

## THE GLOBALIZATION, NETWORK ECONOMY AND THE SECURITY OF SMALL ECONOMIES (CASE OF GEORGIA)

Nino Mikiashvili<sup>1</sup>

<sup>1</sup>*Ivane Javakhishvili Tbilisi State University, Faculty of Economics and Business  
University str.2, 0186, Tbilisi, Georgia  
Telephone (+995 59) 8770489  
E-mail: [nino.mikiashvili@tsu.ge](mailto:nino.mikiashvili@tsu.ge)*

Rusudan Seturidze<sup>2</sup>

<sup>2</sup>*Ivane Javakhishvili Tbilisi State University, Faculty of Economics and Business  
University str.2, 0186, Tbilisi, Georgia  
Telephone (+995 59) 77970259  
E-mail: [rusudan.seturidze@tsu.ge](mailto:rusudan.seturidze@tsu.ge)*

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**Abstract.** The introduction of modern technologies increases the competitiveness of firms and, consequently, the competitiveness and security of the country. Introduction of a “cloud” method in Georgia, one of the trends of the future of network economics becomes increasingly urgent in guaranteeing the successful performance of the Georgian companies. The work uses the methods of analysis, synthesis, and comparison.

In terms of globalization, the use of a “cloud method” gives absolutely new opportunities to the enterprises and organizations in reaching their strategic goals. The paper had considered a new concept of the “cloud method” and had studied the strategic goals.

**Keywords:** globalization, National security, Network economics, cloud method in Georgia

### INTRODUCTION

The process of globalization necessitates understanding the issues of national independence and security in the new light. The better the national security is provided, the more independent the country is. Formal protection of the territorial borders and political declarations seem not to be sufficient any more. Rather, the main thing is to secure a position in the modern complex world system making it possible to prevent or transform global impacts following one’s national interests. Small economies even have certain advantages in this respect, as it is easier for them to realize a mobile and flexible policy if the focus of their governments is the development of the country.

National security has several components: political, economic, military, ecological, ethnic, safety, etc. Since the end of the past century, the issues of digital and software security have become particularly urgent, and the question as to how swiftly and adequately some or other state introduces digital and software novelties is also topical. It should be noted that it is impossible to consider some or other security component unless its economic aspect is taken into account. The economy is desirable to be proved efficient despite the degree of internal and

external threats. Clearly, it is impossible to introduce modern digital technologies without the relevant economic support.

The digital security of a country means creating terms supporting the stable and sustainable development of the country's economy, avoiding various threats (information outflow, access to personal information, insecurity of information systems and the like), or liquidating the negative outcomes with minimum losses<sup>1</sup>.

Generally, following the national and state interests, all kinds of security must be identified and the policy of the country's development drafted. The network economy and "cloud" systems are worth consideration in this respect.

In recent decades, the topicality of the network economics has increased rapidly. Global flows have been a common thread in the economic growth for centuries. Today, the movement of goods, services, finance, and people has reached the previously unimagined levels. Global flows are creating new degrees of connectedness among the economies - and are playing an ever-larger role in determining the fate of nations, companies, and individuals; to be unconnected is to fall behind.<sup>2</sup>

The trend, like the so called "cloud model", has become particularly popular in the network economics. Many experts are much optimistic about the prospects of the "cloud model".

The term "cloud model" implies that the software services, computer resources and their location are a kind of abstraction for a user. Consequently, the cloud services are graphically shown as a cloud giving rise to the term "cloud service".

