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DEVELOPMENT OF INDIA AS A GLOBALIZED DIGITAL STATE AND WORLD LEADER OF DIGITALIZATION

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Relevance of the research is that the national priorities of modern development are conditioned by trends in the development of a competitive global world economy. Among the directions of the state development the priority place is given to digitalization by expanding the possibilities of its development. The state makes a targeted organizational impact on all lines of digitalization through the implementation of state programs. It is relevant to analyze the digital economy of India taking into account global challenges, new economic reality, development of the theory of digital economy and management. The aim of the research is to develop theoretical and practical aspects of India's development as a globalized digital power and a world leader of digitalization. The implementation of the stated objective requires the following tasks: 1) to investigate the current state of India, which has given a great impact for the development of IT technologies; 2) to present the Indian society as a society of high context; 3) to disclose the main tendencies of digitalization in the context of the "Digital India" program implementation; 4) to summarize the tendencies of digitalization achievement in India on the way of technological progress; 5) to clarify the development of digital technologies in the sphere of business. The subject of the research is India as a globalized digital state and the world leader of digitalization. Subject of the research are the programs of state support for digitalization in the context of the "Digital India" program. Used methodology: theoretical and methodological basis of the research are fundamental and analytical bases of digital economy research, which were analyzed by the comparative analysis method of digitalization support in the context of the "Digital India" program implementation. Synergetic method (approach) allowed investigating nonlinear and bifurcation processes of their occurrence, self-organization and transformation of cognitive capitalism as a complex social phenomenon and non-linear process that dynamically develops in a non-linear world and leads to a new type of society. Many of these problems are on the edge of philosophy and economics, which is a strategic direction of the development of both philosophical and economic science, is particularly relevant and of practical importance. Therefore, in the conditions of the development of global tendencies of humanity, in particular globalization, scientific research aimed at analyzing new problems of technological progress is of great practical importance, directed to the further improvement of digital society, digital culture, and digital technology.

РОЗВИТОК ІНДІЇ ЯК ГЛОБАЛІЗОВАНОЇ ЦИФРОВОЇ ДЕРЖАВИ ТА СВІТОВОГО ЛІДЕРА ЦИФРОВІЗАЦІЇ

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Ключові слова:

Індія, глобалізована цифрова держава, світовий лідер цифровізації, цифрові передові технології

Актуальність дослідження полягає в тому, що національні пріоритети сучасного розвитку обумовлені тенденціями розвитку конкурентної глобальної світової економіки. Серед напрямів розвитку держави пріоритетне місце відводиться цифровізації шляхом розширення можливостей її розвитку. Держава здійснює цілеспрямований організаційний вплив на всі напрями цифровізації шляхом реалізації державних програм. Актуальним є аналіз цифрової економіки Індії з урахуванням глобальних викликів, нової економічної реальності, розвитку теорії цифрової економіки та управління.

Метою дослідження є розробка теоретичних і практичних аспектів розвитку Індії як глобалізованої цифрової держави та світового лідера цифровізації. Реалізація поставленої мети вимагає вирішення наступних завдань: 1) дослідити сучасний стан Індії, який справив великий вплив на розвиток ІТ-технологій; 2) представити індійське суспільство як суспільство високого контексту; 3) розкрити основні тенденції цифровізації в контексті реалізації програми “Цифрова Індія”; 4) узагальнити тенденції досягнення цифровізації в Індії на шляху технологічного прогресу; 5) з’ясувати розвиток цифрових технологій у сфері бізнесу. Об’єктом дослідження є Індія як глобалізована цифрова держава та світовий лідер цифровізації. Предметом дослідження є програми державної підтримки цифровізації в контексті програми “Цифрова Індія”. Методи дослідження: теоретико-методологічною основою дослідження є фундаментальні та аналітичні засади дослідження цифрової економіки, які були проаналізовані за допомогою методу порівняльного аналізу підтримки цифровізації в контексті реалізації програми “Цифрова Індія”. Синергетичний метод (підхід) дозволив дослідити нелінійні та біфуркаційні процеси їх виникнення, самоорганізації та трансформації когнітивного капіталізму як складного суспільного явища та нелінійного процесу, що динамічно розвивається в нелінійному світі та веде до нового типу суспільства. Багато з цих проблем знаходяться на межі філософії та економіки, що є стратегічним напрямом розвитку як філософської, так і економічної науки, набуває особливої актуальності та практичної значущості. Тому в умовах розвитку глобальних тенденцій розвитку людства, зокрема глобалізації, наукові дослідження, спрямовані на аналіз нових проблем технологічного прогресу, мають велике практичне значення, спрямовані на подальше вдосконалення цифрового суспільства, цифрової культури та цифрових технологій.

