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FACULTY OF ECONOMICS AND BUSINESS

DEPARTMENT OF ECONOMICS

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The role of Internet Economy in socio-economic development of Georgia

Speciality: Economics

**This Dissertation
is submitted in order to get Doctor`s degree
in Economics**

A N N O T A T I O N

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Introduction

Relevance of the thesis. Internet has an important role in the modern world. Internet changes a number of events, these are: how we work, make new connections, create and exchange information. It has become an inseparable part of our lives. It's hard to recall an invention from human history compared to internet in terms of dependence on them. Not only people but also states themselves depend on the internet network systems. Modern banking systems, links, security, armed forces, various state and private agencies depend on the internet.

Development of the internet has led to growth of economy in the world's developed countries. Union networking dramatically transforms socio-political as well as economic relations. Electronic business allows companies to achieve competitive advantage at the expense of customer service improvement. Despite the number of measures taken to improve availability of internet in the recent years, statistics of using it by population is still unsatisfactory.

Lots of workplaces are created on the internet. Its advantage is that entrepreneurs are able to connect to consumers anywhere in the world and create an open market that is a source of high income.

There are revolutionary hopes on the use of the internet in economy – production costs will be reduced, creating new and efficient, surplus profit business firms, etc. technological changes created by the development of the internet can significantly enhance the economy and improve welfare.

Despite existing strong state institutions, there is no information about the volume of digital economy, turnover of internet-companies, the volume of output products, number of internet service provider companies. Also, we have no information about the electronic business share in GDP, the number of workers employed in internet companies, incomes, statistics of e-business development etc.

Relevance of the thesis is conditioned with the fact that Georgia, as the country of the small economy, is actively involved in globalization processes, in which the internet plays an important role.

The Research aims to justify improvement of the socio-economic situation of the country through the development of internet economy.

Based on the objectives of the research, we set the following tasks:

- Study of the internet environment in Georgia and search for ways to improve infrastructure.

- Sharing world experience in the development of internet economy.
- Identify opportunities for improvement of the social circumstance of the country's population through the development of internet economy, the importance of the internet in raising the level of education, developing recommendations on internet safety in adolescents.
- Prove easier opportunities to access the international market with the development of Internet Economy, accelerating the globalization process and development of international trade.
- Develop recommendations for the Internet Economy to reduce the country's social problems.

Subject of the study - is the opportunities of developing internet economy as a new direction of economy and related problems in Georgia.

The research object - IT technologies' and Internet economy development trends in the world, its importance in Georgia's socio-economic progress.

Theoretical and methodological basis of the study:

Scientific works of Georgian and foreign authors were used during working on the research, and publications on the development of the internet economy. Also Studies, statistical data and analyses conducted by The Organization for Economic Co-operation and Development (OECD) and other international organizations, also research that we have conducted (online survey on internet awareness and e-services in Georgia).

The following methods are used in the study: Statistical method, comparing and grouping, modeling, creating analytical charts, etc.

The situation of studying the problem:

Relevance of the thesis is conditioned with the fact that Georgia, as the country of small economy is actively involved in globalization processes, in which internet plays an important role. Development of Internet-economy is essential for economic power and development in Georgia. For this reason we studied Georgia's position and statistics according to international assessments. Many famous scholars have published works on the Internet Economy, such as: R. Gordon, M. Graham, J. Horton, K. Kelly, P. Pascal. We have examined the works of Georgian researchers, such as: N. Todua, R. Abuladze, G. Jolia, N. Enukidze, and others, on the above mentioned issues. Conclusions reflect the results of our research. Internet Economy is in the process of establishment in Georgia, and needs to be fully studied.

Scientific novelty of the research:

- New approaches and proposals have been established for the development of internet economy in Georgia.
- Problems are studied arisen during the establishment and development of Internet economy.
- The need for strengthening the role of the state in the control of import - export during electronic commerce is justified; Also in raising the profitability of internet economy in various fields, specifically: In the field of social sector, banking and financial sector, its role is highlighted in improving production, general development of the country, and in integration of Georgia into European and global institutions.
- The influence of internet economy on social problems has been studied. Recommendations have been developed, which will contribute to the development of the economy, solving social problems, increasing the welfare of the population in Georgia.

Theoretical and practical value of the dissertation:

The main provisions of the thesis, study results and recommendations can be used to improve Internet environment and infrastructure, raise public awareness and education level, elaborate and develop effective strategy. All recommendations are aimed at overcoming economic and social problems.

Dissertation work structure - The dissertation work consists of 183 printed pages and consists of introduction, three chapters, 9 subsections, conclusions, used literature and annexes.

The objectives, tasks and problem solving logic determined the following structure of the dissertation:

Introduction

Chapter 1.Role of the Internet Economy and Methodological-Theoretical aspects

- 1.1. Internet and theoretical aspects of digital economy
- 1.2. Factors that have led to the development of internet economy in the world
- 1.3. Elements of e-commerce

Chapter 2.Influence and role of the internet economy on the world economy

- 2.1. The world experience to evaluate internet economy
- 2.2. Trends of developing Internet Economy

Chapter 3.Expected results of Internet Economy in social-economic development of Georgia

- 3.1. Internet Economy development trends and challenges in Georgia
- 3.2. Internet Economy in Georgia: E-Tourism and Tax System
- 3.3. Social problems that can be overcome by the development of Internet Economy
- 3.4. Prospects of Internet Economy development in Georgia

Conclusions and proposals

Bibliography

Annexes

Basic contents of the work

In the first chapter of the work: "**The Role of the Internet Economy and Methodological-Theoretical Aspects**", I have analyzed the role and importance of digital economy, its part and development peculiarities in economy of the world countries.

The development of Internet Economy is related to the development of information technologies, which is characterized by information device convergence trends. Convergence of information devices means removing the boundaries between the connection of other technologies and computer technologies. Family computer systems are now operating successful, which includes controllable computer, fax, TV, compact disk receiver, phone and other electrical devices. Mobile phone is easily connected on the internet, e-mail, etc. Video telephones are developed on the bases of mobile phones and computers.

The number of Internet users increases with rapid speed and can be considered as a new community of people connected by internet because of professional and every day routines. The circle of these people is growing rapidly, covering all the intellectual and worldwide business elites.

Modern informatics economy is based on two complementary processes: cutting prices on informatics means and first of all, cost reduction of computers and information transfer services. Both of the factors lead in increasing the number of computers and the rapid expansion of computer networks, which in turn leads in cutting prices of their consumption.

Internet economy and transnational capital today, are symbols of the winning liberalism: actually the internet isn't under control and is being developed as a completely independent system. In this historic stage, the dominant information technologies determine the structure of the government, state governance type and the forms of public life in many ways.

