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СОДРЖИНА
CONTENT

DEVELOPING CLOUD COMPUTING'S NOVEL COMPUTATIONAL METHODS FOR IMPROVING LONG-TERM WEATHER GLOBAL FORECAST
Zubov Dmytro 7

PERVASIVE ALERT SYSTEM FOR FALL DETECTION BASED ON MOBILE PHONES
Kire Serafimov, Natasa Koceska 17

ESTABLISHEMENT OF A HEALTHCARE INFORMATION SYSTEM
Alexandar Kostadinovski, Drasko Atanasoski 26

TIME COMPLEXITY IMPROVEMENT OF THE FIRST PROCESSING STAGE OF THE INTELLIGENT CLUSTERING
Done Stojanov, Cveta Martinovska 36

MOODLE AS A TEACHING TOOLS IN MATHEMATICS-CASE STUDY IN UNIVERSITY "GOCE DELCEV" STIP
Tatjana Atanasova-Pacemska, Sanja Pacemska, Biljana Zlatanovska 45

TOURISM RECOMMENDATION SYSTEMS: ANALYTICAL APPROACH
Biljana Petrevska, Marija Pupinoska-Gogova, Zoran Stamenov 57

CLOUD COMPUTING APPLICATION FOR WATER RESOURCES MODELING AND OPTIMIZATION
Blagoj Delipetrev 66

IMPROVING THE SECURITY OF CLOUD-BASED ERP SYSTEMS
Gjorgji Gicev, Ivana Atanasova, Jovan Pehcevski 77

USING OF THE MOORE-PENROSE INVERSE MATRIX IN IMAGE RESTORATION
Igor Stojanovic, Predrag Stanimirovic, Marko Miladinovic 88

THE INFLUENCE OF THE BUSINESS INTELLIGENCE ON THE BUSINESS PERFORMANCE MANAGEMENT
Ljupco Davcev, Ana Ljubotenska 99

LINQ TO OBJECTS SUPPORTED JOINING DATA
Mariana Goranova 109

GLOBALIZATION, INFORMATION TECHNOLOGY AND NEW DIGITAL ECONOMIC LANDSCAPE
Riste Temjanovski 120

WEB БАЗИРАН СОФТВЕР ЗА SCADA АПЛИКАЦИИ INTEGRAXOR
Марјан Стоилов, Василија Шарац 130

SECURITY IN COMPUTER NETWORKS FROM THE PERSPECTIVE OF ACCESS CONTROL
Saso Gelev, Jasminka Sukarovska-Kostadinovska 139

FREQUENCY DISTRIBUTION OF LETTERS, BIGRAMS AND TRIGRAMS IN THE MACEDONIAN LANGUAGE
Aleksandra Mileva, Stojanče Panov, Vesna Dimitrova 149

TOWARDS A GENERIC METADATA MODELING
Pavel Saratchev 161

ECONOMIC VALUE OF INFORMATION SYSTEMS IN PRODUCTION PROCESSES
Aleksandar Krstev, Zoran Zdravev 175

TUNING PID CONTROLLING PARAMETERS FOR DC MOTOR SPEED REGULATION
Done Stojanov 185

COMPARISON OF THE PERFORMANCE OF THE ARTIFICIAL BOUNDARIES P3 AND P4 OF STACEY
Zoran Zlatev, Vasko Kokalanov, Aleksandra Risteska 192

CORRESPONDENCE BETWEEN ONE-PARAMETER GROUP OF LINEAR TRANSFORMATIONS AND LINEAR DIFFERENTIAL EQUATIONS THAT DESCRIBE DYNAMICAL SYSTEMS
Marija Miteva, Limonka Lazarova 200

THE BLACK-SCHOLES MODEL AND VALUATION OF THE EUROPEAN CALL OPTION
Limonka Lazarova, Marija Miteva, Natasa Stojkovik 209

BITCOIN SCHEMES- INOVATION OR A THREAT TO FINANCIAL STABILITY?
Violeta Madzova 221

JAVA IDEs FOR EASILY LEARNING AND UNDERSTANDING OBJECT ORIENTED PROGRAMMING
Aleksandra Stojanova, Natasha Stojkovic, Dusan Bikov 232

STUDENTS' KNOWLEDGE TEST CONTROL – METHODS AND RESULTS' INTERPRETATION
Ludmila Stoyanova, Daniela Minkovska 241

