DIGITAL GLOBALIZATION - A NEW ERA OF GLOBAL STREAMS (ARTIFICIAL INTELLIGENCE AND CYBER SECURITY APPS)

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Annotation. Digitalization in international trade, economics and financial circulation has significantly defined the peculiarities of 20th century globalization. By 2008, direct financial and economic turnover had declined significantly, and a new type of flow, known as "digital globalization," was emerging. The driving force behind these processes has been artificial intelligence, cyber security, virtual reality, social media, the digital tax system, and data science. It is interesting what factors led to the change of the classical form of globalization with digital globalization, and therefore the aim of the paper is to seek an answer to this question in the technological revolution. The development of digital globalization has not been a one-day process, so it is necessary to study its historical development in the context of the industrial revolutions. The paper reviews the processes of generation and transformation of technological indicators, in which artificial intelligence, Big Data, Cloud Computing technologies and robotics are central. Finally, this argues that modern globalization is the fruit of new digital flows and an irreversibly evolving phenomenon that will unite states around common interests, economics and politics, and that despite the challenges, digitalization will still be able to cover all parts of the world. Will the world's human resources be depleted in the era of "great automation"?

Introduction - Globalization as an international phenomenon is largely related to the name of domestic and foreign policy actors and the breaking down of certain interstate borders. It should be noted that in modern times, this phenomenon was significantly determined by factors such as international trade, economy and financial turnover. The nature of these factors significantly determined the peculiarities of globalization in the 20th century, although by 2008 there was a significant reduction in direct financial and economic flows. Naturally, some theorists believed that globalization as a phenomenon had weakened and states had begun to prioritize more nationalist policies, although this is still not a sufficient argument to assess the dynamics of globalization processes in this way. Moreover, a new type of globalization has emerged, introduced by a new term - "digital globalization". This type refers to the mass dissemination of information, ideas and innovation through digital mechanisms such as social media, digital tax system, data, virtual reality, artificial intelligence or cyber security, all in terms of digital regulations and legislation in the international economy, borders, nation, national affiliation. And without the historical past it groups everyone and everything that even has access to the internet. (Aghion, 1998)

The paper answers the research question: What factors led to the change of the classical form of globalization with digital globalization? And seeks to substantiate the hypothesis that the development and mass dissemination of digital globalization is related to the globalization of technological advances. (Luo, 2021) Accordingly, the paper examines a new type of globalization "digital globalization" and in the first part - reviews the historical characteristics of its origin, in the second part - indicators of digital globalization, such as: artificial intelligence, mass data accumulation and cyber security, in the third part - digital point of view. Statistics, in the fourth part - compares the trends of modern and old types of globalization and the main distinguishing features between them, and the final part - summarizes the new era of digital globalization.

Historical dynamics of digital globalization

The world-wide digitization event followed in the footsteps of major industrial revolutions that preceded the emergence of globalization flows. Therefore, in order to better understand the digital version of globalization, it is important to have a brief overview of the historical aspects that led to the irreversible process and the foundation of the world economy, politics, science, education or relations - one digital space without which no one can imagine everyday life. The first industrial revolution began in the 1700s with the mechanization / automation of the textile industry in Britain. Since then, the U.S. Civil War has necessitated the use of new technologies and the emergence of mechanisms such as: coal processing, the use of steam, and electricity. In 1792, the invention of lightning conductor

by Benjamin Franklin led to the study and development of electricity. In 1792, Eli Whitney invented the cotton processor in South America, from where he began supplying cotton throughout North America. (Desjardins, 2018). The Second Industrial Revolution was characterized by mass production and assembly of electrification lines. Everything was getting bigger as new technological advances and the development of the combustion engine system began to use new sources of energy: electricity, gas and oil. This revolution was based on large factories and centered around an economic and industrial model. The industries were powered by organizational models of production provided by American mechanical engineer Frederick Winslow Taylor and American business magnate Henry Ford. The steel industry began to develop and grow, communication methods revolutionized with the invention of the telegraph and telephone, and transportation methods changed dramatically as they continued to evolve, based on previous discoveries that led to the invention of the automobile in the late 1800s and the 1900s. These stages include the discovery of electricity and oil, the invention of the telephone, the expansion of national railroads in the United States, and reliance on mass-produced production lines of heavy-duty electrical equipment. (Ward, 2019)