Modern advances in informatics are very impressive, and it has no limits, consequences are likely to be relevant with its development.

The concept of Digital Economy was generated at the end of 20th century. In 1995 Nicholas Negroponte used a metaphor "move bits, not atoms". Negroponte spoke about shortages of classical commodity (weight, raw materials, transport) and

advantages of new economy, (absence of good weight, being virtual, almost no need for raw materials, instant relocation globally, etc.).

With the growth of our planet's population and resource mobilization digital economy has not only operates on e-goods and e-service, it is being developed instead and deals with various fields, such as: healthcare, education, internet-banking, etc.

Internet has created a new global space, where political, economic, and ideological processes take place. The use of internet in economy is hoped globally, which will reduce production expenditures, creating new, efficient and surplus profit businesses, etc. Some of the economists believe that internet companies are profitable, others think on the contrary, that it's unprofitable. Internet-Economy, based on information technologies, is the economy of civilized society, often referred to as the "virtual economy", which accurately expresses its extreme global-intellectual nature. Global social and economic outcomes are expected for Internet technologies. This raises a lot of questions: such powerful tools and mechanisms like state and money, will they be ceased? Will the changes be made in the production organization of the Internet economy, etc.

As a result of the assessment of modern world trends, we should see the revolutionary changes and benefits that the Internet-economy offers to society, namely:

Strengthening of direct communications through the internet between the buyer and the seller and gradual disposition of the existing mediator field; Introduction forms of direct interaction between consumers and producers and reduction of transaction costs in that way; Move process of production from enterprise (office) to the family environment. In the future, "household" will become the main economic category, which will eliminate many social and industrial problems existing today or reduce the scale of their influence. These are: inhuman labor conditions, violation of collective agreements and more. As a result, instead of improving the conditions of production, money will be spent to improve the family life of Internet-economists.

Competition through the Internet is becoming creative and non-production expenses are substantially reduced. Important changes are made in property relations - virtual production means belong to "virtual entrepreneurs". Different types of intellectual properties are being created. Small and medium business is the social

basis of civil society formation. The efficiency and transparency of mobilizing financial resources in credit, investment and innovative areas is enhanced.

As a consequence of all above mentioned we can conclude that global shift to Internet-Economy will cause in three fundamental outcomes:

1. Transaction costs will be decreased dramatically (or disappear at all in some firms);
2. Primary, direct internet connections between producers and consumers;
3. Change of spatial and timing organization of production work principally.

All this will substantially change the nature of economic relations.

In contrast to the traditional market, e-market is marked with various distinctive features, such as:

- Because of absence of barriers while internet accessing, internet market is globally and operatively exposed to every consumer and company from every point of the earth and that makes it unique – to the extent that there is free competition in cyberspace;
- E-market creates true alternatives to scale down functions of mediators between Entrepreneurs and customers (internet functions as mediator itself);
- Using a website, e-market enables not only ordering products or services but also getting information about it effectively;
- Advertising on the internet has unfamiliar and inaccessible parameters for other market zones, for example, the audience is characterized by interactivity, which is only for the e-market and it ensures its competitive advantage;
- State control over the entrepreneurs' activities on the e-market is very weak.

The internet world forms completely different free economic relations in the global virtual space that makes the market networks of informed citizens the trend of sustainable development of the world community. With a lot of positive alternatives, internet economy development generates many difficulties:

1. Due to the fact that all companies in cyberspace are transnational, the issue of correspondence of national economy boundaries is a new trouble for the modern world. Due to economic links in the global electronic space, recognition of the national economy as an "open" or "closed" type will be more and more difficult. Macroeconomic analysis of the national economy development loses the sense in such conditions. The existence of tariff barriers

and taxes will be questioned as a result of transparency of the e-economic space and openness of borders;

2. Anonymity of electronic trading, difficulty of observation for making deals, to be unable to register violation facts of administrative boundaries causes additional problems to state authorities;
3. It is known that, internet accelerates money circulation, which creates additional difficulties for monetary system, as determining regulation of cash turnover, inflation and E-money influence on economic growth is difficult.

Also, it is not necessary to count "electronic money" in national or foreign currency. Electronic money can exist independently in the global network only. It is convenient to pay for goods and services with this type of money. Thus, the real scope of E-market depends on the capacity of taxation system, which makes interactive payment possible. Due to "interactive" money, many new issues arise: how to calculate aggregate demand? What is the macroeconomic equilibrium setting? How to calculate money in circulation, etc.

Depending on business interests, cost evaluation of the business itself changes by using the internet. Business in traditional economy is evaluated by the company's profitability, and the internet companies are oriented on the indices, such as: "the capacity of increasing the number of consumers", "market value ratio to the number of consumers", "market value ratio to its share on the information market," etc.

Many researchers have been studying the problems of internet economy. They believe that the speed and low prices of production of information products causes deformation of already setup pricing mechanism. Traditional principle of determining the volume and price of production (according to cost of production, first cost, and others) is substantially changed in the internet economy, as the marginal expenditures on the production of each additional unit decreases.

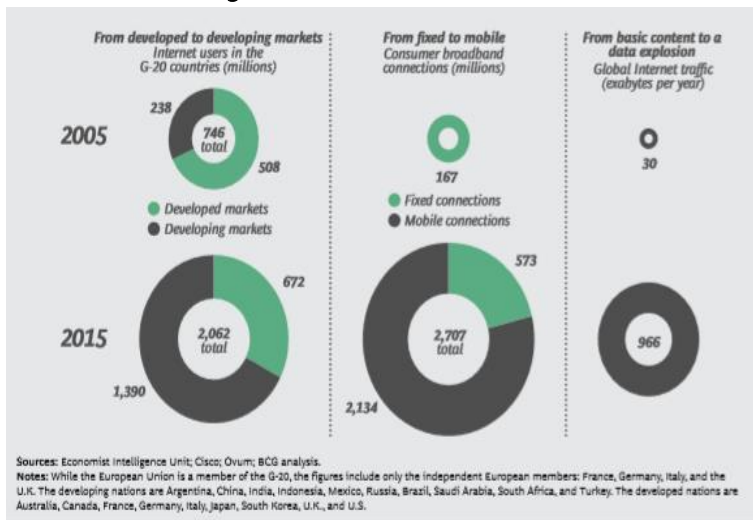
New forms of employment for labor exchange are emerging, namely: Virtual-distance connections between the employer and the employee are registered, which has been named "Telecommuting". This is a form of employment that is defined as "remote work" or "working from home" – the employee gets technical work from the employer remotely. Labor productivity and salaries are paid using modern devices (initially it was fax and postal message, now it's done through the internet). This conception was developed in 1972 by American Jack Nilles. He believed that it is not necessary to keep the staff at the office, because modern technologies allow us to

connect to the employees remotely. At present, scientists and specialists can work on individual or group works offered by foreign companies from their own country.

