Being a complex and interdisciplinary concept, information society topic is an actual one. The object of study represents the information society development process of European Union, Poland – as a member of the Union and Republic of Moldova – as non-European member. The main goal of the research is comparative analyse of information society development in Poland and Republic of Moldova. The subject is analysed from the public policies perspective, also through synthesis of the positions occupied by these two countries in international reports.
prognosis - the third wave, which is post-industrial civilization, in which the basic raw material is information. M. Graczyk, A. Zalewska-Bochenko and others. Mentioned authors research this topic from theoretical point of view but also from practical perspective, analysing the information society development in Poland, both at national and regional/local level.

Historically, the information society concept has been considered a possible example of information society development for Moldova. Moldova aims to join European Union and is implementing European standards and provisions in information society field. Even if Moldova registers good results, it should improve its general socio-political environment and to implement good strategies at the regional and local level, too. Key-words: information society, European Union, Poland, Moldova, public policies, information and communication technologies, economic development.

Actuality. Today nobody can imagine the life without technologies. Information society became a style of our modern life. That's why this topic is well reflected in European Union (EU) legislation, being even a community priority until 2020. Information and communication technologies (ICT) became an important sector in all countries in the world, including Poland (a member state of European Union) and Republic of Moldova (a non-European Union member). In November 2013, Moldova initiated the Association Agreement with the European Union, and Poland is supporting it in the integration process, including through the European Neighbourhood Policy.

Nowadays, governments of almost all countries of the world strive to apply the best regulations and standards in the field of the information society sector. The actuality of the topic is explained also by the big importance of ICT in people's life, business activity, government policies and the information society sector role in the international report and studies.

The information society is a new form of society in which technologies strongly influence the way we live, work, we develop as a community or even as a country. Today in the society are required new skills to use information technologies, but at the same time the new technologies are that which strongly influence the economic development of countries in the modern world.

Research degree of the topic. This actual topic was researched by a lot of authors all around the world yet many years ago: T. Umesao (1963), Daniel Bell, Y. Masuda (1981), A. Toffler, M. Castells, Hofmokl, M. Casey, P.F. Drucker and others. The first mention of the information society probably emerged in the mid-60s of 20th century in Japan. The term has been used by T. Umesao (1963) in an article about the evolutionary theory of information-based society. It has been popularized by futurologist Kenichi Koyama in the trial “Introduction to Information Theory” published in Japanese in 1968. In the 80s last century A. Toffler presented the history of the evolution of the socio-economic humanity, separating it in three basic stages in the development of civilization and comparing it to the waves, each of which was “washing” earlier. He described the past as waves of agrarian and the industrial and present epoch as the third wave, which is post-industrial civilization, in which the basic raw material is information. [1, p.42]

From Polish authors interested in the information society topic can be mentioned T. Goban-Klas, P. Sienkiewicz, J. S. Nowak, M. Graczyk, A. Zalewska-Bochenko and others. Mentioned authors research this topic from theoretical point of view but also from practical perspective, analysing the information society development in Poland, both at national and regional/local level.

Until now there is no concrete comparative study about Poland and Moldova from the information society development perspective. The subject of the study represents the information society development process of European Union, Poland – as a member of the Union and Republic of Moldova – as non-European member. The subject is analysed from the public policies perspective, also through synthesis of the positions occupied by these two countries in international reports.

The goal of the research is comparative analyse of information society development in Poland and Republic of Moldova.

Objectives of the research are:
- analyse of public policies in information society field in European Union, Poland and Moldova;
- observation of similarities and differences in information society development process in Poland and Moldova;
- examination of the ICT field impact on general economic sector at European Union level, in Poland and Republic of Moldova; determination of the positions of Poland and Moldova in international studies for ICT sector.