The aim of the research is to provide theoretical and practical aspects of development of India as a globalized digital power and world leader of digitization. The implementation of the set goal requires the following tasks: 1) to investigate the current state of India, which has given a great posthaste for the development of IT technologies; 2) to present the Indian society as a society of high context; 3) disclose the main directions of digitization in the context of the “Digital India” program implementation; 4) summarize the directions of digitalization of India on the way of technological progress; 5) understand the development of digital technologies in the field of business.

The subject of the research is India as a globalized digital state and a world leader in digitalization. The subjects of the research are the programs of state support for digitalization in the implementation of the program “Digital India”.

Researching methods: article reports that the development of India as a globalized digital state and a world leader in digitalization is based on the evolution of digital technology, which brings changes and contributes to the development of successful enterprises and businesses. Innovations have already come to the world of India and will change the world with unprecedented speed concerning all sectors of production and spheres. In the future they will contribute to the development of smart-society and smart-technology in the context of current global digital civilization. The research involved functional and structural, comparative, and synergetic methods. Functional and structural method enabled to identify functional, institutional and socio and cultural aspects of India’s development as a globalized digital power and a world leader of digitalization. The method of

comparative analysis allowed us to compare the features of state support programs for digitalization in the context of the “Digital India” program implementation on the basis of foreign experience. Synergetic method (approach) allowed investigating nonlinear and bifurcation processes of their occurrence, self-organization and transformation of cognitive capitalism as a complex social phenomenon and non-linear process that develops dynamically in a non-linear world and leads to a new type of society.

Formulation of the problem

Article reports that the development of India as a globalized digital state and a world leader in digitalization is based on the evolution of digital technology, which brings changes and contributes to the development of successful enterprises and businesses. Innovations have already come to the world of India and will change the world with unprecedented speed concerning all sectors of production and spheres. In the future they will contribute to the development of smart-society and smart-technology in the context of current global digital civilization.

Analysis of recent research and publications

Theoretical background for this research was provided by works of researchers in the field of digital economic development, namely Patrick Dixon – business consultant, futurologist, a specialist on companies development under conditions of globalization and pandemics. He was recognized as one of twenty influential contemporary thinkers, working with over 400 of the world’s most renowned companies: Google, Microsoft, IBM, Hewlett, Packard, Forbes, Fortune, FedEx. Dixon Patric in his work “The (Majestic) Future of Everything. How the

World Will Change in the Next Hundred Years” analyzes trends and makes far-reaching predictions about where the world’s developed countries are headed. In just a few decades, people will be affected by a new social order, a rearrangement of forces on the world stage, a change in corporate culture and everyday habits. Thanks to this work we can see the pattern of changes in different spheres of life and understand in which direction we need to evolve to achieve success in the future. This is the era of Generation M, and we must be prepared for dramatic changes in society and the organization of international relations. Ruchir Sharma is one of the world’s greatest investors, head of New Economies at Morgan Stanley, editor of Newsweek, a regular contributor to the Wall Street Journal and the Economic Times in “Leading the Way. In his vision of a new “economic miracle” he identified India as the world’s leading digital power. The World Economic Forum named him one of the top young leaders of the world, and the magazine Bloomberg Markets included him in the list of 50 most influential people. He is one of the world’s leading thinkers according to Foreign Policy magazine. He noted that the distribution of power on the global stage may very well change, and countries like India, China and the United States may become more proactive and grow faster, their economies may be called a success story, and they expect a real economic success. Ruchir Sharma analyzes in detail the fundamental features of the digital economy of India, its new history and culture, evaluating the possibilities of becoming a new leader. On the basis of the author’s own experience the author investigates individual features of the development of India, which determine our present and future. The work “Frontline Countries. In the Wake of a New “Economic miracle” opens the door to the future of the globalized world of India as an advanced digital power. Oltrade Dagogo is the founder of ColdFusion, a YouTube channel with nearly 3 million followers. Oltrade Dagogo has reported on the history and principles of the movement of breakthrough technologies since 2007. The work of Altrade Dago, “New Thinking. From Einstein to the Intelligence Unit: Science and Technology that Changed the World” explains how the modern world has changed under the influence of digital technology – batteries, photographic and mobile devices to the first video games, the rise of Microsoft, Apple and the increasing role of social media. Oltrade Dago is a futurist with an unconventional manner and style who captures an informative and fascinating vision of our technological past, the present and the future. The paper includes the works of V. Voronkova, V. Nikitenko, L. Bukharina, I. Onishchenko, R. Oleksenko, O. Puchenko, T. Teslenko, A. Cherep and O. Cherep, which presents the development of information (digital) economy as a factor of competitiveness in the conditions of adaptation to change as well as V. Marienko’s own research.