Digital Economy assessment is associated with many difficulties. In 2010, Boston Consulting Group estimated the scale of Internet economies of 20 countries at \$2.3 trillion, which was about 4.1% of GDP. In the 2013 report of Oxford Economics, the share of digital economy is estimated at 20.4 million, which is 13.8 % of world sales.

The diagram below shows the global scale of the development of Internet, which shows how the number of internet users changes within 10 years (see Diagram 1).

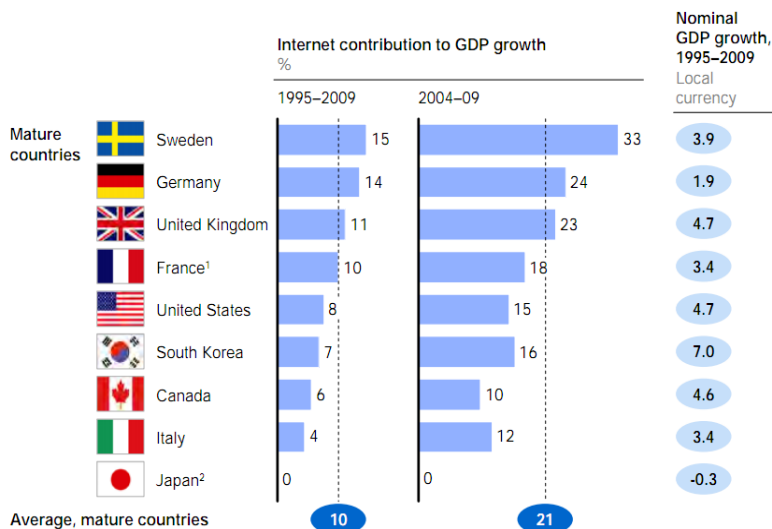
Diagram 1.Evolution of the Internet



Source: Boston Consulting Group, 2012

The diagram below shows share of the Internet in GDP growth in the developed countries (see Diagram 2).

Diagram 2. The share of Internet Economy in GDP growth in developed countries:



Source: Boston Consulting Group, 2012

Internet and ICT (Information and Communications Technology) created new business models, promoted markets consolidation, sustainability of business environment, creation of digital economy, business and trade facilitation, business dynamism, competitiveness, etc.

On the background of internet development, the number of Internet users in the beginning of 2014 amounted 2.8 billion and 2.1 million in Georgia.

Technological development has influenced not only access to the internet, but also substantially changed the devices needed to access to it.

Principles of Internet Economics will be developed as economists, engineers, and others collaborate on further research. We believe there are at least five areas of opportunity where new solutions to Internet economic problems may be explored:

1. New empirical work is needed especially with respect to user behavior. Combinations of flat rate bandwidth pricing with transaction-based pricing is a promising area for further research and commercial interest.

2. Congestion control protocols and user feedback should be tested in concert with one another. This and other integrated approaches to Internet Economics problems should be explored further.
3. Pricing as a congestion control method or as part of an interconnection settlements process should be tested in concert with enhancements to the TCP/IP protocol suite.
4. Increased data collection across Internet service providers will provide an understanding about the growth of the Internet and provide a rich data set to develop economic models and increase understanding of the subtle interaction between Internet engineering, economics, and cultural practices.
5. Further research on the development of technologies and policies for information security for electronic commerce and privacy protection is needed. Preliminary evidence suggests that further technological advance of the Internet will be hampered by lack of adequate attention to these issues.

One of the factors that contributed to the development of internet economy is time management and its effective management. The internet economy is based on economic relations which is related to the exchange model.

Internet economy is a new, renewed form of market economy and has new, different features unlike traditional economies, but is still maintains elements of market economy and operates on the same principle.

The development of information technologies has influenced the economy to some extent. For instance, in the 50s of the XX century, delivering the 30-page letter to 5,000 km distance would take 10 days, and in the 80s it was possible to send same letter in about 1 hour. Through modern networking devices, it can be sent in just 3 seconds. Consequently, efficiency of modern economic activity depends on the received information intensity.

The use of modern information technology in business can be viewed as an internet economy, as well as network economy, e-commerce, e-business or "new economy".

But if we assume that the network economy is the use of modern information technologies in business, so it is an environment, where any person or individual can communicate with each other, make contracts and carry out various operations for trade, money exchange or providing other services with minimum expenses (anywhere in the world).

The term "new economy" emerged in the 1980s, initially used to describe the economy, which was mainly focused on service sector and not in the material production field. From the beginning of the 90s this term was used as a high-tech postindustrial economy (the main focus was on the industry which produced information-communications' devices).

With the growth of the earth's population and resource mobilization, electronic economy is not limited in making e-goods and service providing businesses, and also it's being expanded and deals with different areas such as: healthcare, education, internet banking, etc.

Many companies today, including those already having real production capacity, are focusing on business development on the internet space, for a number of reasons:

- Low cost for advertising and lower expenses for attracting potential consumers;
- Agility to reach target group;
- Absence of geographical barriers, etc.

Accessing network is due to the fact that internet has become the main place to find desired goods and services. High-quality website can attract more consumers, than advertising on mass-media.

Internet has been widely used in the world, since its creation coincided with globalization of finances, unification of corporate management international standards, and with the growth of international trade. In addition to this, Internet has been developed in institutional framework, which has its own peculiarities in every country and the influence that internet has on it, has not always responded to the to the local community interest.

Internet economy has become the leading globalization tool, also part of the world economy system. Internet stimulates economic growth in highly developed countries, while it enables less developed countries to reach more economic growth and integrate in world economy.

Internet economy has the following functions:

- Information is constantly filled out and people can access it through the internet;
- Infrastructure platform , which allows people to settle financial proposals at a given moment;
- Media-storage, where free information is preserved on everything that happens around us.

Internet economy is characterized with the following parameters: Internet economy includes all countries' economy, where electricity and computer network can be used, and this determines its globalization.

There is stiff competition on the internet market between entrepreneurs, salesman and customers, than in traditional economy. Massive computerization, recent IT system development strongly promoted education, business, industry, and scientific research. China, which has been developed with stable pace within recent decades, highlighted the role of innovative factor in socio-economic development of the country, aimed developing internet economy in the near future and made emphasis on exporting high-tech products.

