СЛОВО ГЛАВНОГО РЕДАКТОРА
CHIEF EDITOR'S OPENING REMARKS

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On December 9 and 10, 2019, the State University of Management held the III International Scientific Forum "Step into the Future: Artificial Intelligence and Digital Economy" in Moscow. The representatives of 42 universities from 35 regions of the Russian Federation and scientists from 16 countries: Great Britain, Germany, India, Spain, Italy, Kazakhstan, China, Nepal, the Netherlands, the Republic of Korea, the United States, Uzbekistan, Finland, France, Switzerland and Japan has participated in this Forum. Twenty information technology companies has presented their achievements at the Forum exhibition and sectional sessions: Investor ltd, Smartactive, VLM-Invest, itSMForum of Russia, City Business School, Digital Engineering, Loginom Company, REALPRO Branding&Consulting, AAR, Civil Group Pvt. Ltd, Brandaq, IBS, Crowd-Works, FLT-NAVIGATOR, Loginom Company, Sanofi, STEP UP International, VLM-Invest, Microsoft Rus LLC, City Business School. Total 1115 applications has been submitted for participation in the discussions, 881 people has attended the opening of the Forum and the plenary session, 400 authors sent their abstracts.

In this and subsequent issues of the journal, we shall post articles, prepared by Forum participants. The Central theme of the Forum became the study of the current state of global economic processes, related to universal digitalization, the widespread introduction of cheap microprocessor technologies and technologies for broadband mobile access to knowledge banks and big data arrays. The organizers of the Forum has formulated a number of global problems that gave rise to sixth (in terms of Academician S. Yu. Glazev [2013]) technological way:

– post-industrial era gave rise to the problem of stratification of society, both at the level of individual economic agents, and at the level of agglomerations and even states where is possible to obtain and use information;

– technological breakthrough of the new digital economy created a social phenomenon of digital inequality: the human society was split into groups with different opportunities only because of restrictions in access to information and communication technologies;

– when faced with increasing pressure from the digital environment, a man, as a personality and as an economic entity, must be able to adequately respond to the challenges of rapidly developing technologies of informatization of the economy, social sphere and technology. The possibilities of transformation of a man are limited by his biology, intellectual abilities, social and cultural framework;

– increasing complexity of social, economic, technical, logistics and other technological systems, the widespread implementation of artificial intelligence technologies require the creation of a new generation of educational standards and professional competencies. A man is forced to constantly learn in order to master more and more descriptions of the latest technologies. In the broad practice of organizing business processes, it is no longer about the ability to create new technologies, but the ability to have time to master the methods of using technologies;

– human-machine interfaces, a huge number of sensors, the formation of its own Internet of Things leads to an avalanche growth of information flows. In place of human intelligence, which is not able to cope with the analysis

of huge amounts of information, comes artificial intelligence, for the work of which and the result of which is the generation of an even larger array of numbers that can finally overwhelm civilization.

To solve these and similar problems, prof. P.V. Tereliansky has formed formed the concept of a new economy – the economy of digital equality, which the Forum organizers has called the term Smart Nations as a kind of reference to the world international system of collective security United Nations, the purpose of which is to organize humanitarian and humanistic cooperation between countries. In contrast to the well-known Singapore concept of Smart Nation [Kwang, 2017], which implies the consolidation of BigData, Internet of Things, Industrial Internet of Things technologies and approaches to the implementation of E-Government ideas, the forum organizers argue that self-organizing Smart City type smart technologies should become drivers of changes in the social structure towards the creation of Smart Countries and building on their basis a new humanistic concept of Smart Nations – a global economy of digital equality. It is necessary to consolidate the efforts of mankind, national governments, state and social institutions to overcome the digital segregation of peoples and create a new global society based on modern technologies for managing the economy, social, technical and technological systems.

The development of big data technologies, the creation of a reliable verifiable data transfer and storage technology, the development of a modern high-performance technological base as the foundation for creating advanced solutions in the field of artificial intelligence, the implementation of these technologies in the daily practice of industrial production, business and social projects is not an end in itself and the pinnacle of information technology development.