Presentation of the main material

Today India is a world leader, a globalized digital nation, the third largest economy in the world, and the largest democracy on the planet. India has a key advantage in international trade and services. Over the next ten years,

the economy of India will grow by 5–7 % on average. However, just as China is becoming too expensive for outsourcing production for many transnational companies, so India is becoming too expensive for outsourcing services. Wages in some sectors grow 3–5 times faster than in Europe or America. As in China, the long-term future of India depends on the growth of its domestic markets. Only one state in India, Andhra Pradesh, is larger than most states. More than 200 million people live there, 75 million of who speak Telugu. The minister of health controls at least 114 medical and pharmaceutical colleges, the minister of education controls 15 universities, 131 engineering colleges and 600 industrial educational institutions.

1. The current state of India, which has given a great opportunity to develop IT technologies

The relevance of the study is that the national priorities of modern development are determined by the trends in the progress of a competitive world global economy. Among the directions of its development, digitalization with the expansion of its development opportunities is a priority. The state is exerting a targeted organizational influence on all lines of digitalization through the implementation of state programs. Half of the population, which includes 1.2 billion people under 26 years old. And over the next 30 years, this single fact will contribute to economic growth more than any other. 66 % of the national wealth is generated by 646.000 cities and towns in India, a number that is growing rapidly with the arrival of 300 million more people from rural areas over 25 years. The growing population is also the reason why per capita income remains significantly lower than in China, despite the economic growth in the country: more wealth, but also more people to feed. The central government of India will continue to have less state power than the Chinese, and there will be fewer large-scale national programs in the field of energy, infrastructure, industrial parks, etc. With this in mind, India has already taken some bold decisions to dismantle the economy and use biometrics.

In one fell swoop, 80 % of all banknotes were withdrawn, causing chaos and forcing people to make mass online payments. Another milestone was the fact that 850 million people’s biometric data were registered with the government’s data management system for secure payments and access to the full range of financial services, even for those who can’t read or write. No other country, except China, could have made such a profound digital revolution in such a short time. This gave a great impetus to the development of IT sector in India. Most importantly, India is a country of industrious and educated ambitious businessmen; it is very well connected to the world due to the hundreds of millions of people in the industry, who often play a very important role. Despite the external signs of employment chaos, India remains one of the best places in the world where business leaders can work quickly. This is a country which in less than 12 months from the signing of the contract is able to create from an empty concrete box without any equipment a full working center with a trained staff and a central video link to Europe – says Dixon Patrik in his work “How the World Will Change in the Next Hundred Years” [p. 222–226].

India will continue to be an extremely tribal and religious society with great internal pressure, especially by the Hindu, Muslim and much smaller Christian communities. Obviously, the ethnic violence and lynching in certain areas is frequent, but caste discrimination has been illegal since the proclamation of India’s independence. But even today there are still many social, labor and religious obstacles, because caste-based discrimination has been at the core of the Hindu tradition for over three thousand years. Corruption will continue to drive India’s development in spite of the people’s anger and calls for reform. This phenomenon is institutional and exists at every level: according to some estimates, politicians and bureaucrats can earn over three billion dollars a year.

The national prestige and military power of India will grow rapidly. The Indian influence and culture will also be reinforced by the 200 million or so Indian managers, executives, medical staff, teachers, educators, lecturers, lawyers and accountants who work around the world. There is no representative of India at the table of the UN Security Council, at the G7 leaders’ summits, but the situation will change by 2030 in the framework of the restructuring of the UN and other bodies, which must meet the realities.