It happened in the 1800s. Important events were the discovery of oil in Titusville in 1859 and the start of its refining. In 1943, the British created the first data processing machine. From 1950-56, the establishment of the scientific direction of artificial intelligence and the Alan Turing test, which laid the foundation for the rise of artificial intelligence by creating a smart computer. (Desjardins, 2018). The Third Industrial Revolution began in the 1900s and was characterized by trends in digitization and automation, digital proliferation, the invention of the Internet, and the discovery of nuclear energy. In this era there was an ascent of electronics like never before, from computers to new technologies, which enabled the automation of industrial processes, thus automation accelerated the process of all kinds of exchange in the world. Advances in telecommunications have paved the way for large-scale globalization processes, which in turn have allowed industry to expand its offshore version of production into a low-cost economy and to radicalize business models around the world. In 1972, the Japanese Waseda University created the first human-type robot. In 1991, the first website was created by Tim Barners Lee. Launched in 1995 by Amazon, Ebay and Craigslist. In 2008, the formation of a blockchain, cryptocurrency, began. (Zimmerma, 2017)

The fourth industrial revolution is already a high stage of development in terms of artificial intelligence, cyber security, robotics and data circulation. It features digital transformations, PC-related devices, data analytics, AI technologies, automation, and the agility of industrial structures. IT standards are being introduced in industrial automation, devices are becoming smaller and smarter, IT and OT operations are collaborating to make business-level decisions and further transform business models.

This is a period when the lines between the physical, digital and biological fields are being challenged and industries are being uprooted around the world. Factories use technologies such as Cloud, Big Data Analytics and IoT to ensure efficient communication between different players and related objects on the production line. (Ward, 2019) The digital form of this revolution underlies the deviation from non-renewable energy sources and is embedded in smart cities powered by wind, solar and geothermal energy. So far, the stages of the fourth industrial revolution include: large-scale digitalization, the emergence of IoT networks and IIoT, mechanical engineering, artificial intelligence, predictive analytics, and maintenance in industrial settings. Leading place is occupied by Big Data, Cloud Computing technologies and robotics. (Zimmerman, 2017) Social networks such as Pinterest and Instagram started functioning in 2010. By 2018, 55% more of the world's population would be using the Internet on a daily basis. (Ward, 2019)

Digital Globalization Indicators (Artificial Intelligence, Data Science, Cyber Security)

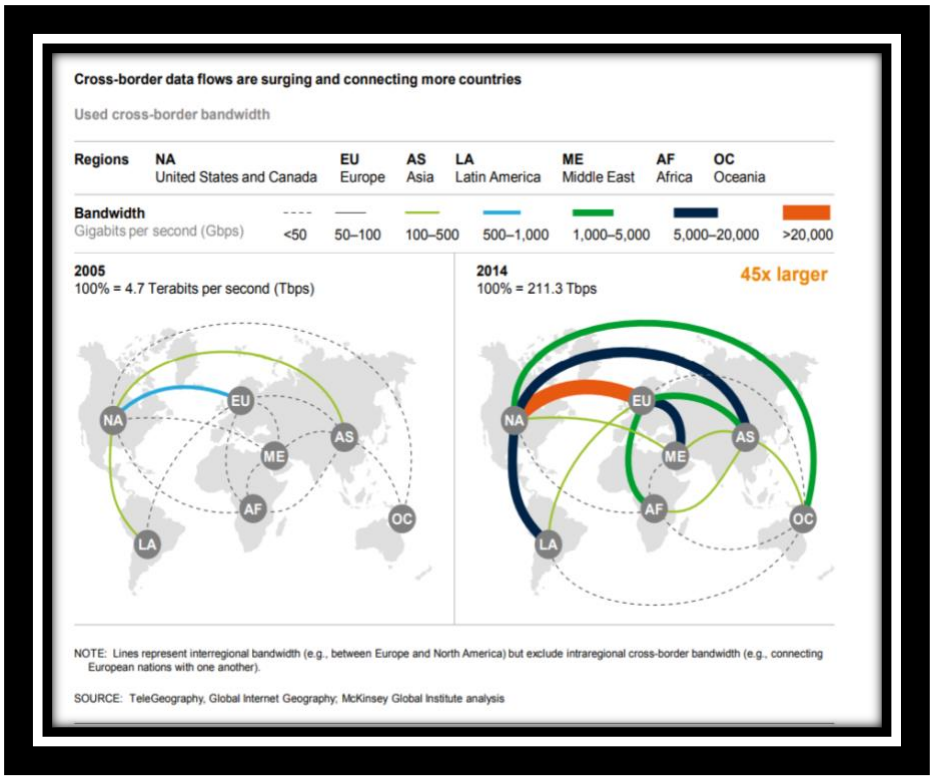
The Fourth Industrial Revolution had an impact on important aspects of public affairs such as the international economy, e-commerce, communications and travel. In the process, important driving factors of digital globalization were identified, such as: artificial intelligence, mass data accumulation and outflow, and cyber security. This chapter discusses the relationship of each component to globalization processes. And establishes that artificial intelligence is closely linked to international relations and that it could add a $ 13 trillion budget for the global economy by 2026. The process of data leakage is directly related to the rapidly increasing trends in the flow of information, and the greater the amount of data, the more extensive it becomes under one common public law called digital legislation, and when it comes to cyber security it guarantees important security for all countries. To protect information. At the same time, all three components are closely related to each other and also act as an accelerator of globalization, as regulations, digital legislation, cyber security measures, international transactions represent the world without borders. (Korinek, Stiglitz, 2021) (Globalization Partners, 2020)