The concept of Smart Nations – a balanced management system for transnational social and economic systems – requires understanding the role of big data analysis technologies, distributed registry management in terms of usefulness and accessibility to any representative of humanity.

The main conclusions and decisions reached during the plenary and sectional discussions has been formulated by the heads of the Forum sections: Associate Professor A.A. Kanke, Professor A.N. Kozyrev, Professor M.V. Sigova, Associate Professor V.S. Starostin, Professor P.V. Tereliansky, Professor V.I. Tinyakova, Professor A.D. Chudnovskii and brought together in a single Memorandum of the Forum by Professor of the Department of Economics and Management in the Fuel and Energy Complex of The State University of Management, V.Yu. Linnik.

In this issue, the Organizing Committee of the III International Scientific Forum “Step into the Future: Artificial Intelligence and the Digital Economy” publishes the full text of the Memorandum.

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Key Results of the III International Scientific Forum "Stepping into the Future: Artificial Intelligence and Digital Economy"

On 9–10 December 2019, the Moscow Digital Business Space hosted the III International Scientific Forum "Stepping into the Future: Artificial Intelligence and Digital Economy. Smart Nations: Economy of Digital Equality", organised by the State University of Management.

The key topic of "Smart Nations: Economy of Digital Equality" is the development and implementation of the Russian national programme "Digital Economy of the Russian Federation", and matters related to the global social phenomenon of the digital divide — the result of the technological breakthrough of the new digital economy.

The Forum was supported by the Ministry of Science and Higher Education of the Russian Federation, the Ministry of Digital Development, Communications and Mass Media of the Russian Federation, in partnership with All-Russia Public Organisation "Business Russia", RBC Group, Russian News Agency TASS, and leading IT companies under the auspices of the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

The federal agenda of the Forum was presented during the business session titled "The infrastructure of new economy. Digital industry map", which was organised as a business breakfast and gathered representatives of the Ministry of Science and Higher Education of the Russian Federation, the Ministry of Digital Development, Communications and Mass Media of the Russian Federation, the Ministry of Industry and Trade of the Russian Federation, the Ministry of Economic Development of the Russian Federation, members of business community, IT companies, Russian and international experts.

Event participants agreed that for a business to survive in the era of the digital economy, technological development and constant change, it has to be able to adapt, which implies creating innovative business models, and reinforcing/rethinking traditional ones. Digital economy is the basis for the development of modern competitive businesses.

"Our task is to encourage businesses to invest in transformation. Having skilled personnel for a digital economy is very important. Here we fully support the initiative of the State University of Management. Nowadays, the individual core of the digital economy is shifting towards academic science, which is going to help secure the link between science and digital economy, and to introduce new teaching methods and new professions. Envisioning the work of the future is the key to successful transformations", said Mikhail Mamonov, Deputy Minister of the Ministry of Digital Development, Communications and Mass Media of the Russian Federation.

The attendees of the business session discussed the introduction of digital economy principles into high-tech manufacturing processes, the opportunities and challenges linked to the need for the digital transformation of the Russian production industry, technological re-equipment and introduction of new service-oriented models, and training of high-qualified personnel.

"It is important for us to ensure that specialists who graduate from higher education institutions are in demand among employers with the exact knowledge and skills that universities have provided them with. We often hear complaints from manufacturing companies that university training requires subsequent retraining or teaching the graduates some additional skills, for them to be able to join the production process. It"s crucial that every university, including the State University of Management, provides students with maximum competencies. This task is very ambitious and very relevant for modern Russian education. And that"s the route we are currently on", said Ivan Lobanov, Rector of the State University of Management.

One of the key events of the first day of the Forum was the plenary session which gathered representatives of UNESCO, Skoltech, the Agency for Strategic Initiatives, the Korea Institute of Science and Technology (KAIST, South Korea), LINAGORA (France), Knowledge Dialogues (Germany), Future Center Alliance Japan (Japan), Hong Kong University of Science and Technology, experts, scientists and students from over 40 universities. Members of the plenary session gave their opinions on globalisation and the related increase in the requirements for the competition of national economies, personnel training, the role of business in transformation processes, and determined the conditions required for the transition to the digital economy. Another point mentioned during the meeting was that the universities with their established infrastructure, personnel, and decades-old social and institutional connections should be the ones to act as the centres for the development of different regions, manufacturing sectors and the Russian economy in general.