Unlike computer programs, the "cloud service" is not installed on a user's computer, but is located on a remote server, or group of servers. This is much convenient for the user, as any faulty operation of the software on the user's computer could lead to a number of problems, while it is the service administration fully responsible for the trouble-free operation of the "cloud service". For instance, a company often has to employ additional staff to ensure a trouble-free performance of different software on computers (while the software is quite expensive itself). On the other hand, the "cloud service" helps a company save sizable finances. The users of such services simultaneously use the network, and systemic and program resources, and they do not have to have powerful computers at all, but their major concern is to

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<sup>1</sup> Mikiashvili, N.&Mekantsishvili, E. Some Aspects of Relationship Between National and Economical Safety, Paata Gugushvili Economic Institute, Scientific works. I, 2008

<sup>2</sup> Manyika, J., Bughin, J., Lund, S., Nottebohm, O., Poulter, D., Jauch, S.&Ramaswamy, S., Report "Global flows in a digital age", McKinsey Global Institute, April, 2014. Available: [http://www.mckinsey.com/insights/globalization/global\\_flows\\_in\\_a\\_digital\\_age](http://www.mckinsey.com/insights/globalization/global_flows_in_a_digital_age)

have computers working trouble-free on the internet. This means that the companies do not need to purchase servers, create a suitable environment to operate them, be concerned with uninterruptible power supply, cooling system, appliance compatibility and the like, assign additional staff to operate the servers, etc. what significantly reduces the financial expenses of the companies and brings the project running time to minimum.

Despite the fact that the “cloud service” is located on the server distanced from a user and the service can be accessed only via the internet, a user uses the “cloud service” in the way as if it were installed on his/her computer. Owing to the above-listed favorable features of this technology, they have started to introduce it to Georgia.

In recent years, the conditions to develop the information-communication technology (ICT) has improved a lot in Georgia and the readiness of the business circles and state bodies to use ICT is obvious. In particular, this is evident by the perfection of the business and legal normative environment and regulation system for ICT, establishment of sound competitiveness, identification of the innovative potential, prospects to finance the necessary infrastructure and new projects, efforts to establish the state position about the IT development, transparency of the state expenses in this field, better access to the technologies for businesses, expansion of the internet network, better internet access, etc.

Many companies in different countries of the world have been effective at using cloud solutions to improve collaboration within their walls. Going forward, they will need to leverage cloud-based business networks to extend that capability not just to key partners, but to every company they work with in their end-to-end supply chains.<sup>3</sup>

## **METHODOLOGY**

The paper was prepared by using general and specific research methods, in particular, analysis, synthesis, induction, deduction, scientific comparison, as well as expert assessment. We have studied the following issues: the questions of using the “cloud” model and services at Georgian companies, one of the trends of network economics, the situation at different Georgian companies in respect of “cloud” services and topicality of introducing “cloud” services in Georgia; we have identified the problems and made the conclusions and recommendations regarding a shift to the new model.

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<sup>3</sup> Leveraging Cloud-Based Business Networks for Collaboration, SAP Business Innovation, May 20, 2014, Available: <http://www.digitalistmag.com/cloud-computing/leveraging-cloud-based-business-networks-collaboration-01251933>.

## DISCUSSION

As the McKinsey Global Institute data suggest, flows of goods, services, and finance reached \$26 trillion in 2012, or 36 percent of global GDP, 1.5 times the level in 1990. Global flows could reach \$54 trillion to \$85 trillion by 2025, more than double or triple of their current scale.<sup>4</sup>

The analysis of the performance of the successful companies reveals absolutely new opportunities in reaching the strategic goals by using the cloud technology. Organizations need to scrutinize what kind of impact the cloud will have on their business and how they consume information. They need to look at mobility and understand how it changes the way people interact. It is not about devices, but about interactions and engagement. They need to look at Big Data and understand where this information can surface up the right insights so people can take the right actions.

Georgia's position in the „The Networked Readiness Index “has improved by 23 points in one year, from the 88th to the 65<sup>th</sup>.<sup>5,6</sup> The Networked Readiness Index is a complex indicator showing the degree of development of the information-communication technologies in the world countries. This rating has been published annually within the scope of the World Economic Forum since 2002.

The companies using the cloud technologies in their businesses have started operating in Georgia. Cloud solutions and processing of commercial information are particularly important and topical for the companies operating in the field of finances. For example, for sure, the banking sector does not lack the updated information, but permanent supervision and adequate representation of the innovations in the field of technology is necessary, as any minor delay may come expensive even for the successful companies both, financially and commercially. Despite this, some companies were quite pessimistic about the innovation considered above.