Gradually shifting world economy - on internet economy is caused by several essential factors: International market access liberation and globalization of the markets itself, enhancing capital mobility and outlining global-information space.

Monopoly trends, in the conditions of Internet-Economy, are expressed in a different way, rather than in traditional economy. Generally, it is considered that monopoly increases costs and decreases production capacity compared to competitors. Moreover, with the influence of modern information technologies, commodity and service prices increase in short period of time. Also, with the impact of information technologies growth of labor productivity in production field, increases profit rate, but only in the short term because, tensed international competition in this field causes profit rate decrease in perspective.

In conditions of modern internet economy, type of ownership changes. In the conditions of free market, content of property concept becomes irrelevant gradually. Existing company is also being changed (for instance: Intellectual firms may no longer owe funds, with the traditional sense of the latter, because material assets are actually oppressed by the intellectual assets, and current assets are replaced by the information assets). Material assets are paid less attention for assessing the company's activities. During the acquisition of the share, the investor does not obtain funds in the traditional sense; because of this the intellectual firm does not need large amounts of assets. The cost of basic funds decreases abruptly.

Information technologies create broader opportunities in the field of international economic relations among the subjects that are distanced from each other. It is about gradual weakening of famous gravity model influence and

ultimately its violation. As it is known, according to this model, the greater the territorial distance between the countries, the less they trade with each other.

Internet economy has united the individual companies in one system. This system operates on every side of the public life, and in some cases is higher than the heads of the states and governments. It is a single networking organization, characterized by the following signs: network organization members create a certain commonwealth based on mutual trust. Ethnic orientation dominates in the networking organizations; Relationship between the participants is defined by mutual obligations and responsibility. Fundamental changes are taking place in all areas of the economy, especially in business.

The first chapter also discusses the main point of e-commerce; the parallels are drawn between e-commerce and traditional trade. During the study of traditional trade relations, it is easy to find a case of how technical means are used, and electronic devices among them, for reduction of expenses at each phase of the commercial cycle, including the cost of automation of electronic costs. But it is not yet e-commerce. E-commerce is characterized by complex automation. E-commerce - this trade activity, the main purpose of which is to gain profit and is based on complex automation of commercial cycle through computing system.

E-commerce allows excluding not only the consumer but also the buyer from the commercial cycle. Relationship system - salesman-customer can be replaced with an automatically functional system: server - client, presented only with hardware and software tools. Today, even in household conditions, it is possible to manage computer system so, that to do information space scanning on everyday basis, for example, while searching for new novel by the absorbing author and detecting commercial offer from the server, it automatically will make a mutual settlement, after that it will send the product to the owner's mobile means.

Internet also transformed marketing, which brought about new peculiarities, properties and preferences. All this led to the new stage of marketing development. E-marketing, as a science, emerged with the development of internet networking. Internet networking and spreading of information technologies contributed to the development of this new direction. Internet and information technologies have become major field for the usage of marketing knowledge; science of e-marketing is also being developed with the development of the latter. In fact, e-marketing solves

the tasks as marketing does. The difference is that in case of e-marketing, a marketer uses the tools and advantages that the internet provides.

Simultaneously with the development of information technologies, it is necessary to change the company's brand-strategy. By placing the brand on the internet, the company should take into consideration that any promise given to the consumer is confirmed in his/her awareness.

Let's discuss how products are produced on the internet. Traditional process of developing a new product on the internet affects two main goals: the first - to find customer demands that aren't satisfied, and the second - to combine technological and constructive opportunities with production costs. Traditional methods of developing new products online are not fast and elastic, due to its production cycle. Therefore, companies are forced to be the first to enforce new opportunities, to ensure the satisfaction of consumer's needs and make a quick offer of new products. This method is based on the flexibility and the ability to get effective feedback from the consumer.

There are several types of services available on the Internet: information services, tourist services, educational services, financial services. From the types of Internet services financial services are the most dynamically developed, which covers the following areas: Internet Banking, Internet Insurance and Internet-Trading.

Internet Banking is a prospective form of banking activity that implies banking operations through the internet. Its advantages are velocity and cheap service. In particular, internet banking services are 8-10 times cheaper than the prime cost of conventional banking services. For example, Deutsche Bank makes emphasis and development on internet banking, specifically; it transfers a significant part of its operations on the internet. The bank's investment plans in network, are estimated at 1 billion Euros.

Internet Economy and e-trading is also related to digital currency development.

Digital technology development resulted in the development of a currency that is used in virtual world, the money, which is different from traditional money and has other signs. With the increase of internet users, digital currencies are created, which allows the consumer to purchase goods and get services in virtual world with the new money. The EU started "administering e-money institutions", but emergence of new currency, as bitcoin, brings a new problem for central banks.

In accordance with the European Central Bank's classification, virtual currency is the type of unregulated digital money that is issued and usually controlled by their developers and used by specific virtual community members. Virtual currencies are very similar to the electronic money with form and usage; thus, it is important for their unequivocal separation. In this regard, it is of paramount importance that the electronic money is the demand for its issuance and it happens in exchange of the monetary.

Among crypto currencies, bitcoin is current most successful one. It was first described by Satoshi Nakamoto in 2008. Since 2009, he implemented an open software source for bitcoin that was the basis for the creation of the bitcoin network. Technically, Bitcoin is based on the so-called one-line, peer-to-peer (Peer-to-Peer, P2P) network; it does not have a central administrator. Transactions take place between users directly; the notification is transmitted from the participant to the participant. In addition, payments between network participants are denominated not in any real currency, but in bitcoins, wherein the value of bitcoin is not attached to any actual asset or official currency, and its value to other currencies is based on the demand and supply on an open market. According mentioned above, bitcoin represents the decentralized virtual currency with the offline system. The basis for bitcoin spread is the system that ensures to avoid double payment, during or after transaction.

Emergence of virtual money brought new challenges to financial institutions. The main difficulty is that it does not perfectly fit into the definition of a currency, financial instrument or financial institution. It has both the currency, and the retail payment system and assets' properties.

In the second chapter of the work **“The influence and role of Internet-Economy on the world economy”**, the world's leading countries, their experience and international practice, globalization process is discussed.