The participants suggested organising the next, the IV Forum "Stepping into the Future: Artificial Intelligence and Digital Economy" in Russia and France at the same time.

The Forum also featured public lectures by Russian and international speakers, a round table on the "Interaction of people and things in digital economy", a Q&A session on artificial intelligence for Moscow IT school students, an International Research-to-Practice Conference "Online or Offline Census", as well as exhibitions and presentations.

During the public lecture, the Minister in charge of Integration and Macroeconomics of the Eurasian Economic Commission (EEC), Head of the SUM Economic Policy and Economic Indicators Department Sergey Glazyev mentioned that Russia is the leading country in terms of its blockchain potential and that it has already developed the tools that can be used for government procurement and meet all the necessary requirements.

The second day of the Forum included expert discussions divided into 6 theme-specific sessions.

During the "Production customisation and personalised consumption" section, business experts and members of the scientific community discussed practical matters related to changes imposed by the new technological paradigm of the digital economy. This included the problem of reducing labour intensity while increasing labour efficiency, and engaging the consumers in the process of product development. Meeting participants also discussed the customisation of large-scale manufacturing, when the subject of consumption is not an individual consumer but an entire nation. Experts shared their visions of the problem of customisation in different industries, such as oil and gas, construction and mechanical engineering. A point was made that creating an internal digital environment for the development, testing and subsequent distribution of innovative products is becoming a matter of importance for the industries.

Experts agreed that nowadays artificial intelligence is not just engineering, mathematical and IT discipline, but also a complex of technological solutions that makes it possible to imitate human cognitive functions and to complete specific tasks and gain results that are at least comparable to the results of a person's intellectual activity. It was also mentioned that the sustainable development of the digital economy requires the GDP to grow at the level of at least 5–6 %.

During the discussions that took place within the "Education and science: the disharmony of co-evolution" section, participants pointed out that the increasing specialisation amidst the differentiation of labour leads to the emergence of several types of specialists who work in the same area and have the same competencies, but who differ in one unique skill – the ability to collect, organise and present knowledge in the form of traditional training courses, the ability to convey such organised knowledge to the audience of aspiring specialists. This competency usually requires even higher specialisation and thus gives the employee a special role of an employee at a university or an academic institution. Such specialists tend to become out of touch with the actual production needs. This creates a situation of co-evolutional development: specialists working at manufacturing facilities grow their knowledge and develop new methods for a specific production purpose, while university experts develop their competencies based on studying production processes as professors and scientists. The problem of universities and academic institutions is the parallel development of competencies that often do not meet the demands of society.

Within the frameworks of the section, the representatives of scientific and educational organisations, businesses, authorities and non-profit enterprises discussed the following problems: the integration of R&D processes with the training of young specialists for the digital economy; promotion and analysis of innovative educational products and instruments for creating e-learning courses and systems.

Speakers of the "Blockchain and Big Data: tools, not remedies" section mentioned that the development and the incremental expansion of digital technologies are the key signs that the high-tech future has already arrived. Today, digitalisation is the key trend that stands in the centre of businesses, science, and public administration, all of which develop around it. Among all digital technologies, the distributed ledger technology (also called blockchain) and Big Data technology play a pivotal role. It has to do with the fact that these technologies have already reached the level of development that makes their practical application logical and easy to implement in a range of tech projects (which is not the case with, for example, the technology of artificial intelligence, which is closely related to these two technologies, but so far has quite a limited range of real applications).

Experts mentioned that the introduction and perfecting of blockchain and big data are no longer looking like a "myth", a "fantasy" or a "conspiracy", but make up the current agenda for technological development, right here, right now. Famous international projects such as Renoir or Corda are a confirmation of that, as well as plenty of private projects implemented by and within corporations (Sberbank, Bank Saint Petersburg, Rossiya Bank, etc.).