As AI (artificial intelligence) grows stronger and better, its impact on the world economy will become much greater. This will affect almost every aspect of the world economy - from unemployment levels to economic growth, to productivity, to income inequality, and more. These aspects are considered under the concept of "united world", which leads to the involvement of the majority of the world's working population in digital activities and, consequently, the irreversible events of globalization. (Albright-Stonebridge Group)
Some researchers argue that so far artificial intelligence has not had a large enough impact, but as its development accelerates, its effects will increase significantly. Whether people like automation and job transformation, these processes still push everyone to relocate to current areas of the economy. Similar examples Numerous examples can be found throughout history; New technology has made certain products and works obsolete and eventually people have been forced to switch to more innovative products and new works. For example, professions, engine switch operator and alarm clock (human alarm clock knocking on windows) no longer exist today. Steam engines were replaced by internal combustion engines and cars became self-propelled steering wheels. These processes are natural: with the development of technology, it no longer makes sense for people to do the same work and therefore unite them under the international digital dimension, which is the unconditional and fastest way to communicate and connect. Even on the example of the invention of the airplane, we can conclude that if not for this technological advancement, people would never have seen different countries as fast as they do now, nor would they have been able to achieve cultural assimilation and economic wealth at such speeds. Even in the digital age, flying is less in demand, as much more efficient ways of exchanging papers and information have emerged. (Korinek, Stiglitz, 2021)

The decrease of computer prices has laid the foundation for numerous industries. In the medium term, the development of artificial intelligence allows companies to produce products cheaply and abundantly. This, in turn, leads to an increase in demand for low-cost products. If we analyze this from an economic concept, when the price of a product decreases, more people can buy or receive the service at an affordable price and, consequently, the amount of demand increases. Striving for this requirement may reduce the severity of job loss. In addition, when certain technologies become cheaper, it leads to the creation of entirely new industries that are internationally represented and do not serve the national interest, but rather the principles of a liberal market in which money is invested and new jobs are created. (Globalization Partners, 2020) (Dauvergne, 2021)

According to Moore's law, the number of transistors on a microchip doubles every two years. Consequently, the cost of computers has more or less halved. When computers become cheaper, it means that computing power can be used in a way that was previously unimaginable: smart watches, smartphones, tablets, smart glasses, smart homes, self-driving systems and more. The fact that so much computing power has become available at such a low price has given rise to ideas for new industries and applications. Consequently, new products and jobs have been created to meet the growing demand for such new technologies and products. From an economic point of view, the supply curve has changed, which means that at any given price, the customer will be able to purchase more computing power embedded in different products. The accumulation of this force, of course, does not occur only in a few parts of the world, but it is itself a source of internationalization of the Internet and belongs to the global international system. (Albright-Stonebridge Group) From this it can be argued that artificial intelligence, information exchange, cyber security, and access to computer pricing are in the context of one common global order in which humans cannot exist without digitization. Consequently, the above factors are the most important preconditions for changing the form of globalization.