Research methods. For this research the comparative method was used for analysing the similarities and differences between Poland and Moldova; the position of the European Union in the world in ICT sector. Evolution method of research was useful for studying the evolution of information society development process in terms of public policies, strategies. Data analysis was done through interpretative method, were used charts, figures which were described and explained. The observation method helped for a better explanation of important elements of the study and analyse. Also were used deduction, induction and synthesis methods.

This study was done during the study visit of the author in Poland (within the Lane Kirkland Scholarships Program) which enabled the empirical research of the Polish public policies and data in information society field. At the same time the practical experience gained by the author during last years as member of several working groups for strategies and laws in Moldova (as representative of the Information Society Development Institute in working groups of the Ministry of Information Technology and Communications, Moldova) facilitated the comparative analyse between Poland and Moldova case.

Formulation of the problem. The “information society” concept is a complex one; for sure it can be analysed as an interdisciplinary topic. The level of the information society development characterises the general level of a country’s development level. Information society creates conditions to improve economic efficiency of enterprises and high efficiency of the public administration.

For a better understanding of the information society idea is important to be analysed the practical side of the ICT field and information society domain. Poland could represent a positive model of information society development for Moldova which aims to join the European Union in the future, to be a positive example of the Information Society Development Institute in working groups of the Ministry of Information Technology and Communications, Moldova.

The results of the research are presented in 4 dimensions: information society in European Union; information society in Poland as an European Union member; information society development in the Republic of Moldova; comparative analyse between Poland and Moldova.

Information Society in European Union

In general, in Europe, the sector-specific regulations in relation to the telecommunications market emerged in the 80s XXth century and were aimed primarily to encourage new entrants on the market. The commencement of such action was taken by the European Commission in 1987, the Green Paper, which was to contribute to the development of competition in the telecommunications market in order to maximise the opportunities offered by the single market of the European Community.

After the White Paper “Growth, Competitiveness and Employment” (from 1993), in 1994 was prepared a Report, called “Bangeman Report” (because of leader's name of the working group). The report draws attention to the fact that “[... information and
Communications technologies are generating a new industrial revolution [...] based on the information [...]. This revolution adds huge new capacities to human intelligence and... changes the way we work together and the way we live together” [8]. In 1996 the European Commission published the Green Paper “Living and Working in the Information Society. People First”. This paper focuses on the way in which the transformation towards the information society consequences for citizens and the impact of ICT on their lives. The Green Paper “Public Sector Information: a Key Resource for Europe” (1999) pointed to the benefits for citizens and the economy arising from the use of telecommunications and information technology in the area of public services.

Another important document which set the objective of building a new type of society exploits the possibilities of the so-called the new economy was “eEurope - An Information Society for All”. The well-known document - Lisbon Strategy (plan for 2000-2010) emphasized about an inexpensive world-class communications infrastructure and a wide range of services at which must have access citizens and businesses. During the period 2000-2010 were implemented several action plans: eEurope + 2003: A Cooperative Effort to Implement the Information Society in Europe; eEurope 2005: An Information Society for All.

As a continuation for Lisbon Strategy in 2005 the European Commission launched the Strategy “i2010 – A European Information Society for growth and employment”. Through this document the Commission proposed three priorities for Europe’s information society: i) the completion of a Single European Information Space; ii) strengthening Innovation and Investment in ICT research; iii) achieving an Inclusive European Information Society [3]. The most recent document widely promoted in the European Union is “Europe 2020 - A European strategy for smart, sustainable and inclusive growth”. The European Strategy sets 7 priorities, including "A digital agenda for Europe". The Digital Agenda for Europe contains 101 actions, in 7 pillars and aims to reboot Europe’s economy and help Europe’s citizens and businesses to get the most out of digital technologies.

As can be observed, the European Union provides a complex regulatory framework in the information society field, which is updated permanently according to the new needs of European citizens. Also, European Union aims to be on the leading positions in the world in the information society and ICT domain.