It is really interesting to give a brief task-oriented review of the businesses of some companies of Georgia using the cloud technologies.

In the banking sector, the TBC Bank has been the pioneer in choosing the “cloud” of an innovative Ukrainian company “De Novo”. At present, it is hard to decide whether other banks will wish to share TBC's experience in the near future.

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<sup>4</sup> Cloud Computing 2020 (Part 2), SAP Business Innovation, May 27, 2014, Available: <http://www.digitalistmag.com/cloud-computing/cloud-computing-2020-part-2-01251965>.

<sup>5</sup> The Networked Readiness Index 2013, [http://www3.weforum.org/docs/GITR/2013/GITR\\_OverallRankings\\_2013.pdf](http://www3.weforum.org/docs/GITR/2013/GITR_OverallRankings_2013.pdf),

<sup>6</sup> The Networked Readiness Index 2014, [http://www3.weforum.org/docs/GITR/2014/GITR\\_OverallRanking\\_2014.pdf](http://www3.weforum.org/docs/GITR/2014/GITR_OverallRanking_2014.pdf).

SOFTLINE GEORGIA LTD. on the IT market is one of the leading companies of the country, whose provider is “ActiveCloud”, a second leading company of Byelorussia in IT business. SOFTLINE GEORGIA LTD. has close partnership with it. Since 2013, “ActiveCloud” has been offering cloud solutions and hosting to its customers. It supports more than 15.000 users in 6 CIS countries. “ActiveCloud” is a part of the company “Softline”, which is a leading international company providing a full spectrum of licensed software and IT-services.<sup>7</sup>

The target of company “Softline”, unlike that of “De Novo” operating in public and large business sectors, is a medium business segment. However, as the IT experts assure us, there is no sector with future without a “cloud”. It is this model allowing transferring, processing, storing and reliably protecting a bulk of data.

Cloud technologies have been used by public services, as well. The Public Registry of the Ministry of Justice of Georgia started to work “on cloud” in August of 2013. The Agency was the first public body to use the open source to create cloud technology providing the users with a simple and swift server-based service. Migration from the technical infrastructure of the Agency to the “cloud” infrastructure is done by stages what significantly reduces the cost of the data storage systems and renders swift and flexible server-based service at no cost.

The National Agency of the Public Registry offers the new service to other state organizations, too. By transferring the data to the “cloud”, they will be secured against the lost or damage of the data. In addition, they will be able to manage the technical infrastructure from any location with the internet access.

The importance of “cloud” solutions for the private, governmental and public sectors was proved at the seminar “Cloud – a choiceless model of the future” held in December of 2011. The organizer of the seminar was a Ukrainian IT company “De Novo”, whose representative made a particular accent on the priorities of the cloud. Those priorities include compilation of the databases, infrastructure centralization and most importantly, gaining a great economic profit. The above-mentioned company offers the users an improved model, the Hyper-Cloud, allowing consolidating any kind of data and creating one’s own cloud, meaning improved security. In the final run, such a model will significantly reduce the costs.

At present, most of the Georgian companies have not enough finances to transfer their technical infrastructure to the cloud solutions. The innovations do need great expenses at the initial stage. Therefore, only few companies are engaged in the practical realization of the said

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<sup>7</sup> Professional hosting, SaaS, and cloud solutions in Georgia Company,  
<http://www.activecloud.ge/ge/company/11reasons/>

model; some companies run pilot projects, while others are exploring the expediency of introducing this model (e.g. WISSOL). Introduction of the model means certain transformation of an infrastructure. The management team of successful company UGT, as that of the pioneering IT company in Georgia, supposes that a thorough transfer to the new model in Georgia must be accomplished by 2020.

It is particularly large and innovative companies best feeling the need for introducing the “cloud” model, as the situation with the data processing and storage in the technological field changes so swiftly that the moment when in terms of scarce human and physical resources, it becomes inevitable to “take the data out”.

To the companies without developed IT systems, basic capital or qualified staff and possibility to purchase expensive appliances, the “cloud” offers swift and flexible server-based service at no cost.

