DIGITAL ECONOMY: A NEW PARADIGM OF GLOBAL INFORMATION SOCIETY

SERHIY TSYGANOV[1] – VIKTORIYA APALKOVA[2]

Digitálna ekonomika: nová paradigma globálnej informačnej spoločnosti

Abstract: *The fast global implementation of information and communication technologies has dramatically affected the notions about effectiveness and efficiency of economic models. The information on digital economy is often referred to in the economic literature and official strategic documents as a most desirable way of further national and even global development. A number of authors have published works dealing with the digital (information) economy in terms of various aspects of this term over the preceding decade. In this article, we introduced the classification of concepts regarding the notion of digital economy and divided them into the four main groups of approach: macroeconomic, structural, management and technological approaches. As a result, we clarified the concept of information (digital) economy by defining it as a paradigm of the global information society based on using technological platforms on the Internet, mobile or other electronic devices and generating a set of financial and economic relations in the system of production, distribution, exchange and consumption of goods and services in global markets. We analyzed the world e-commerce market because its economic activity has showed high growth rates in recent years owing to the application of innovative tools of information economy. The analysis shows that the rapid development of e-commerce in Europe has laid a basis for the strong growth in other sectors of the economy, including markets of express delivery and e-payment services. It was also proven that advanced financial infrastructure of the country contributes to the development of the information society and digital economy.*

Keywords: *digital economy, ICT infrastructure, macroeconomic approach, information economy, e-commerce, payment instrument, currier, express,*

[1] Sergiy A. Tsyganov – Doctor of Science, Professor, Institute of International Relations of Taras Shevchenko, National University of Kyiv, Ukraine, e-mail: S_Tsyganov@ukr.net

[2] Viktoria Apalkova - Senior Partner / Financial and Marketing Adviser, CONSULTING COMPANY BUSINESS-FORMAT, Melnikova Str. 12, 04050, Kyiv, Ukraine, e-mail: viktoria.apal@gmail.com

parcel (CEP) market, credit, and debit cards, eWallets

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Digital technologies have already transformed labour, education, management and entertainment by creating new market opportunities predetermined significant economic impact in a wide range of sectors. The emergence of new information infrastructure, including wireless networks, mobile devices and technical solutions facilitates to a drastic integration of information technologies in all spheres of socio-political and economic life forming a new paradigm of international economy– digital one. The creation of the digital economy is a critical target over the next decade in most developed countries, such as the USA, Canada, Japan, Germany, etc.

The term of *digital economy* often features in periodicals, different sites and even in national development programmes of individual countries. At the same time, it is quite new and has ambiguous definition yet. According to one version, the concept of electronic (digital) economy appeared in the last decade of the 20th century. In 1995, Nicholas Negroponte used the metaphor of transition from atomic processing to processing bits [14], asserting that a bit is the smallest atomic element of the DNA of information. He also debated the past shortcomings (weight, raw material, and transportation) and future benefits (weightless goods, virtuality and instant global transportation). The modern digital economy is a product of the development of information society during last thirty – thirty-five years.

However, Bill Imlah [12] believes that the "idea of the digital economy is a departure from concepts that have been prominent in the literature since the 1960s, primarily around Daniel Bell's concept of an 'information economy', (1974) tied to the codification of information. Later (1996) Manuel Castells expanded Bell's work to frame his notion of a 'network society' or 'network economy' tied to the centrality of networking information and people". He also notes that aspects of the "networking" and "informatisation" are better researched in social sciences than in economic discourses.

Since that time, many conceptual approaches towards the determination of the notion "digital economy" have emerged (Table 1), most of them do not distinguish between *digital economy*, *information economy*, *Internet economy*, *online economy,* etc., frequently using them as synonyms.