At the same time, these technologies have still a lot of room for development, and their potential has still not been studied in full. It means that in order to successfully apply technologies to solving specific tasks of the business, management, science, culture, sports, or other areas, it is not enough to develop the technologies alone. The minimum required elements of the system are the digitally and technologically transformed subject matters, which these technologies are going to be used for. This is another big technological, scientific, legal and worldview-related problem. In other words, technological instruments can only be used to process technological materials. That"s why we cannot view digital technologies as a "remedy" that can heal all the problems of the modern world.

Practical issues of digital economy were touched upon during the "Ecosystem of artificial intelligence or digital landfill of the civilisation?" section. Experts attending the session included representatives of the National Centre for Digital Economy under the M.V. Lomonosov Moscow State University, the V.A. Trapeznikov Institute of Control Sciences of the Russian Academy of Sciences, the Moscow Agency of Innovations, the "Industry-specific Regulation" task group, the Breda University (Netherlands). They pointed out that the invention of high-speed processors, the integration of numerous sensors into mobile systems, the new algorithms for information processing and AI technologies generate massive amounts of information. But the value of such information is up for debate. This means modern studies need to focus on smart filtering of the information. Such filtering must be free of any possibility to intercept the information, to falsify data, to install malware that can manipulate not only the information but also the user"s mind. Today this task goes beyond IT engineers, mathematicians, and computer programmers. It unites different systems and technologies. Representatives of the humanitarian field, NGOs, and national governments must also get involved in the creation of smart filters.

Only the joint efforts of scientists from different fields can help create comfortable surroundings for people in the digital world, and a comfortable system of interaction between smart technologies and technologies of the previous years.

During the discussion of the "New Babylon: Smart Nations" section, the participants pointed out that the development of Smart City technology faces the need for smart accumulation of data to transfer control actions to higher levels through the concept of managing countries and changing their social and economic structures towards the creation of Smart Countries.

The creation of a Smart Nations global economy of digital equality will inevitably face legal, economic, and social problems, as well as the need for a radical change in the thinking and social realm perception paradigm of entire nations and countries. Smart City technologies are an integral part of a well-developed economic infrastructure, and their introduction is inevitable in the era of the modern digital economy. The institutional environment of the modern urbanisation process is interconnected with the development of digital and smart services.

Experts mentioned that one of the most important instruments of accumulation, analysis, and processing of data from people living in modern cities are geographic information systems. These not only provide citizens and companies with more accurate navigation but also affect production and consumption habits in the market. The key mechanisms of GIS usage across all segments of the Russian market need to be refined and confirmed.

The matters of distribution and introduction of digital learning technologies in the training of HR specialists were raised at the "Smart connectors: social interfaces and business communications" section. The meeting participants mentioned that the distribution and introduction of digital learning technologies in the training of HR specialists take personnel training to a new technological level.

Business process automation is one of the key development vectors for companies, and it is going to help optimise business operations, make businesses more manageable, and speed up decision-making. The feedback received after the introduction of digital learning technologies shows significant positive results when it comes to reducing the prime cost of products and services, increasing labour productivity, optimising the stages of order processing, increasing the turnaround of inventories and finances.

SMART NATIONS MODEL UNESCO was a separate event at the III International Scientific Forum "Stepping into the Future: Artificial Intelligence and Digital Economy". The AI-themed business game gathered more than 130 Russian students who study international relations and international law at Moscow State Institute of International Relations (MGIMO), Diplomatic Academy of the Russian Foreign Ministry, M.V. Lomonosov Moscow State University, RUDN University, Russian State University for the Humanities, Higher School of Economics etc. After the debates, they created a comprehensive document specifying the key benefits and risks of the development of AI technologies. This document will be presented to UNESCO.

Next year, international students will also join SMART NATIONS MODEL UNESCO. This decision was made by the organisers of the business game following the significant results of the Model UNESCO. Next year, members of partner universities of the UNESCO Chair "Societal, Legal and Ethical Frameworking of Knowledge Societies (Information Society)" of the State University of Management will be invited to take part in the Model UNESCO. The UNESCO Chair, opened in 2019, is the organiser of the educational model.

Educational institutions from Europe, the CIS, and China are set to be among next year's participants.

In only two days, over 1,500 people from 35 Russian federal subjects, as well as international politicians, scientists, and experts from 16 neighbouring countries, the EU, and Asia-Pacific registered for and attended the Forum.