WEB SERVICE FOR AMBIGUOUS TRANSLITERATION OF FULL SENTENCES FROM LATIN TO CYRILLIC ALPHABET
Stojance Spasov, Zoran Zdravev 252
ON THE APPLICATION OF KEEDWELL CROSS INVERSE QUASIGROUP TO CRYPTOGRAPHY
Jaíyéọlá Tèmítọpé Gbọláhàn 264

GLOBALIZATION, INFORMATION TECHNOLOGY AND NEW DIGITAL ECONOMIC LANDSCAPE

Riste Temjanovski[11]

Abstract: Globalization is not a new phenomena. Globalization is largely driven by new technology and has resulted in a widening gap and new digital economic landscape between developed and developing countries. Digital economy gap can be described as the gap between those who have access to the Internet and network systems and those without access, or possess the lack of access to Internet network, hardware and informatics knowledge. Today, we can identify a number of national factors that go beyond wealth in explaining differences among countries in the level of ecommerce transactions. These include investment resources, technology, information and network infrastructure, competitive knowledge, and rule of law. This global problem calls for global convergent collective action to involve all the actors to widen the benefit of Information technology and knowledge to all.

In the 21st century world intelligences must take the action to bridging gap between developed and developing countries. Bridging the digital gap and alleviating information “poverty” to provide a more equitable and sustainable future for all, require new integrated approaches that fully incorporate existing and new scientific knowledge.

Keywords: Globalization, Information technology, digital gap, economic landscape, Information knowledge

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Introduction

Information and communication technologies (ICT) are considered as one of the main initiator of global economic transformation. Although they are the creators of the new economic design for a more comfortable setting, at the same time they can lead to new divisions between countries and regions. Especially it concerns all those who are not able to make priority IT resources as a model for transforming and taking full advantage of the development potential offered by ICT. As a result, it may further exacerbate existing problems, particularly to expand social and economic adverse amplitudes and slow processes of regional cooperation as a result of the increasing inter and intraregional development gaps in building modern economies, based information and knowledge. If ICT are properly directed, then they are increasingly seen as an effective source for inclusion and cultural transformation.

Internet is one of the most complex things ever created. It elevates the whole social organization to a higher level. Internet technology impact on the creation of digital economy and registers etc. "Third wave" of capitalism that affects the complete transformation of the business world, creates positive growth worldwide and lead to extraordinary wealth creation. As technological innovation is considered as a major dynamic factor in economic growth, leaders of economic growth and development can be not only large corporations but also small and medium enterprises if they are able to create, develop new technological solutions and shape new products or services. According to modern theories of economic growth, technological innovation, especially in the developed countries will be an important factor of the increase of capital, because technological progress increases the quality, and thus significantly contributes to economic growth and power. IT enables the creation of new markets, and provides the conduit for the fluid movement of resources and demand. As a result, firms and individuals worldwide can participate in innovation, wealth creation and social interaction in ways which were impossible before. Major area of technological advances in recent microprocessors, lasers, fiber optics and satellite technology, and in the forthcoming period would be genetic engineering and microbiology.

Era of global digital technology, "new economy" and creating a digital gap between countries

Economic growth and technology are inextricably linked. Tectonic changes in the world economy, combined with the expansive growth in technology irreversibly transform the global market. Today, globalization, Internet hyper competition gives a new dimension to the market and operation. All three forces, reinforce the pressure to reduce prices. The reasons should be sought in the growing interest in electronic commerce.

Digital gap is a very complex phenomenon. It has been discussed in the economics, politics, sociology, information science and philosophy. The term digital gap is simply defined as the gap that exists between those who have and those who do not have access to the modern ICT such as the telephones, computers, internet and related services. [1]

The Digital gap (divide) can be described as the gap between those who have access to the Internet and those who don’t have access, and include lack of availability of hardware, communications and knowledge. [10]

The question is how to bridge this gap. Some have suggested that this bridge is the responsibility of governments, of some international institutions, academic backgrounds, and some think the individual opinion is important. If globalization is meant to bring benefits to all peoples and nations, the benefits of information technology must be shared between developed and developing countries.

If the emergence of the Internet in the 90s at last did a "simple vibration" in the working and living environment of the individual, the development of new generation wireless internet and other technological performance will cause real "tectonic shifts" in twenty-first century. They will shape the new economic landscape by creating a deep divide between countries that maximum follow information and technological waves and countries that are not able to follow these developments.

The new challenges of technological transformation

Information and communication technologies (ICT) are considered one of the main driving forces of global economic transformation. ICT has made major strides this past decade, improving significantly the process of doing business and outpacing all industries in its contribution to three key economic indicators: industrial output, employment and productivity. Historically, most companies in advanced economies modernized inside the framework of a domestic strategy, growing first within their own borders and then replicating their business elsewhere. Today's emerging economies, however, are doing at a time when technology has made it much easier to gain access to global capital, talent and other resources, allowing them to instantly plan for a global market.