Table 1

The systemization of conceptual approaches towards the notion of *digital economy*

Source	Conceptual approach	Key components
Competition Committee of Organisation for Economic Cooperation and Development [3]	The digital economy is comprised of markets based on digital technologies that facilitate the trade of goods and services through e-commerce. The expansion of the digital sector has been a key driver of economic growth in recent years. The shift towards a digital world had effects on society that extend far beyond the digital technology context alone.	E-commerce and digital technology are in the focus, but their influence on society far beyond the digital space.
Australian Government [1]	The digital economy is – a global network of economic and social activity, which is possible thanks to information and communication technologies such as the Internet, mobile communication or sensor networks. This concept includes communications, financial transactions, education, entertainment and business using computers, phones and other devices. Australia has committed to be the leading digital economy, despite the fierce competition from the side of other countries.	A global network of social and economic activity, based on information technology. A key aim of development for many countries.
Thomas L. Mesenbourg **"Measuring the digital economy" [11]**	Three main components of the *Digital Economy* concept can be identified: • supporting infrastructure (hardware, software, telecoms, networks, etc.), • e-business (how business is conducted, any process that an organization conducts over computer-mediated networks), • e-commerce (transfer of goods, for example when a book is sold online).	It consists of e-commerce and e-business supported by the ICT infrastructure.
Mohamed E. Gumaha and Zulikha Jamaluddin [13]	Generally, we can define the digital economy as uses the information technology for a lot of its main processes, such as planning, management, and marketing.	A narrow approach primarily focused on information technology in management and marketing.
Strategy Dynamics Global SA www.globaltrends.com [20]	In our work we have chosen to define the "digital economy" as social and economic activities that demonstrate the following characteristics: are enabled by internet/mobile technology platforms and ubiquitous sensors; offer an information-rich environment; are built on global, instant/real-time information flows; provide access 24/7, anywhere, i.e. are always-on and mobile; support multiple, virtual, connected networks.	Socio-economic activities using specific ICTs continuously in real time.

Source	Conceptual approach	Key components
European Commission [4]	The digital economy is developing rapidly worldwide. It is the single most important driver of innovation, competitiveness and growth in the world. How well and how quickly European businesses adopt digital technologies will be key for their growth.	A key driver of innovation and competitiveness of the country and its business development.
uri Bazhal [2]	Information economy – is knowledge for development. This kind of economy requires significant financial resources. Today, the assessment of effectiveness of economic policy should include the important criteria reflecting global structural changes.	Information economy – is knowledge for development.
Shargorodska, V. A. Polishchuk, Y. A. [19]	The information economy supposes the IT application in production, trade and service as well as development of the Internet, which is the basis for creation of a network between companies and intelligence networking. Information and web-based technologies determine technological way of production creating technical and economic relations as well as industrial forces.	Informatisation of production, trade and services.
Nikolaev, E. B. [15]	The subject of information economy theory includes: on one side, the replication of information and information resources in the economy, on the other side, impact of information on reproduction of other elements in the economic system, and on third side, the socio-economic relations which arise in these circumstances. The subject of the information economy are all aspects of participation in economic processes information or influence on the course of these processes. In other words, the subject of information economy encompasses all aspects of participation of information in economic processes and its impact on these processes.	Participation of information in economic processes and its impact on their performance

Source: compiled by the author.

By systemising different interpretations of the notion *digital economy*, we can divide them into the following main groups.

1. The *Macroeconomic approach* rewards digital technologies and

e-commerce, but focuses on the impact on society in general (OECD). For instance, the OECD underlines in its documents that the digital economy induces a very significant increase in a country and all over the world, besides, its influence extends far beyond the market of information products and services, encompassing other sectors of international economy as well as the style and way of living in general.

2. The *Management approach* supposes that the strategic direction for any country development is creation of digital economy on all levels of governmental and private business management (the Australian Government, the European Commission, Mohamd I. Humaha and Zulikha Dzhamaluddin).

In this regard, it is worth to pay attention to the position of the European Commission, who induces to use the opportunities offered by the digital revolution through encouraging innovations in existing enterprises and supporting digital businesses in Europe. The potential of digital technologies to enable competitiveness, entrepreneurship and innovation was highlighted in the Entrepreneurship 2020 Action Plan [20].

