

УДК:33

George Gvartadze, Aza Ipshiradze  
*Akaki Tsereteli State University*

**SOME DIRECTIONS OF SCIENTIFIC AND INNOVATIVE-  
TECHNOLOGICAL DEVELOPMENT OF ATSU WITHIN THE  
PERSPECTIVE OF GEORGIA**

*The recent years' experience shows that innovation and creativity is a necessary condition for sustainable growth and development of a country. If a country has a weak scientific and innovative potential, it creates additional difficulties in learning and mastering other countries' achievements. Considering the current situation, we can say that the pace of innovative development in the world greatly prevails the similar figures in Georgia.*

*Our country should take immediate, result-oriented concrete steps and economic development, oriented on European integration, should be based upon the innovating politics. That will enable us to take into consideration the best European experience obtained in this respect and to avoid mistakes.*

**Key words:** *innovativeness, sustainable growth, engaged and entrepreneurial university.*

The main characteristic of the modern world is paying maximum attention (utmost at times) to the innovative development. In general, innovations and innovativeness is not bad, but when it becomes an end in itself and is not accompanied by the creation, generation and distribution of relevant knowledge and experience, the probability of making errors and selecting wrong directions increases dramatically.

At the present stage of development, although much is being done, the situation in Georgia is still very tough. Besides, if we review the period of the past 10-15 years, we will see that the situation is not yet characterized by any essential changes of improvement.

There are a number of analyses being conducted and ratings being calculated at the international level. Of the indicators according to which countries are evaluated, we should note: annual science expenses in relation to gross domestic product; the number of scientific researchers per million inhabitants; the number of inventions of GDP per billion dollars; the specific share of expenses on research and development in the gross expenses of the state budget; the amount of joint international projects and so forth. The following facts tell us about the situation in Georgia in this regard, during the above-mentioned period [3]:

- Back in 2001, according to the research commissioned by the World Bank among more than 150 countries Georgia, together with some post-soviet counties, took the category of “backward” states between Panama and Burkina Faso;

- In 2006, the company “Rend Corporation”, ordered by the US National Intelligence Council, published a report on the innovative potential of countries. Emphasis was made on the countries’ ability to learn new technologies, in particular - to study 16 most important (critical) technologies in various fields by 2020. Georgia once again turned out to be among the weakest countries (Cameroon, Chad ...) which are not likely to master more than 5 technologies out of 16 (e.g. medical technologies). Since 2012, the most important evaluation indicators for Georgia have deteriorated;
- In 2011 two studies were performed. Famous research center of Israel INSEAD published a global innovation index, according to which Georgia was ranked 73th (among Trinidad and Tobago and Paraguay).
- In 2014, the World Economic Forum published a Competitiveness Index of countries in which innovation indicators took a prominent position. Georgia was ranked 93th;
- In 2014, expenditures on research, development and innovations in Georgia amounted to 0,18% which was the lowest even in the South Caucasus region (e.g., Azerbaijan - 0,40%, Armenia - 0.22%); [2]
- According to the report of 2015-2016 of World Economic Forum, Georgia has slightly improved its position in terms of competitiveness and took the 66th place between Cyprus and Slovakia; [4]

Considering the above-mentioned data, we can say that the pace of innovative development in the world greatly prevails the similar figures in Georgia. Therefore, our country should take immediate, result-oriented concrete steps, should initiate appropriate events and trends so that the process of lagging behind stops, and Georgia gets much closer to the developed countries.

The recent years’ experience shows that innovation and creativity is a necessary condition for sustainable growth and development of a country. In addition, if a country has a weak scientific and innovative potential, it creates additional difficulties in learning and mastering other countries' achievements. In the XXI century, global economy grows on average by 3.2% annually, the main reason of which, quite rightly, is considered innovations. At the present stage, it is innovation that is the main source of competition, economic development and social transformation. Moreover, this can apply to states, regional entities and even to individual businesses.

Innovations are particularly important for the state, because they stand as a tool to present new and wider investment opportunities for revenue growth and creating new jobs. During the XX century, only those countries that carried out purposeful and long-term innovative policies managed to develop. Among such countries are: Japan, South Korea, Singapore, Ireland, Taiwan, Brazil, China, Turkey. In these countries, there are high expenses on science (education, in general) both in private and public sectors. These countries have made an effective use of both foreign credits and direct

investments the “secret” of which lies in supporting such investments which imported new knowledge and technologies into the country.

According to the World Bank report - “Supporting Innovations in Georgia” - which was published in June, 2013, Georgian companies which are actively using innovations in their activities tend to develop more rapidly and create 30% more jobs than non-innovative companies.

It should be noted that in the years of 2014-2015, Georgia increased its interest in the innovative development, which was reflected in its position in various ratings. In this regard, we believe it’s worth to note the creation of Innovation Council in the Georgian Parliament. Various parliament committees like the ones of Sector Economy and Economic Policy; Environment and Natural Resources; Education, Science and Culture, etc., show a keen interest in all aspects of these issues, including the development of the research system.