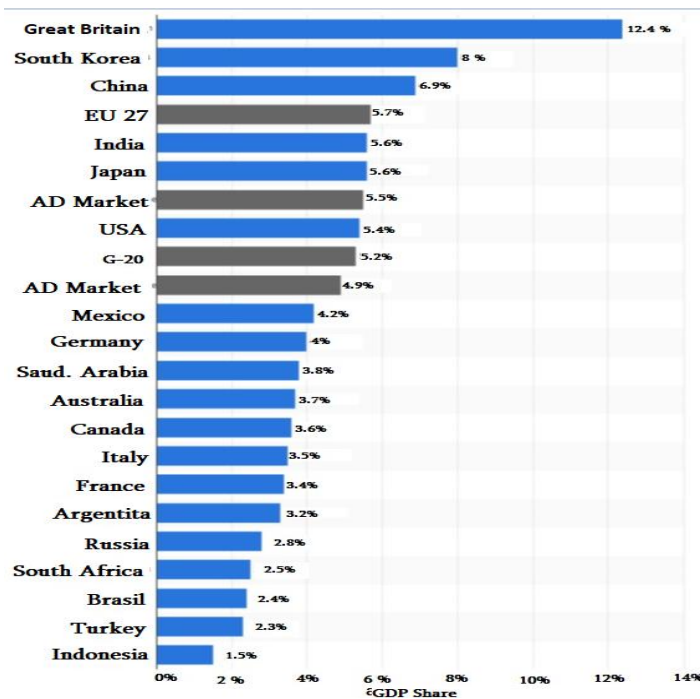
Internet Economy practice in different countries is not similar. China's economy is a clear example of the internet economy and e-commerce development. Yet a few decades ago, every family in China needed a special coupon to get everything started with rice and shoes and even a bicycle. Today, China is the largest online sales market.

The online sales revolution became a dynamic mechanism for China, which enabled the country to get rid of heavy industry, which was built mainly by private,

large and small companies. At the new stage, China will be able to sustain long-term stabilization of its internal economy.

Diagram 3.

Share of Internet Economy in G-20 countries to GDP:



Source: www.satistica.com

To assess the experience of developed countries, the work discusses Group of Twenty (G-20) countries and their economy. The volume of Global Internet Economy amounts 20 trillion dollars, when, the pace of developing countries Internet-economy growth is 12-25%. According to the World Economic Forum, The G-20 countries' (a group of finance ministers and central bank governors from 19 of the world's largest economies and The EU) Internet-based economy is growing by 10% annually. With the UN report, the G-20 economy creates 90% of global GDP and represents 2/3 of the world population.

Internet sales in the G-20 are 4.1% of the economy. The total cash flow is \$ 2 trillion. This is more than the volume of Brazil or Italy's economy.

According to a Google survey, 50% of the world's population would use internet in 2016, and in total it will reach three billion consumers. According to the second quarter of 2017 data, internet users will reach about 4 billion (3.88 billion) and 51.7 percent of the world's population.

Different countries use different approaches to the internet economy, but it is clear for everyone that: the Internet allows people to engage in industrial activity and business – so, a country should provide access to the internet for everyone, promote competitive environment, that will make any consumer to feel benefits of Internet Economy.

Internet's potential is very high and it gives the opportunity to develop new products in this environment and to determine the change of economic environment at least for the next ten years.

Internet economy will have a significant impact on the countries' political life, which is mostly expressed in the development of democracy. The study of Internet Economy will enable us to understand the Internet as an economic system better.

Development of Internet sphere means that national economy dynamics can no longer be discussed according to material production changes. Today, information resources are the main national wealth. Efficiency of their exploitation will further determine the country's economic power. Due to this, it is vital importance that quick and effective administrative support has to be provided for the development of Internet-Economy in Georgia, at all levels and also its reliable legal provision.

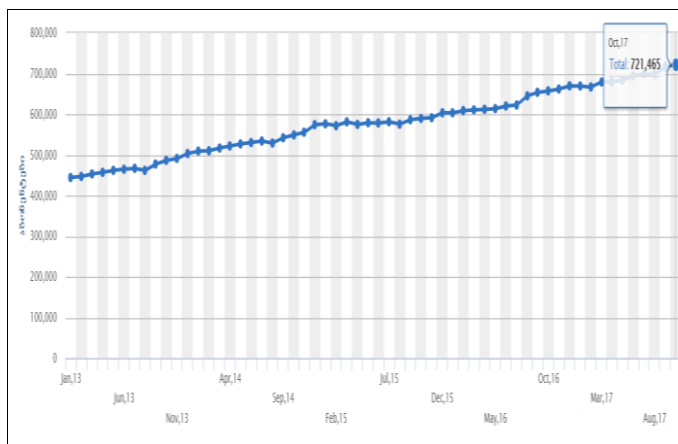
Development from the angle of internet has a global significance for the world's better future. Thus, the governments should act in coordination, follow international standards and reach agreements to restrain themselves from interfere in the internet because free market will do its job here. This is high demand to some extent, to ensure that the developed world still has to reestablish and to improve many things in terms of economy.

According to International surveys, the development of internet economy will have the greatest influence on the developing countries economy, where Internet Economy will have a big role on the increase of GDP.

The third chapter of the work - **“Estimated outputs of Internet Economy on Georgia’s social-economic development”** discusses Internet economy development perspectives in Georgia, and the social problems that can be solved with the help of Internet Economy development.

Diagram 4.

The number of Internet users in Georgia 2017



Source: Georgian National Communications Commission (GNCC)

In Georgia, like in other countries of the world, New Economy, which depends on technologies, has a slow pace progress. Many things will rely on its development. The country with poor material resources for economic growth and fails to compete with developed countries, exactly through Internet Economy the overall economic image can be changed. Internet Economy can speed up country's social and economic development. Tourism development, enhancing e-commerce and opened trade relations, banking operations, and accessibility of education will bring the country to another reality. It is necessary to evaluate Internet environment in Georgia, for the development of Internet economy and future economic forecasts; Internet development trends; Existing problems and ways of solving them.

Modern technologies and internet simplified communication. Governments of different countries are actively working to develop internet communication among people. State involvement and role in spreading the internet is very important. The government is trying to provide and create all the preconditions for the mass internetization and availability.

With the increase of population and resource mobilization, electronic economy is not restricted by electronic goods and services business, but is broadening and covers different areas such as: health care, education, internet banking, etc. Internet is essential for the development of tourism. Today most of the tourists use

internet to plan and travel. All the steps starting from choosing a tour, booking tickets, staying at a hotel and paying for services, rating the service – happens online. Georgian Tourist Companies, large hotel chains, also individuals use the internet actively, use international websites to build up their business and attract tourists. Online search and booking availability drastically changed global trends of tourism. It enables customers to search and book easily and quickly desired travel product and service.

Internet is also essential for banking system, most of the banking sector is now on the Internet Banking, which makes it easy for customers to pay cashless and simplifies management of funds, and international transfers for companies are significantly improved. Revenue Service and state agencies (Ministry of Justice) have an online service to facilitate business, and it makes easy to start a business, in a short time, with minimal expenses, which encourages a beginner entrepreneur.