3. The *Structural approach* provides vision that the digital (information) economy requires restructuring of the national economy in accordance with the needs of a new technological paradigm (Y. Bazhal).

In our view, Y. Bazhal's arguments [19] are convincing, they argue that new technologies radically and quickly changed the structure of the global economy challenging new global geopolitical problems.

A new information stage of scientific and technical revolution deploys amid a dramatically increasing gap between rich and poor countries, because one of the main problems of the information economy is a high cost of its implementation. Indeed, this kind of economy requires significant financial resources. A vicious circle is forming since the country development depends on the effective implementation of scientific and technological innovations, for the creation and distribution of which funding is required, the volume of which is directly depends on the level of scientific and technological development. That is why today an indisputable advantage belongs to rich countries following the development strategy of information or the knowledge economy (digital economy).

Industries related to information technology today are the "locomotive" of economic growth in developed countries. This turn of events is consistent with

predictions and recommendations of neo-Schumpeterian theory of economic growth. Movements towards this direction of economic thought have created a theoretical basis for new view of the economic development for countries and formed new economic policy requirements. D. North institutional theory of structural transformations binds the structural changes in the economic development with the gradual restructuring of the institutional framework in national economy [17].

This approach is associated with the vision of national economy structure as a product affected by waves of different technological paradigms; for today – it is information paradigm. The concept of A. Toffler asserting that in next decade knowledge will play the key part because of the inexhaustible equity correlates with the concept of the information society formed in the writings of John Naisbitt, who predicts strengthening international economic relations, rising free trade, growing role of telecommunications in economic decision-making, development of nano-economy, etc. [10].

Such vision is still opposed to the traditional consideration of sectorial structural dynamics in the context of fixing different sections: production, creation of value added, investment activities – capital investments, goods of final consumption, exports and services, and so on. This approach reveals the relationship of different parts of economic system and captures certain patterns suitable for international comparisons, etc., but it is limited for tasks of strategic planning in economic policy because does not give a clear vision of the impact of structural processes on the future economy state. Therefore, the modern analyzing tools are focusing on technical and economic paradigms or patterns in structural dynamics of production.

4. *Technological approach* supposes thatthe main feature of digital economy is application of information and communication technologies (Thomas L. Mesenbourg, Strategy Dynamics Global SA, Shargorodska V. A., Polishchuk Y. A., Nikolaev E. B.)

It is important to mention that wide expansion of digital technologies and Internet access clears the difference between information (digital) economy and traditional economy creating the difficulties in delimitation of respective notions. To solve such problem some authors using the term of “digital economy” divide businesses in those who apply information technologies to some extent and those who completely operate in online space.

Such scientists as G. Mensh, L. Sute, D. Schmukler, D. Klark, A.

Kleinkneht consider a technological paradigm as a background for long-term cyclical development of the economy. Scientific works of G. Grillihes, D. Bell, I. Nikolov and others laid a foundation for the origin of information economy as a part of information science [24].

According to research of R. M. Nyzhehorodtseva an information economy went through seven typical stages on the way of its development (Table 2)

Table 2

The key stages of formation of information and communication economy

Stage	Period	Key attributes
1	50s – mid 60s.	Initial setting of important issues and attempts to understand possible solutions
2	mid 60s– beg. 70s	Accumulation and systematization of data related to the economy of information production. Works of this period are quite different. The first attempts to identify the quantitative parameters measuring the information production.
3	beg. – mid 70s	The key issues of the information economy outlined, in particular: the ratio of commodity and non-commodity nature of the scientific and technical information, an objective price of information products, specific social forms of scientific work. Modern formulation and solution of these issues we can see in the later works
4	end 70s – mid 80s	It was strengthened approach to the production of scientific and technical information as a separate branch of the economy, so works devoted to the study of the economic efficiency of the production of information occupied a special place.
5	mid 80s – beg. 90s	Researchers focused primarily on applied research questions: pricing of scientific and technical information, its practical application in production and the related innovation activities of enterprises, state regulation of the production of information. In addition, technology management issues revived their interest.