It is important to analyse the situation from years 2008 and 2009, a period marked by a deep financial and economic crisis. The ICT sector had a smaller weight in the EU economy than it does in other major economies, and it has a dominant service component. With a value added of 4.7% of GDP, the relative economic weight of the ICT sector in the European Union was significantly smaller in 2008 than it was in the US (6.4%), China (6.6 %12), Japan (6.9%), Korea (7.2%) and Taiwan (10.5%), as is shown in Figure 1. [16, p.13]

The situation improves after 2010-2011, but not in very fast pace. For example, in 2011 export of ICT goods and services in European Union was 7, 5% of total exports (both intra- & extra- EU 27 exports). On first position is Ireland with 23 % of total exports in 2011. Import of ICT goods and services was in 2011 - 8, 6 % of total import (both intra- & extra- EU 27 imports), higher than exports level. On the first place – Czech Republic (17, 9% of total import), Poland having little under the EU average 8, 5 % in 2011. [4]

Poland – European Union country

Poland is a unitary state in Central Europe. On 12 March 1999, Poland joined the North Atlantic Treaty Organisation, and on May 1, 2004 became a member of the European Union. In general, Poland is a country with a unique history, an interesting past and a specific development process.

The turn of the twentieth and twenty-first in Poland was marked by social change, economic and political, which is not predicted the arrival and whose effects - their range and depth - surprising many astute observers of social life. Systemic change in 1989 brought Poland and its citizen’s freedom, either - as Isaiah Berlin puts it - in its “negative” and “positive” sense [6, p.7]. This certainly applies to the information society, too. Chronologically and from technologies’ point of view, the first attempt to build computer networks in Poland, it was in the seventies, but they had no practical application. In general, about the Poland’s progress in the way of development of modern information technologies, we can speak only from the early eighties.
Since the fall of communism in 1989, Poland has emerged as a regional economic powerhouse with one of the strongest economies in Europe. It should be noted that after 1989 the Polish Parliament passed a new, liberal regulation relating to the operation of informational and communications sector in Poland. Also there were intensified the research activity in the field of ICT; has increased and the number of publications and the number of events organized in this area.

Still 10 years before joining the European Union, Poland considered and applied the provisions of the EU, including in the field of information society. In Poland, the response to the report Bangemann (EU, 1994) was the report of the First Congress of Polish Informatics, which focuses on the development strategy of information technology in Poland. The report makes recommendations, the implementation of which was to contribute to building a European digital space. Rudiment of these recommendations was the first of them, talking about the fact that "the Polish development strategy should be assumed that ICT is one of the basic factors of economic and social development of the country." [17, p. 336]

Poland has a comprehensive regulatory framework in the information society sector. A first important document in this area was the program ePoland - The action plan for the development of the information society in Poland in 2001-2006, developed by the Ministry of Economy in 2000. The program defined three strategic directions of the information society development [12, p.8]:

1. The transformation of the Poland into a modern state and friendly for citizens and businesses sector;
2. The rationalization of public expenditures related to the computerization and development of the Information Society;
3. Technological neutrality solutions used in the process of computerization of public administration.

Another act, which completes the plan mentioned above, is the Strategy of Information Society Development in Poland for 2007-2013 (from 27 June 2007). As is stated in the document, the overarching goal of computerization of the state is to accelerate the development of civilization and economic development, by building the information society in line with the Lisbon Strategy of EU. This strategy defined three strategic directions of the information society development [12, p.8]:

1. The human. Accelerate the development of intellectual and social capital of Poles by using information and communication technologies.
2. State. Increase the availability and effectiveness of public services through the use of information and communication technologies to reconstruct internal processes in the administration and the provision of services.
3. Economy. To increase effectiveness, innovation and competitiveness of companies, and thus the Polish economy in the global market and to facilitate communication and collaboration between companies through the use of information and communication technologies.