It is crucial to resolve a problem like unemployment for economic development. In the Georgian Internet space it's been several years from the emergence of websites where a job seeker can place an application and search for vacancies.

Internet also enables to raise education level. It is directly related to the development of the country. Electronic media allows us to get answers on anything, search for favorite literature from the world's famous libraries, and share our experience to others.

Government of Georgia actively considers the country's electronic strategy and effective plan, which is for four years from 2014 to 2018. The plan includes the importance of e-commerce, electronic government, also ensuring of electronic security and development of infrastructure.

The use of information-communication technology for the government of any country is the main tool for government, economy and society. Internet technologies influence every aspect of economy, Internet Economy development allows progress of tourism, banking, transport, logistics, international trade and people working in manufacture.

The main threat is cyber security. Cyber security is one of the main directions of Georgia's security policy. Cyber security implies protection of infrastructures and other units (database, registries, websites, controlling units, etc.) from attacks because it threatens the society and the governance.

Georgia's electronic strategy mission is to provide single-window principle access to safe and effective e-services for any citizen, business or private sector representatives, to encourage them. The strategy also implies involving citizens in innovative projects, promoting competitive business environment, and most importantly developing a policy, which ensures electronic security, protection from cyber-attack. Cyber-attacks are in the center of attention for modern world. May 12th, 2017 was cyber-attack day for several countries. Dozens of large companies were attacked by hackers, Japanese automaker, Nissan, among them. It damaged 10 thousand computers have been damaged worldwide. Cyber-attack on a hospital service in The UK and physicians were forced to postpone hundreds of operations and other medical services. According to BBC, The United States National Security Agency showed a thorough picture of cyber-attacks on various countries in the world. As stated by BBC, cyber-attacks were on 99 countries, in The UK, The US, China, Russia, Spain, Taiwan and Georgia among them, as experts stated, hackers chose these countries not randomly, they had specific targets, and wanted to get a thorough picture of these countries' various fields.

For Georgia's e-government development, it is essential to enhance it, which will equally ensure e-commerce development. In order to increase trust in online trading, the main legal framework is needed (e-commerce regulations), which will regulate aspects such as identification, digital contracts and validity of digital account invoices, etc. E-commerce regulations should serve to raise public awareness and to ensure carrying out those regulations related to the use and re-use of digital concepts and products. These regulations should support the development of areas where digital technologies require better standards of electronic services. They need to improve digital interaction between business partners. This can be - improving accounting/registration practice and refining its standards. For the development of e-commerce, regulations on property rights are necessary. Intellectual Property Regulations define proprietor's rights and the use of digital products, the rules for copying and distributing copies of such products.

The law on intellectual property protection in Georgia meets the European standards, which was confirmed in the negotiation process of the deep and comprehensive free trade zone. The completion of the above negotiations should result in small legislative amendments in regulations which determine intellectual property; it includes both digital and non-digital artifacts.

E-society needs a secure and reliable infrastructure service, which primarily means internet access, also basic services such as: electronic identification, electronic signature and aggregated services (online payments, dialogues, online delivery, etc.) All this provides various levels of service delivery. Fast, reliable, and cheap internet should be available for everyone, without restrictions. It should be widely accessible especially for business, for all residents especially in rural areas.

Georgian population is most concerned about social problems. A major part of the work is to solve the main problems that will enhance the well-being of the Georgian population.

Georgia is in process of forming the economic system based on market principles. Many of the social problems accumulated years ago, hostilities had a big influence on the development of economy and the social status of the population. Unemployment and poverty are the main problems. The success of economic policy is determined by social policies. At what extent are the social problems emphasized in the country and resolved, is affecting economic stability.

The Government of Georgia recognizes the principles of democratic development, respect for human rights and fundamental freedoms, principles of supremacy of law and effective governance. Integration in The EU is basic for Georgia's foreign and internal policy. The economic policy of Georgia implies the development of such principles that will lead to welfare of the population by reducing unemployment. Social problems are always sensitive and need to be solved urgently. Internet economy can solve social problems; reduce unemployment, to increase the level of education.

For a successful economic model, needs a social policy that emphasizes the main resource of the economy - human capital development. One of the most important factors in the development of the country is education level, which determines the power of the country. That is why, in developed countries state spending on education is increasing.

In recent years, the share of education in the GDP is growing and ratio of expenditures spent on education with GDP. Absolute and relative indices of education are characterized by growing trend. In recent years, education sector financing has significantly increased, but other sectors' financing is more increased than that. It is noteworthy that the expenditures on education and science in Georgia

are significantly lower in the ratio with GDP and other budgetary expenditures compared with various European countries.

With the development of Internet Economy you can increase the level of education using several leverages, including:

- Access to the study literature;
- Study abroad opportunity;
- Remote (Online) teaching.

The development of information-technologies allows us to get an unlimited amount of information, with minimal cost in a short time. A student does not have to sit in the library for ours to get necessary information. E-books are available for anyone; you can have several e-books in new devices and carry it anywhere. We can download our favorite books on the tablet and read any time wherever we are. Information mobility, availability and simplicity contributes to get education, as well as share your own knowledge. Today's most recent literature, scientific works and technological achievements are available through the Internet for all those who have the appropriate devices to access the Internet. The main thing the country needs to ensure is an organized and workable communications devices, internet access should cover the whole area, because the regions, high mountainous region population needs access to the information and new technologies, in order to be able to integrate with modern world, enhance knowledge and use this knowledge for the benefit of the country.

In recent years, more and more young people have a chance to study abroad, which can also be related to the Internet. Any person can find information about the desired training courses in various countries, go through consultations, pass online exams and continue study abroad with the help of internet.

Human capital is most valuable in this country. The effectiveness of its use determines economic power of the country and welfare of the population. The unemployment problem in Georgia is still crucial. Unemployment incurs social and economic problems for the society. Development of information technologies will help to overcome unemployment. Unemployment is a complex problem that needs rise of education level in the first rank. There are many websites in Georgian Internet space that help job seekers to find a preferable job. There are state and non-state web sites where detailed vacancies are described.

Besides the specific web pages, job search can also be done in social networks. LinkedIn is a social network that can be used like a web pages and mobile applications; it was founded in 2002 and is focused on business and employment. It is mainly used for professional networks, as well as for employers who put information about jobs, demands, and job seeker can place their resume and get potential employers interested. According to the 2017 findings, 500 million people from 200 countries are "LinkedIn" members. This is the largest association that allows us to find the desired job not only in our country, but also in different countries around the world, and also familiarize ourselves with modern job requirements for job seekers.