6	beg. 90s – end 90s	Conceptualization of gained knowledge, extension of familiar issues and thoughtful analysis of possible options to resolve them; laying of the methodological foundation for a theory of information economy.
7	end of 90s	Information economy is developing in a science separating from other economic sciences and defining its own subject, key methods and comprehensive understanding of the issues.

Source: [15].

The current stage of information economy development, obviously, can be explained by the theory of informational economics introduced by M. Castells in 1996. He describes the «new economy», which he claims is based on «a new mode of development, informationalism, of which networking is a critical attribute'.The uneven development of new technology leads to 'social polarization and social exclusion'. This concept describes an increase in equality across nations due to globalization and an uneven distribution of technology, and thus networking opportunities and lower competitiveness. Of course, knowledge and information are critical elements in all modes of development, because the production process is always based on some level of knowledge and information processing. However, a specific method for *informational economy* is the impact of knowledge on knowledge itself as the main source of productivity.

In economically developed countries, the theory of post-industrial society was formed based on theoretical heritage of previous periods. In post-industrial terms, information, knowledge and science become more important performing role of the main drivers of development.

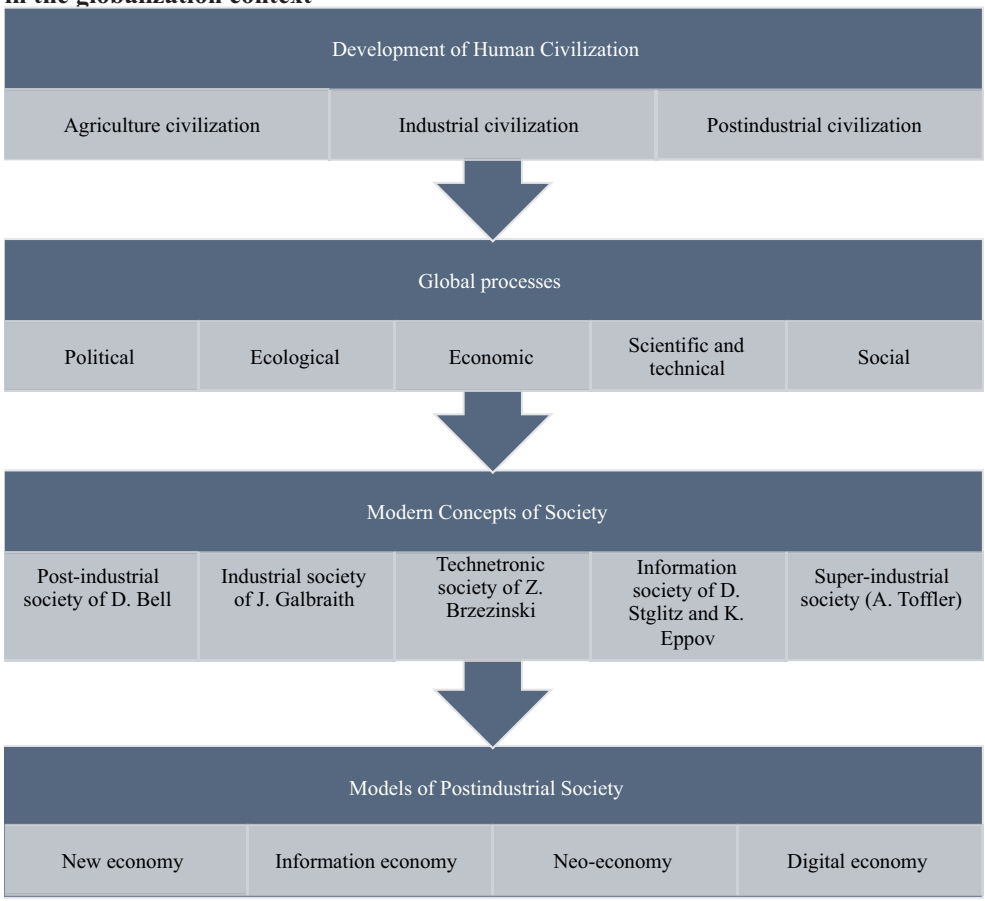
The number of workers employed in manufacturing is decreasing, while in services, in the contrary, – increasing. Meantime, intellectual capital is particularly important. By definition researchers, a new paradigm of post-industrial development has signs of a high-tech economy changing philosophy, principles, mechanisms for obtaining global competitive advantage, as well as imperatives of development of national economies. The information economy is the result of innovative development of the world economy and one of the paradigms of modern society civilization development (Fig. 1).