This digital divide is created by global technological competition that feels both developed and emerging economies. The virtuos circle is not just restructuring the world economy; it is leading to a new phase of industrial transformation. According to a study in which participated the leading information technology companies (AT & T and Cisco), and investigated the matter and actuality shows six dramatic changes that will face companies in the next five years: [2]

- The global digital economy comes of age
- Industries undergo a digital transformation
- The digital divide reverses
- The emerging markets customer takes center stage
- Business shifts into hyperdrive
- Companies reorganize to embrace the digital economy

Indeed, to compete on the global stage, and reap the benefits of the digital marketplace, IT experts agree that industries will continue to see sweeping changes over the next five years, particularly in IT (72%); telecommunications (66%); entertainment, media and publishing (65%); retail (48%); banking (47%) and life sciences (38%).That is the nature of technology, for both good and bad—it destroys old ways of operating that aren't as powerful anymore."

It is estimates that in 2000, only 4% of the world's population had access to the Internet. Of these, more than half were in North America while less than 1% was in Africa. The advent of satellite technology and wireless application protocol offers new opportunities to facilitate Internet access in all over the

world (city and rural community, schools and libraries etc.). It is estimated that the number of Internet users worldwide should reach 2.2 billion people in 2013, and that number will grow to almost 2.8 billion (about 38% of the world population) by 2015. Not surprisingly, the biggest spike will be in Asia - 43%, of which only 17% from China. So even though the reflections of the global economic crisis, positive growth has seen the number of Internet users in developing countries. It is believed that in 2010 the number of Internet users has increased by 15.6% compared to 2009 and amounted to 1.19 billion, compared to 885 million in developed countries, the growth for the same period was 7.79%.

With Internet access, developing counties can join the global market place and contribute to and participate in the global knowledge communities and global markets. They can have access to education, health commercial and other services at rapid speed and affordable costs.

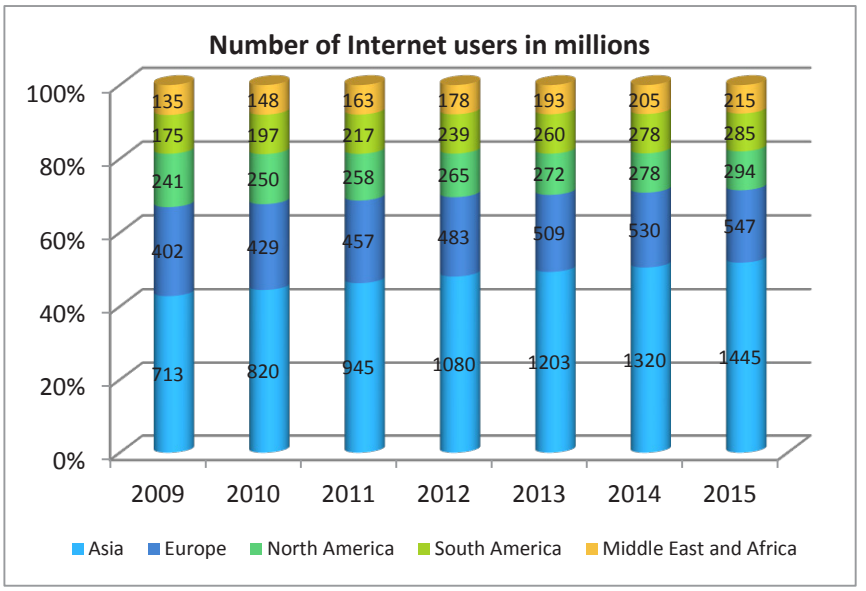

Figure 1 Number of Internet users in millions

The largest share, almost half of Internet users in the world will be in Asia. Internet access by country shows us two things: the Scandinavian countries (per capita registered users) most use Internet technology, followed by the countries of North America and Australia. But the situation is now rapidly changing. Australia is linked to the other world with new technology, as well

as world leaders, North America and Scandinavia. It develops a new beginning and the end "the tyranny of isolation" for Australians.[12]

Although ICTs are those who can transform the new world more pleasant environment, they can at the same time lead to new divisions between countries and regions. Especially it concerns all those who are not able to priorities IT resources as a model for transforming and taking full advantage of the development potential offered by ICT.