Today, India shows remarkable economic results, probably the most important among the new economies of the last decade. Fully reasonably, India has begun to be perceived as a typical pattern of a developing country, an archetype in which one can find the best and the worst focus of the most dynamic young economies. The prices of the Indian stock market fluctuate synchronously with the average indicators of the markets of young economies, than the prices in the markets of most countries of the world, because the Indian market is deeper and more varied than any other. Its list includes five thousand companies, over a thousand of them with foreign investments, and more than 200 of them have a market capitalization of over a billion dollars. Only China has such a large stock market, but it is largely closed to foreigners, and is not considered a mirror image of global trends.

India is so large and diverse that it can be imagined as you want – a melting pot of all the disadvantages and prospects of new economies, which combines the

middle-agedness of Bikhara with ultramodern buildings of “Infosys” company in Bangalore. The state of Uttar Pradesh, where 166 million people are located, by itself could be the 100th country in the world, and 80 million people in West Bengal is the same as in Germany. India is a country where young people can still choose between world-class technological tools and Maoist underground. The elite are well versed in English so that India is accessible to the outside world. Western analysts predict a high rate of economic growth at the moment when India will regain its former power: three centuries ago this country accounted for 25 % of world production, in many ways India is similar to China of the 1990s, when it knocked Thailand out of the world’s top economic growth rate.

If China grows old before it gets rich, then India will be able to reach a young and moderate income level. India will be able to give all young people jobs through good education, entrepreneurship and close ties with the world economy. However, in India there are already some unfortunate trends of unfortunate growth, in particular, an up-to-date self-reliance. Leading Indian politicians are firmly convinced that the Indian economy will continue to grow at a rate of 8–9 %, which for a long time after the Second World War was seen only by a few countries of North Asia. Some analysts predict continued growth in India in the current decade at close to 50 % – through a whole range of risks. In particular, there is the talk of an overbearing state apparatus, oligarchic capitalism, the low change of elites and the reluctance of villagers to move to the city, which is a especially worrying trend.

China is not the only possible model for the development of India. Culturally and politically, India has much more in common with the disorder and lack of identity of the current Brazil, than with the Chinese command and control model. China demonstrated its ability to implement important reforms every 4–5 years for several decades, while Brazil’s reform process was halted in the 1970s, when the country fell off the list of promising economies, joining the list of countries with high hyperinflation.

“In this new knowledge-based economy education has a continuously increasing role in knowledge transfer – with use of the different types of Information

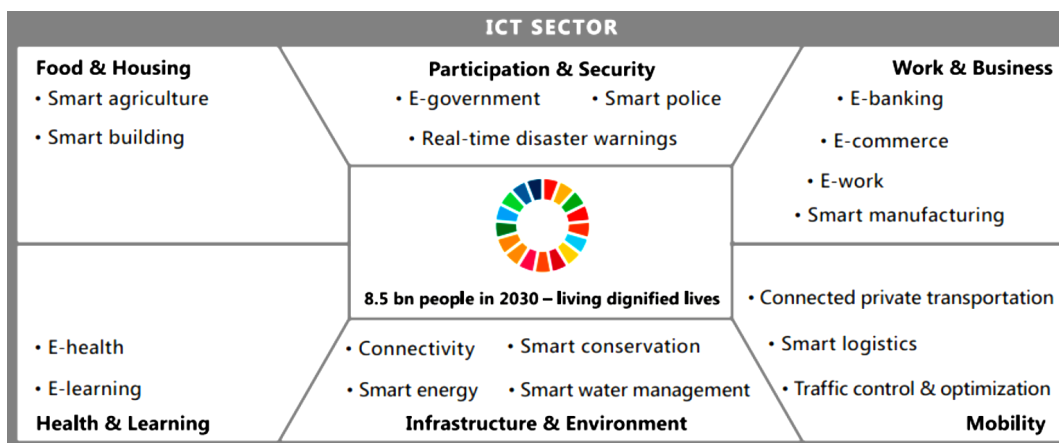


Fig. 1 – Overview of digital solutions across all areas of life contributing to SDGs

Source: adapted from Global e-Sustainability Initiative (2017), cit. Hegyes and all (2017, p. 38)

and Communications Technologies (ICT) knowledge can be more easily identified, captured, organised, created, learnt and disseminated. Digital solutions play an important role also in sustainable development. As the UN General Assembly highlighted in 2015, Information and Communications Technology have a cross-cutting contribution to the reformulated Sustainable Development Goals (SDGs) and can accelerate progress across SDGs (Fig. 1) (Global e-Sustainability Initiative 2017).