In regard to innovative development in Georgia, the creation of "Innovation and Technology Agency" (GITA) on 19 February, 2014 should be considered as one of the most visible and successful steps during in recent years, which is formulated by the Government resolution and is included in the system of the Ministry of Economy and Sustainable Development.

The agency has an important role of coordination and mediation in terms of innovation and technology development. The Agency participates in the private and public sector knowledge, innovation and commercialization of research results and promotes innovative entrepreneurship. One of the important directions is the formation of information society projects and programs necessary for the management and coordination of the implementation of the uniform policy.

Innovation and Technology Agency focuses on the formation of services, tools, programs and infrastructure projects and develops its activities in several directions, including: [5]

- **Science** - Developing the segment of science will enhance the capabilities of Georgian ecosystem by developing the studies in the fields of science by production of innovative product and researches;
- **Creative** - formation of creative industries in Georgia and raising creative thinking, which will be one of the main supportive points to create innovative ecosystem in the country. Creative environment and people are the drivers for the countries’ innovative development;
- **Technology** - Growing demand on IT specialists is conditioned by infinite capabilities in this field, which is still considered to be in the process of development. The Agency has interest to establish IT organizations oriented on the global market. Information Technologies is the key in the development of the digital world;
- **Infrastructure** - Developing innovative infrastructure gives motivated and result oriented people access to the different modern technique and

technologies. By creating innovative infrastructure inventors will have an access to test different theories and create the prototypes of inventions;

- **Social Innovations** - Innovative processes are constantly held in the modern world. Social innovations are necessary for the positive and easily perceptible example and interest generation. GITA - supports implementing innovative processes dynamically in society;
- **Startups and Accelerators** - Formation of startup companies play a crucial role while developing innovative economies in the country. Accelerators are the places where startups are given the right direction for their future development;
- **Education** - One of the priorities is to establish knowledge based economic system. This is the reason, the agency works to train and teach in the fields of its priorities by cooperating with numerous countries and international organizations to implement the best experiences in the country.

The last one of the above-mentioned directions pays particular importance to the cooperation of the agency to the higher education institutions in Georgia, which should be carried out within the framework of the innovative policy. For the development and implementation of the latter, the national research system is going to play a key role and the balance and harmonious coexistence of its components will greatly determine the success of the country's innovative development. In this regard, many factors should be focused on among which we should highlight the ratio:

- ✓ Between fundamental and applied researches at the state, regional or institutional levels;
- ✓ Between the types of research (through the generalization of levels of public and private sectors) conducted by the organizations functioning in various organizational-legal forms;
- ✓ Between the total costs and the costs applied for the innovative development by separate organizations, institutions;
- ✓ Between the general volume of researches and researches conducted in cooperation with international organizations and etc.

When we are talking about innovative policies, innovative or research systems, from within, the university comes to the foreground as a place for the integration of teaching and research and the synergic effect arisen from its successful development. “The definition of the innovation system clearly shows the significance of the role of universities in relation to the system. The modern university constitutes a mechanism of concentration, storage and spread of knowledge, which creates an intellectual basis of development for the private as well as public sector. It’s a fact that the newest tendency of acceleration of technological modernization and expansion of innovations in leading countries is the development based on widening in research, education, skill development and creation of science-linked products.” [1]

Due to the above mentioned, one of the most important objectives of our research was to study and assess the innovativeness of Akaki Tsereteli State University (ATSU) taking into consideration contemporary challenges and tendencies. Besides, the primary direction of the research was the partnership relationships of ATSU and its impact on the innovative development of the university.

Regarding the aforesaid, first of all, we have to talk about the collaboration between ATSU and Georgia Innovation and Technology Agency (GITA), which started in 2015, when the so called FabLab “The Laboratory of Modern Industrial Innovations” was established at university. Its main functions are: popularizing science (particularly exact and natural sciences) among the young, assisting them in designing and implementing innovative projects, supporting the youth to develop the ability for creativeness and the relevant skills and etc. So far 500000 USD investment has been carried out and the attraction of additional investments is underway so as to establish “ATSU Innovation Center”.

In the learning and research activities of modern-day information technologies, in the direction of full-scale integration, the very successful project of the university was to establish relationships with the world-renowned company “Microsoft” yet in the year of 2012. The collaboration was so successful that our university was announced by Microsoft as the best example for the integration of information technologies in the learning process in Georgia.