In 2006 was published National Development Strategy 2007-2015. The first priority of the national strategy is: Increase of competitiveness and innovativeness of the economy, which includes among other directions and: The information society development in Poland. A specific importance is accorded to education in the information society sphere which should offer a larger access to citizens to information and communication technologies. Ensuring universal access to electronic services and modern information and communication technologies creates new opportunities for economic and social development. The result of the development of communication is the increase in labour productivity, lower production costs, better quality and adapting the offer to the needs of the consumer and the emergence of new products. It is therefore expected to increase access to the Internet, including broadband and the creation of incentives for investment in ICT. [7, p. 9]

Being a national priority for a long term, ICT play an important role in the Poland’s economy. Today, Poland is ranked 20th on the list of the world’s largest economies, 31st in terms of population, 47th in the GDP per capita ranking and 22nd in the ranking of world export leaders. There is a large internal market, high standards of education and highly educated labour. Poland’s economy proved resilient to the global economic crisis harassing European and world markets. [7, p. 9]

According to the regulatory framework described above Poland considered and promoted information society as a key area for the country's general development at national and international level. In the last decade, Poland has become an important producer of ICT solutions, partly due to globalization of the ICT market and outsourcing of production to Asia, Mexico and Central, as well as Eastern Europe.

Moreover, the Polish internal market is characterized by increasingly higher demand for ICT technologies. In 1996-2008 Polish ICT export grew at an average annual rate of 28%, and Poland has become specialized in consumer electronics, customized software production, electronic games, and mobile solutions. Polish economy is now the fifth largest European economy in terms of employment in the manufacturing segment of the ICT sector (5.1% of total European ICT manufacturing segment employment). [7, p. 9]

Although Poland is not rated very high in the rankings of information society development defined in terms of Internet usage and availability of broadband connections to citizens and businesses. But due to strategies and national plans implemented during last years, Poland was raised the level of many ICT indicators.
For example, the percentage of households with internet access at home is presented in the figure 2. In 2010, the ratio of households equipped with a computer at home decreased by 5 percentage points than the EU average (74%) and the gap has not decreased in comparison to the previous year. In 2011, 20.3 million of Poles were using a computer, of which 17.5 million were regular computer users. [7, p. 28]

Beside a good national legal framework, Poland also has strategies at regional and local level in the information society sector. Based on the strategies for implementation of the national e-strategy Moldova creates national strategies for information society development at the level of voivodships (województwa) as well as for municipalities (gminy). An example for the regional level documents is the Information Society Development Strategy of the Silesian Voivodeship until 2015. The document emphasizes the importance and necessity of the e-services, e-education, e-health development. Also can be mentioned the Information Society Development Strategy for the West Pomeranian Voivodeship 2006-2015, the Regional Innovation Strategy of the Świętokrzyskie Voivodeship 2005-2013.

At the municipality level can be noted the Information society development Strategic of the Balanów Sandomierski from 2007-2013 and the Strategy for Informatisation and Information Society Development in the Municipality Gniezno 2007-2013. The aim of the Gniezno Strategy was to plan coordinated actions of the local government and its own and private partners, that would stimulate growth in the availability and universality of information society services for the residents and institutions from the Gniezno Municipal.

Poland became a good model of European integration, including information society field. In terms of public policies both at national and regional/local level, effective implementation of action plans and good results obtained at the European level, Poland can serve as a positive example for countries which follow the European way, as the Republic of Moldova is.

**Information society development in the Republic of Moldova**

Opting for a democratic path of development and socio-economic progress, Moldova recognizes that building the information society is a national priority. On this line, immediately after independence, there was developed and approved a number of policy documents the development of the sector, the main of them being:

a) Concept of computerization (1993);


c) National policy development for telecommunications (2001);


The basic document that boosted a decisive e-development was the National Strategy for Information Society Action Plan “Electronic Moldova” from 2005. Even if less than a half of 177 “Electronic Moldova” directives where fulfilled, this document had a major role in creating a favourable framework or information society technologies development and for preparing the ground for next stages. Strategy and the eSEE Agenda provisions implementation resulted in tangible outcomes.