It should be noted that there is certain criticism of the cloud model in the world. For instance, the concept of the cloud model was criticized by the Free Software Public Model Association, namely by Richard Stallman. He thought that the use of web-programs by a third party with its details unknown to the user is not a bit different from using one’s own software in respect of the data control.

It is possible that in case of thorough spreading of the cloud technology it will become clear that the uncontrolled data stored for years by a user will cause problems. Besides, some parts of these data will not be possible to change. We can name Google services as an example, where a user cannot delete not used services or individual data created by Feedburner, Google Friend Connect or possibly, some other services.

In recent years, very interesting text-books were published<sup>8,9</sup>, which offer a thorough and detailed description of cloud computing concepts, architectures, and technologies. It serves as a great reference for both newcomers and experts and is a must-read for any IT professional interested in cloud computing.

## CONCLUSION

After studying the developmental process of network economics and peculiarities of its introduction in Georgia, we have made the following conclusions:

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<sup>8</sup> Heisterberg, R.&Verma, A. Creating Business Agility: How Convergence of Cloud, Social, Mobile, Video, and Big Data Enables Competitive Advantage (Wiley CIO), Hardcover, WILEY, August 25, 2014

<sup>9</sup> Erl, T., Puttini, R.&Mahmood, Z. Cloud Computing: Concepts, Technology&Architecture, The Prentice Hall Service Technology Series from Thomas Erl, Hardcover, USA, May 20, 2013.

The trend, like so called “cloud model” has become particularly popular in the network economics. The theoretical and practical studies suggest that “cloud services” are highly perspective.

In recent years, the conditions to develop the information-communication technology (ICT) has improved a lot in Georgia and the readiness of the business circles and state bodies to use ICT is evident what is the precondition for successfully developing the cloud technologies.

Global flows suggest new prospects for coherence among economies and play an increasingly great role in determining the fate of the companies.

An outstanding advantage of the cloud model is that the companies without developed IT systems, sufficient amount of basic capital or qualified staff in the IT branch and with no possibility to purchase expensive appliances, the “cloud” offers swift and flexible server-based service at no cost.

Large companies do not complain about the shortage of informational technologies, but permanent activity and adequate representation of the innovations in the field of technology is necessary for them to be successful.

In terms of global communication systems with daily increasing volume of the information currents, a cloud model allows transferring, processing, storing and protecting particularly large amount of information. A similar kind of all-inclusive service is undoubtedly important for most of the companies what is proved by the analysis of the businesses of the companies. The cloud technologies offer the enterprises and organizations absolutely novel opportunities on their way to reach their strategic goals.

The importance of “cloud” solutions for the private, governmental and public sectors in Georgia is becoming more and more apparent. This is caused by the fact that the expansion of the ICT introduction area both, at the company (local) and country (global) levels shows significant economic efficiency, what on its turn, stimulates the private and public sectors to realize efficient measures in this direction.<sup>10</sup>

There is certain criticism about the spread of the cloud technology suggesting that the uncontrolled data stored for years by numerous users may cause problems. Besides, one must consider if it is be possible to simply edit the data stored “in cloud” for long.

One of the advantages of cloud transmission worth mentioning is that a user can achieve focused quick wins and then gradually scale up as he/she moves forward.

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<sup>10</sup> The Networked Readiness Index 2013,  
[http://www3.weforum.org/docs/GITR/2013/GITR\\_OverallRankings\\_2013.pdf](http://www3.weforum.org/docs/GITR/2013/GITR_OverallRankings_2013.pdf)

## RECOMMENDATIONS

On the basis of the analysis and conclusions the following recommendations were elaborated:

- Sharing the practical experience in using the “cloud service” will be interesting for the Post-Soviet and Post-Socialist countries with more or less similar basic conditions and infrastructures.

- In a theoretical respect, it is two decades now, there have been polemics in the world about the new concept of the cloud model meaning that this field of the network economics is still a subject of study and the experience of different countries in this direction is much important.

- Introduction of the cloud services in Georgia has become topical in different directions, with the following ones being most important: existence of large information currents, protection of independent software against viruses, high cost of individual operation, etc. The work in this direction must continue even more intensely.