2. Indian society as a high context society

Both Indian and Brazilian societies belong to high-context cultures, that is, cultures in which people are distinguished by their soulfulness, generosity. Such people can be relied on, are family oriented, have strong family ties that last for generations, as values are deeply shared. High-context societies deeply believe in tradition and history and give priority to their own – both parents and business partners – but they are also susceptible to corruption. But there is another indo-Brazilian risk – the desire for state protection against life risks”, says Ruchir Sharma in his work “Frontline Countries. In the expectations of a new “economic miracle” [p. 44].

Social protection is seen here as a concern for a group of “one’s own” that extends to society as a whole – not even in China or Chile, which belong to high-context cultures. The Brazilian carnival and Indian wedding are invited here as the dearest guest. You can even feel at home here, but the fact is that it takes decades to truly enter these cultures. Undoubtedly, India is a country full of contradictions, trying to avoid any open confrontation with unambiguous facts, or with the side of India that could harm it. Undoubtedly, Brazil and India are not the only cultures of high content. Interactions are very characteristic of Asia and Latin America, while low-content cultures predominate in Germanic, British-American and Scandinavian societies. However, we can see a special closeness between Brazil and India, which has a lot of advantages compared with low content cultures. The political elites of India and Brazil have a strong support for the idea of the welfare state, and the populations of both countries demand a high level of welfare, despite the fact that the economies have not yet reached a high level of capacity to ensure the welfare state. In the early 1990s, India was in crisis and Finance Minister Singh introduced India to world trade.

In 1990, the Indian economy grew by about 5.5 % per year, much faster than in the 1980s, but the reform prepared the economy for the global boom which began in 2003. The growth rate of the Indian economy jumped up to nearly 9 % per year in 2003–2007, accelerating the growth of the economy in terms of new and current ones. Clan-based capitalism in Singh’s time grew to an alarming scale, and corruption was rampant, becoming serious for the middle class. In the world media, the faces of India are dynamic technological entrepreneurs, whose images often adorn the covers of international magazines. But in this case the internal, highly contextual side of India is overlooked. Wealthy entrepreneurs have recently been replaced by a new group of provincial magnates who made their fortunes working with local authorities to monopolize certain local industries, such as mining or real estate, to

monopolize the economic pie in their own interests. In addition, India has no taxes on wealth and inheritance, and the number of rich billionaires is growing. In terms of the share of billionaires’ wealth in the country’s GDP, India is second only to Russia and Malaysia, – said Ruchir Sharma [p. 50]. Today, India is globalizing and many companies have expanded their operations abroad, expanding the scope of their activities.

3. The main directions of digitalization in the implementation of the “Digital India” program

The development of digital management in the country began in the mid-1990s with more widespread use of digital technology, particularly focused on the people. Later on, digital management technologies began to be implemented in many regions of India. In 2006, the Indian government launched a plan to create a “National Digital Governance”, which included 31 tasks covering various sectors. Despite the successful implementation of many of these projects, the entire program still did not achieve the desired results and did not fulfill their tasks. Obviously, more should be used to support e-government programs throughout India, including the development of digital services, products, devices and more jobs in this area. Moreover, special attention should be paid to the development of digital production in the country. In order to transfer the entire industry to the use of digital technology, the government of India has launched the program “Digital India”, aimed at the development of digital industry and the creation of a knowledge economy.

The principles and methodology of the program

1. Ministries/departments and other government agencies will have full control over the infrastructure of information and communication technology established by the Indian government, develop and establish standards and principles of leadership, provide technical support, build capacity in this area, conduct research and development work.

2. The existing digital management initiatives must be updated to confirm the Digital India principles. Increasing the volume, processing, use of integrated and combined systems, as well as development of new technologies, such as cloud stores, which will be used to improve the quality of public services to citizens.

3. Regions will be given the opportunity to introduce projects specific to each region, depending on their social and economic needs.

4. Digital control will be advertised through the central mass media to inform people about the new services.

5. Well-proven projects will be reviewed and, if necessary, improved.

6. The support of private enterprises in the implementation of digital management projects is appreciated.

7. Creation and implementation of unique identification codes to facilitate identification, authentication and billing of services.