During 2005-2011, various sources allocations for informatization increased dramatically and reached approximately 5.36 billion lei. Was created the necessary legislative and normative framework, which currently includes totally about 20 laws, 80 Government decisions, about 70 approved conceptual documents regarding the informational systems of public authorities, more than 20 general purpose regulatory acts and 75 with a specific purpose issued by the National Regulatory Agency for Electronic Communications and Information Technology (ANRCETI). Institutional framework was improved through the creation of the Ministry of Information Technology and Communications and of specialized institutions such as the Centre for Electronic Governance and National Centre for Personal Data Protection. [10, p. 5]

In 2011 was adopted the governance Technological Transformation Strategic Program "e-Transformation", supported by World Bank. General objective of the strategy is that by 2020, the government will become more transparent, and responsive, and perform better due to intelligent investments in IT and their massive use in the public sector. Specific objectives of the strategy are: a) Modernization of public services through digitization and business process reengineering and b) Optimization of government operations through interoperability, IT asset consolidation, and data reuse. [15, p. 3-4]

The Strategic Program "e-Transformation" aims to support the government in achieving development objectives of the European Integration Program: Freedom, Democracy, and Welfare (2011-2014), which highlights e-government as a priority area for Republic of Moldova. [15, p. 4] Responsible for implementation of this strategic program is Centre for Electronic Governance.

Moldova aspires to join the European Union, and has implemented the first three-year Action Plan (2005-2008) within the framework of the European Neighbourhood Policy. A big success was that in November 2013, at Vilnius, the Republic of Moldova initiated the Association Agreement with the European Union.

The Agreement contains provisions referring to "strengthening cooperation on the development of the Information Society". This cooperation includes facilitating development of electronic communications market and encouraging competition and investment in the sector as well as promote the development of public services online. A major emphasis is placed on developing of the national administrative capacity in the field of communications and information technologies, through exchange of information, best practices and experience, to encourage better use of spectrum resources and promoting interoperability of Moldova with the EU. Under the Agreement, the Republic of Moldova shall carry out approximation of its legislation to the EU acts and international instruments in the field of information society. [9]

In terms of public policies and legislation, Moldova already started to follow the European Union example and strategy of planning future major actions. Thus, based on the European Strategy “Europe 2020” (with 7 priorities – programs) Republic of Moldova adopted on 11.07.2012 the National Development Strategy "Moldova 2020" which includes also 7 priorities for a better and faster development of the country. Therefore, following the model of Europe's Digital Agenda, Moldova promotes the newest strategy in the information society field: “Digital Moldova 2020” (October, 2013).

The strategy is aimed to create conditions through minimum state intervention but with maximum effect for information society development, focusing efforts on three pillars:

1) Access and infrastructure - Connectivity and network access improvement

2) Digital content and electronic services - Promoting digital content and services generating

3) Capacities and utilization - Strengthening literacy and digital skills to enable innovation and usage stimulation. [10, p. 4]

In the main, Republic of Moldova achieved significant progress in the implementation of information society, ICT contribution share to GDP in recent years has reached the level of almost 8-10%, every second citizen is an Internet user, more than half of households have at least one computer, the majority of households have an access to Internet broadband, the country was placed among the top 20 after worldwide Internet access speed, it is implemented the biometric passport, the ID card with electronic signature, the e-statements system and digital map, country joined the “Open Government data” initiative and is running the “e-Transformation” Governance project, etc. However, in international classifications the country is not among the advanced economies in this field, and the level and speed of information society development doesn’t meet the current international environment requirements, with which the world is becoming even more “hyperconnected” and digitized. [10, p.4]

**Poland vs Moldova**

In general, Poland and Republic of Moldova are two countries which are difficult to be compared. This is explained by big differences which exist in terms of economic, political, historical, social etc. situation. However, if we refer to information society development process can be observed several similarities.
One important dimension which is common to these two countries is that both of them after independence started immediately to improve the legislation in the information society field. The difference is the year/time of becoming independent, in this sense and the period to implement the policies is different (Poland became independent in 1918 but Moldova in 1991). Nevertheless, both countries are developing continuously the legislation in the information society field by according it to European Union norms and provisions. Moldova followed the Poland’s example by implementing European recommendations in the European integration process. This means that the Europeanization of these two countries is realising in the ICT and information society field, too. This process was available for Poland with 10 years before joining European Union (in 2004) and for Moldova is still current. Also, must be mentioned that both governments promote technologies as an important sector in the country’s economy.