Table 1 Internet access and broadband internet connections in households (%)

Country	2005	2006	2007	2008	2009	2010	2011
EU - 27	48	49	55	60	66	70	73
Belgium	50	54	60	64	67	73	77
Bulgaria		17	19	25	30	33	45
Czech	19	29	35	46	54	61	67
Denmark	75	79	78	82	83	86	90
Germany	62	67	71	75	79	82	83
Estonia	39	46	53	58	63	68	71
Ireland	47	50	57	63	67	72	78
Greece	22	23	25	31	38	46	50
Spain	36	39	45	51	54	59	64
France	:	41	55	62	69	74	76
Italy	39	40	43	47	53	59	62
Cyprus	32	37	39	43	53	54	57
Latvia	31	42	51	53	58	60	64
Lithuania	16	35	44	51	60	61	62
Luxembourg	65	70	75	80	87	90	91
Hungary	22	32	38	48	55	60	65
Malta	41	53	54	59	64	70	75
Netherlands	78	80	83	86	90	91	94
Austria	47	52	60	69	70	73	75
Poland	30	36	41	48	59	63	67
Portugal	31	35	40	46	48	54	58
Romania		14	22	30	38	42	47
Slovenia	48	54	58	59	64	68	73
Slovakia	23	27	46	58	62	67	71
Finland	54	65	69	72	78	81	84
Sweden	73	77	79	84	86	88	91

[12] Can quote the message one student from Australia: "It's great for us here in Australia, especially for our small and sheltered Tasmania. This will enable us to overcome the tyranny of the first geographical distance." Exports of high-valued services will grow. Knowledge capital will be traded on international prices. No need to leave the country if you do not want, because everyone can participate in the creation of knowledge in international prices internationally.

Great Britain	60	63	67	71	77	80	83
Iceland	84	83	84	88	90	92	93
Norway	64	69	78	84	86	90	92
Switzerland		:	:	:	:	:	:
Croatia		:	41	45	50	56	:
Macedonia		14	:	29	42	46	:
Serbia		:	26	:	37	:	:
Turkish	8	:	20	25	30	42	:

Source: Seybert H. (2011): *Internet use in households and by individuals in 2011*. European Commission: Eurostat. 66/2011.

As a result, it may further exacerbate existing problems, particularly to expand social and economic adverse amplitudes and slow processes of regional cooperation as a result of the increasing inter and intraregional development gaps in building modern economies, based information and knowledge. ICT is increasingly seen as an effective source for inclusion and cultural transformation, if properly is directed.

It is estimated that about 120 million people in Europe have never used the internet. Europe appears geographically "digital divide", as countries such as Greece, Romania and Bulgaria, Cyprus and Portugal lag behind technological advanced countries in northern Europe. Proportion of information "uneducated" population in these countries is as follows: Romania has 53%, Bulgaria 55%, Greece 50%, Cyprus 43% and Portugal 42% population does not use Internet technology. It is estimated that in these five countries there are 25 million people who have never used the internet.

Countries with the highest proportion of Internet Falkland Islands (100%), Iceland (93%), followed by the Netherlands, Norway, Sweden, Luxembourg, Denmark (all above 90%) and Finland 84%. While the inhabitants of the Scandinavian countries have high speed (broadband) internet access, two-thirds of the Greek people do not have basic access (according to Eurostat). [3]

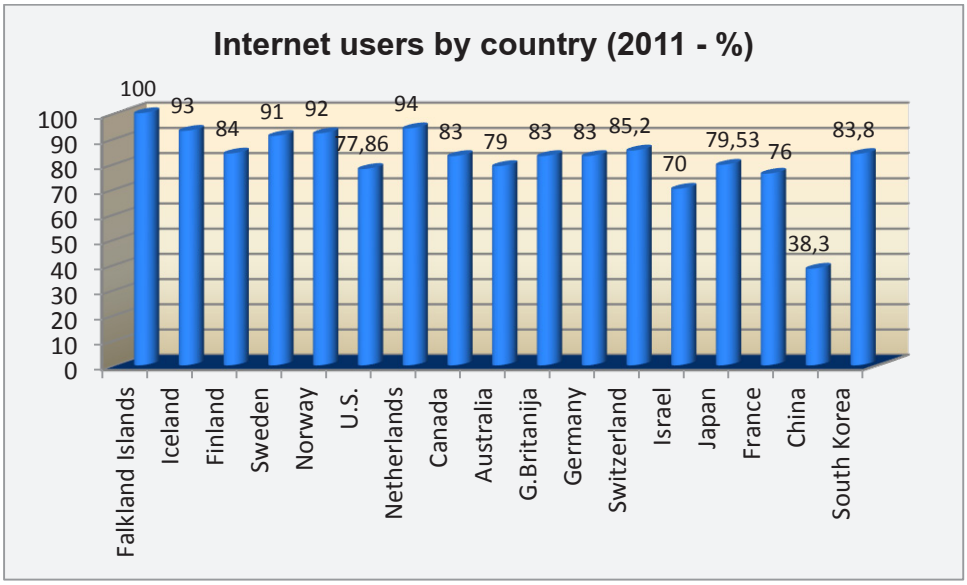

Figure 2 Internet users by country (2011 - %)