After we have analyzed all scientific works, we can clarify the concept of

information (digital) economy. *Information (digital) economy as a paradigm of the global information society is a model of post-industrial development of the world economy based on using technological platforms on Internet, mobile or other electronic devices and generating a set of financial and economic relations in the system of production, distribution, exchange and consumption of goods and services in global markets.*

Figure 1

Genesis of scientific ideas and imperatives of the information economy in the globalization context



Source: compiled by the author based on [16, 23].

Internet commerce refers to the sphere of economic activity formed due to the use of innovative tools of information economy and shown high growth rates in recent years. Indeed, statistical analysis confirms that the amount of money circulation in electronic industry is growing in all regions of the world especially in Asia–Pacific, North America and Europe (Table 3).

Table 3

E-commerce turnover by region, € billion

Region	2009	2010	2011	2012	2013
Europe	167	209	250	298	350
Asia Pacific	84	122	193	259	338
North America	185	215	249	284	318
Rest of the World (ROW)	15	20	33	45	56

Source: EMOTA, 2014/15 [5].

The analysis of European market shows that countries where e-commerce is already highly developed (Western Europe) slow down their annual growth demonstrating certain level of mass saturation (Table 4). In contrast, Eastern Europe and Russia display a relatively high growth rate of online commerce in monetary terms, but in global rankings, their performance is still rather insignificant. The three European countries – Great Britain, France and Germany possess the lion's share of online trade flows (60%). Thus, we can conclude that the European e-commerce market is trialing the structural changes resulting from wide spread of innovative tools of the digital economy as well as the effect of "catching-up" when the weaker countries catch up to the more robust countries."

Table 4

E-commerce turnover by EU country

Country	E-commerce turnover, € billion	The growth of e-commerce in 2013 (in% to previous year)
Benelux	16	10
Scandinavia	33	13
Austria and Switzerland	20	13
Italy	13	14
France	52	14
Spain	12	15
UK	111	16
Germany	46	23
Eastern Europe	18	24
Russia	13	30

Source: EMOTA, 2014/15 [17].

The rapid development of e-commerce in Europe has laid a basis for strong growth in other sectors of the economy, including markets of express

delivery and e-payment services. Thus, the volume of goods delivery services have increased by 7% for the period from 2011 to 2013 and cross-border segment has displayed particularly growth (Table 5). Indeed, the international segment comprises just 10% of European courier, express and parcel (CEP) business, but, as in recent years, it grew faster than domestic business, at 8% versus domestic's 5%. Besides, the emerging markets of Russia and Turkey continue to express fastest relative growth, albeit from a lower level. Among the mature markets, Germany, the UK and France were the top performers.

Table 5

The European courier, express and parcel (CEP) market by volume

Index	Units	2011	2012	2013
Revenues	€ bln.	40,4	41,5	43,1
Internal	€ bln.	28,3	29,0	30,1
International	€ bln.	12,1	12,4	12,9
Shipments		4,908	5,15	5,433
Internal	bln.	4,5	4,7	4,9
International	bln.	0,45	0,48	0,52
Revenues				
Internal	%	69%	70%	70%
International	%	31%	31%	31%
Shipments				
Internal	%	90.79%	90.68%	90.47%
International	%	9.19%	9.32%	9.53%

Source: [7].