It is clear, modern employment systems connected to the Internet and mobile applications make it easier and transparent to get information about vacancies for job seekers. Internet is faster and easier way to search for vacancies, and present your resume and CV in the company through e-mail. These companies are so popular because of this simplicity, speed and scope. It is possible to overcome unemployment with the help of employment websites, also to improve the skills of the workforce with special courses.

Healthcare improvement is now possible through medical tourism, for which Internet is also essential. Medical tourism - traveling to other countries or regions to receive medical care has become especially popular in recent years, which is the result of rapidly improved technology and service standards in many countries of the world.

Interest and demand towards medical tourism in the world increases annually. High quality and availability of medical services – we may say that this is a starting point for medical tourism. In this regard, there is a noteworthy example of Germany and neighboring Turkey, where medical tourism is developed at a high level. Development of medical tourism is one of the accelerating phenomena of economic development. Medical tourism cannot be developed without the state's help; the state has to develop strategies in this direction.

Despite the fact that in recent year a number of measures have been taken to improve access to the Internet, the statistics of its use by the population is still unsatisfactory.

In September 2016, we conducted a survey involving more than 200 people across Georgia. According to our surveys, the category of citizens who actively use

internet - about half of 51.7% are from 20 to 30 years, the share of respondents from 30 to 40 is 36.1% and the rest of the share comes on older people.

If we consider the survey in a gender perspective - more than 64% of the respondents are women, and the rest is men. The majority of the survey respondents- 43.96% are employed in private sector; 23.19% are students and 22.22% - in the public sector. It is noteworthy that the segment of temporary unemployed was 7.25%.

It is noteworthy that the majority of respondents use not only computers to access internet, but also on mobile devices and tablets – 64.9%. Internet is a part of everyday routine for 71% of respondents. For the majority of respondents internet quality is acceptable and the existing tariffs do not correspond to the quality for 27% of respondents.

It was interesting to find out for what reasons they use internet. It turned out that about 4% use it for work purposes, and about 21% for personal purposes, more than 73% of the respondents use internet for both purposes (personal and work).

More than 77% uses internet for social networks, access to information and approximately 62% - for work duties; Internet banking is used by 42.51% of respondents, more than 15% for online games, 11.11% - for online loans, 17.87% for study purposes, about 27% for online trade, more than 35% - for online bookings (plane tickets, hotel reservations, tickets for concerts and other events).

The basic advantage of the internet is that it is timesaving, for instance, in bank operations or making hotel reservations. More than 85% of the respondents say that they save time through internet.

One of the main threats in internet space is connected to online loans, which are unfortunately not monitored by the state and a lot of citizens become victims. One of the goal of this survey was to find out whether the respondents used online loans, 27% of the population stated they have used online loans.

Internet/mobile banking is one of the main areas of Internet Economy. It is impossible to imagine modern banking sector without internet, their success is directly proportionate to establishment of modern technologies. It's been several years already that most of the banks in Georgia have established online banking system. 68.12 % respondents said that they use internet banking, and 31.88 % - do not use this service.

80% of respondents think that internet companies are well developed in the Georgia.

Online payments system is acceptable for the majority of respondents. 63.77% of them think that this service is fast convenient, for 2.9 % - online transfers are secured, whereas 4.83% prefers to do banking operations with operators working there.

E-commerce development is considered perspective for more than 60% of respondents; and 73 % says that they use “online trading”. This fact is condoned with time saving for the respondents. 50% of them states that while purchasing they save time, 44% - that it is simpler, and for 22 % - that this way, it is possible to get better quality goods and services.

32% of respondents think internet development is obstructed by low competition, for 26.5% it is - high tariffs.

As the study shows, Internet Economy is being developed dynamically in Georgia, but still there are a lot of problems for its comprehensive establishment, for which, it is necessary to share the developed countries' experience and their active support from the government.

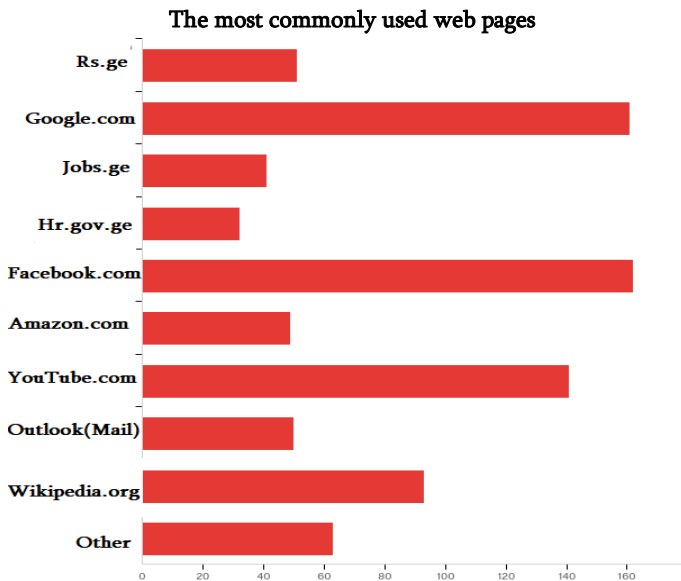
In 2012, the World Bank made a report on the development of digital technologies in Georgia. It focuses on the distribution of benefits from the development of digital technologies and the role of these technologies in the development of economy. Based on the examples of developing countries, the report presents challenges which accompany technological development. According to the report, simultaneous transformation of digital technologies development cannot be achieved without the improvement of the business environment, public health, investment in education and good governance.

The World Bank's 2016 report puts Georgia in the context of the economic growth of developing countries. Specifically, the report includes an evaluation of employment, digital engagement, e-governance, electronic tax payment system and electronic system of state purchase in member countries of the World Bank, and Georgia among them.

It is said in the report, from the angle of employment, that at this stage, 40% of works are computerized in Georgia, while potentially 60% of the work can be automatized. According to the report's authors, both work computerization and indices of using the computer technologies, which increases with the growth of GDP,

are linked to economic growth. By 2013 statistics, in Georgia, where the GDP per individual is less than \$5,000 - 30% of employed people use ICT.

Diagram 5.



Source: The Results of our 2018 year research

Employment problem is crucial in this survey. In developing countries, there is a number of professions that might be automated, because they no longer exist in developed countries. However, supposedly, this process will be relatively slow in the developing countries, as now only 1/3 of the country's employees use information and communication technologies (ICT). According to the research, at this stage only 40% of the work in Georgia is computerized when potentially 60% of the work in the country can be computerized. In this field, Georgia is far behind the countries such as Latvia and Lithuania, whose potential and real index is equal, and computerized workflow is about 60% of the whole work.