8. Restructuring of the “National Information Center” will be aimed at improving the quality of information support for citizens at the state and regional levels.

9. At least 10 Ministries will create the position of IT-director for a more rapid introduction of the design, development and implementation of various projects of electronic management, who will be in charge of the issues related to information technologies in the relevant ministries.

The management structure of the Digital India program has been approved by the State Council, which is designed for effective management and includes representatives from the State Committee, chaired by the Prime Minister, the Advisory Group of the Digital India Program, headed by the Minister of Communications and Information Technology, and the Apex Committee, headed by the Secretary of the Cabinet of Ministers. The structure has the necessary technical/secretarial/management support and the necessary decentralization of power and responsibility to ensure effective implementation of various projects by the executive departments.

The key components of the management structure are as follows:

1. Legal Committee on Economic Issues for the adoption of political decisions at the level of the program.

2. The Management Committee, headed by the Prime Minister, will work with the ministers of various ministries to provide leadership, forecasting of results and periodic monitoring of the implementation of the “Digital India” program.

3. The advisory group of the “Digital India” program, which includes the Minister of Communications and Information Technology, to advise the government on policy and adoption of strategic actions necessary to accelerate the implementation of the “Digital India” project by all governing bodies.

4. The Apex Committee under the leadership of the Cabinet of Ministers Secretary will control program implementation, provide political support and indicate the strategic directions of program implementation, as well as resolve interdepartmental issues.

5. Unplanned Costs Committee to assess the financial capabilities of project implementation. The committee is chaired by the secretary for costs, which is issued by the State Committee on Economic Affairs. A representative of the planning committee will also be included in this committee.

6. The Digital India objectives leaders’ council under the leadership of the Secretary, the Ministries of Digital and Information Technology will be created as a platform for sharing experience in various e-government initiatives, as well as for informing various governmental agencies about projects in the field of information technology.

7. In the future, taking into account the scale of the program and the need to solve certain issues, such as the overall technology architecture, framework, standards, security policy, funding strategy, mechanics of service provision, distribution of infrastructure, etc. The Ministry of Digital and Information Technology is expected to carry out the technical evaluation of the projects included in the “Digital India” program first, and then the Committee on Unplanned Costs;

The work of the program at the regional level will be supervised by the State Commission for the Digital India

Program, headed by the Chief Minister. Apex committees, led by head secretaries, will also be organized at the regional level to allocate the necessary resources, prioritize the implementation of projects and resolve interagency issues at the regional level.

For effective management of the program the Project Information Management System will be used. This project will evaluate the implementation of the program in real time, controlling the parameters of the implementation of each phase of the program “Digital India”. Since the “National E-Government Plan 2.0” is included in the “Digital India” program; the current management structure of the “National E-Government Plan” program both at the national and regional levels will be included in the corresponding “Digital India” management program. The project “Digital India” includes: wideband access to every home, the rapid spread of mobile technology, public services, and young labor force, the economy of additives, social media, training and education, digital entertainment.

4. The tendencies of digitalization of India on the way of technological progress improvement

Digital economy and digital identity of the individual help to make their activities more transparent and open up new possibilities in areas such as: public infrastructure; “smart” cities; electronic government and public services; national broadband; digitalization of cable networks; Mobile technologies (4G/LTE); expansion of Level 3 operators in cities and villages; public safety and Internet security; and the launch of Wi-Fi networks in schools. The “Digital India” legal program provides for the provision of infrastructure as communal services, which will significantly expand the digital capabilities of the country’s inhabitants. According to the assessment of experts, up to 2020 more than 140 million Indians, who today do not use banks, will gain access to mobile financial services, and 75 million children will be able to participate in online education.

The legal program for the launch of the national network is gaining momentum, and in Cisco India believes that the presence of the appropriate services and add-ons can transform the provision of services as a real security at the state level. When “Digital India” becomes a reality, the country will have a billion consumers, which will stimulate unprecedented technological, social and economic changes. The new digital infrastructure will enable the population to connect to the digital world, create a society with minimal digital barriers and give a strong impetus to the development of entrepreneurship, innovation and creative creativity. The spread of information and communication technology in India not only affects education and business, but also clears the way for an open, electronic government. In other words, technology and communication will help the government to become more transparent and controlled. The plan developed in India for the creation of an electronic government requires that all government services be provided electronically to citizens. One of the paradoxes of today’s India is that the country is trying to achieve a technological breakthrough and a simultaneous return to the traditional foundations of the Indian civilization. Meanwhile, India is eager for

innovative development, and there is a whole range of evidence that it is moving towards its ambitious goal – to become a new powerful player in the field of technology and sees in this a chance to solve numerous problems. One of the manifestations of India's historical achievements in the field of technological progress is the success in the field of digitalization. The research "Digitalization of India" is notable for the characteristics of the Indian profile of digital development as well as the potential impact of the digital transformation of India on global processes in this area: from a local phenomenon to a factor of global influence", prepared jointly with the Indian School of Business (Hyderabad).