Meantime, CEP market commits to the intensification of integration and globalization processes in the field e-commerce. It should be noted, that international segment shows high level of concentration, being almost divided between four players: the German international company DHL, Dutch TNT, American UPS and FedEx [6].

On the European market of payment services the transactions not involving cash have grown in recent years dramatically because of rapid development of e-commerce and this trend and will continue as predicted. By 2020, the number of cashless payments are expected to increase to 177 billion. More payers are using electronic devices for transactions saving money and time. Among main drivers for intensive spread of e-payments are rapidly developing infrastructure (new card terminals, cashless tickets, smartphones with near-field communication (NFC) technologies, etc.) and in some EU countries - government led-initiatives.

The similar trends can describe a global payment market: world non-cash transactions volumes reached 357, 9 billion in 2013 [25].The growth rate in mature markets (North America, Europe, Mature Asia-Pacific (APAC) accelerated in 2013, supported by uptick in growth across all payment instruments except checks.

On the global market of e-commerce payment cards prevail in the structure of paying means [21]. Indeed, according to report of the Bank of New York Mellon Corporation (commonly referred to as BNY Mellon), in 2014 only Debit and Credit cards hold a lion's share of 50% in e-commerce market, and there are also Pre-paid Cards and Charge Cards (table 6).

However, BNY Mellon forecasts their decreasing level of participation in 5 years. Meantime, the role of eWallets will grow.

Table 6

E-commerce market in terms of means of payment

Means of Payment	Total turnover value in US$, bln		Percentage of total eCommerce market		
	2014	2019f	2014	2019f	
Credit Cards	577	603	29.90%	24.90%	-5.00%
Debit Cards	387	416	20.10%	17.20%	-2.90%
Direct Debits	5	12	0.30%	0.60%	0.30%
Charge Cards	59	57	3.10%	2.30%	-0.80%
Pre-Paid Cards	45	43	2.40%	1.80%	-0.60%
eWallets	417	668	21.70%	27.60%	5.90%
Real-Time Bank Transfers + Offline Bank Transfers	212	283	11.10%	11.70%	0.60%
Cash on Delivery	124	165	6.50%	6.80%	0.30%
PostPay	18	25	0.90%	1.00%	0.10%
PrePay	55	122	2.90%	5.00%	2.10%
Others, e.g.: Bitcoin,Zong, BOKU	20	19	1.00%	0.80%	-0.20%
eInvoices	3	8	0.10%	0.30%	0.20%
Total	1922	2421	1	1	

Source: [9].

Thus, a payment market shows a high degree of competition, where the technological level of payment means plays the important role, so we can conclude that there is a competition between payment technologies. Non-bank players like PayPal, Google Wallet, Bitcoin, Facebook, M-Pesa, etc. entered the international market of payment services and expected to get their own part of the pie. Banks although have managed to adapt their products (cards, transfers) to the Internet and even hold leadership positions, but they constantly needed to look backwards on non-bankmarket benefiting from flexible forms and lower level of regulation.

As was said, card payments account the biggest share in e-commerce market but this segment is very concentrated and monopolized by large players. For instance, American Express, Diners Club/Discover, JCB, MasterCard, UnionPay, and Visa brand cards generated 195,56 billion transactions at merchants in 2014, an increase of 24.28 billion or 14.2% over 2013, according to the annual report Global Cards 2014 [22], the top trade newsletter cover the card and mobile payment industries. Purchase volume for goods and services grew by $2.832 trillion or 18.3% in 2014.

It should be noted that cross-border e-commerce is gaining popularity particularly in emerging markets, where it hard to find affordable imported products for consumers in local shops. Rapid development of foreign online trade trend to be on the charts in the future. However, for international cross-border ecommerce expansion the online merchants have to overcome a number of challenges including a) differences in language; b) different legal and mentality environment; c) logistic and charge-back issues; d) payment currency preferences; etc.