At the initial stage, at ATSU, within the framework of the introduction of the relevant information technologies, Microsoft products got fully licensed. ATSU, the first case in Georgia, has completely moved to the legal platform, which significantly increases the safety level of IT infrastructure. Together with the so-called “Desktop Applications”, the university introduced server products. Therefore, there is Internet Conference Solution available, which enables all the staff members to have a constant communication with one another, to deliver online conferences for colleagues and students, which, in its own way, is a part of distance education. Besides, the service of Microsoft electronic mail was implemented for the university, which presents one of the leading technologies in the world. Through that all the staff members and students will be able to use the sharing functionality of emails, calendars and files directly from the so called “cloud” servers of Microsoft. Also, they will be able to effectively decide the management of infrastructure, which is a part of Microsoft offer. The latter gives us the opportunity to technically serve all the computers under the “One Window” principle. As a result, automatic refreshments, antivirus, program distribution and other processes are carried out in the centralized way, which is essential to eradicate the failure of computers within the shortest time period.

In respect of the support of the intensive involvement of the students and the youth in the implementation and development of the innovative projects at university, the great success was the thing that ATSU firstly won the grant competition announced by the government of Estonia with the project - “Establishing Estonian-

Georgian Entrepreneurship Center and Interdisciplinary Course in Innovation Management at ATSU”. The project aims at supporting the sustainable innovative development of minor businesses regarding the regional needs of the city of Kutaisi, promoting the establishment of close relationships with the university based on Estonia’s 20 years of experience. In the course of the project development 10 groups of students will be formed, that will be mentored by the professionals selected from the companies specifically for that project. The author of the most innovative project, the winning group through the learning tour will be sent to Tallinn, to the business school of Estonia.

It is noteworthy that ATSU constantly cares about its own innovative development, willing to become so called “Engaged and Entrepreneurial University” in the following main directions:

- Strengthening scientific potential, supporting innovative entrepreneurship and commercialization of the knowledge, innovations and research results on the part of professors and young researchers;
- Implementing information and communication technologies-innovations and their application in the various spheres of the university life so as to increase the efficiency of actions, in particular, in the educational and research activities, implementing innovative technologies to increase the competitiveness of the university and to encourage the innovative projects and creative ideas on the part of the university members;
- Supporting the establishment and the development of the center for innovations, innovation laboratories, accelerators and business-incubators;
- Deepening international relations in the direction mentioned, establishing contacts with international organizations and donors working in the sphere of innovations and technologies with the purpose of the implementation of various target programs and projects.

In conclusion, it should be said that the mentioned above is only the first step, which has been taken in the country. In order to have better results, it is essential to provide a systematic approach to the issue, pool efforts, manage processes in the stream and prioritized manner, increase financial costs and to involve all the interested parties. “The most important thing is to set the general course for the innovative development and to gradually introduce the European practice. Without that it is impossible to come closer to the group of developed countries”. [3]

It is necessary to adequately conduct management activities in order to fully support the innovative development. The latter, we think, means a close relation with, on the one hand, science, research and education and, on the other hand, with businesses and specific target-oriented priorities of the state in the following directions: issuing the state grants to organizations for research and innovations; compiling the so called “gold list” of the innovative companies and extending to them special credit or customs regime; imposing tax exemptions, hence, creating

possibilities for using accelerated amortization methods; supporting the involvement in leasing projects; coordinating work with international partners, interesting them to work and operate in Georgia and etc.

Owing to the European choice of Georgia, it is exceptionally important to get to know and share the experience of Europe. It is exactly true that the leading European states centre upon the innovative development and they pursue the policy that should be adequate and proper in terms of the economic development and increased welfare. Accordingly, the economic development of the country, which opted for the path to European integration, should be based upon the innovating politics. That will enable us to take into consideration the best European experience obtained in this respect and to avoid mistakes. All of that creates a precondition for gaining desired results quickly and smoothly.

### References

1. **Gavtadze G., Ipshiradze A.**, The Role of Universities in Creation of Regional Innovation System in Imereti Region (Georgia), Proceedings of the 10<sup>th</sup> International Scientific Conference „Social Sciences for Regional Development, 2015”, Daugavpils, Lithuania, Available at: [http://du.lv/en/News/Social\\_Sciences\\_for\\_Regional\\_Development\\_2015](http://du.lv/en/News/Social_Sciences_for_Regional_Development_2015)
2. **Prigozhina A.**, Converting Georgia into the Innovation Hub and the Competence-based Economy: Challenges and Opportunities, Innovation Week in Georgia, 24-26/04/2014, Tbilisi, Georgia;
3. **Shatberashvili O.**, It's time to start implementation of innovation policy in the country, j. "Banks and Finances", available at: <http://bfm.ge/sazogadoeba/droa-daiwyos-sainovacio-politikis-danergva-qveyanashi/> , 27/08/2015 (in Georgian);
4. Global Competitiveness Report 2015-2016, World Economic Forum, available at: <http://reports.weforum.org/global-competitiveness-report-2015-2016/>
5. [www.gita.gov.ge](http://www.gita.gov.ge) – The official web-site of GITA - Georgian Innovation and Technology Agency.