A number of features distinguish the process of digitalization in India from the digital transformation in other countries, so it deserves special attention. One of these characteristics is the function of the state, which by its actions has laid the foundation for digital transformation of the country, in a short time creates important digital platforms and keeps them available for the people and business as a public benefit. A lot has already been written about the system of biometric identification of citizens, which is used by over 99 % of the population of India today. This system, which has received the name "Adhar" (in translation from Hindi – the basis, foundation) allows to confirm the identity of the person by a unique code. It is a unique code to which biometric and other personal information of a citizen is attached, turned out to be simple and efficient in creation and operation, irreplaceable for state digital services and required for business. Today, to access any public service in India requires an Adhar number. Through this system, the government has significantly increased the availability, transparency, and accuracy of social payments, including the payment of pensions and scholarships. In particular, thanks to this system, the state was able to show quick financial assistance to internal migrant workers, one of the most unprotected categories of people in the country, who lost their jobs due to the introduction of a severe quarantine. The Adhar system is also used in India to organize vaccinations.

In addition to digital biometric identification, the Indian government has created other national digital platforms that serve hundreds of millions of enquiries from both government agencies and private companies every day. The most important of them are: the system of fast payments (UPI), launched in India in 2016, the system of electronic identification of clients (e-KYC: electronic document storage system (DigiLocker); the system of electronic signatures (eSign). All of these digital mechanisms work on the principle of API (Software Interface – a software interface for add-ons), which allows businesses to efficiently implement their elements into their work. In the near future, the Indian government plans to significantly expand the functional capabilities of such platforms, extending their action in the most important new areas such as health, education and agriculture. Tremendous progress has also been achieved in the work of the electronic government, which operates a platform of electronic government procurement, a general database of government documents and data, a one-window system for

access to more than 300 government services, functioning not only in the web version, but also as a mobile add-on.

Such progress would not have been possible if people in India had not received good access to the Internet in a short period of time. The state program Digital India, launched in 2015, attaches great importance to the development of broadband access throughout the country, as well as increasing digital literacy of the population, training of IT specialists, development of the electronic government and many other areas. It is one of the most important flagman programs of the Indian government, overseen personally by the prime minister. However, the general and rapid changes could not be carried out solely by the government's forces. They became a reality when in India there was a major revolution in the field of telecommunications business, created by the mobile Internet, available practically to all Indians. A close partnership between the Indian government and private capital, although subject to criticism from foreign competitors, allowed the digitalization of the entire country to be implemented in a short time.

A good shot at the introduction of telephone lines, computers and the home Internet in India, immediately receiving the Internet in its distribution in smartphones, led to a great change in many other spheres. One of them is finances. A number of factors, starting with the demonetization of 2016, marked the decisive attack of the government on the shadow economy, led to a significant increase in financial inclusiveness in the Indian society, and then to the rapid development of financial technologies. Thus, a significant part of the country's population missed the stage of expanding credit cards and ATMs, but due to the first bank payment received a mobile phone as a handy tool for financial transactions. Increasing financial inclusiveness, which developed simultaneously along a number of lines, became one of the most successful and important aspects of India's digitalization.

"In terms of business processes one of the issues is to bring several IT systems in line with each other. From our data we see that developing knowledge on digitalization is important to create competitive advantage. It is illustrated in Figure 2 of this study how they add digital information and additional digital services to create more customer value and reduce costs" (Strønen, F., 2020).