- For the Georgian companies and not only for them, a factor of trust is much important when using the cloud services. Improving the trust will result in trouble-free performance, perfect infrastructure and most importantly, in information security.

- A cloud model ensures continuous real-time data flow on the internet, but all these flows will cause problems in the future, in particular, speed limitation. Consequently, effective preventive measures are needed in this direction, too. The problem of a limited speed is desirable to solve by introducing new technologies.

- The dynamics of the development of events and study in some sectors evidence that the realization of the cloud model in Georgia in the future will become increasingly popular both, with private companies and public sector.

- Integration of Georgia with Europe will challenge the medium and small businesses. This, on its turn will promote expansion of the area of application of the cloud services and other innovation systems, and the relevant regulatory bodies must support the establishment of the relevant basic conditions.

- Users in Georgia facing the threat of losing the data for years, in order to avoid the numerous virus attacks, used to store the different parts of information in the mail boxes of different browsers what somehow resembles the use of a cloud model. Consequently, if the advantages of the “cloud” model are popularized and this model is provided to a user in an argued manner, this will increase the number of users of the said model what will result in a certain chain reaction for the economic growth and progress of the private and public sectors.

- As per the forecasts, the transition to the new model in Georgia must be complete by 2020 what needs planned, coordinated and well-organized actions of different services realizing the topicality of this issue.

- The steps taken in Georgia to introduce digital technologies have rendered a certain support to the development of innovative economy, formation of the industrial park, facilitation of business startup and other positive changes. The support of similar processes will give small open economies better prospects in the future to develop their economy and use intelligent policy based on the national interests to oppose the threats of globalization.

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## GLOBALIZACIJA, TINKLO EKONOMIKA IR MAŽŲ EKONOMIKŲ SAUGUMAS (GRUZIJOS ATVEJIS)

**Nino Mikiashvili\***, **Rusudan Seturidze\*\***

Ivane Javakhishvili Tbilisio valstybinis universitetas

### Santrauka

Supažindinimas su moderniomis technologijomis didina įmonių konkurencingumą ir pačios šalies konkurencingumą ir saugumą. Supažindinimas su Gruzijoje taikomu „debesų“ metodu, kaip viena iš svarbiausių ateities tinklo ekonomikos kryptimi, tampa ypač aktualiu siekiant užtikrinti Gruzijos kompanijų sėkmingą veiklą. Darbe pasitelkti analizės, sintezės ir lyginamasis metodai.

Įgyvendinant globalizacijos koncepciją, „debesų“ metodo pasitelkimas suteikia naujų galimybių organizacijoms ir įmonėms siekiant strateginių tikslų. Straipsnyje atsižvelgta į naują „debesų“ metodo koncepciją ir išanalizuoti strateginiai tikslai.

**Raktiniai žodžiai:** globalizacija, nacionalinis saugumas, tinklo ekonomika, „debesų“ metodas Gruzijoje

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**Nino Mikiashvili\***, PhD., Ivane Javakhishvili Tbilisi State University, Georgia, Associate Professor, Faculty of Economics and Business, Doctor of Economics. Scientific interests: Econometrics, Macroeconomics, Labour Economics, Research Methods.

**Nino Mikiashvili\***, PhD., Ivane Javakhishvili Tbilisio Valstybinis Universitetas, Gruzija, doc. dr, Ekonomikos ir verslo fakultetas. Moksliniai interesai: ekonometrija, makroekonomika, darbo ekonomika, tyrimo metodai.

**Rusudan Seturidze\*\***, PhD., Ivane Javakhishvili Tbilisi State University, Georgia, Assistant Professor, Faculty of Economics and Business, Doctor of Economics. Scientific interests: Information Technology, Data Mining

**Rusudan Seturidze\*\***, PhD., Ivane Javakhishvili Tbilisio Valstybinis Universitetas, Gruzija, doc. dr, Ekonomikos ir verslo fakultetas. Moksliniai interesai: informacinės technologijos, duomenų paieškos