To widely distribute benefits of digital technologies are conditioned with the use of these technologies in different fields of employment. Overall, the establishment of digital technologies has a positive impact on employment and salaries for employees, even though this benefit is unequally shared to the population. According to the report, the influence of digital technologies in the field of employment involves three mechanisms:

- Creation of work places;
- Increase employees productivity;
- Bring benefits for consumers.

Conclusions and suggestions

World Economists are modeling economic growth at the expense of capital, labor and digital technology. Today digital processes have become not only an integral part of the economy; in fact, the modern economy is based on digital technologies.

Modern information technologies united and linked the entire planet; helped people to get know and make friendships development of business relationships, realization of scientific potential and solving political relations among nations. It made possible to circulate financial capital, enterprise and labor resources as well as spreading information world widen shortest time. Information technologies, first of all, Internet, as a global network and the unity of interconnected computers became the basis for globalization, which changed the lives of people, relationships and business therefore.

Economic well-being of the population depends on how well their country will be able to expand their economy in the angle of Europe or the world and will effectively renew the export market. Since no state can live in isolation, therefore, all countries have to integrate into the phenomenal space that globalization - economic, political, social, cultural, scientific-technical rapprochement process.

The development of the internet market and its involvement in global information systems, has a social and political significance for the country, as people get close through the internet sooner than in real life. Target audience is formed on the Internet, which can be managed. Administration aspect in conditions of globalization is very important.

According to International researches, the impact of Internet-economy on the country's economy will be largest in the developing countries, where the role of Internet economy in the GDP growth will be very high. This is another input that in spite of many obstacles in infrastructure, internet economy has to develop in Georgia. However, it should be foreseen that scientists have difficulty to speak unequivocally

about positive aspects of Internet-economy. There are a number of problems that do not fall into classical economic concepts. Internet economy is an inevitable way to the future and that is why it is necessary to increase the number of internet users in the country, tariff controls and access to the Internet in particular regions and villages. It is necessary to study more about this sphere, to demonstrate current problems and the effective ways to solve them sharing the world's leading countries experience.

Study of the developing countries' experience and evaluation helped us better understand the difficulties that can be found on the path of Internet Economy development. Based on this experience we have made recommendations, to avoid negative events that can be accompanied with the development of Internet Economy.

In the modern political era, digital economy should be considered as a vital sector that has the driving potential of the country's economy.

A country where there are a lot of social problems needs novelty and strong economic policy. This novelty is the development of Internet Economy, because it is the very thing associated with resolving many social problems, economic growth, establishing trade relations, etc. Conclusions and analysis on the example of world's developed countries will help us avoid the negative consequences of the Internet and properly calculate future forecasts.

Expected economic and social consequences of the development of internet economy depend on the measures that the state can carry out.

- Internet Economy can reduce unemployment – internet allows job seekers search for jobs not in a specific location where he lives, but anywhere in the world. Development of modern technologies, outsourcing services made employment possible in various points geographically.
- The development modern technology raises education level, which is related to poverty. Educated society means less unemployed and less poor people in the country.
- Tourism develops by means of internet and especially medical tourism. Development of this field will contribute public health advancement.
- Enhancement of financial institutions, because today it is possible to do quick and reliable banking operations only through internet.
- Trade development – development of e-commerce will enable us to increase export share that is extremely important for the like Georgia, export increasing

means enhancing the economy and e-commerce allows us to make significant progress in this regard.

- Facility to start small business –an individual can start his business on the internet without any capital, and it's easy and convenient.
- Opportunity to get education –simple way to get education from home, through the internet, hears world's news and chooses the desired learning course.
- Globalization – internet is the main way to globalization. In the modern world, any country's aim is globalization, enhance international trade, and share various countries' experience, which is unable without internet.

Based on the conducted research and International Experience we developed the following activities that can be done in various directions:

1. Raising education level and public awareness in connection with internet is very crucial. Studying modern technologies has to have a great deal at schools, also foreseeing the threats which can be caused by internet, and that is why special programs, are being developed in various countries, which teaches young people how to use internet safely. The study of internet technologies is not enough at schools only. Specific courses should be developed for anyone, whether it is a housewife, unemployed, pensioner, or any other member of society.
2. **Infrastructure** - Internet development is closely linked with infrastructure development. I think, in this direction in Georgia, effective, but insufficient measures are taken. The state should ensure that any citizen has access to the internet. In 2017, the project "Internet for every village in Georgia", was introduced, libraries of 150 villages were equipped with the internet within the project.
3. **Set of providers** - Internet-Economy development depends on internet providers. As we can conclude from the work, there is not a high competition in the Georgian internet market, there are several large providers across the country, which I think, is insufficient. A high competition and a set of providers will guarantee better quality and low price.
4. **Access to technologies** - The state should contribute to the establishment of companies in the country that will be oriented on technology production. Access to computer and mobile technology (due to high prices) is one of the obstruction reasons for the development of internet economy.

5. **Security**- cyber threats are not new for internet space. Developed countries are doing everything to avoid it. Hundreds of state or private company becomes a victim of cyber-attack annually, and the loss is quiet large. It is favorable for Georgia to cooperate with the leading countries and consider their experience.
6. **Copyrights** – information goes viral on the internet space very fast, and it is difficult to define copyrights. To eliminate copyright violations, a new draft is being developed – the ministry of economy and “Sakpatenti” (National Intellectual Property Center of Georgia) are working on it. A provider will be authorized to remove information produced by copyright violation.

Internet economy in Georgia develops dynamically, but there are still many problems for perfection its implementation, concerning which, sharing of the experience of the world’s developed countries is essential and active support from the state.

The main provisions of the dissertation work are reflected in the works, published by us:

1. Z. Surmanidze “Role of E-commerce in Economy”. Finance and Economics Conference, Lupcon Center for Business Research, Frankfurt, 2016
2. Z. Surmanidze “Internet Economics and Christianity”. IX International Scientific Conference “Christianity and Economics”. Conference materials. Kutaisi, 2016
3. Z. Surmanidze, K.Chanidze “Effective models formation of travel companies’ management in Georgia”. BSLab-SYDIC International Workshop: “Model-based Governance for Smart Organizational Future”, Rome, 2017
4. M. Tsetkhladze, Z.Surmanidze, K.Chanidze “Tendencies and perspectives of internet-economic development in Georgia”.5th Business Systems Laboratory International Symposium. Naples, Italy 2018
5. M. Tsetkhladze, Z.Surmanidze, K. Chanidze, “Internet in Educational System of Georgia: Challenges, Perspectives”. IV International Scientific and Practical Conference “Strategic Imperatives of Modern Management” –SIMM 2018, Kiev, Ukrain