In the larger EU Member States the situation is following: In the UK 17% of the population has never used the Internet, while in Italy, Poland and Spain between 30-40% of the population stated that they do not have access to this technology (this percentage is equivalent of 49 million people used the internet). Germany in the last two years reduced the rate from 18% to 17%, France 24% Internet "illiterate" population total in these six countries accounted for 80 million.

Macedonia, unfortunately also belongs to the group of weak connected Internet technologies. According to these data is considered that 54% of Macedonia's population does not have access or do not use the internet.

In 2007, on average 97% of medium and large enterprises in the OECD use the Internet [4]. In Iceland, Finland, Switzerland, Denmark, Japan and Austria, almost 98% of companies (with more than 10 employees) use the Internet.

In last decade the share of Internet using in households are increasing. Among the countries in the OECD group average registered 58% of households with an internet connection. Evidently, young population is a driver for growth of using the IT. But in the last decade the share of the adult population in the use of Internet technology are increasing. Statistics show that in 2007 25% of the population in OECD grouping ordering goods and

services online, while in Japan, 50% of the adult population uses these services. OECD countries are represented in this service by 30%, while the Nordic countries accounted for 50% in the use of electronic banking services. According J.P. Morgan e-commerce is expected in B2K to grow from $ 572 billion in 2010 to over $ 1,000 billion in 2014 (excluding travel and B2B trade). Given the magnitude of these numbers, it is clear that the digital economy is coming of age. [2]

Conclusion

Globalization and technological progress are making the old multinational structure obsolete. A multinational firm that simply links together a collection

of national businesses under a global umbrella has become anachronistic. Large international corporations are creating globally integrated organizations that can locate functions anywhere in the world to take advantage of low costs, availability of skills or access to natural resources. Advances in business analytics and information technology also make it possible to monitor performance and market developments more closely than in the past. Information and communication technologies (ICT) are considered one of the main driving forces of global economic transformation. They will shape the new economic landscape, but will also lead to the creation of a deepening divide between countries that maximum follow information and technological waves and countries that are not able to follow these developments. This digital divide is created by global technological momentum that feels both developed and emerging economies, and will reflect unfavorably to countries that do not follow "vibrating" market and the application of new information technology.

How this digital era shaped by technology and innovation, will be the flagship of the new economic developments and as nations, companies and individuals will fit into the "e-environment" depends on the dissemination of knowledge and lifelong learning.

Lastly, we should be aware that new challenges will face all entities: individuals, companies, leaders of large corporation’s states. All you need is to accept new changes and to lead the world towards a prosperous and bright future by reducing the existing political, economic and digital divisions and

subdivisions. This means that the efforts of public and private sectors could be effectively combined resulting in more synergetic initiatives, with the international bodies and institutions such active drivers in the global economy.

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WEB БАЗИРАН СОФТВЕР ЗА SCADA АПЛИКАЦИИ INTEGRAXOR

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Апстракт. Во овој труд ќе биде претставен развој на пилот проект на SCADA софтвер базиран на web апликација преку пример на автоматизирано прозводство на слатки во една слаткарница. Самиот процес на производство се следи и контролира далечински со помош на софтверот InegraXor од било која точка во светот со користење на Interent конекција или од мобилен телефон при што предуслов е да се има Android оперативен систем. На тој начин може да се управува со самата рецептура на производството но и да се следи процесот на пакување на финалниот производ. Во овој труд апликацијата е развиена со поврзување кон одредени виртуелни портови но со редефинирање на портот може истата да биде поврзана и со реален процес преку програмибилни логички контролери (PLC) и сензори. Со развојот на микороконтролерите, сензорите и актуаторите овие апликации стануваа се поприсутни и излегуваат надвор од рамката на индустриската применливост.

Клучни зборови: системи за далечинско и дистрибуирано управување, автоматизација на производство, SCADA софтвер, web апликации