Several important cooperation agreements were signed in the fields of the Forum, between:

– the State University of Management, Peoples' Friendship University of Russia (RUDN University) and International Banking Institute, on cooperation with regards to development and implementation of digital technology projects, specifically high-tech projects that help create services and goods based on innovative developments with the potential for introduction into the international market;

– the State University of Management and Business Russia, All-Russia Public Organisation, on effective and long-term cooperation of Parties to offer research and consultation support to Russian small and medium-sized enterprises;

– the State University of Management and Global Alumni Alliance, on jointly developing the export of Russian education, including promoting the University's programmes among international students and graduates. The agreement also makes provisions for holding academic conferences and organising international exchange programmes, internships, and professional development programmes;

– the State University of Management and the Association of Clusters and Technology Parks of Russia. The agreement entails developing joint research projects and educational programmes shortly, as well as creating a foundation for SUM students to do their on-the-job training at companies within the Association"s clusters and technology parks, with the option of subsequent employment;

– the State University of Management and the Centre for Promotion of International Initiatives, on cooperation and joint work of the Parties in the areas of science and educational activities within international relations;

– the State University of Management and Biblio-Globus Trade House, on establishing extensive and effective cooperation of the Parties to organise programmes, projects, and events on mutually beneficial terms.

Given the results of the plenary session of the Forum, as well as the outcomes from discussions that took place at session meetings, the State University of Management, in partnership with business representatives and government authorities, declares the following:

1. The technological process plays the principal role in the production system, as its improvement is the only factor that determines the directions for improvement of the entire production system.

2. Pragmatic thinking, individualism, egocentrism, conformity, and hyper-pragmatism are important characteristics of the modern "digital generation" that may hinder digital education. Therefore, digital education must encourage high levels of engagement among the students, their emotional participation, and understanding of the importance of knowledge and competencies in the students" future jobs.

3. Blockchain and Big Data technologies are at the forefront of all Digital Development technologies; they are going to become the first widespread technologies of the future.

4. Digital transformation is an intricate complex of managerial, technological, and humanitarian changes and efforts for their promotion. Digital transformation is especially important in education, as human capital is the cornerstone of the entire process of technological development. The importance of digital transformation in education must be accounted for in modern education processes, which includes developing the methodology for the digital transformation of education, and methodology for assessing the success of the digital transformation of education.

5. The legal interpretation of digital transformation deserves special attention, as there have already been situations of a legal vacuum with regards to digital development regulations.

6. The society is on the verge of creating a new ecological system – a system that will be an optimum combination of data from AI technologies, and the knowledge previously accumulated by the humanity; an ecosystem intended for the most comfortable existence of people.

7. Smart City technologies are an integral part of a well-developed economic infrastructure, and their introduction is inevitable in the era of the modern digital economy. The institutional environment of the modern urbanisation process is interconnected with the development of digital and smart services.

8. One of the most important instruments of accumulation, analysis, and processing of data from people living in modern cities are geographic information systems. These not only provide citizens and companies with more accurate navigation but also affect production and consumption habits in the market. The key mechanisms of GIS usage across all segments of the Russian market need to be refined and confirmed.

9. Electronic public services are becoming more and more popular, including their use within national projects for the digital transformation of the public sector of the Russian economy. The intensification of the development of key public services is set to incorporate law enforcement authorities (e-Police), healthcare institutions (e-Health), and the education sector (e-Education).

10. The development of digital public services is necessary for raising civic awareness and engagement of city dwellers. Russian cities are gradually establishing a unified smart platform, which goes in line with the experience of most developed countries in creating electronic institutions of civil society (e-Society), and electronic institutions of democratic states (e-Democracy), which leads to improvements in legislative, executive, and judicial processes.

11. The digital development of Russian regions is falling behind. One of the key requirements for harmonious and sustainable development of the modern society is accelerating the digitalisation of regional authorities, and ensuring wider introduction and use of electronic institutions of the modern urban infrastructure.

12. The operators of smart services in the Russian market are one of the main driving forces behind creating a competitive, transparent and effective environment for the development of digital urban services. Their involvement is required to perfect legislative, social and economic processes in the digitalisation of Russian urban space.