Points of impact of digital globalization and statistics
The tendency to equate digitization with a globalized world is noticeably noticeable in the modern world. In addition to the extensive list, which is significantly affected by this process, it is important to analyze the statistical data, which clearly shows the significant proportions of convergence in different parts of the world.
• Digital data exchange is getting closer and closer to more and more countries The use of the Internet and the exchange of data are growing in individual economies and then their transmission is becoming more and more widespread. If in 2012 12% of Facebook users had only one foreign friend, in 2015 users who had at least one foreign friend made up 50% of the total number. At the same time, international flows of Internet use were taking place over the ocean floor via cables, the number of which increased by 38% annually from 2007 to 2014. (Tang, 2012)

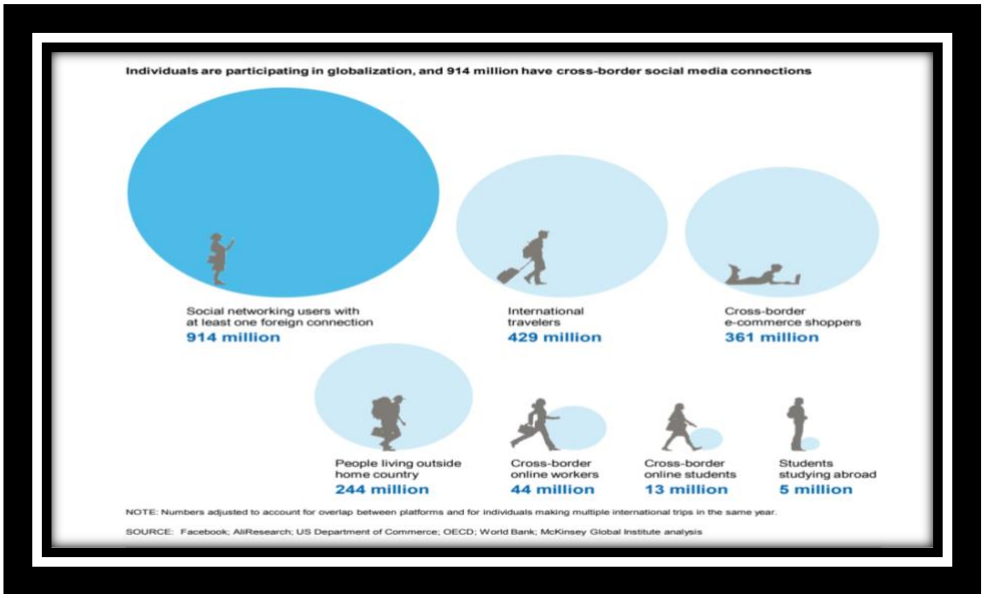


The state of broadband 2015: Broadband as a foundation for sustainable development, International Telecommunication Union and UNESCO Broadband Commission for Digital Development, September 2015.

• Digital platforms create a more transparent international marketplace that is open and accessible to all Data exchange is related to a variety of business and personal communications, transactions, video, games, digital media content, and more. The number of calls made through social networks alone increased from 274 billion calls / minute in 2005 to 569 billion calls in 2015. (TeleGeohraphy)

Digitization allows entrepreneurs to enter global markets across borders without borders and sell at lightning speed

• Even machine building is based on a new trend of artificial intelligence capabilities and is fully integrated into the Internet; The company Tesla is an example of this • Human communication and social networks are an unlimited border from anywhere in the world; (Dauvergne,2021)