A big difference is the position of Moldova and Poland occupied in international rankings. As example, is provided the position of Poland in 2013 – 49 (out of 144) with a score of 4.19 (from 1-7) and Moldova – 77, score 3.64, for Networked Readiness Index. The difference in positions is almost double.

As is showed in the figure 3, Moldova has a better position at the affordability pillar (which assesses the cost of accessing ICTs, either via mobile telephony or fixed broadband Internet, as well as the level of competition in the Internet and telephony sectors that determine this cost) and worse at political and regulatory environment with approximate score 3 in comparison with Poland – 4.

In general, the profiles of these two countries look different which means that the situation is quite different. A big difference can be remarked at individual usage pillar which measures ICT penetration and diffusion at the individual level, using indicators such as the number of mobile phone subscriptions, individuals using the Internet, households with a personal computer, households with Internet access, both fixed and mobile broadband subscriptions, and the use of social networks. [14, p.7] Moldova has around 3 but Poland has a score of 5 from 7.

Referring to internet connection in Poland as well as in Moldova is remarked an increase of the proportion. In Moldova, in 2013, the proportion of households that have at least one computer was 64% (in 2012 was 58%) and the proportion of households with access to the Internet was 62% (2012 – 53%). [14, p. 5]

The proportion of households in the EU with access to the internet was 76 % in 2012, an increase of 6 percentage points compared with 2010. In Poland this proportion in 2012 was 61% comparing to 46% in 2008 and 54% in 2010. Nearly 60 % of individuals in the EU used the internet daily; the same percentage is registered in Poland in 2012. [2, p. 2-3] Therefore, Polish and Moldovan citizens are connected at internet and use it approximate at the same proportion which is permanently increasing.

As opposed to Poland, the Republic of Moldova has no strategy or development plans in information society sector at the local level (for districts – “raioane” or cities), being promoted just provisions at the national level. Also, Poland can be considered a good model of local autonomy because of the well consolidated legal system not only at national level but also at regional and local.

Figure 3. Poland and Moldova – country/ economy profile

Conclusions

Information society development became nowadays an important dimension of every country’s economy. This complex concept can be defined in various ways and from different perspectives. But the most important thing is that information society became a style of life for the whole world.

European Union is an important player in the information society and ICT field. Through its complex and continuously improving legal framework, European Union promotes largely information society and ICT sector as one of the most important pillars of the European economy. European member countries follow and implement the community recommendations and standards at the national level, including for an economic growth.

Poland, as a member of European Community has more or less a good position in the Union in terms of ICT sector results. With a good legal framework in Poland is constantly growing the importance of the ICT industry to the Polish economy. Today, Polish ICT companies can be considered good partners with well-prepared specialists. A strong emphasis is placed on ICT education process, business sector development, e-governance and electronic public services.

Poland can serve as a good model for Moldova in terms of information society development. During last years, Moldova also started to implement European the ICT sector. In both countries there is the political will place the information society as a national priority for a long term forward. Because of the Moldova’s wish to join European Union, it is implementing community’s norms and provisions at the national level. Also, citizens of the Republic of Moldova are connected to internet and use largely new technologies in their daily life and at work, in business etc. The number of ICT companies is permanently increasing in Moldova. All
these improvements conduct to the idea that Moldova is progressing with quick steps in the information society sector and aims to become a member of the European Union already with a good national situation, including ICT field.

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