"All four industries have a potential on customer satisfaction, improved business processes and business development. What we see as critical success factors for the real estate business is the opportunity of reducing costs by streamlining business processes as more of the work is done by both sellers and prospective buyers. Another critical success factor for the real estate industry is to create digital showrooms for properties. For the retail sector digitalization is not new. Inventory management and business processes are common, but a critical success factor identified is to add the customer perspective and by increasing business development. Using applications will improve reducing the waste problem with old products near expiry date and allow a much more dynamic pricing and communication model. A critical success factor is to couple the whole value chain together, including the customers. For hotels a critical success factor is to handle digital experiences,



Fig. 2 – A scale for digitalization – from pure digital to additional digital services
Source: Strønen, F., 2020

increase business development and network externalities. In the automotive industry a challenge is to create better communication and improved customer service.

5. Development of digital technology in the enterprise sector

We can confidently confirm that the rapid expansion of digital technology has influenced the development of business in India. Today, this country is experiencing a business boom, which has an impact not only on the economy of India, but also on many business trends on a global scale. In 2017, there were 10 such companies in India (firms with capitalization of more than 1 billion U. S. dollars). In 2018 there were 18 such companies. In 2020, according to various estimates, there were from 21 to 33 such companies (with four of them appearing in India during the first week of the pandemic), and in the first four months of 2021, their list was expanded by 13 more names. In 2020, India ranked fourth in the world for the number of such companies after the United States, China and the United Kingdom. Today the list of companies that could become unicorns in the near future in India is up to 150 companies, a significant portion of which is directly linked to digital technology. The number of officially registered startups in India approaches 50.000.

Today in India it is particularly prestigious to be an intelligent entrepreneur, innovator, and creative thinker. It is expected that by 2025 in the digital economy will generate 18–23 % of India’s GDP (800 billion – 1 trillion U. S. dollars). If earlier Indian businessmen mainly copied the existing Western business models, today they are developing original solutions, which are dictated by the needs of India and are popular in many other countries. Special attention is paid to companies in the field of educational digital technology, which are expanding their business, leading the pace, and are the world leaders in their field, by the number of customers and prices. They are trying to reach out to large audiences in India and beyond in accessible, high-quality knowledge, which is increasingly difficult to obtain in a private education system.

The digitalization program in India is closely connected with all other initiatives of the government aimed at transforming the Indian economy and modernizing the country in accordance with the demands and needs of the Fourth Industrial Revolution, in which India plans to become an active participant. “Digital India is influencing programs such as Skill India (vocational training and professional development programs); Startup India (enterprise support program); Ayushman Bharat Yojana (government health insurance) and many others. It also gave a new impetus to the Make in India program, which has now been transformed into Make in India, Make for India, Make for the World, Expressing India’s aspiration

not only to increase industrial production on its territory but also to import and export, more active incorporation of the country into international supply chains. The most important today for the Indian government’s program Aatmanirbhar Bharat (“Self-sufficient India”) is a set of stimulating measures for a number of sectors, aimed at increasing self-service in India by practically all categories of consumer goods and industrial products, which has a significant digital component. Already today, India ranks second after China in the production of smartphones and plans to become a leader not only in this segment, but also in the production of electronics in general in the nearest future.

Table 1 – Key drivers for digitalization and success factors

	<i>Physical products:</i> Retail and Automotive industry	<i>Service:</i> Real Estate and hotels
<i>Internal</i>	Standardization and streamlining of inventory/distribution	Standardization of customer handling – offers and invoices
<i>External</i>	Improved customer contact	Service layering and market reach

Source: Strønen, F., 2020, p. 237

“The current study is more detailed on the specific processes and implications of digitalization. There are also few existing studies of drivers for digitalization in industries handling traditional products and services.”

Conclusions

Digitalization of India has a number of foreign political aspects. Thus, over the past few years, not only has Chinese imports become more skewed in the balance of India’s trade with China, but the share of Chinese capital in India’s high-tech digital companies has grown rapidly. However, in 2020, after a severe crisis in the India-China relations, the government took a number of measures to take into account this trend. Today India is entering into competition with China not only for its own market, but also for the markets of other countries, first and foremost the United States, simultaneously offering the world players an alternative to the Chinese production area. The relations between India and the U. S. have achieved the success of the Washington foreign policy strategy, increasingly betting on an all-inclusive cooperation with New Delhi, which will depend on the United States’ readiness for an economic partnership with India on its terms. A profound digital transformation means activities for India, and it is only necessary to adapt domestic legislation in order to play a more prominent role in shaping the international regulation of high technology, including activities in the cyber sector, where the country is already dealing with a large number of threats and challenges.

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