Innovations and the ICTs diversify significantly the interaction tools of the global financial system. In particular, this applies to the settlement and payment transactions. The system of international payments involved quite a big number of entities different by functions and interests: payers and recipients of funds (cash and non-cash), correspondent banks and other intermediaries, technical providers, etc. The Payer's and Receiver's banks communicate using complex automated means. Undoubtedly, today large-scale implementation of digital economy tools and computerization of global monetary relations improve the efficiency of international monetary transactions.

Thus, the high rate of technological progress and rapid development of international economic relations stipulated by global society informatisation

encourage creation, development and implementation of innovative products in the field of settlement and payment transactions. This increases the total volume of both domestic and cross-border financial flows circulating in economy.

According to scientists, the current state of the global financial market has specific features.

First, the globalization of world market stipulates its growth by increasing a trade turnover and number of participants and instruments [8].

Second, deregulation, integration and convergence in international financial markets diminish state influence on emerged financial conglomerates, multinational banks and corporations and stipulate developed countries to use them as an effective mechanism of redistribution global wealth.

Thirdly, the informatisation of all public lifespheres brings in world economic relations the fundamentally new tools allowing the financial entities to manage the currency exchange risk. On the other hand, the financial globalization creates international monetary, credit and financial instability requiring the specific balancing mechanisms.

Introduction of innovative technologies of the information economy, on the one hand, should provide smooth, immediate and secure movement of financial flows between agents of the global economy, and on the other hand, must be economically justified and meet the real potential of the global system of international finance.

Fourthly, in recent years the development of science and technology as well as global information society is leading to significant changes in payment systems, logistics, technological improvements and application of new payment instruments. Expansion of electronic commerce increases demand for new means of payment providing the time and cost reduction, as well as increasing the security of transactions.

Fifths, computerisation and informatisation of financial markets assume extensive use of advanced global databases and integrated systems management operations by members of the international payment systems.

A financial globalization is characteristic of the modern global economy, which, according to scientific opinion, is affected by a number of regulatory, technological, political and psychological factors. Technological factors are

considered as the development of the information society contributing to the market of electronic financial services.

Conclusion

Thus, summarizing the theoretical scientific studies of the information economy as the paradigm of the global information society we can come to the following conclusions.

First, the problem of information (digital) economy in the context of globalization is an objective reality and relevant to all countries, since it requires a reasonable interaction between business and government in the selection of development strategies of national economies.

Second, the development of the information society and large-scale penetration of innovative technologies in international economic relations in the context of financial globalisation lead to changes in the global financial infrastructure and blurring traditional segments of financial market through the creation of integrated financial services.

Third, there are significant changes in payment systems on global level (technical provisions, technology improvements and application of new payment instruments) stipulating the countries to form institutional infrastructure for innovative instruments on the national (macro) level. Thus, the structural changes in the provision of payment services can be considered as the global indicators of the information economy.

An urgency and lack of theoretical works related to scientific and methodological payment services research in the context of world global information economy determine the necessity of further studies.

Bibliography

[1] AUSTRALIAN GOVERNMENT: *Digital Economy Future Directions: Consultation Paper* // Submission to Department of Broadband, Communications and the Digital Economy, February, 2009. – Available at: http://www.oaic.gov.au/images/documents/migrated/migrated/sub_broadband_digital_economy.pdf.

[2] BAZHAL, Y.: *Information economy.* Available at: http://www.ekmair.ukma.edu.ua/

bitstream/123456789/2430/1/Bazhal_Informatsiyna_ekonomika.pdf.

[3] COMPETITION COMMITTEE OF ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT: *The Digital Economy, 2012* // Competition Law & Policy, 07-Feb-2013. Available at: http://www.oecd.org/daf/competition/The-Digital-Economy-2012.pdf.

[4] EUROPEAN COMMISSION: *The importance of the digital economy* // Official website. Available at: http://ec.europa.eu/growth/sectors/digital-economy/importance/index_en.htm.