In this study, we provide statistics on people involved in globalized processes, which explains the growing nature of digitalization in direct proportion to the increasing trends of globalization. In addition to promoting cross-border e-commerce, the largest digital platforms have created global communities that generate huge streams of personal communication, information, news and content. As of December 2015, Facebook averaged more than a billion active users daily, while Google had about 3.5 billion searches per day. (US Department of Commerce) Despite the above opportunities, digitalization has not been able to fully globalize the world and there are several reasons for this: The benefits of international trade are not equal for all regions of the world as the transportation of goods is still associated with high costs, which is determined by distance. That is, trade is still regional in nature; Of the 6 billion people, 2 billion do not have permanent access to the Internet. Internet access in Africa, for example, is 60% more likely to be for the rich and 20% for the poor. The geography of the subscriber is also of great importance. Internet frequency and coverage, for example, are not yet uniformly distributed in all countries, depending on location and economic development factors. • Content creation is accumulated in powerful economies such as Hollywood, which accounts for 50% of global content; (Manyika, 2021)

Modern and old types of globalization trends

In order to see the connection between the globalization of technological advances and the modern aspects of the form of globalization, it is important to make a comparative analysis of modern and old trends, which is especially evident in several aspects. The exchange of physical goods has been replaced by the exchange of information and digital data;

1. The old type of globalization was mainly spread among developed economies, while emerging economies were actively involved;
2. The exchange of capital and labor has been replaced by an intensive exchange of knowledge; (Bacon, 2013)
3. The importance of transport infrastructure has been equated with the importance of digital infrastructure;
4. If transnational corporations have previously conducted relations, Now small enterprises and individuals have also become relevant;
5. The old type of globalization was mainly characterized by monetized transactions, while the new type was characterized by free content and services;
6. Ideas were very slowly pushing the borders of the country, and now people have instant access to ideas and information;
7. Innovations came from developed emerging economies, in the modern world innovations also come from "Third World" countries; (Donnan, 2019)

Thus, the deductive reasoning on the example of the change in the form of globalization reveals that the determinants of the nature of this process are technological advances, in particular indicators such as: Internet, artificial intelligence, cybersecurity, data accumulation and exchange, social networks, etc. At the same time, the form of modern globalization forces states to revolve around a new international order and thus poses common (without borders) challenges. (Dirlik, 2006). Countries can not restrain themselves from global flows, given the cost of increasing productivity and long-term GDP growth. Implementing this opportunity requires a new policy agenda that addresses the issues listed below. Think strategically about the role that a given country will play in the new agenda. Policy makers should carefully consider how to use the comparative advantages of their own countries. Many countries are trying to establish a "new Silicon Valley", but it is quite difficult to orchestrate innovations. Meanwhile, developing countries may have the opportunity to become low-cost manufacturers for the world as automation is achieved. But there are other possibilities. Some countries can rely on their geographical proximity to major consumer markets, as Mexico and Eastern Europe did. Others may develop a successful niche as global transit hubs, as Dubai has done in transport and trade flows. (Weymouth, 2020). Another important problem that pushes states to keep pace with global flows is cybersecurity. Cybercrime costs the global economy $ 400 billion annually as a result of consumer data breaches, financial crime, market manipulation, and intellectual property theft. While companies often lead the way in cybersecurity, governments can invest in research, information sharing, good security practices, and sound rules. Governments will have to work closely with their global counterparts and the business community to avoid new threats and to share technological solutions with each other. This process is an important impetus for accelerating global flows. (Hofheinz, Mandel 2015) (Morgan, 2020)

Conclusion

Finally, globalization, in the past, has been governed only by world governments, transnational corporations, and major financial institutions. Today, these processes involve actors such as: engineers, application developers, freelancers and all kinds of startups. SMEs can expand rapidly and collaborate with even more advanced businesses.

And individuals from Canada to Cameroon can make global connections, be it for business, personal, fun, or just out of curiosity about a world beyond their borders. The paper named the factors that led to the great transformation of the classical form of globalization and confirmed the hypothesis in the introduction of the paper that the development and mass dissemination of digital globalization is related to the globalization of technological advances, namely: artificial intelligence, cybersecurity, social exchange and economics. Accordingly, the structure of the paper, based on statistical data processing and analytical reasoning, was formed around issues such as: a new type of globalization - "digital globalization" and its historical features, indicators of digital globalization - artificial intelligence, mass data accumulation and cyber security, digital globalization Points of influence and statistics, and comparative analysis of modern and old types of globalization trends. This study has revealed that modern globalization is the fruit of new digital flows and an irreversibly evolving phenomenon that will unite states around common interests, economics and politics, and despite existing challenges, digitization will still be able to cover all parts of the world.

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