press, Cambridge, Mass., pp: 631, ISBN: 9780262581622.

Ivanov, D.S., M.G. Kuzyk and Ju.V. Simachev, 2012. Stimulirovanie innovacionnoj dejatel'nosti rossijskih proizvodstvennyh kompanij: Vozmozhnosti i ogranichenija [Stimulating of innovation production of Russian companies: Opportunities and limitations]. Forsite, 6(2): 18-41.

Johnson-Cartée, K.S., 2005. News narrative and news framing: Constructing political reality (Series: Communication, Media and Politics). Rowman and Littlefield, Lanham, pp: 371, ISBN: 9780742536623.

Joseph, J.E., 2011. Language and Politics (Series: Edinburgh Textbooks in Applied Linguistics). Edinburgh University Press, Edinburgh, pp: 180, ISBN: 9780748624522.

Judge, G., G. Stoker and H. Wolman, 1995. Urban Politics and Theory. In: Judge, D., G. Stoker and H. Wolman (Eds.), Theories of Urban Politics. SAGE Publication, London, pp: 1-12, ISBN: 9780803988644,.

Keeley, L., H. Walters, R. Pikkel and B. Quinn, 2013. Ten Types of Innovation: The Discipline of Building Breakthroughs. John Wiley and Sons Inc., Hoboken, NJ, pp: 276, ISBN: 9781118504246.

Kurochkin, A.V., 2013. Setevaja model' vyrabotki i realizacii innovacionnoj politiki (opyt Finljandii) [Network model of innovation policy development and implementation (the experience of Finland)]. Vestnik Sankt-Peterburgskogo Universiteta-Bulletin of S. Petersburg State University, Series 6: Political Science etc., 3: 84-93.

Lakoff, G., 2008. The Political Mind: Why you Can't Understand 21st-century Politics with an 18th-Century Brain. Viking, New York, pp: 302, ISBN: 9780670019274.

Laver, M., K. Benoit and J. Garry, 2003. Extracting policy positions from political texts using words as data. Am. Polit. Sci. Rev., 97: 311-331.

Morris, M., 2001. Rethinking the Communicative Turn: Adorno, Habermas and the Problem of Communicative Freedom (SUNY Series in Social and Political Thought). State University of New York Press. Albany, N.Y., pp: 255, ISBN: 9780791447970.

Perloff, R.M., 2014. The dynamics of political communication: Media and politics in a digital age. Routledge, New York, pp: 481, ISBN: 9780415531832, .

Ricento, T., 2000. Ideology, Politics and Language Policies: Focus on English (Series: Impact, Studies in Language and Society, 6). John Benjamins Publications, Amsterdam; Philadelphia, pp: 205, ISBN: 9789027218377.

Rostboll, C.F., 2009. Deliberative Freedom: Deliberative Democracy as Critical Theory. State University of New York Press, Albany, pp: 312, ISBN: 9780791474600.

Russian Government, 2011. Strategy of Innovative Development of the Russian Federation for the Period up to 2020. Retrieved form: http://minsvyaz.ru/common/upload/2227-pril.pdf.

Schumpeter, J., 2011. The Theory of Economic Development. In: Joseph A. Schumpeter, Becker, M.C.T. Knudsen and R. Swedberg (Eds.): The Entrepreneur: Classic Texts. Stanford University Press, Stanford, California, pp: 361, ISBN: 9780804762823.

Schweitzer, G.E., R.S. Guenther *et al*., 2006. Innovating for Profit in Russia: Summary of a Workshop. National Academies Press, Washington, D.C., pp: 76, ISBN: 978030909727.

Slaughter, A.M., 1997. The real new world order. Foreign Aff., 76(5): 183-197.

Steiner, J., A. Bächtiger, M. Spörndli and M. Steenbergen, 2004. Deliberative Politics in Action. Analyzing Parliamentary Discourse. Cambridge University Press, New York, pp: 205, ISBN: 9780521828710.

Stohr, J., 2013. Evolution of Technological Profiles in the European Life Sciences Industry (Series: Karlsruher Beiträge zur wirtschaftspolitischen Forschung, Bd. 33). Nomos, Baden-Baden, pp: 215, ISBN: 9783848709984.

Strom, E.A. and J.H. Mollenkopf, 2007. The Urban Politics Reader. Routledge, London, pp: 354, ISBN: 9780415319966.

Tulis, J.K., 2003. Deliberation between Institutions. In: Fishkin, J.S. and P. Laslett (Eds.), Debating Deliberative Democracy (Series: Philosophy, Politics and Society, 7). Blackwell, Malden, MA, pp: 200-211, ISBN: 9781405100427.

WIPO, Cornell University and INSEAD, 2014. The Global Innovation Index. The Human Factor in Innovation. Retrieved form: http://www.wipo.int/econ_stat/en/economics/gii/.

Young, L. and S. Soroka, 2012. Affective news: The automated coding of sentiment in political texts. Polit. Commun., 29: 205-231.