[5] EUROPEAN MULTI-CHANNEL AND ONLINE TRADE ASSOCIATION (EMOTA):*e-Commerce and distance selling in Europe report.* 2014/15. Available at: http://media.wix.com/ugd/b18286_b7c9aa075e25479c94f933ed3f67e1fe.pdf.

[6] EUROPE'S CEP MARKET: GROWTH ON NEW TERMS // Report of A. T. Kearney, Inc. 2012.

[7] EUROPE'S CEP MARKET: STEADY GROWTH BEGINS TO SHIFT // Report of A. T. Kearney, Inc. 2015.

[8] FLASH EUROBAROMETER: *Retailers' attitudes towards cross-border trade and consumer protection* //Fieldwork: September – October 2012. Publication: June 2013.

[9] GLOBAL PAYMENTS 2020: TRANSFORMATION AND CONVERGENCE // The Bank of New York Mellon Corporation. 09/2014. p. 48.

[10] HODGSON, G. M.: *Economics and Institutions: A Manifesto for a Modern Institutional Economics*. Polity Press, Cambridge, and University of Pennsylvania Press, Philadelphia (1988). ISBN 0-7456-0277-0

[11] MESENBOURG, T. L.: *Measuring the Digital Economy* (2001) // U.S. Bureau of the Census. - Available at: https://www.census.gov/econ/estats/papers/umdigital.pdf.

[12] IMLAH, B.: *The Concept of a «Digital Economy»*. September 2, 2013 Available at: http://odec.org.uk/the-concept-of-a-digital-economy/

[13] MOHAMED E. GUMAHA – ZULIKHA JAMALUDDIN: *What is the Digital Economy, and How to Measure it*. Available at: http://www.kmice.cms.net.my/ProcKMICe/KMICe2006/Pdf/378.pdf.

[14] NEGROPONTE, N.: *Being Digital*. 1st Edition. 1995. ISBN-13: 978-0679762904.

[15] NIKOLAEV, E. B.: *On the subject of the theory of information economy*. Library of the State-owned higher education institution "Vadym Hetman Kyiv National Economics University". Available at: http://ir.kneu.edu.ua:8080/bitstream/2010/192/1/10NEB110318.pdf.

[16] NIZHEGORODTSEV, R. M.: *Information Economy. Book 1. Information universe:*

Information bases of economic growth. Kostroma, 2002.

[17] NORTH, D.: *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press (1990).

[18] PETRUNYA, Y.Y.: *Management In The Conditions Of Economic Globalization: Monograph*. Dnipropetrovsk: UAC, 2010.

[19] SHARGORODSKA, V. A. – POLISHCHUK, Y.: *The role of media in the modern economy* // Section 4. Information security. Modern Information Technologies. Available at: http://www.rusnauka.com/11_EISN_2011/Informatica/4_84863.doc.htm.

[20] THE ENTREPRENEURSHIP 2020 ACTION PLAN. Available at: http://ec.europa.eu/enterprise/policies/sme/entrepreneurship-2020/index_en.htm

[21] Strategy Dynamics Global SA, www.globaltrends.com

[22] THE NILSON REPORT. *Global Cards 2014*. Available at: http://www.nilsonreport.com

[23] THE RISE OF THE NETWORK SOCIETY, THE INFORMATION AGE: ECONOMY, SOCIETY AND CULTURE, Vol. I., Cambridge, MA; Oxford, UK: Blackwell (1996).

[24] THE TRANSFORMATION OF INTERNATIONAL ECONOMIC RELATIONS IN THE ERA OF GLOBALIZATION: THE COLLECTIVE MONOGRAPH /Edited by Golikova, A. P., Dovhal, O. A., Kharkiv. 2015.

[25] WORLD PAYMENT REPORT 2015. Available at: https://www.fr.capgemini-consulting.com/resource-file-ccess/resource/pdf/world_payments_report_2015_vfinal.pdf.